

**ELKHART  
BRASS**



A Safe Fleet Brand

**FULL LINE CATALOG**

**F8.1**



## ELKHART BRASS



### HISTORY

Well known for its commitment to quality, value and customer service, Elkhart Brass celebrated its 100th anniversary in 2002. In 2015, Elkhart Brass was acquired by Safe Fleet creating the leading global provider of safety solutions for fleet vehicles. The combination of Elkhart Brass with FRC and Foam Pro enables the company to develop integrated systems of monitors, valves, foam proportioning, and electronic controls for the global emergency market.

Elkhart Brass still operates at its original site in Elkhart, Indiana, utilizing the in-house foundry where aluminum and brass are poured daily. In addition to manufacturing, Elkhart Brass also specializes in product research and development, engineering, and product testing thanks to 3D rapid prototyping capabilities, a dedicated flow test facility, and a complete product machine shop.

### CERTIFICATIONS AND QUALITY

Elkhart is committed to quality, as demonstrated by our ISO-9001 Registered Quality System. We strive for ways to streamline our processes while maintaining the quality craftsmanship our customers expect.

Our on-site foundry assures that we can document the quality of our materials, and our on-site testing facilities. We know firefighting is dangerous; our commitment to you is that we will do everything in our power to make sure when you use Elkhart Brass products, you have the highest quality, safest equipment available on the market.

As part of Elkhart's commitment to quality, we are continually evaluating our products and upgrading our certification credentials. Please let us know if you have a question about a specific certification.



- All data is provided for the standard configuration. Option changes may impact the weight, height or other specifications. Please inquire with our sales staff.
- Elkhart has trademarked the Elk-O-Lite® name for our proprietary aluminum alloy (cast alloy #356-A).



|                                       |          |  |           |
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# Brass Tacks Hard Facts



Nozzle Selection and Comparison

## ENGINE COMPANY EDUCATION & FACT BASED EQUIPMENT SELECTION

Utilizing some of the country's top engine company instructors, we are checking our emotions at the door and presenting the pros and cons of the relevant engine company topics in the fire service. Part Art. Part Science.

This educational video series will be sure to leave you better informed about nozzles, flows, your fire flow system, and engine company operations as a discipline.

Watch the entire series at [www.BrassTacksHardFacts.com](http://www.BrassTacksHardFacts.com)



Standpipe Operations



Portable Monitor Attack with RAM XD

### TOPICS COVERED

Standpipe Operations

Testing & Evaluation

The Nozzle

Topics of the Trade

Portable Monitors

The Art of Engine Work

# Hard Facts Calculator Mobile App

## EVERYTHING NEEDED FOR FLOW TESTING NOW AT YOUR FINGERTIPS!

- Smooth Bore Discharges & Flow/Pressure
- Nozzle Reaction for Smooth Bore Nozzles
- Nozzle Reaction for Fog Nozzles
- Pump Discharge Pressure for standard layouts, with ability to input hose coefficient depending on make and inside diameter
- Pump Discharge Pressure with elevation changes and appliances
- Pump Discharge Pressure for high-rise layouts
- Fire flow formula calculators for both the NFA and lowa Formulas
- Also included in the app are direct links to the Brass Tacks Hard Facts video series



AVAILABLE FOR  
FREE DOWNLOAD



Calculating Nozzle Reaction

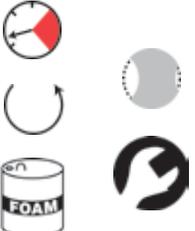
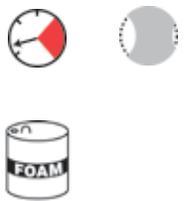
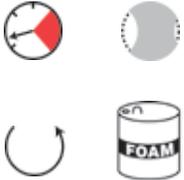
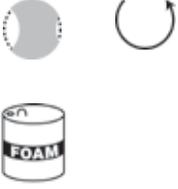
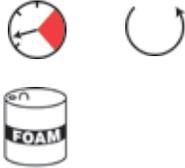
# HANDLINE NOZZLES



## SELECTOR GUIDE

# HANDLINE NOZZLES

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|  | AVAILABLE BASE  | PRODUCT | DESCRIPTION | MATERIAL |             | "QUICK-KEY" |   |  |       |             |   |
|--|---|---------|-------------|----------|-------------|-------------|---|--|-------|-------------|---|
|  |   |         |             | Brass    | Elk-O-Lite® |             |   |  |       |             |   |
| <b>FIXED</b><br><b>CHIEF XD™ &amp; XD SHUTOFFS</b> | <table border="1"> <tr> <td>1.0</td> <td>1.5</td> <td>2.5</td> </tr> <tr> <td></td> <td>•</td> <td>•</td> </tr> </table><br>Available GPM (LPM)<br>95-300<br>(360-1136) | 1.0     | 1.5         | 2.5      |             | •           | • | <br><i>Page 1-4</i> <ul style="list-style-type: none"> <li>Dual drive shutoff with full round metal ball</li> <li>Forged Aluminum shutoff body and bale handle</li> <li>Spinning stainless steel</li> <li>Fixed flow</li> </ul> | Brass | Elk-O-Lite® |    |
| 1.0  | 1.5   | 2.5     |             |          |             |             |   |  |       |             |   |
|  | •   | •       |             |          |             |             |   |  |       |             |   |
| <b>FIXED</b><br><b>CHIEF™</b>                      | <table border="1"> <tr> <td>1.0</td> <td>1.5</td> <td>2.5</td> </tr> <tr> <td>•</td> <td>•</td> <td>•</td> </tr> </table><br>Available GPM (LPM)<br>15-350<br>(57-1325) | 1.0     | 1.5         | 2.5      | •           | •           | • | <br><i>Page 1-9</i> <ul style="list-style-type: none"> <li>Wide selection of flow and pressure</li> <li>Ideal for low pressure use</li> <li>Fixed flow</li> </ul>   | Brass | Elk-O-Lite® |    |
| 1.0  | 1.5   | 2.5     |             |          |             |             |   |  |       |             |   |
| •  | •   | •       |             |          |             |             |   |  |       |             |   |
| <b>AUTOMATIC</b><br><b>SELECT-O-MATIC®</b>         | <table border="1"> <tr> <td>1.0</td> <td>1.5</td> <td>2.5</td> </tr> <tr> <td>•</td> <td>•</td> <td>•</td> </tr> </table><br>Available GPM (LPM)<br>10-325<br>(38-1230) | 1.0     | 1.5         | 2.5      | •           | •           | • | <br><i>Page 1-12</i> <ul style="list-style-type: none"> <li>Maintains effective stream reach throughout flow range</li> <li>Ideal for AFFF application</li> <li>Wide flow range / automatic flow</li> </ul>                    | Brass | Elk-O-Lite® |   |
| 1.0  | 1.5   | 2.5     |             |          |             |             |   |  |       |             |   |
| •  | •   | •       |             |          |             |             |   |  |       |             |   |
| <b>SELECTABLE</b><br><b>PHANTOM®</b>               | <table border="1"> <tr> <td>1.0</td> <td>1.5</td> <td>2.5</td> </tr> <tr> <td>•</td> <td>•</td> <td></td> </tr> </table><br>Available GPM (LPM)<br>15-200<br>(57-757)   | 1.0     | 1.5         | 2.5      | •           | •           |   | <br><i>Page 1-15</i> <ul style="list-style-type: none"> <li>Firefighter chooses flow and stream</li> <li>Rugged and easy to use</li> <li>Wide flow range/constant flow</li> </ul>   | Brass | Elk-O-Lite® |  |
| 1.0  | 1.5   | 2.5     |             |          |             |             |   |  |       |             |   |
| •  | •   |         |             |          |             |             |   |  |       |             |   |
| <b>SELECTABLE</b><br><b>SELECT-O-FLOW®</b>         | <table border="1"> <tr> <td>1.0</td> <td>1.5</td> <td>2.5</td> </tr> <tr> <td></td> <td>•</td> <td>•</td> </tr> </table><br>Available GPM (LPM)<br>40-250<br>(151-946)  | 1.0     | 1.5         | 2.5      |             | •           | • | <br><i>Page 1-17</i> <ul style="list-style-type: none"> <li>Firefighter chooses flow and stream</li> <li>High flow range/constant flow</li> <li>Rugged all brass versions</li> </ul>  | Brass | Elk-O-Lite® |  |
| 1.0  | 1.5   | 2.5     |             |          |             |             |   |  |       |             |   |
|  | •   | •       |             |          |             |             |   |  |       |             |   |
| <b>VARIABLE</b><br><b>MYSTERY®</b>                 | <table border="1"> <tr> <td>1.0</td> <td>1.5</td> <td>2.5</td> </tr> <tr> <td></td> <td>•</td> <td>•</td> </tr> </table><br>Available GPM (LPM)<br>60-250<br>(227-946)  | 1.0     | 1.5         | 2.5      |             | •           | • | <br><i>Page 1-19</i> <ul style="list-style-type: none"> <li>Original fog nozzle</li> <li>Variable flow</li> </ul>   | Brass | Elk-O-Lite® |  |
| 1.0  | 1.5   | 2.5     |             |          |             |             |   |  |       |             |   |
|  | •   | •       |             |          |             |             |   |  |       |             |   |

|                       |  | AVAILABLE BASE | PRODUCT   | DESCRIPTION   | MATERIAL  | "QUICK-KEY"   |
|-----------------------|--|----------------|---|---|---|---|
| <b>FIXED</b>          | <b>SELECT-O-STREAM®</b>                    | 1.0            |  <p><i>Page 1-21</i></p>   | <ul style="list-style-type: none"> <li>Convenient detents for stream selection</li> <li>Rugged all brass construction with chrome finish</li> <li>Fixed Flow</li> </ul> | Brass   |                       |
|                       |  | 1.5            |   |   |   |   |
| <b>FIXED/VARIABLE</b> | <b>INDUSTRIAL FOG &amp; ELECTRICAL FOG</b> | 1.0            |   |   |  <p><i>Page 1-23</i></p> | <ul style="list-style-type: none"> <li>Durable and simple to use</li> <li>Designed for corrosive conditions</li> <li>For use on Class "C" fires</li> <li>Narrow to wide fog only</li> </ul> |
|                       |  | 1.5            | 2.5   | Available GPM (LPM)<br>12-250 (45-946)  |   |   |
| <b>FIXED</b>          | <b>MARINE</b>                              | 1.0            |  <p><i>Page 1-25</i></p>  |   |   |   |
|                       |  | 1.5            |   | 2.5   | Available GPM (LPM)<br>95-250 (360-946)   |   |
|                       | <b>BALL SHUT-OFFS, &amp; PLAYPIPES</b>     | 1.0            |   |  <p><i>Page 1-6</i></p>  |   | <ul style="list-style-type: none"> <li>Wide range of flows</li> <li>Smooth bore optional</li> <li>Design your own break-apart</li> <li>Playpipes for easy handling</li> </ul>               |
|                       |  | 1.5            | 2.5   |   | Available GPM (LPM)<br>118-209 (447-791)  |   |
|                       | <b>SPECIAL USE</b>                         | 1.0            |  <p><i>Page 1-35</i></p> |   |   |   |
|                       |  | 1.5            |   | 2.5   | Available GPM (LPM)   |   |

**KEY:**

|   |   |   |   |   |  |   |   |   |
|---|---|---|---|---|--|---|---|---|
|  |  |  |  |  |  |  |  |  |
| Low Pressure Available  | Ball Shut-off Available   | Twist Shut-off Available  | Rebuild/Retro Available   | Electrical  | Foam Compatible  | U.S. Coast Guard/Navy Approved  | Underwriters Laboratories   | Factory Mutual  |

# Chief XD™



5" Mid-Range Chief XD Nozzle

The Chief XD takes the industry standard for handline nozzles to a whole new level. It offers accurate high volume flows at low tip pressures and is built tough like no other nozzle for Xtreme Duty, or XD. The Chief XD is the only handline nozzle that offers a forged shutoff body and forged metal bale handle for maximum strength. It also includes as standard a full round metal ball for the best stream performance, as well as fixed molded urethane or spinning stainless steel metal teeth that don't break. All indicators and markings are laser etched, with no labels to peel off or scratch. Ergonomic grip inserts help with handling and can also be color coded. It's durability and efficiency ensures an embedded level of safety for you and your crew, fire after fire.

- Accurate & wide range of flows
- Available with 50, 75, or 100 psi operating pressure
- Fixed gallonage from straight stream to full fog
- Forged aluminum shutoff body and bale handle
- Laser etched markings
- Dual drive shutoff with full round metal ball
- Spinning stainless steel or fixed molded urethane teeth
- Color coded bumper along with bale handle & pistol grip inserts



1.5" Mid-Range Chief XD Nozzle

## Chief XD Tips

### Mid-Range 1.5" / Rigid Base

|          |          |           |
|----------|----------|-----------|
| 150 @ 50 | 125 @ 75 | 95 @ 100  |
| 160 @ 50 | 150 @ 75 | 125 @ 100 |
| 175 @ 50 | 175 @ 75 | 150 @ 100 |
|          | 185 @ 75 | 175 @ 100 |
|          | 200 @ 75 |           |



Mid-Range Tip

### High-Range 1.5" / Rigid Base

|          |          |           |
|----------|----------|-----------|
| 185 @ 50 | 250 @ 75 | 250 @ 100 |
| 210 @ 50 | 300 @ 75 |           |
| 250 @ 50 |          |           |
| 265 @ 50 |          |           |



High-Range Tip

## Chief XD Nozzles

### Mid-Range 1.5" / Free Swivel Base

|          |          |           |
|----------|----------|-----------|
| 150 @ 50 | 125 @ 75 | 95 @ 100  |
| 160 @ 50 | 150 @ 75 | 125 @ 100 |
| 175 @ 50 | 175 @ 75 | 150 @ 100 |
|          | 185 @ 75 | 175 @ 100 |
|          | 200 @ 75 |           |



1.5" Mid-Range

### High-Range 1.5" / Free Swivel Base

|          |          |           |
|----------|----------|-----------|
| 185 @ 50 | 250 @ 75 | 250 @ 100 |
| 210 @ 50 | 300 @ 75 |           |
| 250 @ 50 |          |           |
| 265 @ 50 |          |           |

### High-Range 2.5" / Free Swivel Base

|          |          |           |
|----------|----------|-----------|
| 185 @ 50 | 250 @ 75 | 250 @ 100 |
| 210 @ 50 | 300 @ 75 |           |
| 250 @ 50 |          |           |
| 265 @ 50 |          |           |



1.5" Mid-Range

## Chief XD Nozzles with Pistol Grip

### Mid-Range 1.5" / Free Swivel Base

|          |          |           |
|----------|----------|-----------|
| 150 @ 50 | 125 @ 75 | 95 @ 100  |
| 160 @ 50 | 150 @ 75 | 125 @ 100 |
| 175 @ 50 | 175 @ 75 | 150 @ 100 |
|          | 185 @ 75 | 175 @ 100 |
|          | 200 @ 75 |           |

### High-Range 1.5" / Free Swivel Base

|          |          |           |
|----------|----------|-----------|
| 185 @ 50 | 250 @ 75 | 250 @ 100 |
| 210 @ 50 | 300 @ 75 |           |
| 250 @ 50 |          |           |
| 265 @ 50 |          |           |

### High-Range 2.5" / Free Swivel Base

|          |          |           |
|----------|----------|-----------|
| 185 @ 50 | 250 @ 75 | 250 @ 100 |
| 210 @ 50 | 300 @ 75 |           |
| 250 @ 50 |          |           |
| 265 @ 50 |          |           |



2.5" High-Range

### Specify when ordering:

- Flow rate & pressure
- Bumper, bumper handle, and pistol grip insert color (orange standard)
- Spinning stainless steel metal teeth (standard) or fixed molded urethane teeth
- Inlet threads



# Nozzle Options

## Colors

Choose bumper color, bale insert, and pistol grip insert color (orange is standard on Chief XD)



Orange



Red



Yellow



Green



Blue



Black



Glow

## Teeth

Choose from spinning stainless steel metal or fixed molded urethane teeth.



Spinning Stainless Steel  
(Standard)



Fixed Molded Urethane

## Inlet Threads

- NHT (Standard)
- NPSH
- BSP
- Others available. Please provide thread spec: ODM (Outside Diameter Male), TPI (Threads Per Inch), and Province/City. (Ex. 3.030 x 8 NYFD Thread)

Use our new Online Configurator to design your own XD Nozzle!  
[XDconfigurator.com](http://XDconfigurator.com)

## XD™ Shutoffs



2.5" XD Shutoff with 188-XD Smooth Bore

Elkhart Brass XD Shutoffs and Playpipes are designed and constructed for rugged use and reliable performance. They are built strong with forged shutoff bodies and forged metal bale handles earning the title Xtreme Duty, or XD. They provide an excellent foundation for break-apart applications using smooth bore or fog nozzle tips. Elkhart Brass XD Shutoffs are available with a variety of options, including built-in smooth bore discharges that can be used with fog nozzle tips for maximum versatility.

- Dual drive shutoff with full round metal ball
- Forged aluminum shutoff body
- Forged metal bale handle
- Attention to detail in waterway alignment and smoothness of operation throughout
- Laser etched markings
- Color coded pistol grip and bale handle inserts



1.5" XD Shutoff with ST-185-XD Smooth Bore

## XD Shutoffs

---

### 1.5" Shutoff Free Swivel Base

1.5" Inlet 1.5" Outlet

### 1.5" Shutoff Free Swivel Base / Pistol Grip

1.5" Inlet 1.5" Outlet

### 2.5" Shutoff Free Swivel Base

2.5" Inlet 1.5" Outlet

### 2.5" Shutoff Free Swivel Base / Pistol Grip

2.5" Inlet 1.5" Outlet

## XD Shutoffs with Integral Smooth Bore

---

Available discharge sizes: 7/8", 15/16", 1", 1-1/6", 1-1/8"  
1-3/16", 1-1/4"

### 1.5" Shutoff Free Swivel Base

1.5" Inlet 1.5" Outlet

### 1.5" Shutoff Free Swivel Base / Pistol Grip

1.5" Inlet 1.5" Outlet

### 2.5" Shutoff Free Swivel Base

2.5" Inlet 1.5" Outlet

### 2.5" Shutoff Free Swivel Base / Pistol Grip

2.5" Inlet 1.5" Outlet

## XD Playpipes

---

### 2.5" Shutoff Free Swivel Base

2.5" Inlet 1.5" Outlet

### 2.5" Shutoff Free Swivel Base / Ladder Hook

2.5" Inlet 1.5" Outlet



### Specify when ordering:

- Bale and Pistol Grip insert colors (black standard)
- Inlet/Outlet threads
- Integral Smooth Bore discharge size (if applicable)



1.5" XD Shutoff



1.5" XD Shutoff w/  
Pistol Grip



2.5" XD Shutoff



2.5" XD Shutoff w/  
Pistol Grip



1.5" XD Shutoff w/  
Smooth Bore



1.5" XD Shutoff w/  
Smooth Bore &  
Pistol Grip



2.5" XD Shutoff w/  
Smooth Bore



2.5" XD Shutoff w/  
Smooth Bore &  
Pistol Grip



2.5" XD Playpipe



2.5" XD Playpipe w/  
Ladder Hook

Elkhart Brass took classic smooth bore tips to the next level. The 185-XD, 187-XD, 188-XD, ST-185-XD, and ST-190-XD smooth bore tips feature durable urethane bumpers and laser etching. Extra knurling has also been added for increased control and grip.

- Lightweight aluminum construction
- Laser etched flow rates
- Durable urethane molded bumper



1.5" XD Shutoff with 187-XD Smooth Bore

### Smooth Bore Single Tip

- 185-XD** 1.5" Inlet / 1.5" Outlet / 4.5" Length  
Available Discharges: 7/8", 15/16", 1", 1-1/16", 1-1/8", 1-3/16", 1-1/4"
- 187-XD** 1.5" Inlet / 4.5" Length  
Available Discharges: 7/8", 15/16", 1", 1-1/16", 1-1/8", 1-3/16", 1-1/4"
- 188-XD** 1.5" Inlet / 7.0" Length  
Available Discharges: 7/8", 15/16", 1", 1-1/16", 1-1/8", 1-3/16", 1-1/4"



185-XD                      187-XD                      188-XD

### Smooth Bore Stacked Tips

- ST-185-XD** 1.5" Inlet / 6.625" Length / FDNY Stack  
Available Discharges: 1/2" & 7/8", 15/16", 1-1/8", 1-3/16"
- ST-185-XD-IFD** 1.5" Inlet / 7.625" Length / Indy Stack  
Available Discharges: 1-1/8" & 1-1/4"
- ST-185-XD-CAFS** 1.5" Inlet / 6.625" Length / CAFS Stack  
Available Discharges: 15/16" & 1-1/8"
- ST-190-XD** 1.5" Inlet / 9.0" Length / Triple Stack  
Available Discharges: 1" & 1-1/8" & 1-1/4"



ST-185-XD                      ST-185-XD-IFD                      ST-185-XD-CAFS                      ST-190-XD

*Specify when ordering:*

- Inlet threads (FNH or FNPSH)
- Smooth Bore discharge size (if applicable)

# HANDLINE NOZZLES



CHIEF™

## Chief™

Fixed flow Chief™ nozzles efficiently deliver a constant gallonage from straight stream to full fog. The simple rugged design makes the Chief™ easy to use, train with and reliable in tough situations. Superior hydraulics due to a fully machined waterway result in excellent stream quality and reach. The Chief™ is also available in true low pressure versions with specifically engineered, calibrated and labeled stems down to 50 psi. With more than 300 available variations the Chief™ is easily customized to meet your specific needs.

HANDLINE NOZZLES

1-9



British Standard Parallel Pipe (BSPP) and British Instantaneous (BS336) base options available.

# HANDLINE NOZZLES

CHIEF™

## HANDLINE NOZZLES

1-10

| BASE SIZE | PSI (BAR)  | AVAILABLE STANDARD FLOW RATE<br>GPM (LPM) |          |          |          |          |          |           |           |           |           |           |           |            |            | BASE TYPE  |            |       | SHUT-OFF | HANDLE | TEETH  |             |       | MODEL |      |     |           |                  |                 |           |
|-----------|------------|---|----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|------------|------------|------------|-------|----------|--------|--------|-------------|-------|-------|------|-----|-----------|------------------|-----------------|-----------|
|           |            | 15 (57)                                   | 30 (114) | 45 (170) | 60 (227) | 75 (284) | 95 (360) | 125 (473) | 150 (568) | 175 (662) | 185 (700) | 200 (757) | 250 (946) | 275 (1041) | 300 (1136) | 325 (1230) | 350 (1325) | Rigid |          |        | Swivel | Free Swivel | Twist |       | Ball | Tab | Horseshoe | Spinning Plastic | Molded Urethane | Cut Metal |
|           |            |   |          |          |          |          |          |           |           |           |           |           |           |            |            |            |            |       |          |        |        |             |       |       |      |     |           |                  |                 |           |
| 1"        | 100 (6.89) | •   | •        | •        | •        |          |          |           |           |           |           |           |           |            |            |            |            |       |          |        |        |             |       |       |      |     |           |                  |                 |           |
|           | 50 (3.45)  |   |          |          |          |          |          |           |           |           |           |           |           |            |            |            |            |       |          |        |        |             |       |       |      |     |           |                  |                 |           |
|           | 75 (5.17)  |   |          |          |          |          |          |           |           |           |           |           |           |            |            |            |            |       |          |        |        |             |       |       |      |     |           |                  |                 |           |
| 1.5"      | 100 (6.89) |   |          | •        | •        | •        | •        | •         | •         | •         | •         | •         | •         | •          | •          | •          | •          | •     | •        | •      | •      | •           | •     | •     | •    | •   | •         | •                |                 |           |
|           | 50 (3.45)  |   |          |          |          |          |          |           |           |           |           |           |           |            |            |            |            |       |          |        |        |             |       |       |      |     |           |                  |                 |           |
|           | 75 (5.17)  |   |          |          |          |          |          |           |           |           |           |           |           |            |            |            |            |       |          |        |        |             |       |       |      |     |           |                  |                 |           |
|           | 100 (6.89) |   |          |          |          |          |          |           |           |           |           |           |           |            |            |            |            |       |          |        |        |             |       |       |      |     |           |                  |                 |           |
|           | 50 (3.45)  |   |          |          |          |          |          |           |           |           |           |           |           |            |            |            |            |       |          |        |        |             |       |       |      |     |           |                  |                 |           |
|           | 75 (5.17)  |   |          |          |          |          |          |           |           |           |           |           |           |            |            |            |            |       |          |        |        |             |       |       |      |     |           |                  |                 |           |
|           | 100 (6.89) |   |          |          |          |          |          |           |           |           |           |           |           |            |            |            |            |       |          |        |        |             |       |       |      |     |           |                  |                 |           |
|           | 50 (3.45)  |   |          |          |          |          |          |           |           |           |           |           |           |            |            |            |            |       |          |        |        |             |       |       |      |     |           |                  |                 |           |
|           | 75 (5.17)  |   |          |          |          |          |          |           |           |           |           |           |           |            |            |            |            |       |          |        |        |             |       |       |      |     |           |                  |                 |           |
| 2.5"      | 100 (6.89) |   |          |          |          |          |          |           |           |           |           |           |           |            |            |            |            |       |          |        |        |             |       |       |      |     |           |                  |                 |           |
|           | 50 (3.45)  |   |          |          |          |          |          |           |           |           |           |           |           |            |            |            |            |       |          |        |        |             |       |       |      |     |           |                  |                 |           |
|           | 75 (5.17)  |   |          |          |          |          |          |           |           |           |           |           |           |            |            |            |            |       |          |        |        |             |       |       |      |     |           |                  |                 |           |

Chief Tips



| BASE SIZE | PSI (BAR)  | AVAILABLE STANDARD FLOW RATE<br>GPM (LPM) |          |          |          |          |          |           |           |           |           |           |           |            |            | BASE TYPE  |            |       | SHUT-OFF | HANDLE | TEETH  |             |       | MODEL |      |     |           |                  |                 |           |
|-----------|------------|---|----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|------------|------------|------------|-------|----------|--------|--------|-------------|-------|-------|------|-----|-----------|------------------|-----------------|-----------|
|           |            | 15 (57)                                   | 30 (114) | 45 (170) | 60 (227) | 75 (284) | 95 (360) | 125 (473) | 150 (568) | 175 (662) | 185 (700) | 200 (757) | 250 (946) | 275 (1041) | 300 (1136) | 325 (1230) | 350 (1325) | Rigid |          |        | Swivel | Free Swivel | Twist |       | Ball | Tab | Horseshoe | Spinning Plastic | Molded Urethane | Cut Metal |
|           |            |   |          |          |          |          |          |           |           |           |           |           |           |            |            |            |            |       |          |        |        |             |       |       |      |     |           |                  |                 |           |
| 1"        | 100 (6.89) | •   | •        | •        | •        |          |          |           |           |           |           |           |           |            |            |            |            |       |          |        |        |             |       |       |      |     |           |                  |                 |           |
|           | 50 (3.45)  |   |          |          |          |          |          |           |           |           |           |           |           |            |            |            |            |       |          |        |        |             |       |       |      |     |           |                  |                 |           |
|           | 75 (5.17)  |   |          |          |          |          |          |           |           |           |           |           |           |            |            |            |            |       |          |        |        |             |       |       |      |     |           |                  |                 |           |
| 1.5"      | 100 (6.89) |   |          | •        | •        | •        | •        | •         | •         | •         | •         | •         | •         | •          | •          | •          | •          | •     | •        | •      | •      | •           | •     | •     | •    | •   | •         | •                |                 |           |
|           | 50 (3.45)  |   |          |          |          |          |          |           |           |           |           |           |           |            |            |            |            |       |          |        |        |             |       |       |      |     |           |                  |                 |           |
|           | 75 (5.17)  |   |          |          |          |          |          |           |           |           |           |           |           |            |            |            |            |       |          |        |        |             |       |       |      |     |           |                  |                 |           |
|           | 100 (6.89) |   |          |          |          |          |          |           |           |           |           |           |           |            |            |            |            |       |          |        |        |             |       |       |      |     |           |                  |                 |           |
|           | 50 (3.45)  |   |          |          |          |          |          |           |           |           |           |           |           |            |            |            |            |       |          |        |        |             |       |       |      |     |           |                  |                 |           |
|           | 75 (5.17)  |   |          |          |          |          |          |           |           |           |           |           |           |            |            |            |            |       |          |        |        |             |       |       |      |     |           |                  |                 |           |
|           | 100 (6.89) |   |          |          |          |          |          |           |           |           |           |           |           |            |            |            |            |       |          |        |        |             |       |       |      |     |           |                  |                 |           |
|           | 50 (3.45)  |   |          |          |          |          |          |           |           |           |           |           |           |            |            |            |            |       |          |        |        |             |       |       |      |     |           |                  |                 |           |
|           | 75 (5.17)  |   |          |          |          |          |          |           |           |           |           |           |           |            |            |            |            |       |          |        |        |             |       |       |      |     |           |                  |                 |           |
| 2.5"      | 100 (6.89) |   |          |          |          |          |          |           |           |           |           |           |           |            |            |            |            |       |          |        |        |             |       |       |      |     |           |                  |                 |           |
|           | 50 (3.45)  |   |          |          |          |          |          |           |           |           |           |           |           |            |            |            |            |       |          |        |        |             |       |       |      |     |           |                  |                 |           |
|           | 75 (5.17)  |   |          |          |          |          |          |           |           |           |           |           |           |            |            |            |            |       |          |        |        |             |       |       |      |     |           |                  |                 |           |

Chief Nozzles



Key: s = Standard o = Option  
 ✖ = Flow rates available on the Chief XD  
 • = Flow rates not available on the Chief XD

# HANDLELINE NOZZLES



CHIEF™

HANDLELINE NOZZLES

| BASE SIZE | PSI (BAR)  | AVAILABLE STANDARD FLOW RATE<br>GPM (LPM) |            |          |          |          |          |           |           |           |           |           |           |            |            |            | BASE<br>TYPE |       |        | SHUT-OFF    |      | HANDLE |     |           | TEETH            |                 |            | MODEL |  |         |
|-----------|------------|---|------------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|------------|------------|--------------|-------|--------|-------------|------|--------|-----|-----------|------------------|-----------------|------------|-------|--|---------|
|           |            | 15 (57)                                   | 30 (114)   | 45 (170) | 60 (227) | 75 (284) | 95 (360) | 125 (473) | 150 (568) | 175 (662) | 185 (700) | 200 (757) | 250 (946) | 275 (1041) | 300 (1136) | 325 (1230) | 350 (1325)   | Rigid | Swivel | Free Swivel | Long | Short  | Tab | Horseshoe | Spinning Plastic | Molded Urethane | Curt Metal |       |  |         |
|           |            | 1"  | 100 (6.89) | •        | •        | •        | •        |           |           |           |           |           |           |            |            |            |              |       |        |             | s    |        |     | •         | s                | o               | s          |       |  |         |
| 1.5"      | 50 (3.45)  |   |            |          |          |          |          |           |           |           |           |           |           |            |            |            |              |       |        |             |      |        |     |           |                  |                 |            |       |  | 4000-13 |
|           | 75 (5.17)  |   |            |          |          |          |          |           |           |           |           |           |           |            |            |            |              |       |        | s           |      |        | •   | o         | s                | s               | o          |       |  | 4000-17 |
|           | 100 (6.89) |   |            | •        | •        | ×        | ×        | ×         | ×         |           |           |           |           |            |            |            |              |       |        |             |      |        |     |           |                  |                 |            |       |  | 4000-23 |
| 2.5"      | 50 (3.45)  |   |            |          |          |          |          |           |           |           |           |           |           |            |            |            |              |       |        |             |      |        |     |           |                  |                 |            |       |  | 4000-28 |
|           | 75 (5.17)  |   |            |          |          |          |          |           |           |           |           |           |           |            |            |            |              |       |        |             |      |        |     |           |                  |                 |            |       |  | 4000-28 |
|           | 100 (6.89) |   |            |          |          |          |          |           |           |           |           |           |           |            |            |            |              |       |        |             |      |        |     |           |                  |                 |            |       |  | 4000-28 |

**Chief Nozzles with Pistol Grip**

|    |   |  |  |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                |
|----|---|--|--|---|---|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|----------------|
| 1" | 15-20 GPM @ 1100-1500 PSI<br>(57-76 LPM @ 76-103 BAR)<br>Flow & Pressure are factory set and must be specified when ordering. | s - SS HEX NPT<br>o - Free Swivel<br>o - Quick Connect |  | • | o | s |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 4000-03<br>UHP |
|----|---|--|--|---|---|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|----------------|

**Ultra High Pressure**

Key: s = Standard o = Option  
 × = Flow rates available on the Chief XD  
 • = Flow rates not available on the Chief XD

1-11

## OPTIONS

| HANDLES  |               | MOLDED URETHANE TEETH   |     |        |        |      |       |      |
|--|---------------|---|-----|--------|--------|------|-------|------|
| TAB<br>  | HORSESHOE<br> |   |     |        |        |      |       |      |
| THREADS  |               | COLORS  |     |        |        |      |       |      |
| All nozzles are NHT unless otherwise specified. See index T-13 for optional base threads, including British instantaneous. |               | black   | red | orange | yellow | Glow | green | blue |
|  |               | Color options available for pistol grip, bumper, and handle. Glow available for bumper only. Retrofit kit available for Glow bumper. <b>White bumper not available.</b> |     |        |        |      |       |      |
|  |               | Chief™ nozzle comes standard with an orange bumper, chrome handle, and natural Elk-O-Lite® pistol grip.   |     |        |        |      |       |      |

| ADDITIONAL INFORMATION      |        |
|-----------------------------|--------|
| PART NAME                   | PAGE # |
| Thread Information          | T-13   |
| Nozzle Flow Data            | T-2    |
| Hose and Nozzle Accessories | 2-1    |
| Foam Expansion Tubes        | 2-2    |

## Select-O-Matic®

Pressure-regulating Select-O-Matic® nozzles automatically adjust to fluctuating water flow to maintain effective pressure and a consistent fire stream in all flow ranges. Our patented, completely unobstructed waterway allows more gpm at lower pressures than any competitive brand. All models flush easily without shutting down and provide constant flow on either fog or straight stream, making them ideal for the application of AFFF foam. Corrosion resistant; no lubrication required.



British Standard Parallel Pipe (BSPP) and British Instantaneous (BS336) base options available.

# HANDLINE NOZZLES



## SELECT-O-MATIC®

# HANDLINE NOZZLES

1-13

| Base Size | FLOW RANGES       | PRESSURE   | BASE      |        |             | HANDLE |     | TEETH     |          | MODEL     |
|-----------|-------------------|------------|-----------|--------|-------------|--------|-----|-----------|----------|-----------|
|           | GPM (LPM)         |            | PSI (BAR) | TYPE   |             |        | Tab | Horseshoe | Spinning |           |
|           |                   | Rigid      |           | Swivel | Free Swivel |        |     |           |          |           |
| 1"        | 10-75 (38-284)    | 100 (6.89) |           | s      |             |        |     | s         |          | TSM-3F    |
|           | 60-125 (227-475)  | 100 (6.89) | o         | s      |             |        |     | s         | o        | TSM-10F   |
| 1.5"      | 60-200 (227-757)  | 75 (5.17)  | o         | s      |             |        |     | s         |          | TSM-20FLP |
|           |                   | 100 (6.89) | o         | s      |             |        |     | s         | o        | TSM-20F   |
|           | 75-325 (284-1230) | 75 (5.17)  | o         | s      |             |        |     | s         | o        | TSM-30FLP |
|           |                   | 100 (6.89) | o         | s      |             |        |     | s         | o        | TSM-30F   |
| 2.5"      | 75-325 (284-1230) | 100 (6.89) |           | s      |             |        | s   | o         | DTSM-30F |           |

Select-O-Matic Tips



|      |                   |            |   |   |   |   |   |   |   |           |
|------|-------------------|------------|---|---|---|---|---|---|---|-----------|
| 1"   | 10-75 (38-284)    | 100 (6.89) | o |   | s | s | o | s |   | SM-3F     |
|      | 60-125 (227-475)  | 100 (6.89) | o | s | o | o | s | s | o | SM-10F    |
| 1.5" | 60-200 (227-757)  | 75 (5.17)  | o | s | o | o | s | s |   | SM-20FLP  |
|      |                   | 100 (6.89) | o | s | o | o | s | s | o | SM-20F    |
|      | 75-325 (284-1230) | 75 (5.17)  | o | s | o | o | s | s | o | SM-30FLP  |
|      |                   | 100 (6.89) | o | s | o | o | s | s | o | SM-30F    |
| 2.5" | 75-325 (284-1230) | 75 (5.17)  |   | s | o | o | s | s | o | DSM-30FLP |
|      |                   | 100 (6.89) |   | s | o | o | s | s | o | DSM-30F   |

Select-O-Matic Nozzles



|      |                   |            |   |   |   |   |   |   |   |            |
|------|-------------------|------------|---|---|---|---|---|---|---|------------|
| 1"   | 10-75 (38-284)    | 100 (6.89) | o |   | s | s | o | s |   | SM-3FG     |
|      | 60-125 (227-475)  | 100 (6.89) | o | s | o | o | s | s | o | SM-10FG    |
| 1.5" | 60-200 (227-757)  | 75 (5.17)  | o | o | s | o | s | s |   | SM-20FGLP  |
|      |                   | 100 (6.89) | o | o | s | o | s | s | o | SM-20FG    |
|      | 75-325 (284-1230) | 75 (5.17)  | o | o | s | o | s | s | o | SM-30FGLP  |
|      |                   | 100 (6.89) | o | o | s | o | s | s | o | SM-30FG    |
| 2.5" | 75-325 (284-1230) | 75 (5.17)  |   | o | s | o | s | s | o | DSM-30FGLP |
|      |                   | 100 (6.89) |   | o | s | o | s | s | o | DSM-30FG   |

Key: s = standard o = option

Figures depict general product types only and are not intended to be inclusive of all product features.



## OPTIONS

| HANDLES   |  | MOLDED URETHANE TEETH   |
|---|--|---|
| TAB<br>  | HORSESHOE<br> |   |
| THREADS   |  | COLORS  |
| <p>All nozzles are NHT unless otherwise specified. See index T-13 for optional base threads, including British instantaneous.</p> |  |  <p>Color options available for pistol grip, bumper, and handle. Glow available for bumper only. Retrofit kit available for Glow bumper. <b>White bumper not available.</b></p> <p>Select-O-Matic nozzle comes standard with a yellow bumper, chrome handle, and natural Elk-O-Lite® pistol grip.</p> |

### ADDITIONAL INFORMATION

| PART NAME                   | PAGE # |
|-----------------------------|--------|
| Thread Information          | T-13   |
| Nozzle Flow Data            | T-2    |
| Hose and Nozzle Accessories | 2-1    |
| Foam Expansion Tubes        | 2-2    |

# HANDLINE NOZZLES



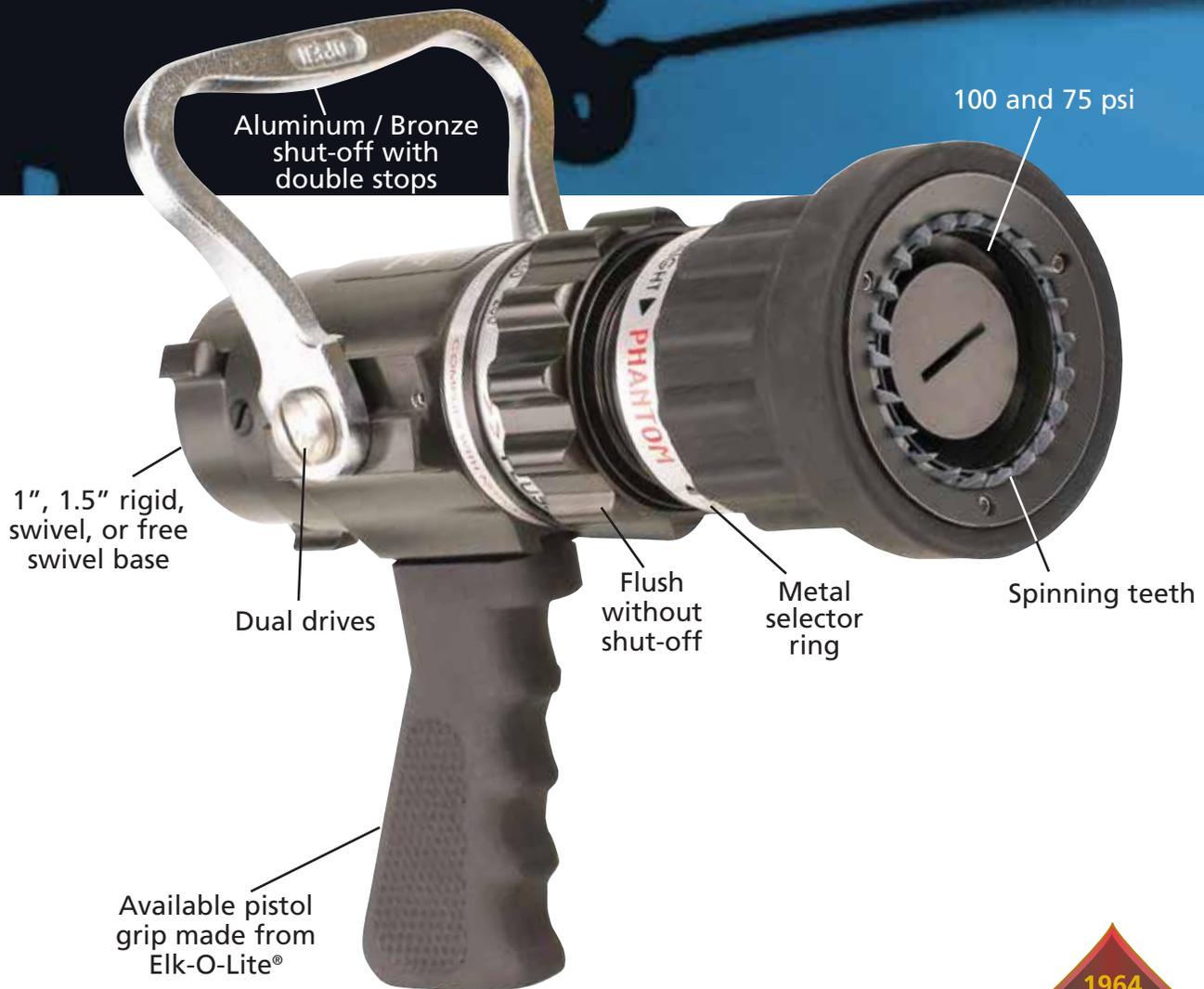
PHANTOM®

## Phantom®

The selectable gallonage Phantom® lets the firefighter select the appropriate flow. The wide selection range standard with the Phantom® makes it one nozzle for every use from brush to interior attack. The Phantom® is designed for reliable performance with rugged metal selector ring and dual drive metal ball shut-off. Available standard in 100 psi and true 75 psi models.

HANDLINE NOZZLES

1-15



British Standard Parallel Pipe (BSPP) and British Instantaneous (BS336) base options available.

# HANDLINE NOZZLES

PHANTOM®

HANDLINE NOZZLES

1-16

| Base Size | FLOW RATE   | PRESSURE   | BASE  |        |             | SHUT-OFF |      | HANDLE |           |          | TEETH | MODEL     |          |
|-----------|---|------------|-------|--------|-------------|----------|------|--------|-----------|----------|-------|-----------|----------|
|           | GPM (LPM)   | PSI (BAR)  | Rigid | Swivel | Free Swivel | Twist    | Ball | Tab    | Horseshoe | Spinning |       |           |          |
| 1"        | 15/30/45/60<br>(57/114/170/227)                   | 100 (6.89) | s     |        |             |          |      |        |           |          | s     | TPSFS-HP  |          |
|           |   |            | s     |        |             |          | •    |        |           |          | s     | TPSFS-HPT |          |
| 1.5"      | 30/60/95/125/150/200<br>(114/227/360/473/568/757) | 100 (6.89) |       | s      |             |          |      |        |           |          | s     | TSFM-HP   |          |
|           |   |            |       | s      |             |          | •    |        |           |          | s     | TSFM-HPT  |          |
|           |   | 75 (5.17)  |       | s      |             |          |      |        |           |          |       | s         | TSFM-LP  |
|           |   |            |       | s      |             |          |      | •      |           |          |       | s         | TSFM-LPT |
| 1"        | 15/30/45/60<br>(57/114/170/227)                   | 100 (6.89) |       |        | s           |          | •    | s      |           | s        |       | PSFS-HP   |          |
| 1.5"      | 30/60/95/125/150/200<br>(114/227/360/473/568/757) | 100 (6.89) |       | s      | o           |          | •    | o      | s         | s        |       | SFM-HP    |          |
|           |   | 75 (5.17)  |       | s      | o           |          | •    | o      | s         | s        |       | SFM-LP    |          |
| 1"        | 15/30/45/60<br>(57/114/170/227)                   | 100 (6.89) |       |        | s           |          | •    | s      |           | s        |       | PSFS-HPG  |          |
| 1.5"      | 30/60/95/125/150/200<br>(114/227/360/473/568/757) | 100 (6.89) |       |        | o           | s        |      | •      | o         | s        | s     | SFM-HPG   |          |
|           |   | 75 (5.17)  |       |        | o           | s        |      | •      | o         | s        | s     | SFM-LPG   |          |



Key: s = standard o = option

Figures depict general product types only and are not intended to be inclusive of all product features.

## OPTIONS

| HANDLES  |  | COLORS   |     |        |        |      |       |      |
|--|--|--|-----|--------|--------|------|-------|------|
| TAB<br>   | HORSESHOE<br> | black  | red | orange | yellow | Glow | green | blue |
| <b>THREADS</b><br>All nozzles are NHT unless otherwise specified. See index T-13 for optional base threads, including British instantaneous. |  | Color options available for pistol grip, bumper, and handle. Glow available for bumper only. Retrofit kit available for Glow bumper. <b>White bumper not available.</b><br>Phantom® nozzle standards are a black bumper, rough chrome handle, and natural Elk-O-Lite® pistol grip. |     |        |        |      |       |      |

# HANDLINE NOZZLES



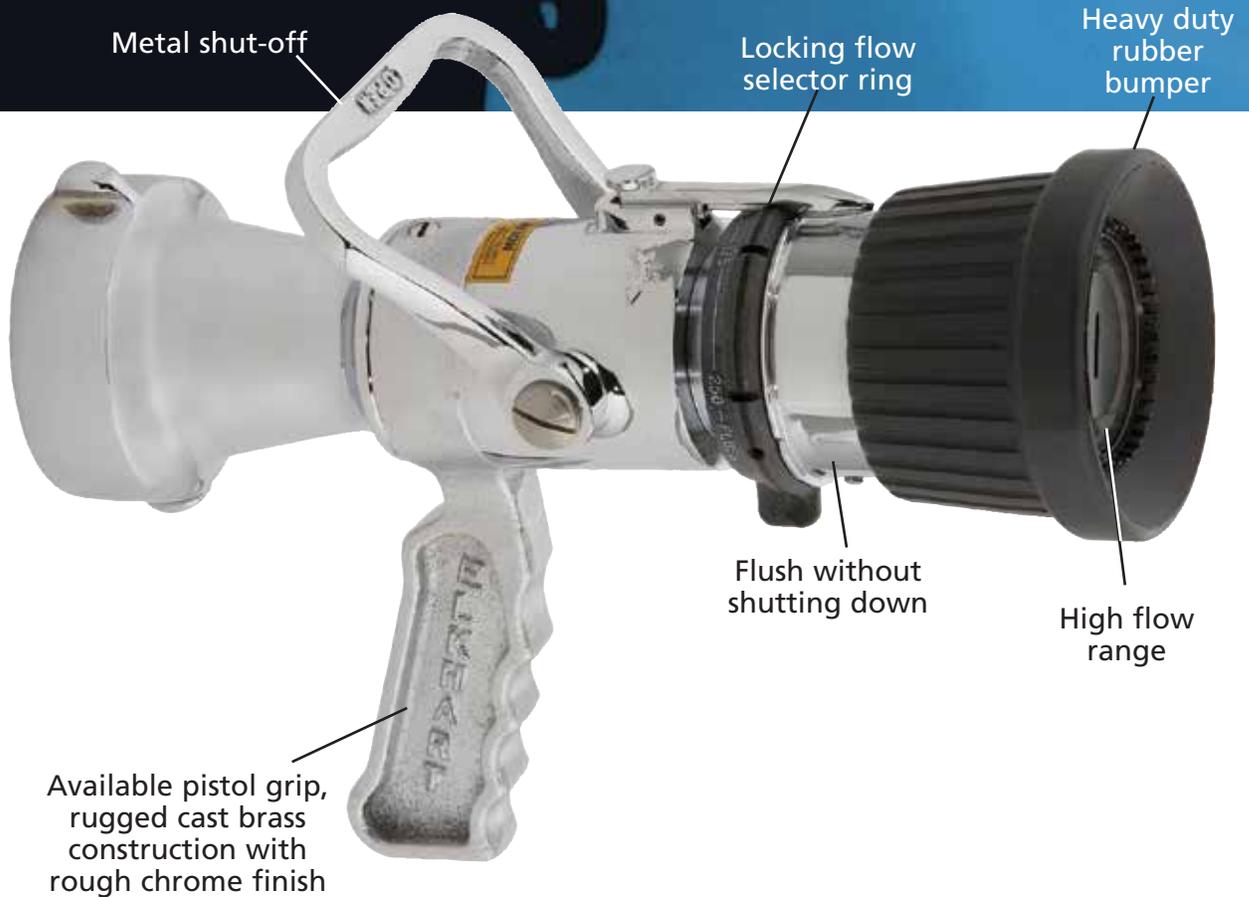
SELECT-O-FLOW®

## Select-O-Flow®

Select-O-Flow®, the original selectable gallonage nozzle, is similar in function to the Phantom® — allowing the firefighter to select the appropriate flow. The Select-O-Flow® range goes as high as 250 gpm.

HANDLINE NOZZLES

1-17



Metal shut-off

Locking flow selector ring

Heavy duty rubber bumper

Flush without shutting down

High flow range

Available pistol grip, rugged cast brass construction with rough chrome finish

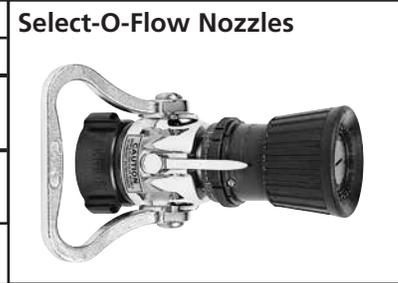


British Standard Parallel Pipe (BSPP) and British Instantaneous (BS336) base options available.

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| Base Size | FLOW RATE                            | SHUT-OFF |      | HANDLE |           | BASE  |        |             | TEETH           |          | DIMENSIONS  |                 | MODEL  |               |
|-----------|--------------------------------------|----------|------|--------|-----------|-------|--------|-------------|-----------------|----------|-------------|-----------------|--------|---------------|
|           | GPM (LPM)<br>PSI (BAR)<br>100 (6.89) | Twist    | Ball | Tab    | Horseshoe | Rigid | Swivel | Free Swivel | Molded Urethane | Spinning | Rigid Metal | Length (Inches) |        | Weight (Lbs.) |
| 1.5"      | 40/60/95/125<br>(151/227/360/473)    | •        |      |        |           |       | s      |             |                 |          | s           | 6.50            | 2.75   | TSFL-O        |
|           | 125/175/250<br>(473/662/946)         | •        |      |        |           |       | s      |             |                 |          | s           | 7.00            | 5.50   | TSF           |
| 1.5"      | 40/60/95/125<br>(151/227/360/473)    |          | •    | o      | s         |       | s      | o           | o               | s        |             | 7.625           | 7.75   | SFL-B         |
|           | 125/175/250<br>(473/662/946)         |          | •    |        | s         | o     | s      | o           |                 |          | s           | 7.00            | 3.75   | SFL-O         |
| 1.5"      | 125/175/250<br>(473/662/946)         |          | •    |        | s         | o     | s      | o           |                 |          | s           | 8.00            | 8.00   | SF            |
|           | 125/175/250<br>(473/662/946)         |          | •    |        | s         | o     | s      | o           |                 |          | s           | 10.75           | 10.00  | DSF           |
| 1.5"      | 40/60/95/125<br>(151/227/360/473)    |          | •    | o      | s         |       | s      | o           | s               |          | s           | 8.375           | 9.625  | SFL-BG        |
|           | 125/175/250<br>(473/662/946)         |          | •    |        | s         | o     | o      | s           |                 |          | s           | 10.00           | 4.875  | SFL-OG        |
| 1.5"      | 125/175/250<br>(473/662/946)         |          | •    |        | s         | o     | o      | s           |                 |          | s           | 11.25           | 8.875  | SF-G          |
|           | 125/175/250<br>(473/662/946)         |          | •    |        | s         | o     | o      | s           |                 |          | s           | 13.875          | 10.875 | DSF-G         |

Key: s = standard o = option



Figures depict general product types only and are not intended to be inclusive of all product features.

## OPTIONS

### HANDLES

TAB

HORSESHOE



- SFL-B, SFL-BG, SFL-O, SFL-OG all feature aluminum/bronze shut-off handles
- DSF, DSFG, SF, SF-G, STDSF, SF-800 all feature manganese/bronze shut-off handles

### MOLDED URETHANE TEETH



### THREADS

All nozzles are NHT unless otherwise specified. See index T-13 for optional base threads, including British instantaneous.

# HANDLINE NOZZLES



MYSTERY®

## Mystery®

The Mystery® Nozzle incorporates a twist-type shut-off, opening in straight stream and producing a flow from straight stream to wide fog. In combination with a ball shut-off, the Mystery® Nozzle promotes an extremely convenient method of advancing hoselines. Simply close the ball shut-off, remove the Mystery® tip, attach additional hose, and then reattach the tip at the end of the line. The tip's built-in shut-off allow for the line to be advanced rapidly without bringing in an additional nozzle.

HANDLINE NOZZLES

1-19



British Standard Parallel Pipe (BSPP) base options available.

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| Base Size | AVAILABLE STANDARD FLOW RATE GPM (LPM) |          |           |           |           |           | SHUT-OFF | BASE  |      |       | TEETH | DIMENSIONS |             | MODEL |           |                 |               |
|-----------|--|----------|-----------|-----------|-----------|-----------|----------|-------|------|-------|-------|------------|-------------|-------|-----------|-----------------|---------------|
|           | 60 (227)                               | 95 (360) | 125 (473) | 170 (644) | 200 (757) | 250 (946) |          | Twist | Ball | Rigid |       | Swivel     | Free Swivel |       | Cut Metal | Length (Inches) | Weight (Lbs.) |
|           | PSI (BAR)                              |          |           |           |           |           |          |       |      |       |       |            |             |       |           |                 |               |
| 1.5"      | •                                      | •        | •         | •         | •         | •         | •        |       | s    |       |       | s          | 4.625       | 1.375 | L-205-BA  |                 |               |
|           | •                                      | •        | •         | •         | •         | •         | •        |       | s    | o     |       | s          | 7.125       | 3.25  | 205-BA    |                 |               |
|           | •                                      | •        | •         | •         | •         | •         | •        |       | s    |       |       | s          | 7.50        | 3.50  | D-205-BA  |                 |               |

MYSTERY TIPS



Key: s = standard o = option

Figures depict general product types only and are not intended to be inclusive of all product features.

## THREADS

*All nozzles are NHT unless otherwise specified. See index T-13 for optional base threads, including British instantaneous.*

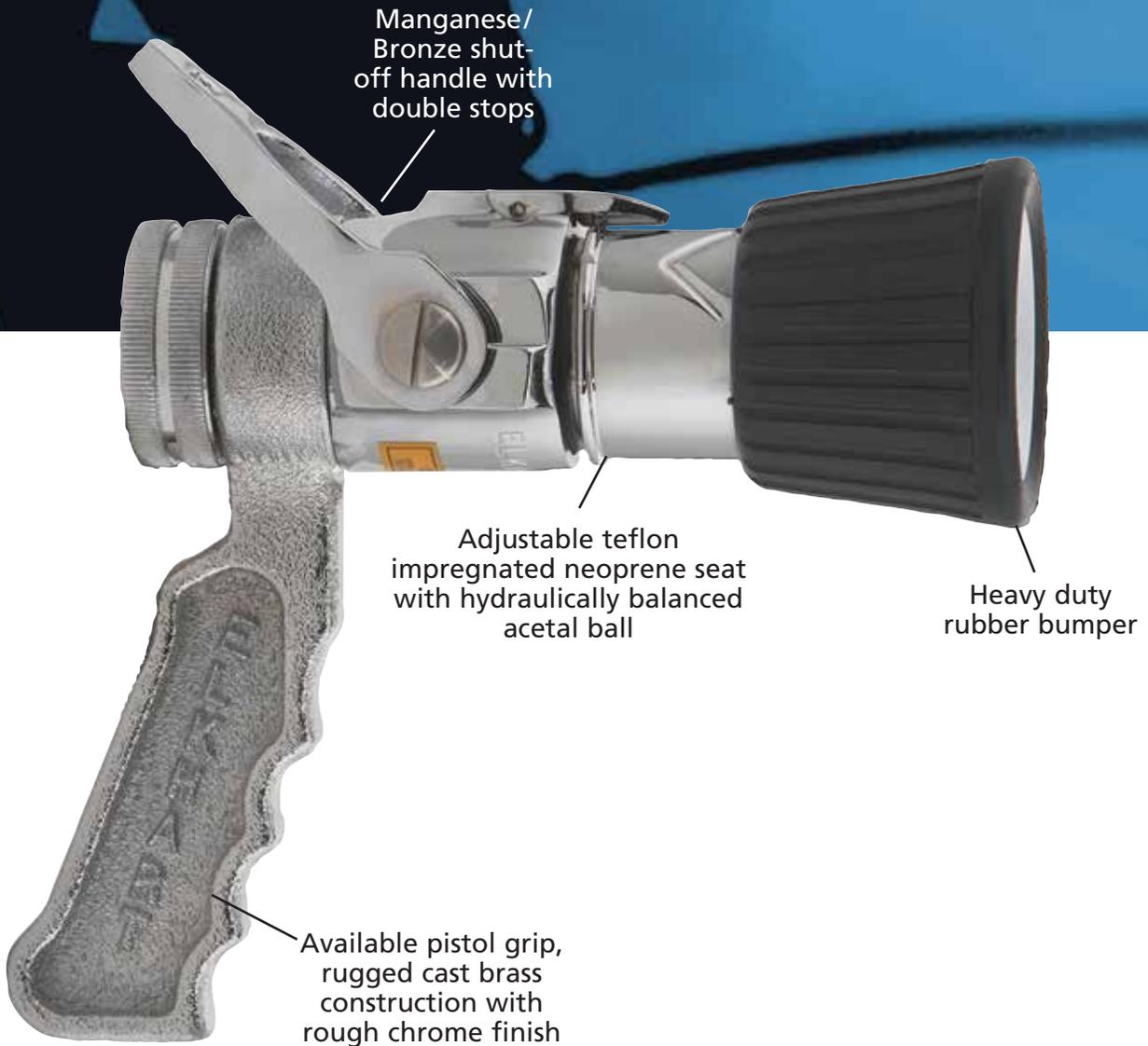
# HANDLINE NOZZLES



SELECT-O-STREAM®

## Select-O-Stream®

An industry standard for over 40 years, the Select-O-Stream® delivers constant gallonage at every pattern level, from straight stream to full fog. The rugged all brass construction with chrome finish has a proven record of standing up to corrosive conditions. The variety of available gpm options with the Select-O-Stream® allows for customized choices to match the needs of fire professionals.



HANDLINE NOZZLES

1-21

British Standard Parallel Pipe (BSPP) and British Instantaneous (BS336) base options available.

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# HANDLINE NOZZLES

SELECT-O-STREAM®

| Base Size | AVAILABLE STANDARD FLOW RATES GPM (LPM) |          |           |           |           | GRIP | FINISH      |               | HANDLE | BASE  |        |             | TEETH | DIMENSIONS |                 | MODEL |               |
|-----------|---|----------|-----------|-----------|-----------|------|-------------|---------------|--------|-------|--------|-------------|-------|------------|-----------------|-------|---------------|
|           | 60 (227)                                | 95 (360) | 125 (473) | 170 (644) | 250 (946) |      | Satin Brass | Chrome-Plated |        | Rigid | Swivel | Free Swivel |       | Cut Metal  | Length (Inches) |       | Weight (Lbs.) |
|           | PSI (BAR)<br>100 (6.89)                 |          |           |           |           |      |             |               |        |       |        |             |       |            |                 |       |               |
| 1.5"      | •                                       | •        | •         |           |           | •    | s           | o             | s      | o     | s      | o           | s     | 7.00       | 5.50            | L-O   |               |
|           | •                                       | •        | •         |           |           |      | s           | o             | s      |       |        | s           |       | 7.75       | 6.375           | L-OG  |               |
| 2.5"      |   |          |           | •         | •         |      | s           | o             | s      | o     | s      | o           | s     | 10.625     | 10.375          | D     |               |

Key: s = standard o = option

## THREADS

All nozzles are NHT unless otherwise specified. See index T-13 for optional base threads, including British instantaneous.

L-O & D



L-OG



Figures depict general product types only and are not intended to be inclusive of all product features.



INDUSTRIAL & ELECTRICAL FOG

HANDLINE NOZZLES

## Industrial & Electrical Fog

Our industrial fog nozzles were created to handle the rigors of industrial needs in refineries, chemical plants, office complexes and other on-site situations. Several different materials are available to suit every need, and most nozzles are U.L. listed and/or FM approved.

The fog nozzles with the electrical specification in the chart are designed to be used on class "C" hazards and utilize only fog capabilities in combating blazes at 10' or more from live electrical equipment and/or circuits with voltage up to 250,000. All other industrial fog nozzles can be used in either straight stream or fog combinations.

1-23

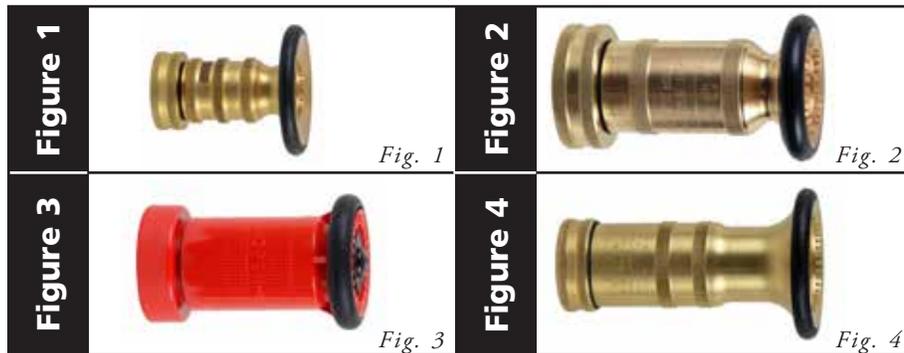


British Standard Parallel Pipe (BSPP) and British Instantaneous (BS336) base options available.

| Base Size | AVAILABLE STANDARD FLOW RATES GPM (LPM) |         |          |          |          |           |           | FLOW TYPE | SHUT-OFF  |            |               | CERT. | BASE | MATERIAL / FINISH |      |            |             | DIMENSIONS  |       | MODEL | FIGURE |        |             |          |               |                 |               |
|-----------|---|---------|----------|----------|----------|-----------|-----------|-----------|-----------|------------|---------------|-------|------|-------------------|------|------------|-------------|-------------|-------|-------|--------|--------|-------------|----------|---------------|-----------------|---------------|
|           | 12 (45)                                 | 23 (87) | 60 (227) | 75 (284) | 95 (360) | 125 (473) | 170 (644) |           | 250 (946) | Fixed Flow | Variable Flow |       |      | Twist             | Ball | Electrical | FM Approved | U.L. Listed | Rigid |       |        | Swivel | Free Swivel | Brass    |               | Length (Inches) | Weight (Lbs.) |
|           | PSI (BAR)<br>100 (6.89)                 |         |          |          |          |           |           |           | Satin     |            |               |       |      |                   |      |            |             |             |       |       |        |        |             | Chrome   | Polycarbonate |                 |               |
| 1.5"      |   |         |          |          | •        |           |           | •         |           | •          |               |       |      | •                 | s    |            |             |             | s     | o     |        |        | 5.00        | 2.875    | L-205-B       | 2               |               |
|           |   |         | •        |          | •        |           |           | •         |           | •          |               |       |      |                   | s    |            |             |             | s     | o     |        |        | 4.75        | 4.125    | L-200         | 1               |               |
|           |   |         |          | •        |          |           |           | •         |           | •          |               |       |      |                   | s    |            |             |             |       |       | s      |        | 4.875       | 0.375    | 1575          | 3               |               |
|           |   |         |          |          |          |           | •         | •         | •         | •          |               |       |      |                   | s    |            |             |             | s     | o     |        |        | 7.063       | 5.625    | 205-B         | 4               |               |
|           |   |         |          |          | •        |           |           | •         |           | •          |               | •     |      |                   | s    |            |             |             | s     | o     |        |        | 5.00        | 2.875    | L-205-EB*     | 2               |               |
|           |   |         |          | •        |          |           |           | •         |           | •          |               | •     |      |                   | s    |            |             |             | s     | o     |        |        | 3.00        | 1.50     | L-206-T       |                 |               |
|           |   |         |          |          | •        |           |           | •         |           | •          |               | •     |      |                   | s    |            |             |             |       |       | s      |        | 4.875       | 0.375    | 1575-E        | 3               |               |
|           |   |         |          |          |          |           | •         | •         | •         | •          |               | •     |      |                   | s    |            |             |             | s     | o     |        |        | 7.063       | 5.625    | 205-EB        | 2               |               |
| 2.5"      |   |         |          |          |          |           | •         | •         | •         | •          |               |       |      | s                 |      |            |             | s           | o     |       |        | 8.313  | 7.375       | D-205-B  | 4             |                 |               |
|           |   |         |          |          |          |           | •         | •         | •         | •          |               |       |      | s                 |      |            |             | s           | o     |       |        | 11.563 | 8.75        | D-200    | 1             |                 |               |
|           |   |         |          |          |          |           | •         | •         | •         | •          | •             |       |      | s                 |      |            |             | s           | o     |       |        | 8.313  | 7.375       | D-205-EB | 4             |                 |               |

Key: s = standard o = option  
 \*NOTE: 125 GPM Nozzle NOT UL Listed

### FOG NOZZLE CONFIGURATIONS



Figures depict general product types only and are not intended to be inclusive of all product features.

| OPTIONS  |
|--|
| THREADS  |
| All nozzles are NHT unless otherwise specified. See index T-13 for optional base threads, including British instantaneous. |

# HANDLINE NOZZLES



MARINE

## Marine

These handline nozzles are specifically designed and manufactured for the unique firefighting challenges of a marine environment. They utilize military spec, corrosion resistant cast brass construction and are ideal for the application of AFFF. The constant flow technology, combined with their durable construction, make them optimal for use in the shipping industry, in refineries and for off-shore drilling or production rigs, as well as within chemical complexes.

Most models meet the stringent performance requirements of the U.S. Navy.

HANDLINE NOZZLES

1-25



Manganese/Bronze  
horseshoe handle

Acetal ball with self-adjusting  
UHMWPE seat (most models)

Flush without  
shutting down

85-5-5-5 "Marine  
Brass" construction

Cut metal teeth

Available pistol grip  
is 85-5-5-5 brass



British Standard Parallel Pipe (BSPP) and British Instantaneous (BS336) base options available.

| Base Size | AVAILABLE FLOW RATE<br>GPM (LPM) |           |           | SHUT-OFF | BASE |       |        | TEETH | RATING      |           |                    | DIMENSIONS           |             | MODEL         |                 |               |
|-----------|----------------------------------|-----------|-----------|----------|------|-------|--------|-------|-------------|-----------|--------------------|----------------------|-------------|---------------|-----------------|---------------|
|           | 95 (360)                         | 125 (473) | 250 (946) |          | Ball | Rigid | Swivel |       | Free Swivel | Cut Metal | Complies with MIL* | Complies with USCG** | FM Approved |               | Length (Inches) | Weight (Lbs.) |
|           | PSI (BAR)                        |           |           |          |      |       |        |       |             |           |                    |                      |             |               |                 |               |
| 1.5"      | •                                | •         |           | •        |      |       | s      | s     |             |           |                    | 7.375                | 6.50        | SFL-N         |                 |               |
|           | •                                |           |           | •        |      |       | s      | s     | •           | •         |                    | 8.06                 | 6.92        | SFL-CG-95     |                 |               |
| 1.5"      | •                                |           |           | •        |      |       | s      | s     | •           |           |                    | 7.375                | 7.625       | SFL-GN-95     |                 |               |
|           |                                  | •         |           | •        |      |       | s      | s     | •           |           |                    | 7.375                | 7.625       | SFL-GN-125    |                 |               |
|           | •                                |           |           | •        |      |       | s      | s     |             | •         |                    | 8.31                 | 8.17        | SFL-GN-95-SPL |                 |               |
|           | •                                |           |           | •        |      |       | s      | s     | •           | •         |                    | 8.31                 | 8.25        | SFL-GCG-95    |                 |               |
| 2.5"      |                                  |           | •         | •        |      | s     | s      | •     |             |           | 12.5               | 13.5                 | DSF-N       |               |                 |               |

MARINE NOZZLES



MARINE NOZZLE with PISTOL GRIP



DSF-N



Key s = standard o = option  
 \* Complies with MIL-N-24408E Type 1  
 \*\* Complies with USCG Approval Number: 162.027/12/0-IAW CFR46 162.027

Figures depict general product types only and are not intended to be inclusive of all product features.

| OPTIONS  |
|--|
| <p><b>THREADS</b></p> <p>All nozzles are NHT unless otherwise specified. See index T-13 for optional base threads, including British instantaneous.</p>  |
| <p><b>HANDLES</b></p> <ul style="list-style-type: none"> <li>SFL-N feature manganese/bronze shut-off handles</li> <li>SFL-CG-95, SFL-GCG-95, SFL-GN series, and DSF-N feature silicon/bronze shut-off handles</li> </ul> |

# HANDLINE NOZZLES



BALL SHUT-OFFS & PLAYPIPES

## Ball Shut-offs & Playpipes

Elkhart Brass Ball Shut-offs and Playpipes are designed and constructed for rugged use and reliable performance as well as an excellent foundation for your break-apart nozzle needs using either smooth bore or fog nozzles. Elkhart Brass Ball Shut-offs and Playpipes are available with a variety of options, including built-in smooth bores which can be used with a fog nozzle tip for maximum versatility.

HANDLINE NOZZLES

1-27



British Standard Parallel Pipe (BSPP) and British Instantaneous (BS336) base options available.

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### BALL SHUT-OFFS & PLAYPIPES

| Inlet Size | Outlet Size | WATERWAY SIZE |        |        |        |      |      | AVAILABLE INTEGRAL SMOOTH BORE DISCHARGE SIZE |        |        |        |        |        | BALL TYPES |        | SEAT   |            | DRIVE             |                       |        | GRIP   |             |          | BASE       |       |        | HANDLE      |     | MATERIAL  |            | MODEL     | FIGURE     |             |
|------------|-------------|---------------|--------|--------|--------|------|------|---|--------|--------|--------|--------|--------|------------|--------|--------|------------|-------------------|-----------------------|--------|--------|-------------|----------|------------|-------|--------|-------------|-----|-----------|------------|-----------|------------|-------------|
|            |             | 1"            | 1 3/8" | 1 1/2" | 1 3/4" | 1/2" | 7/8" | 1 1/8"  | 1 1/4" | 1 1/2" | 1 3/4" | 1 1/2" | 1 3/4" | 1 1/2"     | 1 3/4" | Double | Full Round | Single Adjustable | Double Non-Adjustable | Single | Double | Pistol Grip | Playpipe | Ladderhook | Rigid | Swivel | Free Swivel | Tab | Horseshoe | Brass      |           |            | Elk-O-Lite® |
|            |             | 1"            | 1 3/8" | 1 1/2" | 1 3/4" | 1/2" | 7/8" | 1 1/8"  | 1 1/4" | 1 1/2" | 1 3/4" | 1 1/2" | 1 3/4" | 1 1/2"     | 1 3/4" | Double | Full Round | Single Adjustable | Double Non-Adjustable | Single | Double | Pistol Grip | Playpipe | Ladderhook | Rigid | Swivel | Free Swivel | Tab | Horseshoe | Brass      |           |            | Elk-O-Lite® |
| 1"         | 1"          |               |        |        |        |      |      |   |        |        |        |        |        |            | S      |        |            |                   |                       |        |        |             |          | S          |       | O      | S           | O   |           |            | SB-275    | 1          |             |
|            |             |               |        |        |        |      |      |   |        |        |        |        |        |            |        | S      |            |                   |                       |        |        |             |          |            | O     |        | S           | S   | O         |            |           | SB-275-A   | 1           |
|            |             |               |        |        |        |      |      |   |        |        |        |        |        |            |        | S      |            |                   |                       |        |        |             |          |            | O     |        | S           | S   | O         |            |           | SB-275-AT  | 2           |
|            |             |               |        |        |        |      |      |   |        |        |        |        |        |            |        | S      |            |                   |                       |        |        |             |          |            | O     |        | S           | S   | O         |            |           | SB-275-G   | 3           |
|            |             |               |        |        |        |      |      |   |        |        |        |        |        |            |        | S      |            |                   |                       |        |        |             |          |            | O     |        | S           | S   | O         |            |           | SB-275-GA  | 3           |
|            |             |               |        |        |        |      |      |   |        |        |        |        |        |            |        | S      |            |                   |                       |        |        |             |          |            | O     |        | S           | S   | O         |            |           | SB-275-GAT | 4           |
| 1.5"       | 1.5"        |               |        |        |        |      |      |   |        |        |        |        |        |            | S      |        |            |                   |                       |        |        |             |          | O          | S     | O      | O           | S   |           |            | LB-275    | 1          |             |
|            |             |               |        |        |        |      |      |   |        |        |        |        |        |            | S      |        |            |                   |                       |        |        |             |          | O          | S     | O      | O           | S   |           |            | LB-275-A  | 1          |             |
|            |             |               |        |        |        |      |      |   |        |        |        |        |        |            | S      |        |            |                   |                       |        |        |             |          | O          | O     | S      | O           | S   |           |            | LB-275-GA | 3          |             |
|            |             |               |        |        |        |      |      |   |        |        |        |        |        |            | S      |        |            |                   |                       |        |        |             |          | O          | S     | O      | O           | S   |           |            | B-275     | 1          |             |
|            |             |               |        |        |        |      |      |   |        |        |        |        |        |            | S      |        |            |                   |                       |        |        |             |          | O          | S     | O      | O           | S   |           |            | B-275-A   | 1          |             |
|            |             |               |        |        |        |      |      |   |        |        |        |        |        |            | S      |        |            |                   |                       |        |        |             |          | O          | O     | S      | O           | S   |           |            | B-275-GA  | 3          |             |
|            |             |               |        |        |        |      |      |   |        |        |        |        |        |            | O      | S      |            |                   |                       |        |        |             |          |            | S     | O      | O           | S   |           |            | B-375-A   | 1          |             |
|            |             |               |        |        |        |      |      |   |        |        |        |        |        |            | O      | S      |            |                   |                       |        |        |             |          |            | S     | O      | O           | S   |           |            | B-375-AT  | 2          |             |
|            |             |               |        |        |        |      |      |   |        |        |        |        |        |            | O      | S      |            |                   |                       |        |        |             |          |            | O     | S      | O           | S   |           |            | B-375-GA  | 3          |             |
|            |             |               |        |        |        |      |      |   |        |        |        |        |        |            | O      | S      |            |                   |                       |        |        |             |          |            | O     | S      | O           | S   |           |            | B-375-GAT | 4          |             |
| 2.5"       | 1.5"        |               |        |        |        |      |      |   |        |        |        |        |        |            | S      |        |            |                   |                       |        |        |             |          | O          | S     | O      | O           | S   |           |            | DB-275    | 1          |             |
|            |             |               |        |        |        |      |      |   |        |        |        |        |        |            | S      |        |            |                   |                       |        |        |             |          | O          | S     | O      | O           | S   |           |            | DB-275-A  | 1          |             |
|            |             |               |        |        |        |      |      |   |        |        |        |        |        |            | S      |        |            |                   |                       |        |        |             |          | O          | O     | S      | O           | S   |           |            | DB-275-GA | 3          |             |
|            |             |               |        |        |        |      |      |   |        |        |        |        |        |            | O      | S      |            |                   |                       |        |        |             |          |            | S     | O      | S           |     |           | DB-375-A   | 1         |            |             |
|            |             |               |        |        |        |      |      |   |        |        |        |        |        |            | O      | S      |            |                   |                       |        |        |             |          |            | S     | O      | S           |     |           | DB-375-GA  | 3         |            |             |
|            |             |               |        |        |        |      |      |   |        |        |        |        |        |            | S      |        |            |                   |                       |        |        |             |          |            | S     | O      | S           |     |           | DB-375-AT  | 2         |            |             |
|            |             |               |        |        |        |      |      |   |        |        |        |        |        |            | S      |        |            |                   |                       |        |        |             |          |            | S     | O      | S           |     |           | DB-375-GAT | 4         |            |             |
|            |             |               |        |        |        |      |      |   |        |        |        |        |        |            | S      |        |            |                   |                       |        |        |             |          |            | S     | S      |             |     |           | B-278      | 5         |            |             |
|            |             |               |        |        |        |      |      |   |        |        |        |        |        |            | S      |        |            |                   |                       |        |        |             |          |            | S     | S      |             |     |           | B-278-AT   | 5         |            |             |
|            |             |               |        |        |        |      |      |   |        |        |        |        |        |            | S      |        |            |                   |                       |        |        |             |          |            | S     | S      |             |     |           | B-278-L    | 5         |            |             |
|            |             |               |        |        |        |      |      |   |        |        |        |        |        |            | S      |        |            |                   |                       |        |        |             |          |            | S     |        |             |     |           | 279-L      | 6         |            |             |
|            |             |               |        |        |        |      |      |   |        |        |        |        |        |            | S      |        |            |                   |                       |        |        |             |          |            | S     |        |             |     |           | 279-LA     | 6         |            |             |
| 2.5"       | 2.5"        |               |        |        |        |      |      |   |        |        |        |        |        |            | S      |        |            |                   |                       |        |        |             | S        |            |       | S      |             |     | JB-275    | 1          |           |            |             |
|            |             |               |        |        |        |      |      |   |        |        |        |        |        |            | S      |        |            |                   |                       |        |        |             |          | S          |       | S      |             |     | JB-275-A  | 1          |           |            |             |
|            |             |               |        |        |        |      |      |   |        |        |        |        |        |            | S      |        |            |                   |                       |        |        |             |          | S          |       | S      |             |     | JB-275-GA | 3          |           |            |             |

Key: s = standard o = option  
 \*B-278 (without ladderhook) + ST-190-BA (Triple Stack Tip)

See section 1-6 for available XD Shutoffs and Playpipes

HANDLINE NOZZLES

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# HANDLINE NOZZLES



BALL SHUT-OFFS & PLAYPIPES

HANDLINE NOZZLES

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## BALL SHUT-OFFS AND PLAYPIPES CONFIGURATIONS

|   |  |
|---|--|
| <b>Figure 1</b><br>SHUT-OFF<br>                    | <b>Figure 2</b><br>SHUT-OFF with INTEGRAL SMOOTH BORE<br>                 |
| <b>Figure 3</b><br>SHUT-OFF with PISTOL GRIP<br> | <b>Figure 4</b><br>SHUT-OFF with PISTOL GRIP & INTEGRAL SMOOTH BORE<br> |
| <b>Figure 5</b><br>PLAYPIPE with SHUT-OFF<br>    | <b>Figure 6</b><br>PLAYPIPE without SHUT-OFF<br>                        |

Figures depict general product types only and are not intended to be inclusive of all product features.

### DOUBLE CUT-AWAY

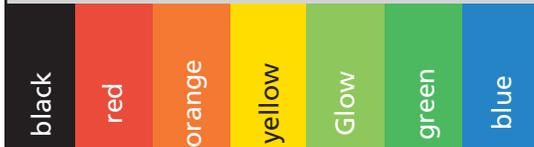
Ball is hydraulically balanced for a smooth transition from closed to open and open to closed.

### FULL ROUND

Ball has a solid bore for optimal flow characteristics and stream quality — particularly for smooth bores and shut-offs with built-in smooth bores.

### OPTIONS

#### COLORS



*Color options available for pistol grip and handle. Ball shut-offs standards are a rough chrome handle and natural Elk-O-Lite® pistol grip.*

#### HANDLES

TAB



HORSESHOE



#### THREADS

*All nozzles are NHT unless otherwise specified. See index T-13 for optional base threads, including British instantaneous.*

# Smooth Bore & Deluge Tips

For maximum reach, smooth bore tips create concentrated waterflow for use with either handlines or monitors while using lower pressures of 50 or 80 psi. Elkhart offers a wide variety of discharge sizes to suit any need. Additionally, Elkhart's stacked tips allow you to customize the smooth bore to meet your needs in the field.



# HANDLINE NOZZLES



## SMOOTH BORE & DELUGE TIPS

### SMOOTH BORE SINGLE TIP

| Base Size | AVAILABLE DISCHARGE DIAMETER |      |       |      |      |      |      |      |    |         |              |        |        |        |        |        |    |        |        |    | FINISH |        |             | DIMENSIONS |          | MODEL | FIGURE |                 |               |
|-----------|------------------------------|------|-------|------|------|------|------|------|----|---------|--------------|--------|--------|--------|--------|--------|----|--------|--------|----|--------|--------|-------------|------------|----------|-------|--------|-----------------|---------------|
|           | GPM @ 50 PSI                 |      |       |      |      |      |      |      |    |         | GPM @ 80 PSI |        |        |        |        |        |    |        |        |    | Brass  | Chrome | Elk-O-Lite® | Slug       | w/bumper |       |        | Length (Inches) | Weight (Lbs.) |
|           | 3/8"                         | 1/4" | 3/16" | 3/8" | 1/2" | 5/8" | 3/4" | 7/8" | 1" | 1 1/16" | 1 1/8"       | 1 1/4" | 1 1/2" | 1 3/8" | 1 3/4" | 1 7/8" | 2" | 2 1/4" | 2 1/2" | 3" |        |        |             |            |          |       |        |                 |               |
| 1"        | •                            | •    | •     | •    | •    |      |      |      |    |         |              |        |        |        |        |        |    |        |        |    | s      | o      |             | •          | 4.50     | 1.0   | S-185B |                 |               |
| 1.5"      |                              |      |       |      |      |      |      |      |    |         |              |        |        |        |        |        |    |        |        |    |        |        |             | s          | •        | 4.75  | 1.0    | 185-A           | 2             |
|           |                              |      |       |      |      |      |      |      |    |         |              |        |        |        |        |        |    |        |        |    |        | s      | o           |            | •        | 4.50  | 1.50   | 185-B           | 3             |
|           |                              |      |       |      |      |      |      |      |    |         |              |        |        |        |        |        |    |        |        |    |        |        |             | s          | •        | 2.625 | 0.75   | 186A            | 1             |
|           |                              |      |       |      |      |      |      |      |    |         |              |        |        |        |        |        |    |        |        |    |        |        |             | s          | •        | 4.50  | 0.563  | 187A            | 4             |
|           |                              |      |       |      |      |      |      |      |    |         |              |        |        |        |        |        |    |        |        |    |        |        |             | s          | •        | 7.00  | 0.875  | 188A            | 5             |
|           |                              |      |       |      |      |      |      |      |    |         |              |        |        |        |        |        |    |        |        |    |        |        |             | s          | •        | 10.00 | 0.68   | 187CAF          | 6             |
| 2.5"      |                              |      |       |      |      |      |      |      |    |         |              |        |        |        |        |        |    |        |        |    | s      | o      |             | •          | 9.0      | 3.625 | 181    | 7               |               |
| 3.5"      |                              |      |       |      |      |      |      |      |    |         |              |        |        |        |        |        |    |        |        |    |        |        | s           | •          | 9.0      | 1.625 | 181A   |                 |               |
|           |                              |      |       |      |      |      |      |      |    |         |              |        |        |        |        |        |    |        |        |    | s      | o      |             | •          | 9.0      | 7.125 | 181-3  |                 |               |
| 5"        |                              |      |       |      |      |      |      |      |    |         |              |        |        |        |        |        |    |        |        |    |        |        | s           | •          | 12.0     | 4.0   | 181-3A | 8               |               |
|           |                              |      |       |      |      |      |      |      |    |         |              |        |        |        |        |        |    |        |        |    |        |        | s           | •          | 17.06    | 6.3   | 181-5A | 9               |               |

Key: s = standard o = option

### SMOOTH BORE STACKED TIP

| Base Size | AVAILABLE 1ST DISCHARGE |            |            |            | AVAILABLE 2ND DISCHARGE |            |            |            | AVAILABLE 3RD DISCHARGE |  |    |  | AVAIL. 4TH DISCHARGE | FINISH |        |             | DIMENSIONS        |                 | Model | Figure      |               |
|-----------|-------------------------|------------|------------|------------|-------------------------|------------|------------|------------|-------------------------|--|----|--|----------------------|--------|--------|-------------|-------------------|-----------------|-------|-------------|---------------|
|           | 3/4"                    |            | 1"         |            | 1 1/4"                  |            | 1 1/2"     |            | 1 3/4"                  |  | 2" |  | 1 3/8"               | Brass  | Chrome | Elk-O-Lite® | Leader Threading* | Length (Inches) |       |             | Weight (Lbs.) |
|           | GPM 50 PSI              | GPM 80 PSI | GPM 50 PSI | GPM 80 PSI | GPM 50 PSI              | GPM 80 PSI | GPM 50 PSI | GPM 80 PSI | GPM 80 PSI              |  |    |  |                      |        |        |             |                   |                 |       |             |               |
| 1.5"      | •                       | •          |            |            |                         |            |            |            |                         |  |    |  |                      |        | s      |             | •                 | 6.625           | 0.688 | ST-185A     | 10            |
|           |                         |            |            |            |                         |            |            |            |                         |  |    |  |                      |        | s      |             | •                 | 7.625           | 0.875 | ST-185A-IFD |               |
|           |                         |            |            |            |                         |            |            |            |                         |  |    |  |                      |        | s      |             | •                 | 9.0             | 4.375 | ST-190B     |               |
|           |                         |            |            |            |                         |            |            |            |                         |  |    |  |                      |        | s      |             | •                 | 9.0             | 1.125 | ST-190BA    |               |
| 2.5"      |                         |            |            |            |                         |            |            |            |                         |  |    |  |                      |        | s      | o           |                   | 14.0            | 7.25  | ST-191      |               |
|           |                         |            |            |            |                         |            |            |            |                         |  |    |  |                      |        | s      | o           |                   | 10.75           | 4.0   | ST-191-1    |               |
|           |                         |            |            |            |                         |            |            |            |                         |  |    |  |                      |        | s      |             | •                 | 10.50           | 2.0   | ST-191A     |               |
|           |                         |            |            |            |                         |            |            |            |                         |  |    |  |                      |        | s      |             | •                 | 9.625           | 1.675 | ST-197A     | 13            |
| 3.5"      |                         |            |            |            |                         |            |            |            |                         |  |    |  |                      |        | s      |             | •                 | 12.875          | 2.125 | ST-194      | 11            |
|           |                         |            |            |            |                         |            |            |            |                         |  |    |  |                      |        | s      |             | •                 | 16.75           | 4.0   | ST-195      | 12            |

\* 1.5 male for line extension

See section 1-8 for available XD Smooth Bore Tips

| OPTIONS  |  |
|--|--|
| THREADS  | PRESSURE   |
| All base threads are NHT unless otherwise specified. See index T-13 for optional base threads. | All pressure specified for smooth bores at pitot pressure. |

# HANDLINE NOZZLES

## SMOOTH BORE & DELUGE TIPS

|   |  |
|---|--|
| SLUG                                      |  |
| <b>Figure 1</b>                           |  <p><b>186-A</b></p> <ul style="list-style-type: none"> <li>• Leader threading</li> </ul> <p style="text-align: right;"><i>Fig. 1</i></p>   |
| SINGLE SMOOTH BORE TIPS - HANDLINE        |  |
| <b>Figure 2</b>                           |  <p><b>185-A</b></p> <ul style="list-style-type: none"> <li>• Leader threading</li> <li>• Bumper</li> </ul> <p style="text-align: right;"><i>Fig. 2</i></p>                         |
| <b>Figure 3</b>                           |  <p><b>185-B</b></p> <ul style="list-style-type: none"> <li>• Bumper</li> </ul> <p style="text-align: right;"><i>Fig. 3</i></p>  |
| <b>Figure 4</b>                           |  <p><b>187-A</b></p> <ul style="list-style-type: none"> <li>• More compact than other tips</li> </ul> <p style="text-align: right;"><i>Fig. 4</i></p>                             |
| <b>Figure 5</b>                           |  <p><b>188-A</b></p> <ul style="list-style-type: none"> <li>• Longer tip for improved stream quality</li> <li>• Bumper</li> </ul> <p style="text-align: right;"><i>Fig. 5</i></p> |
| SINGLE SMOOTH BORE TIPS - HANDLINE/DELUGE |  |
| <b>Figure 6</b>                           |  <p><b>187-CAF</b></p> <ul style="list-style-type: none"> <li>• For applying CAF</li> </ul> <p style="text-align: right;"><i>Fig. 6</i></p>                                       |

|  |  |
|--|--|
| SINGLE SMOOTH BORE TIPS - DELUGE         |  |
| <b>Figure 7</b>                          |  <p><b>181</b></p> <ul style="list-style-type: none"> <li>• Classic deluge tip</li> </ul> <p style="text-align: right;"><i>Fig. 7</i></p>        |
| <b>Figure 8</b>                          |  <p><b>181-3A</b></p> <ul style="list-style-type: none"> <li>• Built-in stream shaper</li> </ul> <p style="text-align: right;"><i>Fig. 8</i></p> |
| <b>Figure 9</b>                          |  <p><b>181-5A</b></p> <p style="text-align: right;"><i>Fig. 9</i></p>  |
| STACKED SMOOTH BORE TIPS - HANDLINE      |  |
| <b>Figure 10</b>                         |  <p><b>ST-185-A</b></p> <p style="text-align: right;"><i>Fig. 10</i></p>   |
| STACKED SMOOTH BORE TIPS - MASTER STREAM |  |
| <b>Figure 11</b>                         |  <p><b>ST-194</b></p> <ul style="list-style-type: none"> <li>• Leader threading</li> </ul> <p style="text-align: right;"><i>Fig. 11</i></p>    |
| <b>Figure 12</b>                         |  <p><b>ST-195</b></p> <ul style="list-style-type: none"> <li>• Leader threading</li> </ul> <p style="text-align: right;"><i>Fig. 12</i></p>    |
| <b>Figure 13</b>                         |  <p><b>ST-197-A</b></p> <ul style="list-style-type: none"> <li>• Leader threading</li> </ul> <p style="text-align: right;"><i>Fig. 13</i></p>  |

# HANDLINE NOZZLES



## STREAM SHAPERS

HANDLINE NOZZLES

# Stream Shapers

Used to remove turbulence from a water flow, Elkhart Brass has stream shapers available in a variety of sizes and several materials to suit a variety of situations. Our new mini stream shapers reduce bulk while still providing excellent stream. Most Elkhart stream shapers feature replaceable vanes for easy repair.



Choice of materials

British Standard Parallel Pipe (BSPP) base options available.

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## STREAM SHAPERS CONFIGURATIONS



|      | Inlet Size | Outlet Size | MATERIAL/FINISH |        |             | DIMENSIONS      |               | MODEL | FIGURE |
|------|------------|-------------|-----------------|--------|-------------|-----------------|---------------|-------|--------|
|      |            |             | BRASS           |        | Elk-O-Lite® | Length (Inches) | Weight (Lbs.) |       |        |
|      |            |             | Satin           | Chrome |             |                 |               |       |        |
| 1.5" | 1.5"       |             |                 | s      | 2.5         | 0.5             | 281A          | 1     |        |
|      |            |             |                 | s      | 1.5         | 0.2             | 281A-Mini     | 1     |        |
| 2.5" | 2.5"       | s           | o               |        | 4.5         | 3.3             | 282B          | 2     |        |
|      |            |             |                 | s      | 4.5         | 1.5             | 282A          | 2     |        |
|      |            |             |                 | s      | 2.3         | 0.5             | 282A-Mini     | 1     |        |
|      |            |             |                 |        |             |                 |               |       |        |
| 3.5" | 2.5"       | s           | o               |        | 5.8         | 3.5             | 283B          | 3     |        |
|      |            |             |                 | s      | 5.8         | 1.5             | 283A          | 3     |        |
| 3.5" | 3.5"       | s           | o               |        | 3.5         | 3.5             | 284B          | 4     |        |
|      |            |             |                 | s      | 3.5         | 1.5             | 284A          | 4     |        |
| 5"   | 5"         |             |                 | s      | 5.1         | 1.7             | 284-5A        | 5     |        |

Key s = standard o = option

### OPTIONS THREADS

*All shapers are NHT unless otherwise specified. See index T-13 for optional base threads.*

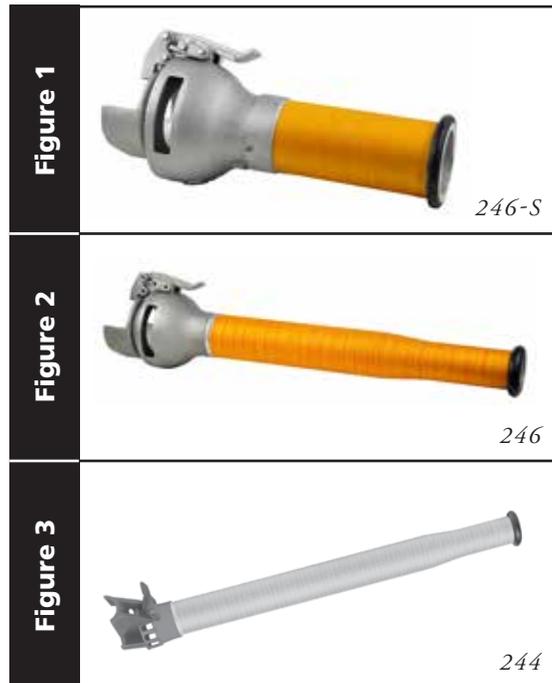
# Foam Expansion Tubes

When greater expansion rates of foam solution are needed, a foam aeration tube can be quickly attached to many of Elkhart Brass combination fog nozzles. All tubes are Elk-O-Lite® cast finish with a nylon cord wrap.



## TUBE CONFIGURATIONS

| Compatible Nozzle Model     | FOAM EXPANSION TUBE MODELS |        |        |        |        |
|-----------------------------|----------------------------|--------|--------|--------|--------|
|                             | 246-S                      | 247-S  | 244    | 246    | 247    |
| SM-10F/G                    | •                          |        |        | •      |        |
| TSM-10F                     | •                          |        |        | •      |        |
| SM-20F/G                    | •                          |        |        | •      |        |
| TSM-20F                     | •                          |        |        | •      |        |
| 4000-10 thru 4000-19        | •                          |        |        | •      |        |
| 4000-20 thru 4000-26        |                            | •      |        |        | •      |
| SFL-B/G                     | •                          |        |        | •      |        |
| SFL-G/CGC/GN/N/O            |                            |        | •      |        |        |
| SFM/G                       | •                          |        |        | •      |        |
| TSFM                        | •                          |        |        | •      |        |
| DSM-30F/G                   |                            | •      |        |        | •      |
| SM-30F/G                    |                            | •      |        |        | •      |
| TSM-30F                     |                            | •      |        |        | •      |
| SFM-HP/G                    | •                          |        |        | •      |        |
| TSFM-HP/T                   | •                          |        |        | •      |        |
| SFM-LP/G                    | •                          |        |        | •      |        |
| TSFM-LP/T                   | •                          |        |        | •      |        |
| Foam Expansion Tube Details |                            |        |        |        |        |
| Length                      | 15.87"                     | 15.87" | 40.50" | 30.25" | 30.25" |
| Weight (Lbs.)               | 3.80                       | 3.80   | 4.50   | 4.75   | 4.75   |
| Built-In Hydroverter        | •                          | •      |        |        |        |
| Figure                      | 1                          | 1      | 3      | 2      | 2      |



# HANDLINE NOZZLES



CELLAR / DISTRIBUTOR



CELLAR NOZZLE

| SPECIFICATIONS                  | MODELS                   |                       |
|---------------------------------|--------------------------|-----------------------|
|                                 | LR                       | R                     |
| Base                            | 1.5" F                   | 2.5" F                |
| GPM @ 100 PSI<br>(6.89 BAR)     | 160 GPM<br>(606 LPM)     | 350 GPM<br>(1325 LPM) |
| Spray Diameter<br>(Fog pattern) | 20 Feet                  | 55 Feet               |
| Materials/Finish                | Brass with chrome finish |                       |



BRESNAN  
DISTRIBUTOR  
NOZZLE 193-6

| SPECIFICATIONS                  | MODELS                   |                       |                       |
|---------------------------------|--------------------------|-----------------------|-----------------------|
|                                 | 193-6                    | 193-6                 | 193-9                 |
| Base                            | 1.5" F                   | 2.5" F                | 2.5" F                |
| GPM @ 100 PSI<br>(6.89 BAR)     | 140 GPM<br>(530 LPM)     | 395 GPM<br>(1495 LPM) | 495 GPM<br>(1874 LPM) |
| Spray Diameter<br>(Fog pattern) | 20 Feet                  | 45 Feet               | 36 Feet               |
| Materials/Finish                | Brass with chrome finish |                       |                       |



BRESNAN  
DISTRIBUTOR  
NOZZLE 193-9



1.5" APPLICATOR FOR  
CELLAR/BRESNAN  
NOZZLE

| SPECIFICATIONS   | MODELS                                |   |
|------------------|---------------------------------------|---|
|                  | A-1.5                                 | A-2.5   |
| Inlet            | 1.5" Free Swivel                      | 2.5" Free Swivel  |
| Outlet           | 1.5"                                  | 2.5"  |
| Shut-off         | Yes                                   | No  |
| Materials/Finish | Brass with<br>chrome-plated<br>finish | Elk-O-Lite® with<br>red urethane<br>enamel and<br>anodized trim |

HANDLINE NOZZLES

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### S-205-BAF

- For forestry use
- 1.0" rigid base in NHT or NPSH; 0.75" GHT available
- Available in 12 or 23 gpm (45 or 87 lpm)
- Twist shut-off
- For use with pressure of up to 600 psi (41.37 bar)
- Straight stream to fog
- Elk-O-Lite® construction



### 222-1.5

- Wat-R-Wall
- 1.5" free swivel inlet, no outlet
- 100 gpm (380 lpm) @ 100 psi (6.89 bar)
- Brass construction with chrome plating
- Length: 8"
- Width: 10"
- Height: 7.25"
- Weight: 8 lbs.



### 222-2.5

- Wat-R-Wall
- 2.5" free swivel inlet, 2.5" outlet with cap and chain
- 100 gpm (380 lpm) @ 100 psi (6.89 bar)
- Brass construction with chrome plating
- Length: 8.25"
- Width: 10"
- Height: 8.25"
- Weight: 11.5 lbs.



## HOSE/NOZZLE ACCESSORIES & STANDPIPE

### SWIVELING PLATE REDUCER - 101A

- 101A - 2.5" Female NHT x 1.5" Male NHT
- Hard anodized cast Elk-O-Lite® body
- Swivel Inlet
- Low profile knurling



### SWIVELING BELL REDUCER - 102A

- 102A - 2.5" Female NHT x 1.5" Male NHT
- Hard anodized cast Elk-O-Lite® body
- Swivel Inlet
- Low profile knurling



### INCREASER ADAPTER - 111A

- 111A - 1.5" Female NHT x 2.5" Male NHT
- Elk-O-Lite® construction with hard anodized finish
- Ideal for extend operations
- Low profile knurling



### ELKHART STANDPIPE BAG

- Custom designed specifically for standpipe operations
- Handles made of seat belt webbing with seat belt buckle fasteners
- Made with durability in mind; reinforced stitching and reflective trim
- Internal and external pockets ideal for door chocks, pipe wrenches, wire brushes, adapters, etc.



### STANDPIPE KIT

- (1) 228A Pressure Gauge
- (1) 105A Highrise Elbow
- (1) X-86A Gate Valve
- (2) T-464 Spanner Wrenches
- (1) Elkhart Standpipe Bag



228A



105A



X-86A



T-464





## FLOW GAUGES & HOSE/NOZZLE ACCESSORIES

### LINE GAUGE - 228A

- Fully guarded, shock resistant luminescent gauge
- Hard anodized cast Elk-O-Lite® body
- 228A – 1.5" 0-200 gauge with 1.5" free swivel inlet, 1.5" outlet, and 6" length
- 228A – 2.5" 0-200 gauge with 2.5" free swivel inlet, 2.5" outlet, color-coded zones, and 6.9" length



### PIEZOMETER GAUGE - 227A

- Liquid-filled 0-300 psi gauge
- Elk-O-Lite® construction with hard anodized finish
- 227A – 1.5" (1.5" swivel inlet, 1.5" outlet, and 4.8" length)
- 227A – 2.5" (2.5" swivel inlet, 2.5" outlet, and 5.5" length)



### PISTOL GRIP ADAPTER - PG

- For use with 1.5", 1.75" or 2" handline nozzles
- Elk-O-Lite® construction with hard anodized finish
- PG-S (1" free swivel inlet and waterway with 1" male outlet)
- PG (1.5" free swivel inlet and waterway with 1.5" female outlet)



### DIRECT CONNECT ADAPTER - D-327

- 2.5" inlet
- 1.5" outlet
- Rigid base
- D-327 (Brass construction)
- D-327A (Elk-O-Lite® construction)



### STANDPIPE FLOWMETER - 555A

- Compact design for high-rise kit applications
- Elk-O-Lite® construction with hard anodized finish
- Dual LED display - pressure and flow
- 45° swivel elbow
- 2.5" female swivel inlet / 2.5" threaded male discharge
- 250 GPM (946 LPM) maximum flow
- 250 PSI (17.2 BAR) max operating pressure
- Weight: 5 lb. 4oz. (2.38 kg)



### PORTABLE FLOWMETER - EB-500

- Digital 0-500 gpm read-out display
- Flowmeter and flowtube-mounted paddlewheel flow sensor
- Low and high flow warnings
- Weather-tight PVC Pelican case includes: flowmeter, power switch, low battery indicator, rechargeable battery, AC charger/power supply, cable connections and cord storage space
- Weight: 17 lbs.
- Finish is hard anodized
- 2.5" flow tube (NST threads)



### HOSE AND LADDER STRAP - 632

- Flexible woven nylon with brass ends
- Fits ladder rungs up to 1 1/8"
- Strap width 1"
- Length: 42"
- Less than 2 lbs.



### HOSE CLAMP - 285

- For use with 1.5" – 3" hose, including double jacket 3"
- Unique jaw design allows for safer release of clamped hose
- Spring-loaded safety lock for closed position
- Detachable carrying handle
- ZA-27 aluminum construction
- Weight: 19 lbs.
- Length: 15"
- 285-MB – optional Elk-O-Lite® mountin bracket can be positioned vertically or horizontally





## WRENCHES

### T-464 – UNIVERSAL SPANNER

- Hammer head, window jimmy, gas cock slot, and hanger loop
- Fits up to a 3.5" rocker/lug pin coupling
- Elk-O-Lite® construction
- Length: 11.5"
- Weight: 0.5 lbs.



### F-464 – FOLDING SPANNER

- One end is a spanner, the other is a window jimmy
- Fits up to a 3.5" rocker/lug pin coupling
- Clip ring
- Length: 10.4" (open) or 5.9" (folded)
- F-464A – Elk-O-Lite® construction (weight: 0.4 lbs.)
- F-464B – Brass construction (weight: 1.1 lbs.)



### 454 – ADJUSTABLE HYDRANT WRENCH

- Cast manganese bronze head with stainless steel handle
- Adjustable – fits up to 1.75" pentagon nut or 1.5" square nut
- Can be used as a spanner on 2.5" pin lug couplings
- Knurled handle
- Length: 18.0"
- Weight: 3.8 lbs.



### S-454 – ADJUSTABLE HYDRANT WRENCH

- Cast manganese bronze head with stainless steel handle
- Adjustable – fits up to 1.75" pentagon nut or 1.5" square nut
- Can be used as a spanner on 2.5" pin lug couplings or rocker lug couplings from 2.5" to 5.0"
- Knurled handle
- Length: 16.8"
- Weight: 4.6 lbs.



### S-454-S – ADJUSTABLE HYDRANT WRENCH

- Cast manganese bronze head with stainless steel handle
- Adjustable – fits up to 1.75" pentagon nut or 1.5" square nut
- Can be used as a spanner on 4.0" or 5.0" Storz couplings or rocker lug couplings from 2.5" to 5.0"
- Knurled handle
- Length: 17.3"
- Weight: 4.9 lbs.



### 469 – SPANNER WRENCH HOLDER

- Mounts vertically or horizontally on apparatus
- Holds two T-464 universal spanners
- Snap action release
- Elk-O-Lite® construction
- Length: 7.4"
- Weight: 1 lbs.
- Wrenches optional as kit



### 470 – HYDRANT AND SPANNER WRENCH HOLDER

- Mounts vertically or horizontally on apparatus
- Holds two T-464 universal spanners plus one hydrant wrench (454, S-454, or S-454-S)
- Snap action release
- Elk-O-Lite® construction
- Length: 10.0"
- Weight: 1.5 lbs.
- Wrenches optional as kit



## HYDRANT HOUSE ACCESSORIES

### 630 – CROWBAR

- Constructed of steel and finished with red paint
- Length: Ranges from 47.5" to 49.25"
- Weight: 12 1/8 lbs.





## ELKHART BRASS SPECIAL TOOLS



### 71251000 – SEAT WRENCH

- For seat adjustment and/or removal
- 1" or 1.5" nozzle/ball shut-off
- 1" waterway compatible



### 71252000 – SEAT WRENCH

- For seat adjustment and/or removal
- 1.75", 2" or 2.5" nozzle/ball shut-off
- 1.375" waterway compatible



### SEAT WRENCH

- Specially designed to be used for seat removal/installation on 9786 or 9787 PIV
- 4.5" outlet compatible (01501001)
- 5" or 6" outlet compatible (01502001)



### 80642001 – WYE SEAT WRENCH

- For seat adjustment and/or removal on 1.5" ball valved wyes
- Hex end fits old style B-100, B-100L and BG-104
- Blade end fits old style B-100A, B-100-LA and BG-104A



### 80269001 – STEM WEB WRENCH

- Designed to hold the stem web (base) while removing and/or installing Master Stream heads
- Slotted end fits Select-O-Stream®, Select-O-Flow®, and Mystery® stem bases



### 80313001 – STEM WEB WRENCH

- Designed to hold stem web (base) while removing and/or installing handline nozzle stem heads
- Slotted end fits most of Elkhart's handline nozzle bases (except Select-O-Matics®)



### 71258000 – OPEN FACE 2" SPANNER WRENCH

- Seat adjustments and/or removal on 800 series and 2800 series apparatus valves
- Seat adjustments and/or removal on Elkhart's wyes, Siamese and water thieves (2.5 seat only)
- Removal and/or installation of stem heads on all Select-O-Matic® handline nozzles



### 80291001 – STEM HEAD WRENCH

- Designed to assist in removing and/or installing slotted stem heads
- Blade end fits slotted handline nozzle stems (except Select-O-Matics®)

### 71303001 – OPEN FACE 4" SPANNER WRENCH

- Removal and/or installation of stem heads on Master Stream nozzles (except X-Stream® series)
- Larger version of P/N 71258000

### 603 – TOOL KIT

- Seat wrenches (71251000 and 71252000)
- Open faced spanner wrench (71258000)
- Stem head wrenches (80291001 and 80313001)
- Wye seat wrench (80642001)

# Foam Supply Kits

Elkhart offers two supply kits. Both kits include:

- One .75" quarter-turn, inlet valve assembly with elbow
- Quick-connect female coupling
- Quick-connect plug with chain
- Brushed stainless steel escutcheon plate
- Foam pick-up hose assembly with quick-connect male coupling



**KIT 1**



**KIT 2**

(P/N 81231001) Kit 1 is a built in by-pass foam eductor to utilize an off-board foam concentrate supply — either when the on-board supply has been depleted or to allow use of another type of foam concentrate.

(P/N 81232001) Kit 2 allows the use of an on-board foam concentrate tank with a separate portable foam eductor (such as Elkhart's 240 and 241 series) attached to a pump side discharge; permits easy switching from alternative supply to the on-board supply tank and back as necessary.

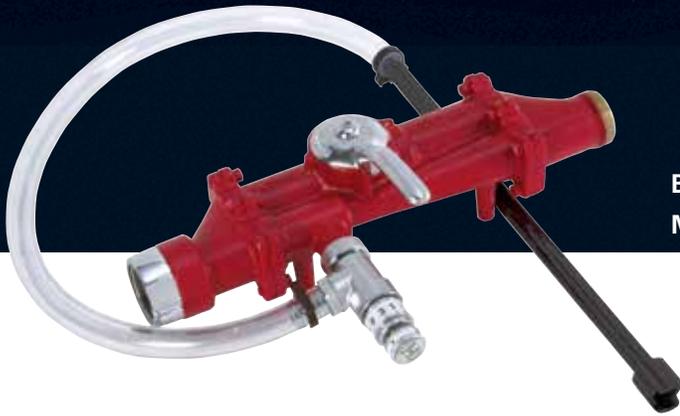


PORTABLE

## Portable

Elkhart offers an educator for all handlines (1" through 2½") and the educators are compatible with most foam concentrates. All Elkhart's educators:

- Are easy hook-up / easy set-up
- Feature red urethane enamel finish
- Can be deployed in any position
- Offer a removable pick-up screen and removable metering valve
- Comes with a clear PVC pick-up hose



**BRASS BY-PASS INLINE EDUCATOR  
MO. 240**

*Fig. 1*



**BRASS INLINE EDUCATOR  
MO. 241**

*Fig. 2*



**COMPOSITE INLINE EDUCATOR  
MO. 242**

*Fig. 3*

| TYPE    | INLET SIZE |      |            | OUTLET SIZE |       |                | FLOW RATES GPM (LPM) |        |       |        |      |              | METERING |                |          |           | MATERIAL / TRIM |           |      |       | Length (Inches) | Weight (Lbs.) | MODEL | FIGURE |
|---------|------------|------|------------|-------------|-------|----------------|----------------------|--------|-------|--------|------|--------------|----------|----------------|----------|-----------|-----------------|-----------|------|-------|-----------------|---------------|-------|--------|
|         | Fixed      |      | Selectable |             | Brass | Com-<br>posite | Length               | Weight | MODEL | FIGURE |      |              |          |                |          |           |                 |           |      |       |                 |               |       |        |
|         | 1"         | 1.5" | 2.5"       | 1"          |       |                |                      |        |       |        | 1.5" | 2.5"         | 30 (114) | 60 (227)       | 95 (360) | 125 (473) | 150 (568)       | 250 (946) | 3%   | 6%    |                 |               |       |        |
|         |            |      |            |             |       |                |                      |        |       |        |      | 0% / 1% / 3% |          | 1/2% / 3% / 6% |          | 0%-6%     |                 |           |      |       |                 |               |       |        |
| By-pass | •          | •    | •          | •           | •     | •              | •                    | •      | •     | •      | •    | •            |          |                | •        |           | s               |           |      | 17.25 | 20.5            | 240-60        | 1     |        |
|         | •          | •    | •          | •           | •     | •              | •                    | •      | •     | •      | •    | •            |          |                | •        |           | s               |           |      | 17.25 | 20.5            | 240-95        | 1     |        |
|         | •          | •    | •          | •           | •     | •              | •                    | •      | •     | •      | •    | •            |          |                | •        |           | s               |           |      | 17.25 | 20.5            | 240-125       | 1     |        |
| Inline  | •          | •    | •          | •           | •     | •              | •                    | •      | •     | •      | •    | •            |          |                | •        |           | s               |           |      | 8.375 | 4.5             | 241-30        | 2     |        |
|         | •          | •    | •          | •           | •     | •              | •                    | •      | •     | •      | •    | •            | •        |                |          |           |                 | s         |      | 10.00 | 5.8             | 241-N3*       | 2     |        |
|         | •          | •    | •          | •           | •     | •              | •                    | •      | •     | •      | •    | •            | •        | •              |          |           |                 | s         |      | 10.00 | 5.8             | 241-N6*       | 2     |        |
|         | •          | •    | •          | •           | •     | •              | •                    | •      | •     | •      | •    | •            | •        |                | **       |           |                 |           | s    | 4.625 | 0.5             | 242-95**      | 3     |        |
|         | •          | •    | •          | •           | •     | •              | •                    | •      | •     | •      | •    | •            |          |                | •        |           | o               | s         |      | 11.75 | 9.5             | 241-60        | 2     |        |
|         | •          | •    | •          | •           | •     | •              | •                    | •      | •     | •      | •    | •            |          |                | •        |           | o               | s         |      | 11.75 | 9.5             | 241-95        | 2     |        |
|         | •          | •    | •          | •           | •     | •              | •                    | •      | •     | •      | •    | •            |          |                | •        |           | o               | s         |      | 11.75 | 9.5             | 241-125       | 2     |        |
|         | •          | •    | •          | •           | •     | •              | •                    | •      | •     | •      | •    | •            |          |                | •        |           | o               | s         |      | 11.75 | 9.5             | 241-150       | 2     |        |
| •       | •          | •    | •          | •           | •     | •              | •                    | •      | •     | •      | •    |              |          | •              |          | o         | s               |           | 16.0 | 16.8  | 241-250         | 2             |       |        |

KEY s = standard o = option  
 \* Inlet and outlet threads are NPSH; ID is 3/4"; ribbed hose length is 54"  
 \*\* Supplied with fixed metering valves at 1/2%, 1%, and 3% and an adjustable metering valve with 1/2% / 1% / 3% settings.

| GPM (LPM) NOTE   |                               |
|--|-------------------------------|
| <i>Eductor and nozzle must have matching flow rates (gpm/lpm) for the foam concentrate to "pick-up." See page T-1 for Eductor Performance Chart.</i>   |                               |
| Operating Pressures of Eductors  |                               |
| <i>These eductors are designed to achieve rated flow with an inlet pressure of 200 psi (150 psi for the 242-95). They will operate at lower inlet pressures, but the flow rate and percentage rate will be affected.</i> |                               |
| Checklist if eductor fails to pick up foam   |                               |
| Ball check stuck   | By-pass valve open            |
| Clogged nozzle   | Hose lay too long             |
| Kink in hose   | Metering valve clogged        |
| Metering valve closed  | Metering valve set improperly |
| Mismatched nozzle  | Nozzle elevated too high      |
| Partially closed nozzle  | Plugged pick-up screen        |

| ADDITIONAL INFORMATION   |                        |
|--|------------------------|
| VALVES   |                        |
|    | INFINITE SETTING VALVE |
|    | POSITIVE SETTING VALVE |
| HOSE LENGTHS   |                        |
| <ul style="list-style-type: none"> <li>• 240 models and most 241 models are 36"</li> <li>• 241-N models are 54"</li> <li>• 241-250 model is 72"</li> </ul> |                        |

# FOAM EDUCATORS



BUILT-IN

## Built-In

Elkhart offers built-in foam educators for all handlines (pipe sizes of 1.5" and 2"), and the educators are compatible with most foam concentrates. The built-in educators come furnished with valves, fittings and accessories for installing permanently behind the panel in pump compartment.

Package includes:

- One (1) 240 by-pass educator
- One (1) 890-01-01-D 1.00" inline valve
- Two (2) 775-15 tee handles
- Two (2) 775-11 rod guides
- One (1) "thru the panel" metering valve with 5 settings (0%, 1/2%, 1%, 3%, and 6%)
- One (1) ball check valve
- One (1) brushed stainless steel instruction plate (with hardware)

FOAM EDUCATORS

3-4

### ELKHART BRASS

**95 GPM  
FOAM  
SYSTEM**

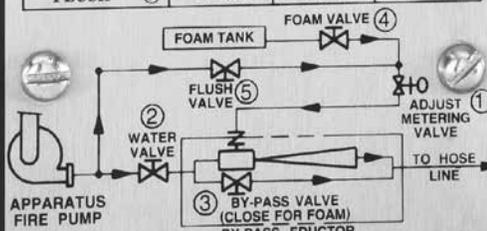
**CLASS A/B  
FOAM**



ELKHART  
PUSH  
&  
TURN  
BRASS

SEE OPERATING INSTRUCTIONS BEFORE USE  
 METERING SETTINGS: 0.5, 1, 3, & 6%  
 USE WITH MATCHED (95 GPM) ELKHART NOZZLE  
 MAXIMUM HOSE LAY: 1 1/2" HOSE 150-FT.  
 1 3/4" HOSE 250-FT.  
 WITH MAX. 10-FT. NOZZLE ELEVATION

| VALVES                   | VALVE POSITION FOR |            |                 |
|--------------------------|--------------------|------------|-----------------|
|                          | FOAM               | WATER ONLY | FLUSH (3 MIN.)  |
| METERING ①               | SELECT FOAM %      | ----       | 6%              |
| WATER ②                  | OPEN               | OPEN       | OPEN            |
| EDUCATOR BY-PASS VALVE ③ | CLOSE (200 PSI)    | OPEN       | CLOSE (100 PSI) |
| FOAM ④                   | OPEN               | CLOSE      | CLOSE           |
| FLUSH ⑤                  | CLOSE              | CLOSE      | OPEN            |



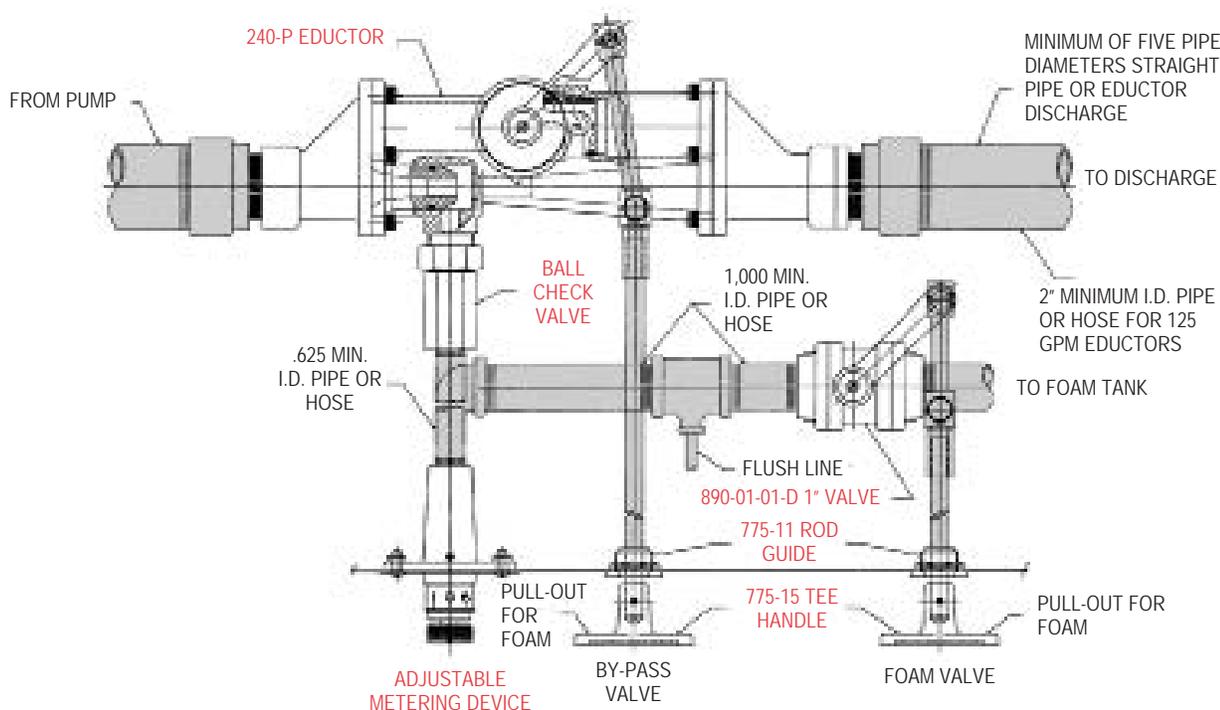
APPARATUS FIRE PUMP      FOAM TANK      FLUSH VALVE ⑤      FOAM VALVE ④      ADJUST METERING VALVE ①      TO HOSE LINE

WATER VALVE ②      BY-PASS VALVE (CLOSE FOR FOAM) BY-PASS EDUCATOR ③

| NPT INLET / OUTLET* | FLOW RATES<br>GPM (LPM) |             |              | LENGTH<br>(Inches) | PACKAGE<br>WEIGHT<br>(Lbs.) | MODEL NUMBER |
|---------------------|-------------------------|-------------|--------------|--------------------|-----------------------------|--------------|
|                     | 60<br>(227)             | 95<br>(360) | 125<br>(473) |                    |                             |              |
| 2.0"                | •                       |             |              | 17.25              | 32.9                        | 240-60P      |
| s                   |                         | •           |              | 17.25              | 32.9                        | 240-95P      |
| s                   |                         |             | •            | 17.25              | 32.9                        | 240-125P     |

KEY s = standard o = option  
\* Victaulic available

## Typical Installation



NOTE: Items listed in red type are included in package.

### Operating Pressures of Eductors

*These eductors are designed to achieve rated flow with an inlet pressure of 200 psi. They will operate at lower inlet pressures, but the flow rate and percentage rate will be affected.*

### Checklist if eductor fails to pick up foam

|  |   |
|--|---|
| Ball check stuck   | Clogged nozzle                          |
| Eductor handle not pulled out                                | Elbow plumbed too close to inlet/outlet |
| Excessive friction loss between eductor and discharge outlet | Foam handle not pulled out              |
|  | Foam tank not vented                    |
| Foam tank empty  | Kink in hose                            |
| Hose lay too long  | Metering valve set improperly           |
| Metering valve clogged with dry foam                         | Partially closed nozzle                 |
| Mismatched nozzle  | Too much nozzle elevation               |



WATER THIEFS

## Water Thiefs

A Water Thief allows the fire professional to extend attack lines from a main supply line. Elkhart's selection of Water Thief options includes Storz connectors which, when combined with our unique free swiveling inlets and/or outlets, help prevent accidental uncoupling of larger diameter hose for increased safety.



APPLIANCES

4-1

| INLET   |                  |      | FLOW THROUGH OUTLETS |             |      | THIEF OUTLETS |                           |             | RELIEF VALVE | MATERIAL /TRIM |         |             | DIMENSIONS      |               | MODEL | FIGURE |
|---------|------------------|------|----------------------|-------------|------|---------------|---------------------------|-------------|--------------|----------------|---------|-------------|-----------------|---------------|-------|--------|
| 2.5" F* | Storz** (Swivel) |      | Twist-Lock           | Gear Driven |      | Quarter Turn  | Self-Locking Quarter Turn | Gated       |              | Brass          |         | Elk-O-Lite® | Length (Inches) | Weight (Lbs.) |       |        |
|         | 4.0"             | 5.0" |                      | 2.5" M      | 4.0" |               |                           |             |              | 5.0"           | Storz** |             |                 |               |       |        |
|         |                  |      |                      |             |      | 1.5" M (X2)   | 2.5" M (X2)               | 2.5" M (X2) |              |                |         |             |                 |               |       |        |
| s       |                  |      | s                    |             |      | •             |                           |             |              |                | •       | 10.5        | 10.8            | BG-104A*      | 1     |        |
| s       |                  |      | s                    |             |      | •             |                           |             |              | •              | •       | 10.5        | 23.5            | BG-104        | 1     |        |
|         | s                | o    |                      | s           | o    |               | •                         |             | •            |                | •       | 16.0        | 48.9            | 9743          | 2     |        |
|         | s                | o    |                      | s           | o    |               |                           | •           | •            |                | •       | 16.0        | 46.9            | 9843          | 3     |        |

KEY s = standard o = option

\* Optional pressure gauges available

\*\* Free swivel

FIGURE 1



### BG-104 / BG-104A

- Flow through outlet (2.5") has acetal ball with adjustable neoprene seat and metal twist-lock handles
- Thief outlets (1.5") have self-adjusting UHMWPE seats and flexible urethane handles
- Leather carrying handles
- Optional pressure gauge

Fig. 1

FIGURE 2



### 9743

- Flow through Storz outlet has a gear actuated quarter turn 4" ball valve with aluminum ball and UHMWPE seat
- Thief outlets are 2.5" full flow, self-locking, Hydro-Loc®, quarter turn, acetal ball valves with neoprene seats
- Adjustable relief valve (75-250 psi)

Fig. 2

FIGURE 3



### 9843

- Flow through Storz outlet is a gear actuated quarter turn 4" ball valve with aluminum ball and UHMWPE seat
- Thief outlets are 2.5" gate valved outlets
- Adjustable relief valve (75-250 psi)

Fig. 3

## OPTIONS

### HANDLES

BG-104A options include:



LONG (ELK-O-LITE®)



SHORT (ELK-O-LITE®)



MOLDED URETHANE



KNOB

### THREADS

All fireground connections are NHT T-13 for optional base threads.



PLAIN & CLAPPED SIAMESE

## Plain & Clappered Siamese

Used to combine several hoselines into one — usually in situations where seconds count — a Siamese must be both reliable and intuitive to use. Clappers allow additional lines to be added without interrupting flow. As with all Elkhart products, years of dependable service are to be expected from an Elkhart Siamese. While all the Siamese are finished in red urethane enamel, the Elk-O-Lite® versions feature hard anodized trim and the brass versions offer satin brass trim.



| INLET SIZE | AVAILABLE OUTLET SIZE |      |      |      |         |      | TYPE  |                 |                           | DRAIN VALVE<br>.75" | ADJUSTABLE RELIEF VALVE | MATERIAL |             | DIMENSIONS      |               | MODEL | FIGURE |
|------------|-----------------------|------|------|------|---------|------|-------|-----------------|---------------------------|---------------------|-------------------------|----------|-------------|-----------------|---------------|-------|--------|
|            | Male                  |      |      |      | Storz** |      | Plain | Clappered       |                           |                     |                         | Brass    | Elk-O-Lite® | Length (Inches) | Weight (Lbs.) |       |        |
|            | 1.5"                  | 2.5" | 3.0" | 4.0" | 4.0"    | 5.0" |       | Single Swinging | Independent Spring Loaded |                     |                         |          |             |                 |               |       |        |
| 1.5" (X2)  | •                     | •    |      |      |         |      | •     |                 |                           |                     | •                       |          | 7.3         | 9.8             | 2             | 1     |        |
| 2.5" (X2)  |                       | •    | •    | •    |         |      | •     |                 |                           |                     | •                       |          | 7.3         | 9.8             | 2             | 1     |        |
|            |                       | •    | •    | •    |         |      | •     |                 |                           |                     | •                       |          | 7.3         | 4.5             | 2A            | 1     |        |
|            |                       | •    | •    |      |         | •    | •     |                 | s                         |                     | •                       |          | 8.8         | 8.6             | 4A            | 2     |        |
|            |                       | •    | •    |      |         |      | •     |                 | s                         |                     | •                       |          | 7.1         | 12.0            | 4             | 2     |        |
|            |                       |      |      |      |         | •    | •     |                 | s                         | s                   | •                       |          | 11.0        | 16.5            | 9702          | 3     |        |
| 2.5" (X3)  |                       |      |      |      | •       | •    |       |                 | s                         | s                   | •                       |          | 13.5        | 19.0            | 9703          | 4     |        |

KEY s = standard o = option

\* Swivel

\*\* Free swivel

### FIGURE 1



#### 2/2A

- Apparatus mountable

Fig. 1

### FIGURE 2



#### 4/4A

- Apparatus mountable
- Leather carrying handle

Fig. 2

### FIGURE 3



#### 9702

- Adjustable relief valve (75-250 psi)
- Locking Storz
- For ground use

Fig. 3

### FIGURE 4



#### 9703

- Adjustable relief valve (75-250 psi)
- Locking Storz
- For ground use

Fig. 4

## OPTIONS

### THREADS

All fireground connections are NHT unless otherwise specified. See index T-13 for optional base threads.

## ADDITIONAL INFORMATION

- Chrome trim available on some brass models. Please inquire with our sales staff.
- More Siamese options available. See page 4-5.



VALVED SIAMESE

## Valved Siamese

Used to combine several hoselines into one — usually at the fire scene — a Siamese must be both reliable and intuitive to use. All the Siamese are finished in red urethane enamel; the Elk-O-Lite® versions feature hard anodized trim. As with all Elkhart products, years of dependable service are to be expected from an Elkhart Siamese.

APPLIANCES

4-5



| INLETS      | AVAILABLE OUTLETS   |      | TYPE                |                  | HANDLE STYLE |              |            | VALVE                   | MATERIAL |             | DIMENSIONS      |               | MODEL | FIGURE |   |
|-------------|---------------------|------|---------------------|------------------|--------------|--------------|------------|-------------------------|----------|-------------|-----------------|---------------|-------|--------|---|
|             | Type                | Size | 1/4 Turn Ball Valve | X-86A Gate Valve | Crank        | Self-Locking | Twist-Lock | Adjustable Relief Valve | Brass    | Elk-O-Lite® | Length (Inches) | Weight (Lbs.) |       |        |   |
| 2.5" F (X2) | Female (Swivel)     | 2.5" | •                   |                  |              |              | •          |                         |          | •           | 9.0             | 12.0          | B-98A | 1      |   |
|             |                     | 4"   | •                   |                  |              |              | •          |                         |          | •           | 9.0             | 12.5          | B-98A | 1      |   |
|             |                     | 4.5" | •                   |                  |              |              |            | •                       |          |             | •               | 9.0           | 13.0  | B-98A  | 1 |
|             |                     | 5"   | •                   |                  |              |              |            | •                       |          |             | •               | 9.0           | 13.6  | B-98A  | 1 |
|             |                     | 6"   | •                   |                  |              |              |            | •                       |          |             | •               | 9.0           | 14.5  | B-98A  | 1 |
|             | Storz (Free Swivel) | 4"   | •                   |                  |              |              | •          |                         | s        |             | •               | 13.3          | 26.3  | 9722   | 3 |
|             |                     | 5"   | •                   |                  |              |              | •          |                         | s        |             | •               | 13.3          | 26.3  | 9722   | 3 |
| 2.5" F (X3) | Female (Swivel)     | 2.5" | •                   |                  |              |              | •          |                         |          | •           | 10.5            | 18.2          | B-99A | 2      |   |
|             |                     | 4"   | •                   |                  |              |              | •          |                         |          | •           | 10.5            | 18.6          | B-99A | 2      |   |
|             |                     | 5"   | •                   |                  |              |              |            | •                       |          |             | •               | 10.5          | 19.7  | B-99A  | 2 |
|             |                     | 6"   | •                   |                  |              |              |            | •                       |          |             | •               | 10.5          | 20.7  | B-99A  | 2 |
|             | Storz (Free Swivel) | 4"   | •                   |                  |              |              | •          |                         | s        |             | •               | 16.0          | 30.6  | 9723   | 4 |
|             |                     | 5"   | •                   |                  |              |              | •          |                         | s        |             | •               | 16.0          | 30.6  | 9723   | 4 |

Key: s = standard o = option

FIGURE 1



### B-98A

- Apparatus mountable
- Built-in strainer
- Adjustable neoprene seats

Fig. 1

FIGURE 2



### B-99A

- Apparatus mountable
- Built-in strainer
- Adjustable neoprene seats

Fig. 2

FIGURE 3



### 9722

- Full, flow Hydro-Loc® valves
- Adjustable relief valve (75-250 psi)

Fig. 3

FIGURE 4



### 9723

- Full, flow Hydro-Loc® valves
- Adjustable relief valve (75-250 psi)

Fig. 4

## OPTIONS

### THREADS

All fireground connections are NHT unless otherwise specified. See index T-13 for optional base threads.

## ADDITIONAL INFORMATION

- All twist-locks feature metal knurled knobs.
- More Siamese options available. See page 4-3.



WYES

APPLIANCES

## Wyes

Used to divide a single flow, usually at a fireground scene, wyes must be both reliable and intuitive to use. Elkhart offers several customizable handle options. All Elkhart wyes give years of dependable service. When necessary, they are easy to field service and re-buildable for continued long-term use.



4-7

| INLET SIZE (FEMALE) | OUTLET SIZE (MALE) |      |      |      |      | TYPE  |             | HANDLE STYLE |                   |                  |                 |                     | MATERIAL/TRIM  |                             | DIMENSIONS      |               | MODEL | FIGURE |
|---------------------|--------------------|------|------|------|------|-------|-------------|--------------|-------------------|------------------|-----------------|---------------------|----------------|-----------------------------|-----------------|---------------|-------|--------|
|                     | 0.75"              | 1"   | 1.5" | 2.5" |      | Plain | Ball Valved | Knob         | Short Elk-O-Lite® | Long Elk-O-Lite® | Molded Urethane | Positive Twist Lock | Brass / Chrome | Elk-O-Lite® / Hard Anodized | Length (Inches) | Weight (Lbs.) |       |        |
|                     | (x2)               | (x2) | (x2) | (x2) | (x3) |       |             |              |                   |                  |                 |                     |                |                             |                 |               |       |        |
| 1.0" NHT            |                    | •    |      |      |      | •     |             | o            | s                 | o                |                 |                     | •              | 5.5                         | 1.8             | B-100-SA      | 2     |        |
| 1.5" NHT            | •                  | •    |      |      |      | •     |             | o            |                   | s                |                 |                     | •              | 5.5                         | 1.8             | B-100-SA      | 2     |        |
|                     |                    |      | •    |      |      | •     |             | o            |                   | s                |                 |                     | •              | 5.5                         | 8.5             | B-100-L       | 2     |        |
|                     |                    |      | •    |      |      | •     |             | o            |                   | s                |                 |                     | •              | 5.5                         | 3.9             | B-100-LA      | 2     |        |
| 2.5" NHT            |                    |      | •    |      |      | •     |             | o            | o                 | s                | o               |                     | •              | 5.5                         | 4.5             | B-100-A*      | 2     |        |
|                     |                    |      | •    |      |      | •     |             | o            |                   | s                |                 |                     | •              | 5.5                         | 9.0             | B-100         | 2     |        |
|                     |                    |      | •    |      |      | •     |             |              |                   | s                |                 |                     | •              | 4.8                         | 1.2             | 1A            | 3     |        |
|                     |                    |      | •    |      |      | •     |             |              |                   | s                |                 |                     | •              | 9.0                         | 14.5            | B-97A         | 1     |        |
|                     |                    |      | •    |      |      | •     |             |              |                   | s                |                 |                     | •              | 9.0                         | 31.0            | B-97          | 1     |        |
|                     |                    |      | •    |      |      | •     |             |              |                   |                  |                 |                     | •              | 7.6                         | 2.6             | 1A            | 3     |        |
| 3.5" NHT            |                    |      | •    |      |      | •     |             |              |                   |                  | s               |                     | •              | 9.0                         | 14.5            | B-97A         | 1     |        |
|                     |                    |      | •    |      |      | •     |             |              |                   |                  | s               |                     | •              | 9.0                         | 31.0            | B-97          | 1     |        |
| 4.0" NHT            |                    |      | •    |      |      | •     |             |              |                   |                  | s               |                     | •              | 9.0                         | 14.5            | B-97A         | 1     |        |
|                     |                    |      | •    |      |      | •     |             |              |                   |                  | s               |                     | •              | 9.0                         | 31.0            | B-97          | 1     |        |
| 4" STORZ            |                    |      | •    |      |      | •     |             |              |                   |                  | s               |                     | •              | 10.5                        | 16.0            | B-97A         | 1     |        |
| 4.5" NHT            |                    |      | •    |      |      | •     |             |              |                   |                  |                 |                     | •              | 7.9                         | 4.8             | 1A            | 3     |        |
|                     |                    |      | •    |      |      | •     |             |              |                   |                  |                 |                     | •              | 8.8                         | 15.8            | 1             | 3     |        |
|                     |                    |      | •    |      |      | •     |             |              |                   |                  | s               |                     | •              | 9.0                         | 14.5            | B-97A         | 1     |        |
|                     |                    |      | •    |      |      | •     |             |              |                   |                  | s               |                     | •              | 9.0                         | 31.0            | B-97          | 1     |        |
| 5" STORZ            |                    |      | •    |      | •    |       |             |              |                   | s                |                 | •                   | 10.5           | 16.0                        | B-97A           | 1             |       |        |
| 5.0" NHT            |                    |      | •    |      |      | •     |             |              |                   |                  | s               |                     | •              | 9.0                         | 14.5            | B-97A         | 1     |        |
|                     |                    |      | •    |      |      | •     |             |              |                   |                  | s               |                     | •              | 9.0                         | 31.0            | B-97          | 1     |        |
| 6.0" NHT            |                    |      | •    |      |      | •     |             |              |                   |                  | s               |                     | •              | 9.0                         | 14.5            | B-97A         | 1     |        |
|                     |                    |      | •    |      |      | •     |             |              |                   |                  | s               |                     | •              | 9.0                         | 31.0            | B-97          | 1     |        |

KEY s = standard o = option  
 \* Optional pressure gauge available



WYES

APPLIANCES

**FIGURE 1**

**B97/B97A (2-WAY) – POSITIVE TWIST LOCK**



*Fig. 1*

**FIGURE 2**

**B-100/B-100A**



*Fig. 2*

**FIGURE 3**

**1/1A**



*Fig. 3*

Figures depict general product types only and are not intended to be inclusive of all product features.

## OPTIONS

| HANDLES  |                        |                       |                 |                     | PRESSURE GAUGE | THREADS  |
|--|------------------------|-----------------------|-----------------|---------------------|----------------|--|
|  |                        |                       |                 |                     |                | All fireground connections are NHT unless otherwise specified. See index T-13 for optional base threads. |
| KNOB<br>• Not all handles available on all models.<br>• All twist-locks feature metal knurled knobs. | SHORT<br>(ELK-O-LITE®) | LONG<br>(ELK-O-LITE®) | MOLDED URETHANE | POSITIVE TWIST LOCK |                |  |

## PSI RATING

While all Elkhart wyes are rated to at least 200 psi (13.79 bar), the products specified below are rated to 300 psi (20.69 bar):

- B-100-A (2.5" F inlet)
- B-100-LA (1.5" F inlet)
- B-100-SA (1.0" F or 1.5" F inlet)

# Piston Intake

All piston valves include a variety of features to make your job easier: folding hand-wheel spinner, durable urethane seat, 4½" waterway, ¾" bleeder valve, adjustable relief/dump valve (75 to 250 psi)(factory set at 125 psi), and a red urethane enamel finish.

Piston intake valves are not intended for use in salt water applications.



125  
PSI

FACTORY SET



## PISTON INTAKE

| HOSE CONNECTION (Inches) |   |    |   |      |   |    |   |         |   | TRUCK CONNECTION (Inches) |    |   | MATERIAL/TRIM |               | DIMENSIONS    |          | MODEL | FIGURE |        |
|--------------------------|---|----|---|------|---|----|---|---------|---|---------------------------|----|---|---------------|---------------|---------------|----------|-------|--------|--------|
| Female**                 |   |    |   | Male |   |    |   | Storz** |   | Female*                   |    |   | Brass         | Elk-O-Lite®   | Length        | Weight   |       |        |        |
| 3½                       | 4 | 4½ | 5 | 3½   | 4 | 4½ | 5 | 6       | 4 | 5                         | 4½ | 5 | 6             | Chrome-plated | Hard Anodized | (Inches) |       |        | (Lbs.) |
| o                        | o | o  | o | o    | o | o  | o | o       | o | o                         | o  | o | s             |               | •             | 11.4     | 22.5  | 9786   | 1      |

KEY s = standard o = option  
 \* Swivel  
 \*\* Free swivel

Figure 1



Fig. 1

### ADDITIONAL INFORMATION



• While many piston intake valves have the common issue of corrosion, resulting in minor leaks to complete failure — depending on service conditions and water supply; Elkhart's 9786 piston intake valve offers a solution. The replaceable anode electrolytically decomposes, while inhibiting the metal breakdown of the piston intake valve.

### THREADS

All fireground connections are NHT unless otherwise specified. See index T-13 for optional base threads.

| Max. GPM (LPM) | CONTROL OPTIONS |                   |        |           |          |               | MOUNTING OPTIONS |          |              |           |                    | DEGREES OF TRAVEL |                     | CERTIFICATIONS |            |    | MATERIAL OPTIONS |             |       | MONITOR SERIES | PAGE                 |             |                 |
|----------------|-----------------|-------------------|--------|-----------|----------|---------------|------------------|----------|--------------|-----------|--------------------|-------------------|---------------------|----------------|------------|----|------------------|-------------|-------|----------------|----------------------|-------------|-----------------|
|                | Manual          |                   |        | Hydraulic | Electric | Wireless (RF) | EXM Tehcnology   | Mobile   |              |           | Stationary         |                   | Integral Ball Valve | Vertical       | Horizontal | CE | CCC              | FM Approved | Brass |                |                      | Elk-O-Lite® | Stainless Steel |
|                | Dual Hand-wheel | Single Hand-wheel | Tiller |           |          |               |                  | Portable | Wheeled Cart | Apparatus | Fixed Installation | Elevated          |                     |                |            |    |                  |             |       |                |                      |             |                 |
| 300 (1136)     |                 |                   |        |           | •        | •             | •                |          |              | •         | •                  |                   | 135°                | 180°           |            |    |                  |             | •     |                | Sidewinder® EXM UHP  | 5-14        |                 |
| 500 (1893)     |                 |                   | •      |           | •        |               |                  |          |              | •         |                    |                   | 135°                | 334°           | •          | •  |                  |             | •     |                | Sidewinder® Electric | 5-16        |                 |
|                |                 |                   |        |           |          |               |                  | •        |              |           |                    |                   | 135°                | 360°           |            |    |                  |             | •     |                | Sidewinder®          | 5-19        |                 |
| 700 (2650)     |                 |                   |        |           | •        | •             | •                |          |              | •         | •                  |                   | 43°                 | 40°            | •          |    |                  |             | •     |                | R.A.M.® XD           | 5-26        |                 |
|                |                 |                   |        |           |          |               |                  |          |              |           |                    |                   | 135°                | 350°           |            | •  |                  |             | •     |                | Sidewinder® EXM      | 5-2         |                 |
| 1000 (3785)    | •               |                   | •      |           |          |               |                  |          |              |           | •                  |                   | 175°                | 360°           |            |    |                  |             | •     |                | Manual Elevated      | 5-49        |                 |
|                |                 |                   |        |           |          |               |                  |          | •            |           |                    |                   | 50°                 | 90°            |            |    |                  |             | •     |                | Portable Carts       | 5-55        |                 |
| 1250 (4732)    |                 |                   |        |           | •        | •             | •                |          |              | •         | •                  |                   | 165°                | 350°           |            | •  |                  |             | •     |                | Cobra™ EXM 7200      | 5-4         |                 |
|                |                 |                   | •      |           |          |               |                  |          |              | •         |                    |                   | 95°                 | 360°           | •          | •  |                  |             | •     |                | Stinger® 2.0         | 5-28        |                 |
|                | •               |                   | •      |           |          |               |                  |          |              | •         | •                  |                   | 135°                | 360°           | •          | •  |                  |             | •     |                | Vulcan™              | 5-31        |                 |
|                |                 |                   |        |           |          |               |                  |          |              |           |                    | •                 | 130°                | 360°           | •          |    | •                |             | •     |                | Stingray®            | 5-37        |                 |
|                | •               |                   | •      |           |          |               |                  |          |              |           | •                  |                   | 135°                | 360°           | •          |    | •                |             | •     |                | Copperhead           | 5-40        |                 |
|                |                 |                   | •      |           |          |               |                  |          |              |           |                    |                   | 135°                | 360°           | •          |    | •                |             | •     |                | Python®              | 5-43        |                 |
|                |                 |                   | •      |           |          |               |                  |          |              |           |                    |                   | 130°                | 360°           | •          |    | •                |             | •     |                | Hydrant Mount        | 5-47        |                 |
| 1500 (5678)    |                 |                   |        |           | •        | •             | •                |          |              | •         | •                  |                   | 165°                | 350°           |            | •  |                  |             | •     |                | Cobra™ EXM 7250      | 5-4         |                 |
| 2000 (7571)    |                 |                   |        |           | •        | •             | •                |          |              | •         | •                  |                   | 165°                | 350°           |            | •  |                  |             | •     |                | Boa 2000             | 5-12        |                 |
|                |                 |                   |        |           |          |               |                  |          |              | •         | •                  |                   | 135°                | 347°           | •          |    |                  |             | •     | •              | Scorpion® Electric   | 5-21        |                 |
|                | •               |                   | •      |           |          |               |                  |          |              | •         | •                  |                   | 135°                | 360°           | •          |    |                  |             | •     |                | Scorpion®            | 5-24        |                 |
|                | •               |                   | •      |           |          |               |                  |          |              | •         | •                  |                   | 135°                | 360°           | •          |    |                  |             | •     |                | Spit-Fire            | 5-34        |                 |
| 2500 (9463)    |                 |                   |        |           | •        | •             | •                |          |              | •         | •                  |                   | 135°                | 350°           |            | •  |                  |             | •     |                | Scorpion® EXM        | 5-6         |                 |
|                |                 |                   |        |           |          |               |                  |          |              |           | •                  |                   | 150°                | 360°           | •          |    | •                |             | •     |                | Giant Python         | 5-45        |                 |
| 3000 (11355)   |                 |                   |        |           | •        | •             | •                |          |              | •         | •                  |                   | 135°                | 350°           |            | •  |                  |             | •     |                | SkyStream™ EXM       | 5-8         |                 |
| 5000 (18925)   |                 |                   |        |           | •        | •             | •                |          |              | •         | •                  |                   | 135°                | 350°           |            |    |                  |             | •     |                | Magnum™ EXM          | 5-10        |                 |

**DIMENSIONAL ABBREVIATIONS KEY:**

- D.L. = Discharge Length
- H.H. = Handle Height
- H.S.R. = Handle Swing Radius
- M.H. = Monitor Height
- O.H. = Overall Height
- O.L. = Overall Length
- P.H. = Pivot Height
- P.R. = Pivot Radius
- W. = Width

### ADDITIONAL INFORMATION

- Elkhart has trademarked the Elk-O-Lite® name for our proprietary aluminum alloy (cast alloy #356-A).

#### SYMBOLS



- Denotes flow or pressure rating

#### THREADS

- Throughout the monitor section, all threads – unless otherwise specified – are NHT. Additional thread information may be found on page T-13.

# MONITORS



SIDEWINDER® EXM

MONITORS

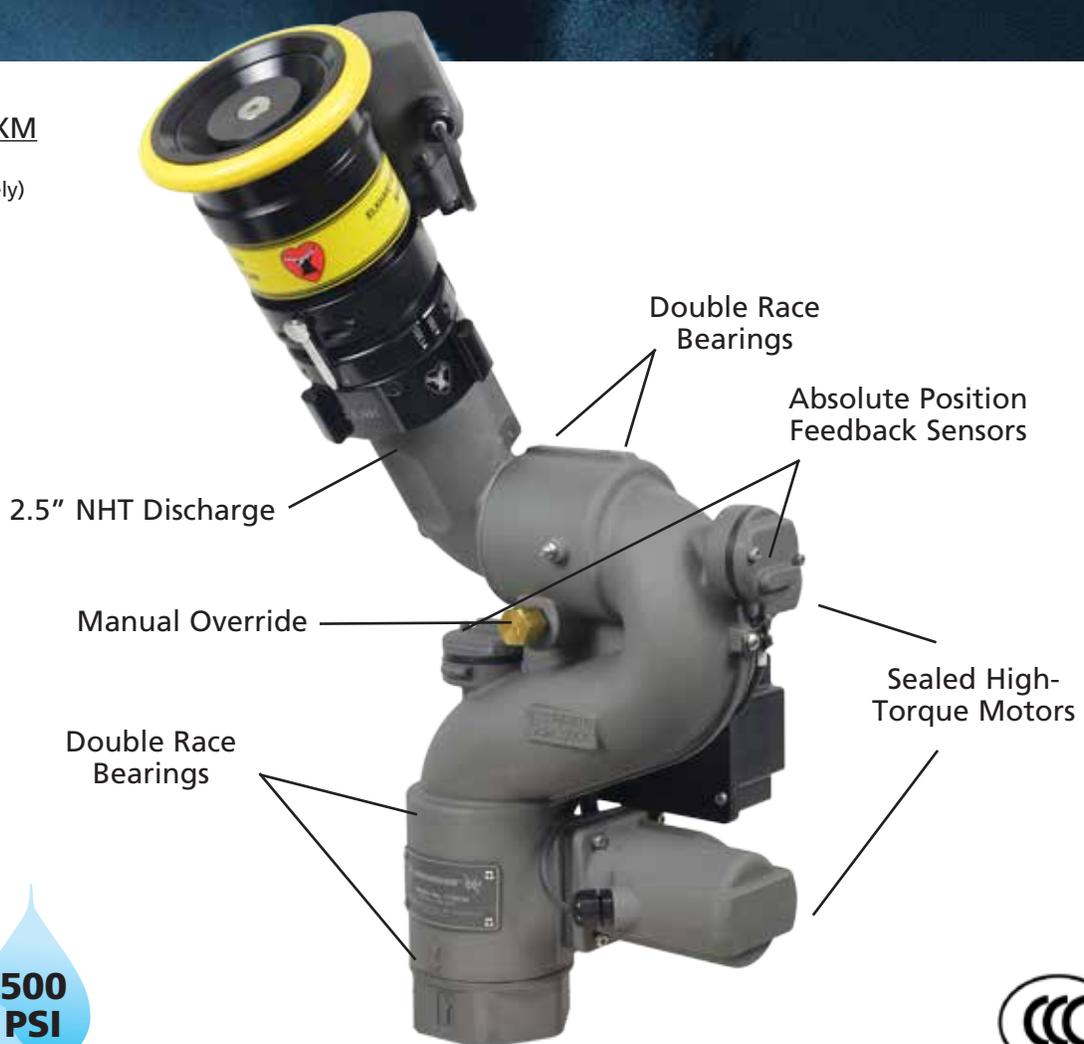
## Sidewinder® EXM

The Sidewinder EXM monitor is specially designed for severe duty cycles. Unique waterway swivel joints utilize stainless steel thrust rods, and axially aligned thrust bearings for unprecedented durability in mining, construction, and wildland firefighting applications. The monitor can be controlled by hardwired input devices via CAN bus J1939, or by an optional Radio Frequency (RF) device. The monitor may be powered with 12 or 24 volts.

- 700 GPM flow
- Sealed to NEMA 4
- Patented, elliptical waterway is Teflon impregnated, hard anodized aluminum alloy
- Programmable travel speeds, 3D travel limits, keep out zones, stow and oscillation
- Integrated water valve control

5-2

Sidewinder® EXM  
Mo. 7100 SD  
(Nozzle sold separately)



700  
GPM

500  
PSI



| SPECIFICATIONS  |  |
|-----------------|--|
| Model           | 7100   |
| Max Flow        | 700 GPM (2650 LPM)   |
| Max Pressure    | SD: 250 PSI (17.2 bar) continuous duty<br>HD: 500 PSI (34.5 bar) continuous duty |
| Inlet           | 2.5" NPT, 2.5" BSPT  |
| Outlet          | 2.5" Male NHT, 2.5" BSPP   |
| Travel          | V: -45° to +90° (135°)<br>H: L175 to R175 (350°)                                 |
| Voltage         | 11-32 VDC  |
| Control         | CAN bus (J1939)  |
| Communication   | 2.4 Ghz digital radio frequency (unlicensed)                                     |
| Material/Finish | Teflon impregnated, hard anodized Elk-O-Lite®                                    |
| Swing Radius    | SD: 7.92" / HD: 8.38"  |
| Stow Height     | 13.21"   |
| Weight          | SD: 18 lbs. (8.16 kg.)<br>HD: 19.5 lbs. (8.84 kg.)                               |



Sidewinder® EXM  
Mo. 7100 HD

### Recommended Products

| Panel Mount  | Handheld   | Joystick   | OEM Interface Module   | Position Display   | 6000 Series Nozzle  | Light Kit  | Quick Connect  |
|--|--|--|--|--|---|--|--|
| (2)  | (3)  | (4)  | (5)  | (6)  | (7)  | (8)  | (9)  |

### Components & Options Chart

| COMPONENTS & OPTIONS |  |   | ILLUSTRATION | MODEL     |
|----------------------|--|---|--------------|-----------|
| Electric Nozzles     | Selectable                                   | 15/30/45/60/95/125/150/200/FLUSH GPM  | 7            | 6000-200E |
|                      |  | 250/350/500/700/FLUSH GPM   | 7            | 6000-700E |
| Controllers          | EXM Panel Mount Controller                   | Complete panel mount operator control suitable for 2-wire connection to any EXM enabled component.  | 2            | 7010      |
|                      | EXM Handheld Controller Kit                  | This package includes the panel mount controller (7010), handheld conversion kit (7020), & RF transceiver module (7061). Comes pre-assembled, configured, and ready to use. | 3            | 7015      |
|                      | EXM Joystick Controller                      | Joystick operator control unit suitable for connection to an EXM OEM Interface Module.  | 4            | 7030      |
| Modules              | EXM Position Display Module                  | Monitor vertical and horizontal position display unit suitable for 2-wire connection to any EXM enabled component.  | 6            | 7051      |
|                      | EXM OEM Interface Module (Wireless RF & CAN) | EXM system interface - allows connection of model 7030 Joystick or other simple OEM supplied electromechanical switches to EXM system.                                      | Not Pictured | 7072      |
|                      | EXM OEM Interface Module (Wired CAN only)    | EXM system interface - allows connection of model 7030 Joystick or other simple OEM supplied electromechanical switches to EXM system.                                      | 5            | 7073      |
|                      | EXM CAN Stow Module                          | Connects to lockout devices to prevent equipment damage due to an improperly positioned monitor.  | Not Pictured | 7095      |
| Accessories          | External RF Antenna                          | 10 ft extension for 7072 OEM Interface module   | Not Pictured | 7062      |
|                      | 2.5" Quick Connect                           | Allows for quick removal of the monitor   | 9            | 7150      |
|                      | Light Kit                                    | 150w LED spot/flood from FRC. Operate and position from any Sidewinder EXM control device.  | 8            | 7080      |

# MONITORS



COBRA™ EXM

MONITORS

## Cobra™ EXM

The Cobra™ EXM monitor is specially designed to be compact, providing a greatly reduced swing radius. Unique waterway swivel joints utilize stainless steel thrust rods, and axially aligned thrust bearings for unprecedented durability in a range of applications. The Cobra™ EXM utilizes a cast, vaned waterway to minimize large-scale turbulence. The monitor can be controlled by hardwired input devices via CAN bus J1939, or by an optional Radio Frequency (RF) device. The monitor may be powered with 12 or 24 volts.

- Extended Travel Lockout
- 1250 or 1500 GPM flow
- Industry leading 6" swing radius
- Available in standard or heavy duty motor configurations
- Patented, elliptical waterway is Teflon impregnated, hard anodized aluminum alloy
- Programmable travel speeds, 3D travel limits, keep out zones, stow and oscillation
- Integrated water valve control

5-4

Cobra™ EXM  
Mo. 7200 SD  
(Nozzle sold separately)



| SPECIFICATIONS     |  |
|--------------------|--|
| Model              | 7200 / 7250  |
| Max Flow GPM (LPM) | 1250 (4731) / 1500 (5678)  |
| Max Pressure       | SD: 250 PSI (17.2 BAR) continuous duty<br>HD: 500 PSI (34.5 BAR) continuous duty                 |
| Inlet              | 3"-150# Flg, 4"-150# Flg, 3" NPT, 3" BSPT, & DN80-PN16   |
| Outlet             | 2.5" / 3.5" Male NHT & BSPP  |
| Travel             | V: -45° to +90° (135°)<br>V: -45° to +120° (165°) with Extended Travel<br>H: L175 to R175 (350°) |
| Voltage            | 11-32 VDC  |
| Control            | CAN bus (J1939)  |
| Communication      | 2.4 Ghz digital radio frequency (unlicensed)   |
| Material/Finish    | Teflon impregnated, hard anodized Elk-O-Lite®  |
| Swing Radius       | 6" (180°), 8" (360°)   |
| Stow Height        | 16.75"   |
| Weight             | 31 Lbs.  |



Cobra™ EXM  
Mo. 7250 SD

### Recommended Products

| Panel Mount | Handheld | Joystick | OEM Interface Module | Position Display | X-Stream Series Nozzle | Light Kit | EXM CAN Stow Module |
|-------------|----------|----------|----------------------|------------------|------------------------|-----------|---------------------|
| (2)         | (3)      | (4)      | (5)                  | (6)              | (7)                    | (8)       | (9)                 |
|             |          |          |                      |                  |                        |           |                     |

### Components & Options Chart

| COMPONENTS & OPTIONS |  |   | ILLUSTRATION | MODEL    |
|----------------------|--|---|--------------|----------|
| Electric Nozzles     | X-Stream Series Automatic                    | 2.5" Inlet: 350-1000 GPM (1325-3785 LPM)  | 7            | SM-1000E |
|                      |  | 2.5" Inlet: 350-1250 GPM (1325-4731 LPM)  | 7            | SM-1250E |
|                      |  | 3.5" Inlet: 500-1500 GPM (1893-5678 LPM)  | 7            | SM-1500E |
| Controllers          | EXM Panel Mount Controller                   | Complete panel mount operator control suitable for 2-wire connection to any EXM enabled component.  | 2            | 7010     |
|                      | EXM Handheld Controller Kit                  | This package includes the panel mount controller (7010), handheld conversion kit (7020), & RF transceiver module (7061). Comes pre-assembled, configured, and ready to use. | 3            | 7015     |
|                      | EXM Joystick Controller                      | Joystick operator control unit suitable for connection to an EXM OEM Interface Module.  | 4            | 7030     |
| Modules              | EXM Position Display Module                  | Monitor vertical and horizontal position display unit suitable for 2-wire connection to any EXM enabled component.  | 6            | 7051     |
|                      | EXM OEM Interface Module (Wireless RF & CAN) | EXM system interface - allows connection of model 7030 Joystick or other simple OEM supplied electromechanical switches to EXM system.                                      | Not Pictured | 7072     |
|                      | EXM OEM Interface Module (Wired CAN only)    | EXM system interface - allows connection of model 7030 Joystick or other simple OEM supplied electromechanical switches to EXM system.                                      | 5            | 7073     |
|                      | EXM CAN Stow Module                          | Connects to lockout devices to prevent equipment damage due to an improperly positioned monitor.  | 9            | 7095     |
| Accessories          | External RF Antenna                          | 10 ft extension for 7070 OEM Interface module   | Not Pictured | 7062     |
|                      | Light Kit                                    | 150w LED spot/flood from FRC. Operate and position from any Cobra EXM control device.   | 8            | 7083     |

# MONITORS



SCORPION® EXM

MONITORS

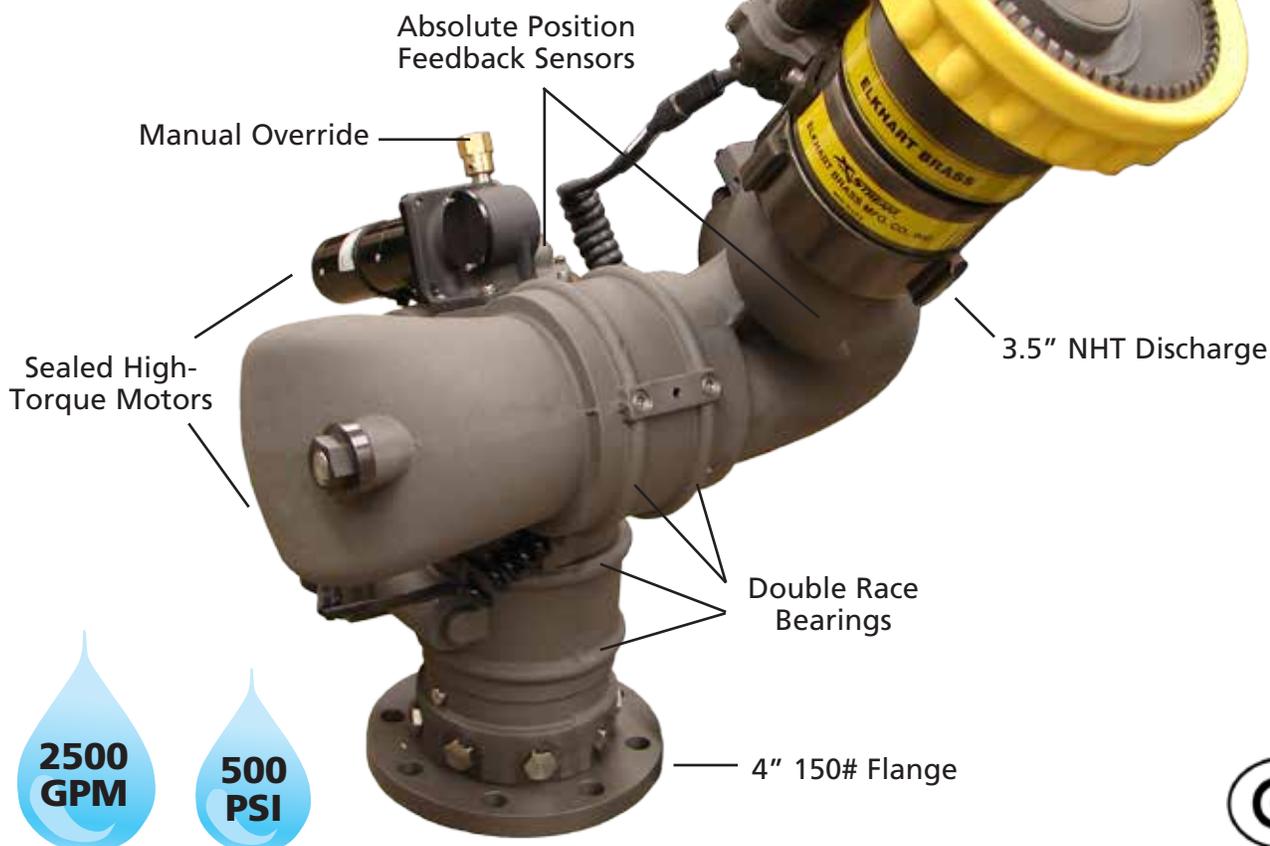
## Scorpion® EXM

The Scorpion EXM monitor is specially designed for severe duty cycles. Unique waterway swivel joints utilize stainless steel thrust rods, and axially aligned thrust bearings for unprecedented durability in all firefighting applications. With its 3.5" vaned waterway, the Scorpion EXM provides large flow with minimal turbulence. The monitor can be controlled by hardwired input devices via CAN bus J1939, or by an optional Radio Frequency (RF) device. The monitor may be powered with 12 or 24 volts.

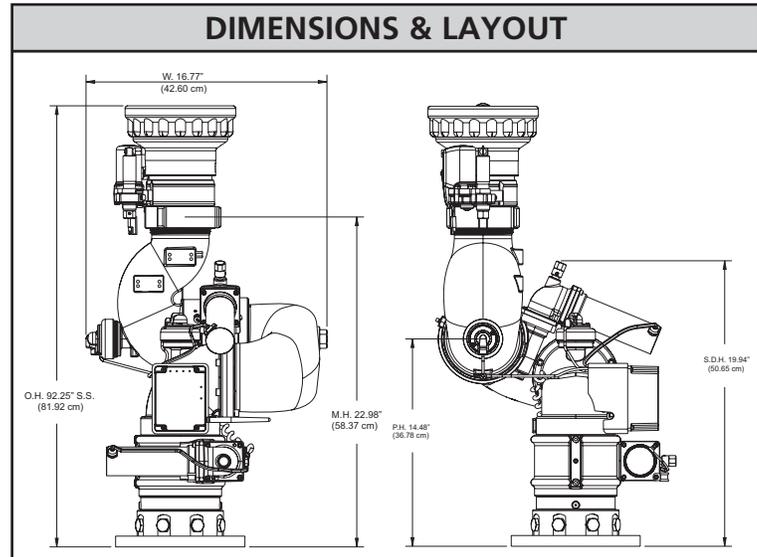
- 2500 GPM flow
- Large range of travel: -45° to +90° vertical & L175° to R175° horizontal (up to -80° or +120° vertical travel achievable with max travel of 135°)
- Patented, elliptical waterway is Teflon impregnated, hard anodized aluminum alloy
- Programmable travel speeds, 3D travel limits, keep out zones, stow and oscillation
- Integrated water valve control

5-6

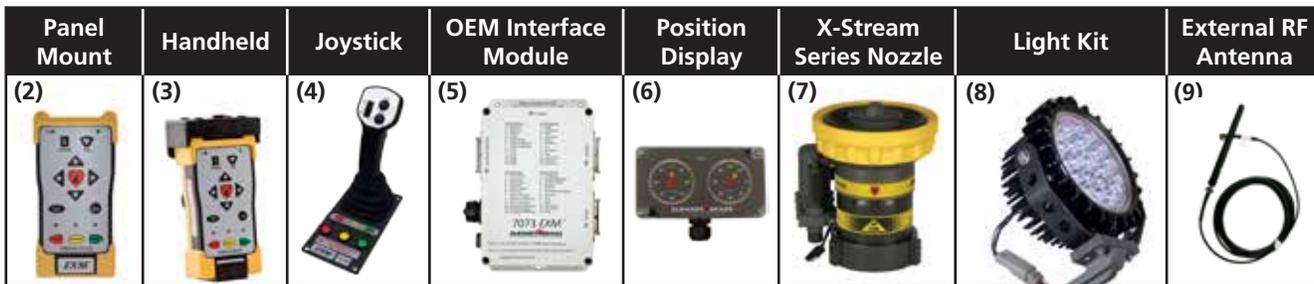
Scorpion® EXM  
Mo. 7400  
(Nozzle sold separately)



| SPECIFICATIONS            |   |
|---------------------------|---|
| Model                     | 7400  |
| Max Flow                  | 2500 GPM (9463 LPM)                                     |
| Max Pressure              | 500 PSI (34.5 bar)                                      |
| Inlet                     | 4" ANSI, DN100  |
| Outlet                    | 3.5" Male NHT & BSPP                                    |
| Travel (Factory Settings) | V: -45° to +90° (135°)<br>H: L175 to R175 (350°)        |
| Voltage                   | 11-32 VDC   |
| Control Communication     | CAN bus (J1939)<br>Digital radio frequency (unlicensed) |
| Material/Finish           | Teflon impregnated, hard anodized Elk-O-Lite®           |
| Stow Height               | 20"   |
| Weight                    | 52 Lbs.   |



### Recommended Products



### Components & Options Chart

| COMPONENTS & OPTIONS |  |   | ILLUSTRATION | MODEL    |
|----------------------|--|---|--------------|----------|
| Electric Nozzles     | X-Stream Series Automatic                    | 3.5" Inlet: 350-1250 GPM (1325-4731 LPM)  | 7            | SM-1250E |
|                      |  | 3.5" Inlet: 500-2000 GPM (1893-7571 LPM)  | 7            | SM-2000E |
| Controllers          | EXM Panel Mount Controller                   | Complete panel mount operator control suitable for 2-wire connection to any EXM enabled component.  | 2            | 7010     |
|                      | EXM Handheld Controller Kit                  | This package includes the panel mount controller (7010), handheld conversion kit (7020), & RF transceiver module (7061). Comes pre-assembled, configured, and ready to use. | 3            | 7015     |
|                      | EXM Joystick Controller                      | Joystick operator control unit suitable for connection to an EXM OEM Interface Module.  | 4            | 7030     |
| Modules              | EXM Position Display Module                  | Monitor vertical and horizontal position display unit suitable for 2-wire connection to any EXM enabled component.  | 6            | 7051     |
|                      | EXM OEM Interface Module (Wireless RF & CAN) | EXM system interface - allows connection of model 7030 Joystick or other simple OEM supplied electromechanical switches to EXM system.                                      | Not Pictured | 7072     |
|                      | EXM OEM Interface Module (Wired CAN only)    | EXM system interface - allows connection of model 7030 Joystick or other simple OEM supplied electromechanical switches to EXM system.                                      | 5            | 7073     |
|                      | EXM CAN Stow Module                          | Connects to lockout devices to prevent equipment damage due to an improperly positioned monitor.  | Not Pictured | 7095     |
| Accessories          | External RF Antenna                          | 10 ft extension for 7070 OEM Interface module   | 9            | 7062     |
|                      | Light Kit                                    | 150w LED spot/flood from FRC. Operate and position from any Scorpion EXM control device.  | 8            | 7085     |



SKYSTREAM™ EXM

MONITORS

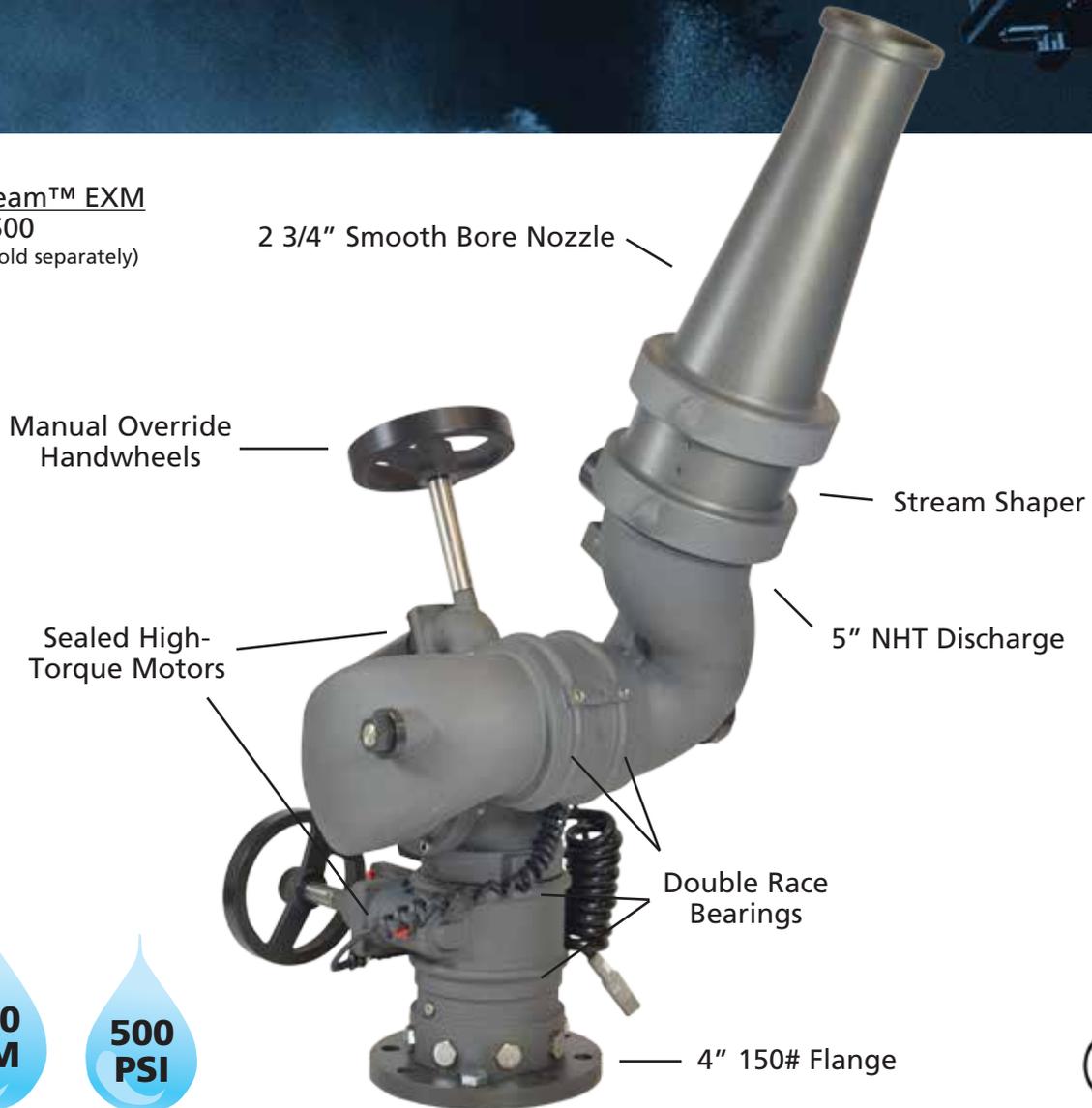
# SkyStream™ EXM

Taking the Scorpion EXM to the next level, the SkyStream EXM increases the flow capability to 3000 GPM (11355 LPM). With it's 5" NHT outlet, the SkyStream delivers best in class flow that provides a reach of up to 120 meters, making it ideal for use with fire apparatus, industrial pumper, and aerial vehicles.

- 3000 GPM flow
- Large range of travel: -45° to +90° vertical & L175° to R175° horizontal
- Patented, elliptical waterway is Teflon impregnated, hard anodized aluminum alloy
- Programmable travel speeds, 3D travel limits, keep out zones, stow and oscillation
- Integrated water valve control

5-8

SkyStream™ EXM  
Mo. 7500  
(Nozzle sold separately)



2 3/4" Smooth Bore Nozzle

Manual Override Handwheels

Stream Shaper

Sealed High-Torque Motors

5" NHT Discharge

Double Race Bearings

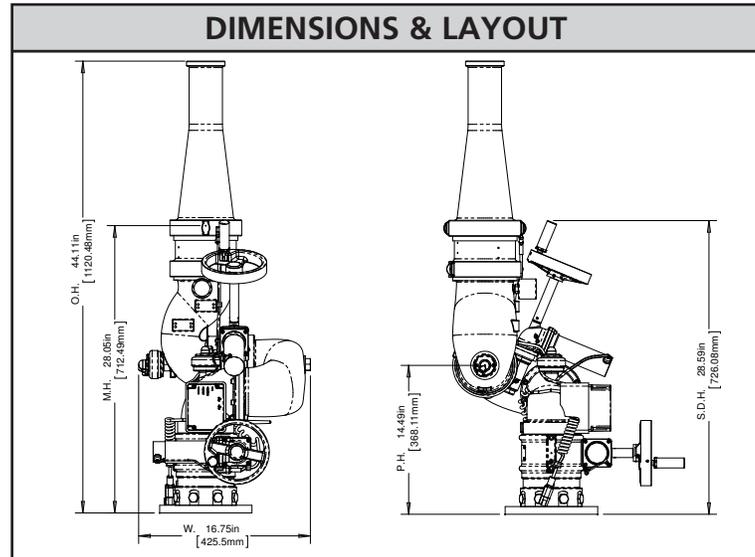
3000  
GPM

500  
PSI

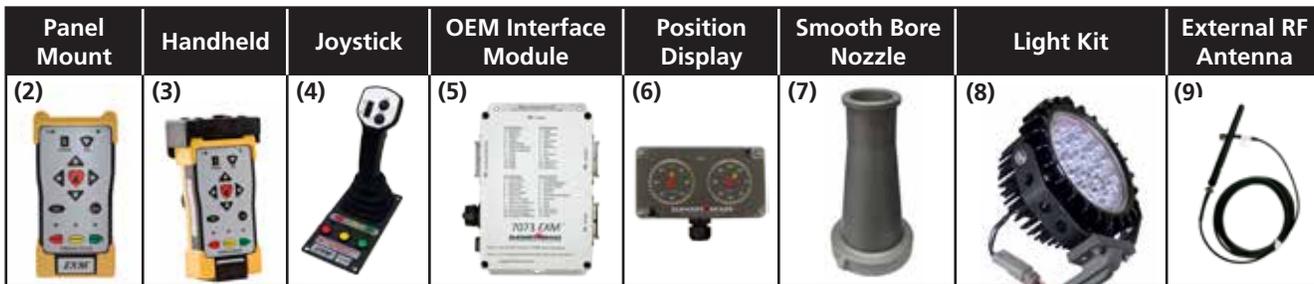
4" 150# Flange



| SPECIFICATIONS               |  |
|------------------------------|--|
| Model                        | 7500   |
| Max Flow                     | 3000 GPM (11355 LPM)                                       |
| Max Pressure                 | 500 PSI (34.5 bar)   |
| Inlet                        | 4" ANSI, DN100   |
| Outlet                       | 5" Male NHT  |
| Travel<br>(Factory Settings) | V: -45° to +90° (135°)<br>H: L175 to R175 (350°)           |
| Voltage                      | 11-32 VDC  |
| Control<br>Communication     | CAN bus (J1939)<br>Digital radio frequency<br>(unlicensed) |
| Material/Finish              | Teflon impregnated, hard<br>anodized Elk-O-Lite®           |
| Stow Height                  | 28.6"  |
| Weight                       | 57.7 Lbs.  |



### Recommended Products



### Components & Options Chart

| COMPONENTS & OPTIONS |  |   | ILLUSTRATION | MODEL  |
|----------------------|--|---|--------------|--------|
| Nozzles              | Smooth Bore                                  | 17" long, custom 2 3/4" Smooth Bore Nozzle for use with the SkyStream™ EXM.   | 7            | 181-5A |
| Controllers          | EXM Panel Mount Controller                   | Complete panel mount operator control suitable for 2-wire connection to any EXM enabled component.  | 2            | 7010   |
|                      | EXM Handheld Controller Kit                  | This package includes the panel mount controller (7010), handheld conversion kit (7020), & RF transceiver module (7061). Comes pre-assembled, configured, and ready to use. | 3            | 7015   |
|                      | EXM Joystick Controller                      | Joystick operator control unit suitable for connection to an EXM OEM Interface Module.  | 4            | 7030   |
| Modules              | EXM Position Display Module                  | Monitor vertical and horizontal position display unit suitable for 2-wire connection to any EXM enabled component.  | 6            | 7051   |
|                      | EXM OEM Interface Module (Wireless RF & CAN) | EXM system interface - allows connection of model 7030 Joystick or other simple OEM supplied electromechanical switches to EXM system.                                      | Not Pictured | 7072   |
|                      | EXM OEM Interface Module (Wired CAN only)    | EXM system interface - allows connection of model 7030 Joystick or other simple OEM supplied electromechanical switches to EXM system.                                      | 5            | 7073   |
|                      | EXM CAN Stow Module                          | Connects to lockout devices to prevent equipment damage due to an improperly positioned monitor.  | Not Pictured | 7095   |
| Accessories          | External RF Antenna                          | 10 ft extension for 7070 OEM Interface module   | 9            | 7062   |
|                      | Light Kit                                    | 150w LED spot/flood from FRC. Operate and position from any Scorpion EXM control device.  | 8            | 7085   |

# MONITORS



MAGNUM™ EXM

MONITORS

## Magnum™ EXM

With its large 6" inlet and unique waterway, the 7600 EXM is capable of providing 5000 GPM (18925 LPM) flow where you need it most. Designing the 7600 to be a part of the EXM family ensures the same level of quality and durability the industry has come to know. In addition, it has the same programmable EXM features such as 3D travel limits, keep-out zones, travel speeds, stow position, and oscillation.

- 5000 GPM flow
- Large range of travel: -60° to +90° vertical & L175° to R175° horizontal
- Patented, elliptical waterway is Teflon impregnated, hard anodized aluminum alloy
- Programmable travel speeds, 3D travel limits, keep out zones, stow and oscillation

5-10

Magnum™ EXM  
Mo. 7600  
(Nozzle sold separately)



CM-3000E & CM-5000E  
Master Stream Nozzles

6" NHT Discharge

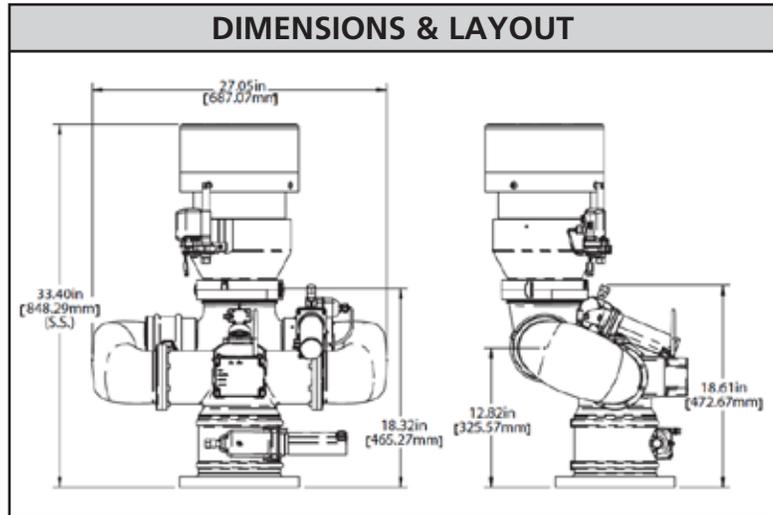
Sealed High-Torque Motors

Manual Overrides

6" 150# Flange



| SPECIFICATIONS               |  |
|------------------------------|--|
| Model                        | 7600   |
| Max Flow                     | 5000 GPM (18925 LPM)                                       |
| Max Pressure                 | 200 PSI (13.8 bar)   |
| Inlet                        | 6" 150# Flange   |
| Outlet                       | 6" Male NHT  |
| Travel<br>(Factory Settings) | V: -60° to +90° (120°)<br>H: L175 to R175 (350°)           |
| Voltage                      | 11-32 VDC  |
| Control<br>Communication     | CAN bus (J1939)<br>Digital radio frequency<br>(unlicensed) |
| Material/Finish              | Teflon impregnated, hard<br>anodized Elk-O-Lite®           |
| Swing Radius                 | 14.5" (360°)   |
| Stow Height                  | 19"  |
| Weight                       | 115 Lbs. (52kg) w/ nozzle                                  |



### Recommended Products

| Panel Mount | Handheld | Joystick | OEM Interface Module | Position Display | Master Stream Nozzle | External RF Antenna |
|-------------|----------|----------|----------------------|------------------|----------------------|---------------------|
| (2)         | (3)      | (4)      | (5)                  | (6)              | (7)                  | (8)                 |
|             |          |          |                      |                  |                      |                     |

### Components & Options Chart

| COMPONENTS & OPTIONS |  |   | ILLUSTRATION | MODEL     |
|----------------------|--|---|--------------|-----------|
| Electric Nozzles     | CM Series Fixed                              | 6" Inlet: 3000 GPM (11355 LPM) @ 80 PSI (5.5 BAR)   | 7            | CM-3000E  |
|                      |  | 6" Inlet: 5000 GPM (18925 LPM) @ 100 PSI (6.9 BAR)  | 7            | CM-5000E  |
|                      |  | 6" Inlet: 3000 GPM (11355 LPM) @ 130 PSI (13.8 BAR)   | Not Pictured | CM-3000EX |
| Controllers          | EXM Panel Mount Controller                   | Complete panel mount operator control suitable for 2-wire connection to any EXM enabled component.  | 2            | 7010      |
|                      | EXM Handheld Controller Kit                  | This package includes the panel mount controller (7010), handheld conversion kit (7020), & RF transceiver module (7061). Comes pre-assembled, configured, and ready to use. | 3            | 7015      |
|                      | EXM Joystick Controller                      | Joystick operator control unit suitable for connection to an EXM OEM Interface Module.  | 4            | 7030      |
| Modules              | EXM Position Display Module                  | Monitor vertical and horizontal position display unit suitable for 2-wire connection to any EXM enabled component.  | 6            | 7051      |
|                      | EXM OEM Interface Module (Wireless RF & CAN) | EXM system interface - allows connection of model 7030 Joystick or other simple OEM supplied electromechanical switches to EXM system.                                      | Not Pictured | 7072      |
|                      | EXM OEM Interface Module (Wired CAN only)    | EXM system interface - allows connection of model 7030 Joystick or other simple OEM supplied electromechanical switches to EXM system.                                      | 5            | 7073      |
|                      | EXM CAN Stow Module                          | Connects to lockout devices to prevent equipment damage due to an improperly positioned monitor.  | Not Pictured | 7095      |
| Accessories          | External RF Antenna                          | 10 ft extension for 7070 OEM Interface module   | 8            | 7062      |



BOA 2000

MONITORS

## BOA 2000

The efficient 4" vaned waterway and 3.5" discharge matched with an SM-2000E master stream nozzle delivers an effective stream while the power of the EXM provides all of the user-programmable options, including travel limits, oscillation, stow and keep-out zones.

Powered by:

~~EXM~~

5-12

Boa 2000  
Mo. 7451  
(Nozzle sold separately)

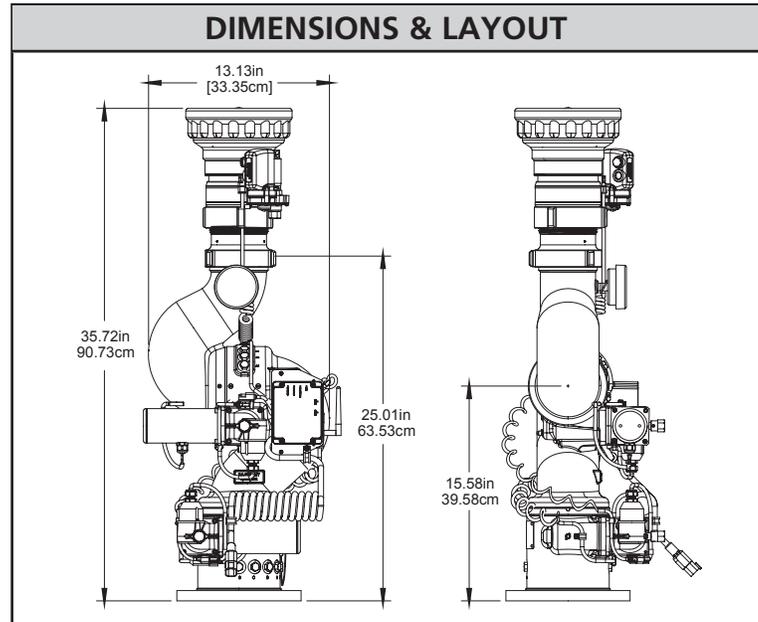
EXM Control  
Module

3.5" NHT Discharge

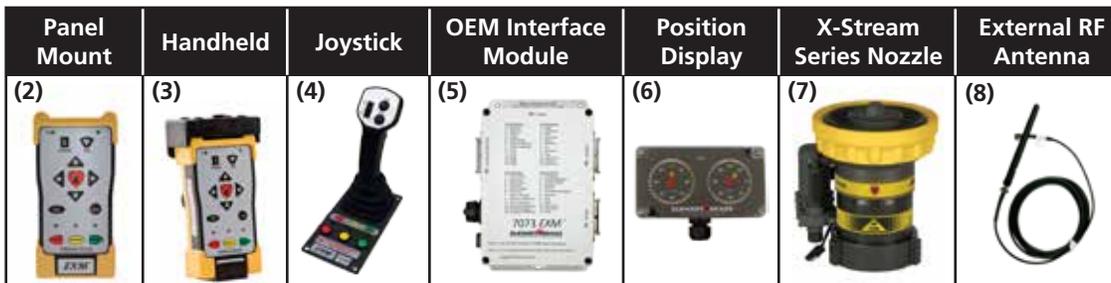
4" 150# Flange



| SPECIFICATIONS               |  |
|------------------------------|--|
| Model                        | 7451   |
| Max Flow                     | 2000 GPM (7570 LPM)  |
| Max Pressure                 | 200 PSI (13.8 bar)   |
| Inlet                        | 4" 150# Flange   |
| Outlet                       | 3.5" Male NHT  |
| Travel<br>(Factory Settings) | V: -45° to +120° (120°)<br>H: L175 to R175 (350°)          |
| Voltage                      | 11-32 VDC  |
| Control<br>Communication     | CAN bus (J1939)<br>Digital radio frequency<br>(unlicensed) |
| Material/Finish              | Red urethane enamel, hard<br>anodized Elk-O-Lite®          |
| Stow Height                  | 20"  |
| Weight                       | 47 Lbs. (21.3 kg)  |



### Recommended Products



### Components & Options Chart

| COMPONENTS & OPTIONS |  |   | ILLUSTRATION | MODEL    |
|----------------------|--|---|--------------|----------|
| Electric Nozzles     | X-Stream Series Automatic                    | 3.5" Inlet: 350-1250 GPM (1325-4731 LPM)  | 7            | SM-1250E |
|                      |  | 3.5" Inlet: 500-2000 GPM (1893-7571 LPM)  | 7            | SM-2000E |
| Controllers          | EXM Panel Mount Controller                   | Complete panel mount operator control suitable for 2-wire connection to any EXM enabled component.  | 2            | 7010     |
|                      | EXM Handheld Controller Kit                  | This package includes the panel mount controller (7010), handheld conversion kit (7020), & RF transceiver module (7061). Comes pre-assembled, configured, and ready to use. | 3            | 7015     |
|                      | EXM Joystick Controller                      | Joystick operator control unit suitable for connection to an EXM OEM Interface Module.  | 4            | 7030     |
| Modules              | EXM Position Display Module                  | Monitor vertical and horizontal position display unit suitable for 2-wire connection to any EXM enabled component.  | 6            | 7051     |
|                      | EXM OEM Interface Module (Wireless RF & CAN) | EXM system interface - allows connection of model 7030 Joystick or other simple OEM supplied electromechanical switches to EXM system.                                      | Not Pictured | 7072     |
|                      | EXM OEM Interface Module (Wired CAN only)    | EXM system interface - allows connection of model 7030 Joystick or other simple OEM supplied electromechanical switches to EXM system.                                      | 5            | 7073     |
|                      | EXM CAN Stow Module                          | Connects to lockout devices to prevent equipment damage due to an improperly positioned monitor.  | Not Pictured | 7095     |
| Accessories          | External RF Antenna                          | 10 ft extension for 7070 OEM Interface module   | 8            | 7062     |

# MONITORS



SIDEWINDER® EXM UHP

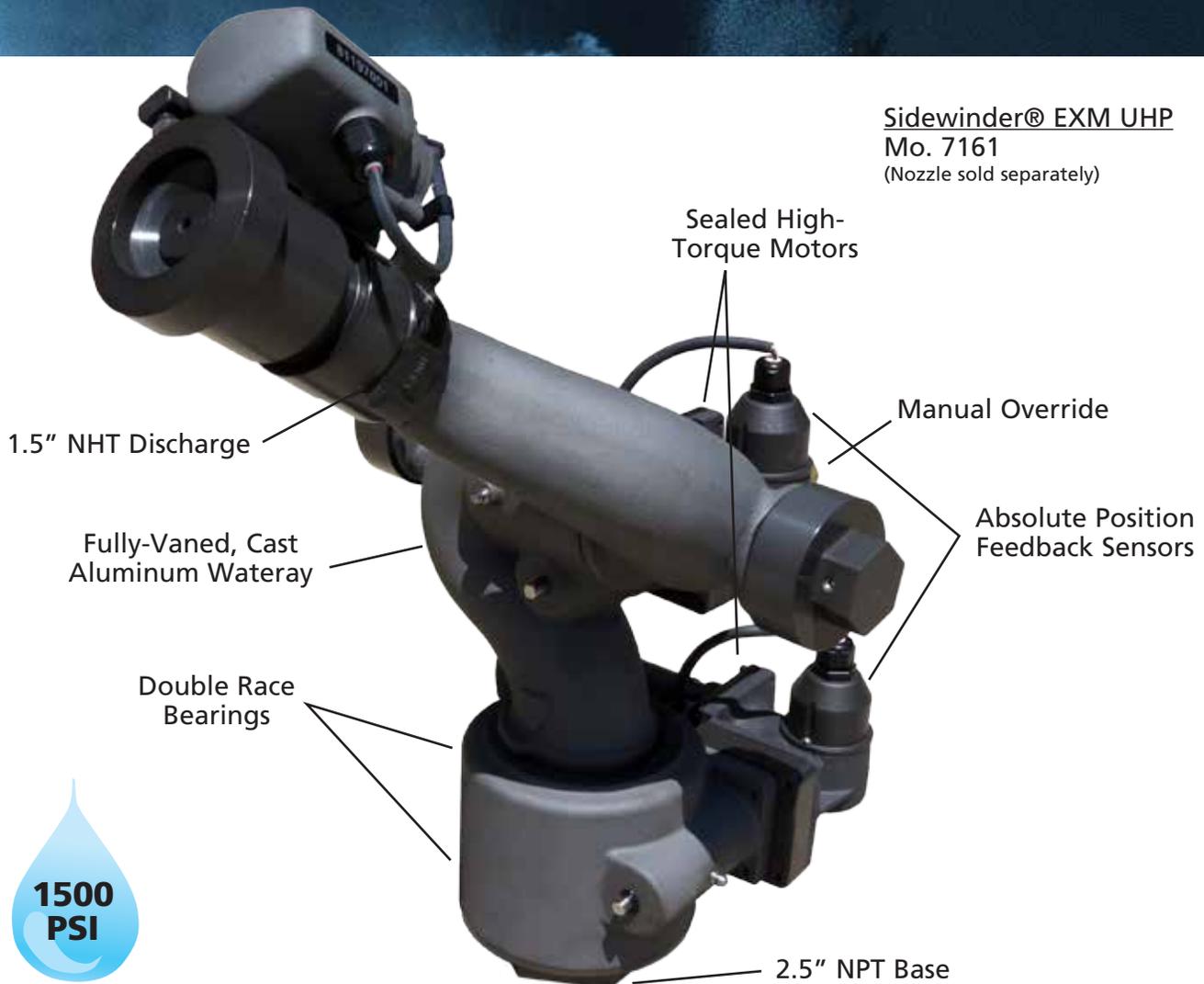
MONITORS

# Sidewinder® EXM UHP

Taking the Sidewinder EXM to the next level, Elkhart's 7161 Sidewinder EXM Ultra-High Pressure (UHP) monitor has been designed and developed to meet U.S. Air Force specifications, and is now being offered for all other UHP needs; including Aircraft Rescue & Fire Fighting (ARFF).

- 1500 PSI pressure
- Extreme Torque Motors
- Sealed to NEMA 4
- Teflon impregnated, hard anodized aluminum alloy
- Programmable travel speeds, 3D travel limits, keep out zones, stow and oscillation

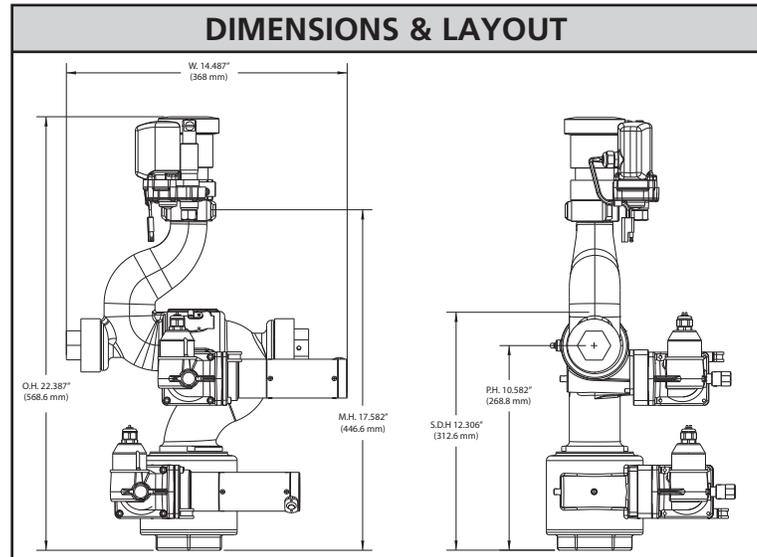
5-14



Sidewinder® EXM UHP  
Mo. 7161  
(Nozzle sold separately)



| SPECIFICATIONS        |   |
|-----------------------|---|
| Model                 | 7161  |
| Max Flow              | 300 GPM (1136 LPM)                                      |
| Max Pressure          | 1500 PSI (103 bar)                                      |
| Inlet                 | 2.5" NPT  |
| Outlet                | 1.5" NHT  |
| Travel                | V: -45° to +90° (135°)<br>H: L90 to R90 (180°)          |
| Voltage               | 11-32 VDC   |
| Control Communication | CAN bus (J1939)<br>Digital radio frequency (unlicensed) |
| Material/Finish       | Teflon impregnated, hard anodized Elk-O-Lite®           |
| Weight                | 27 Lbs.   |



### Recommended Products

| Panel Mount | Handheld | Joystick | OEM Interface Module | Position Display | 5000-14E UHP Nozzle | EXM CAN Stow Module |
|-------------|----------|----------|----------------------|------------------|---------------------|---------------------|
| (2)         | (3)      | (4)      | (5)                  | (6)              | (7)                 | (8)                 |
|             |          |          |                      |                  |                     |                     |

### Components & Options Chart

| COMPONENTS & OPTIONS |  |   | ILLUSTRATION | MODEL        |
|----------------------|--|---|--------------|--------------|
| Electric Nozzle      | Fixed  | 60 GPM (227 LPM) with Flush   | 7            | 5000-14E UHP |
| Controllers          | EXM Panel Mount Controller                   | Complete panel mount operator control suitable for 2-wire connection to any EXM enabled component.  | 2            | 7010         |
|                      | EXM Handheld Controller Kit                  | This package includes the panel mount controller (7010), handheld conversion kit (7020), & RF transceiver module (7061). Comes pre-assembled, configured, and ready to use. | 3            | 7015         |
|                      | EXM Joystick Controller                      | Joystick operator control unit suitable for connection to an EXM OEM Interface Module.  | 4            | 7030         |
| Modules              | EXM Position Display Module                  | Monitor vertical and horizontal position display unit suitable for 2-wire connection to any EXM enabled component.  | 6            | 7051         |
|                      | EXM OEM Interface Module (Wireless RF & CAN) | EXM system interface - allows connection of model 7030 Joystick or other simple OEM supplied electromechanical switches to EXM system.                                      | Not Pictured | 7072         |
|                      | EXM OEM Interface Module (Wired CAN only)    | EXM system interface - allows connection of model 7030 Joystick or other simple OEM supplied electromechanical switches to EXM system.                                      | 5            | 7073         |
|                      | EXM CAN Stow Module                          | Connects to lockout devices to prevent equipment damage due to an improperly positioned monitor.  | 8            | 7095         |
| Accessories          | External RF Antenna                          | 10 ft extension for 7070 OEM Interface module   | Not Pictured | 7062         |

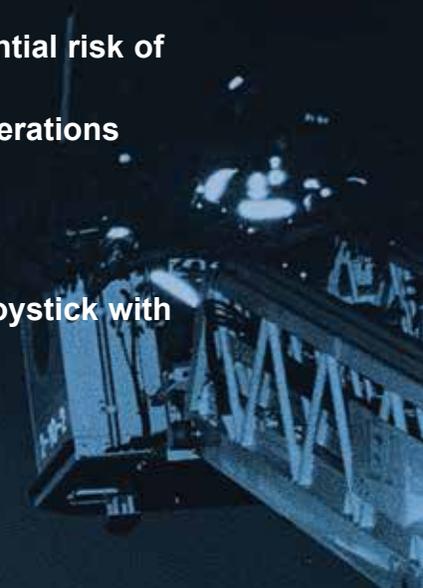


SIDEWINDER® ELECTRIC

MONITORS

## Sidewinder® Electric

- Allows for more effective use of personnel while reducing the potential risk of injury — controls can be mounted inside vehicle
- Designed for wildland firefighting, de-icing, and dust abatement operations
- Weather-tight connectorized harness
- Epoxy encapsulated control module
- Available in 12V or 24V for DC operation
- Available with either a low-cost toggle box controller or full-sized joystick with integrated water valve trigger
- Double ball races with stainless steel bearings
- Available high speed water valve kit operates from joystick trigger



5-16

(Nozzle sold separately)

2" Fully-vaned  
waterway

Fully enclosed stainless  
steel worm gears

Available  
normal or  
high-speed  
travel

Electric motors  
feature manual  
override



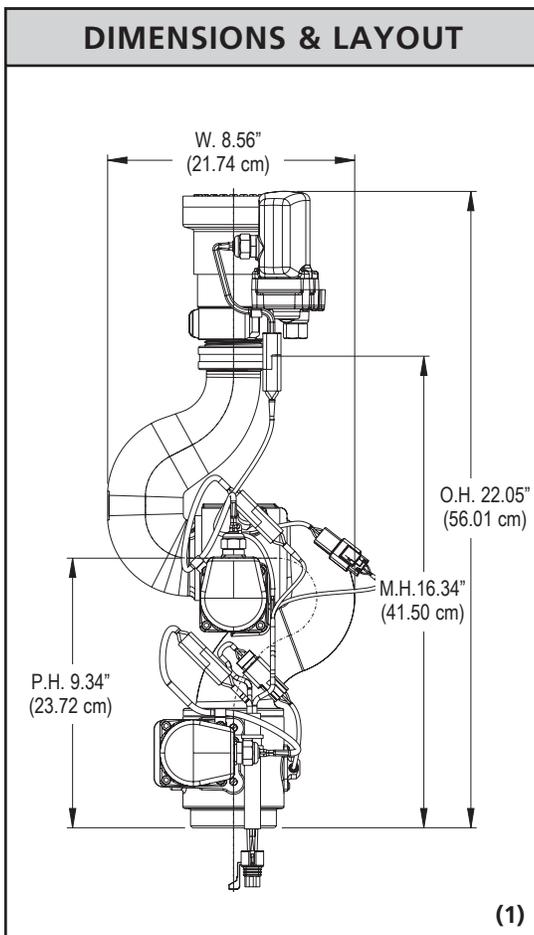
200  
PSI

500  
GPM



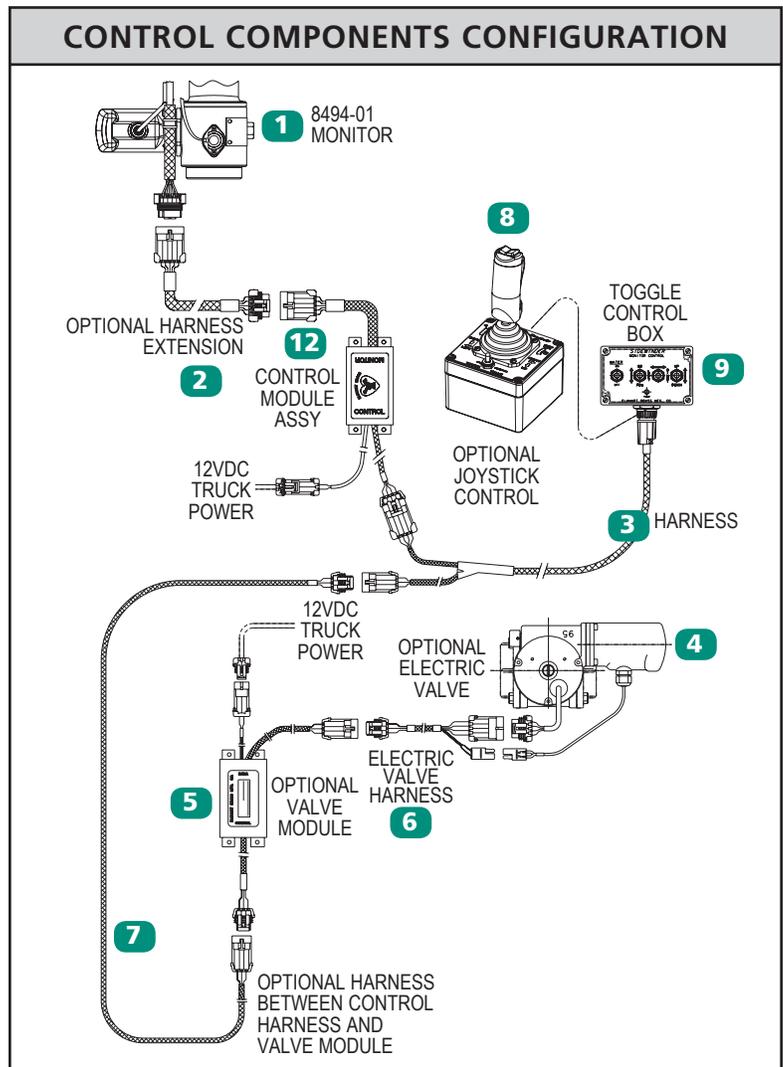
| SPECIFICATIONS             |                                      |         |
|----------------------------|--------------------------------------|---------|
| Max. GPM (LPM)             | 500 (1893)                           |         |
| Inlet                      | Size                                 | Type    |
|                            | 2"                                   | NPT (F) |
| Outlet                     | 1.5" NHT                             |         |
| Controls                   | Electric                             |         |
| Material/Finish            | Elk-O-Lite® with red urethane enamel |         |
| Friction Loss              | 26 psi at 500 gpm                    |         |
|                            | 13 psi at 350 gpm                    |         |
|                            | 3.9 psi at 200 gpm                   |         |
| Travel                     | V -45° to +90° (135°)                |         |
|                            | H 180° or 334°                       |         |
| Weight                     | 16.5 Lbs.                            |         |
| Max. Power Requirement     | 3.0 Amps at 12V DC (24V opt)         |         |
| Ratings and Certifications | CE                                   |         |

| KEY CONFIGURATIONS (ACCESSORIES)  |   |  |
|---|---|--|
| <br>TOGGLE CONTROL BOX (9) | <br>JOYSTICK CONTROL BOX (8) | <br>VALVE (4) |
| <br>QUICK CONNECT (10)     | <br>CONTROL MODULE (12)      |  |



### ADDITIONAL INFORMATION

Technical Data on monitor performance may be found on page T-11.





## SIDEWINDER® ELECTRIC

### Sidewinder® Electric Selector Guide

| INLET SIZE / TYPE | OUTLET SIZE | HORIZONTAL TRAVEL |      | HORIZONTAL SPEED |      | VERTICAL SPEED |      | CONTROL MODULE VOLTAGE |        | BASES    |                                    | CERTIFICATION | MODEL        |
|-------------------|-------------|-------------------|------|------------------|------|----------------|------|------------------------|--------|----------|------------------------------------|---------------|--------------|
|                   |             | 180°              | 334° | Fast             | Slow | Fast           | Slow | 12V DC                 | 24V DC | 2.0" NPT | 2" NPT Quick Connect (Elk-O-Lite®) |               |              |
| 2.0" NPT          | 1.5"        | 180°              | 334° | Fast             | Slow | Fast           | Slow | 12V DC                 | 24V DC | 2.0" NPT | 2" NPT Quick Connect (Elk-O-Lite®) | CE            |              |
| •                 | •           | s                 | o    | o                | s    | o              | s    | s                      | o      | s        | o                                  | •             | 8494-01      |
|                   |             |                   |      |                  |      |                |      |                        |        |          | 10                                 |               | Illustration |

KEY s = standard o = option

### Components & Options Chart

| COMPONENTS & OPTIONS               |   | ILLUSTRATION  | MODEL |            |
|------------------------------------|---|---|-------|------------|
| Electric Nozzles                   | Selectable Gallonage  | 15/30/45/60/95/125/150/200 GPM  | 14    | 6000-200E* |
|                                    | Fixed Gallonage   | 15, 30, 45 GPM (specify)  |       | 5000-04    |
|                                    |   | 60, 95, 125, 150 GPM (specify)  | 11    | 5000-14    |
|                                    |   | 175, 200, 250, 350, 400, 475 GPM (specify)  |       | 5000-24    |
|                                    | Automatic   | 20 - 120 GPM  | 13    | SM-10FE    |
| Operator Controls                  | Toggle Box  | With valve on/off control   | 9     |            |
|                                    | Joystick  | With toggle for water on/off plus integrated water valve trigger  | 8     |            |
| Monitor Control Module Assembly    | Control Module  | With 6" power harness. Specify operating voltage (12V or 24 V)  | 12    |            |
|                                    | Monitor to Control Module Harness   | 1', 5' or 30' length (specify)<br>Note: These harnesses may be combined for intermediate length - i.e., 5+5+1=11' length                          | 2     |            |
|                                    | Operator (Joystick or Toggle) box to Control Module Harness   | 12' or 50' length (specify)   | 3     |            |
| Valve Kit                          | 2" Valve  | High speed 2920E 2" valve   | 4     | 81181001   |
|                                    | Valve End Caps  | Available inlet and outlet options are the same as those offered on the 2920E series of valves, please see page 8-23 (FNPT end caps are standard) |       |            |
|                                    | Valve Control Module  | With 6" power harness. Specify operating voltage (12V or 24 V)  | 5     |            |
|                                    | Valve Control Module to Valve Harness   | 5', 10', 20', 30', or 40' length (specify)<br>Note: These harnesses may be combined for intermediate length - i.e., 5+10=15' length               | 6     |            |
|                                    | Valve Control Module to Operator (Joystick or Toggle) Harness   | Optional. 1', 3', 5', 10' or 25' length (specify)   | 7     |            |
| Dust Cover for Quick Connect Bases | Aluminum 3" x 3" push plug with stainless steel chain and safety tether. Used with either the Quick Connect (to keep contaminants out of the waterway and seal) or the harness connector (to keep contaminants out of the plug assembly). |   |       |            |

\*Only available for use with 12V monitor option

### Recommended Products

| 5000-14<br>ELECTRIC NOZZLE  | SM-10FE<br>DE-ICING NOZZLE  | 281-A<br>STREAM SHAPER   | 187CAF -<br>SMOOTH BORE  | 6000-200E*<br>ELECTRIC NOZZLE  |
|---|---|--|--|--|
| (11)<br><br>Page 6-4 | (13)<br><br>Page 6-4 | <br>Page 1-27 | <br>Page 1-26 | (14)<br><br>Page 6-9 |

# Sidewinder®

- Compact — under 9" wide and requiring just 16" of clearance; perfect for wildland, dust abatement or small apparatus use — anywhere space is at a premium
- Designed specifically for the rigors of wildland and construction use
- 2" fully-vaned waterway
- Customizable — gpm and pressure can be customized through nozzle selection
- Fast-action tiller control
- Double-ball races with stainless steel bearings



(Nozzle sold separately)

Available in your choice of two materials – Brass or Elk-O-Lite®

360° continuous horizontal rotation

Fully-vaned 2" waterway

200  
PSI

500  
GPM



## SIDEWINDER®

| SPECIFICATIONS             |   |         |
|----------------------------|---|---------|
| Max. GPM (LPM)             | 500 (1893)                                    |         |
| Inlet                      | Size  | Type    |
|                            | 2"  | NPT (F) |
| Outlet                     | 1.5" NHT                                      |         |
| Control                    | Tiller  |         |
| Materials/Finishes         | Brass or Elk-O-Lite® with red urethane enamel |         |
| Friction Loss              | 26 psi at 500 gpm                             |         |
|                            | 14 psi at 350 gpm                             |         |
|                            | 4 psi at 200 gpm                              |         |
| Travel                     | V -45° to +90° (135°)                         |         |
|                            | H 360° (continuous)                           |         |
| Weight                     | Variable<br>(see chart for specifics)         |         |
| Ratings and Certifications |   |         |

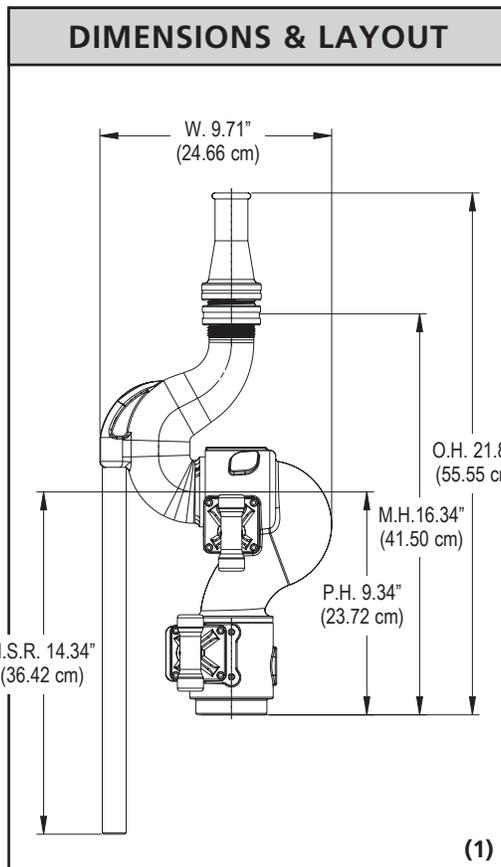
### KEY CONFIGURATIONS (ACCESSORIES)

**QUICK CONNECT (2)**

### Sidewinder® Selector Guide

| INLET SIZE/TYPE | OUTLET SIZE | MATERIALS |             | BASES  |                              |                                    | Weight (Lbs.) | MODEL        |
|-----------------|-------------|-----------|-------------|--------|------------------------------|------------------------------------|---------------|--------------|
|                 |             | Brass     | Elk-O-Lite® | 2" NPT | 2" NPT Quick Connect (Brass) | 2" NPT Quick Connect (Elk-O-Lite®) |               |              |
| 2.0" NPT        | 1.5"        |           |             |        |                              |                                    |               |              |
| •               | •           |           | •           | s      |                              | o                                  | 16            | 8492         |
| •               | •           | •         |             | s      | o                            |                                    | 48            | 8392         |
|                 |             |           |             |        | 2                            | 2                                  |               | Illustration |

KEY s = standard o = option



### Components & Options Chart

| COMPONENTS & OPTIONS               |   |
|------------------------------------|---|
| Dust Cover for Quick Connect Bases | Aluminum 3" x 3" push plug with stainless steel chain and safety tether. Used with either the Quick Connect (to keep contaminants out of the waterway and seal) or the harness connector (to keep contaminants out of the plug assembly). |

### Recommended Products

| TSM-HP – PHANTOM®   | TSM-30F – SELECT-O-MATIC®  | CHIEF XD MID-RANGE TIP  |
|---|--|---|
|  |  |  |
| Page 1-15   | Page 1-12  | Page 1-3  |
| 185-B – SMOOTH BORE   | 281-A MINI – STREAM SHAPER   |   |
|  |  |   |
| Page 1-30   | Page 1-33  |   |

### ADDITIONAL INFORMATION

Technical Data on monitor performance may be found on page T-11.

# Scorpion® Electric

- Allows for more effective use of personnel while reducing the potential risk of injury
- Efficient at high flows — 4" fully -vaned waterway
- Extremely reliable system with built-in safety features:
  - Motors and control system components sealed to NEMA 4 rating
  - 10 vertical and 39 horizontal adjustable stop positions
  - Electronic controls with manual override
- Easy installation — monitor comes with:
  - NEMA 4 rated connectors
  - NEMA 4 rated controller
- Optional one-button automatic stow with choice of stow position (up or down) and output signal type (pulse or continuous)
- Liquid-filled pressure gauge

Shown with optional pressure gauge

Fully-vaned waterway for low friction loss and optimum stream quality



(Nozzle sold separately)

Lightweight Elk-O-Lite® construction

200  
PSI

2000  
GPM





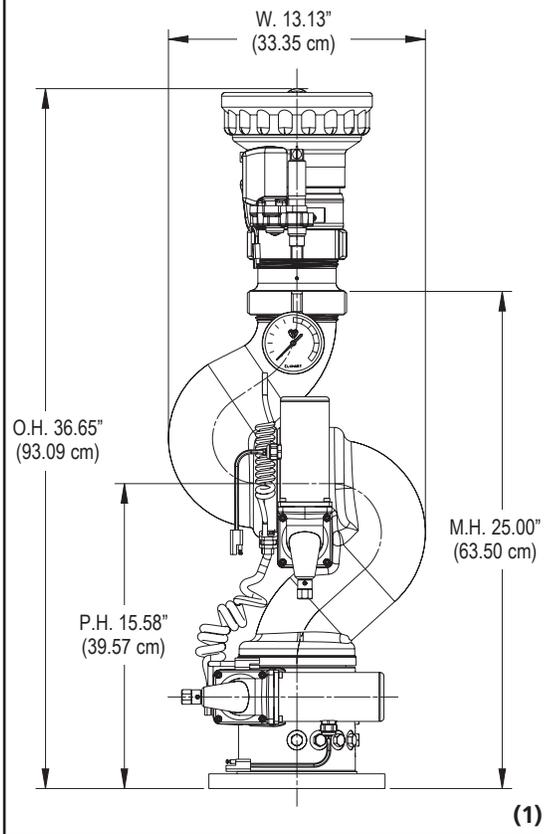
### SPECIFICATIONS

|                            |                                      |                  |
|----------------------------|--------------------------------------|------------------|
| Max. GPM (LPM)             | 2000 (7570)                          |                  |
| Inlet                      | Size                                 | Type             |
|                            | 4"                                   | 150# ANSI Flange |
| Outlet                     | 3.5" NHT                             |                  |
| Controls                   | Electric                             |                  |
| Material/Finish            | Elk-O-Lite® with red urethane enamel |                  |
| Friction Loss              | 39 psi at 2000 gpm                   |                  |
|                            | 15 psi at 1250 gpm                   |                  |
| Travel                     | V -45° to +90° (135°)                |                  |
|                            | H 347°                               |                  |
| Weight                     | Variable (see chart for specifics)   |                  |
| Ratings and Certifications | CE                                   |                  |

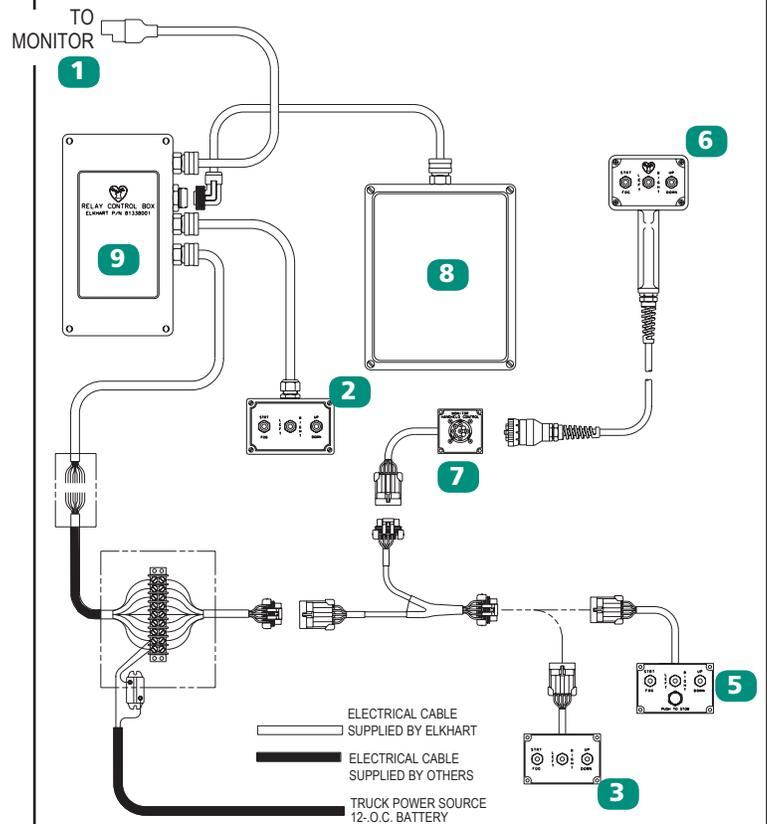
### KEY CONFIGURATIONS (ACCESSORIES)

|  |   |   |
|--|---|---|
|  |  |   |
| TOGGLE CONTROL BOX (2)   | JOYSTICK CONTROL BOX (4)  |   |
|  |  |  |
| PANEL MOUNT CONTROL (3)  | HAND HELD CONTROL (6)   | HAND HELD RECEPTACLE (7)  |

### DIMENSIONS & LAYOUT



### CONTROL COMPONENTS CONFIGURATION



### ADDITIONAL INFORMATION

• Technical Data on monitor performance may be found on page T-11.

### Scorpion® Electric Selector Guide

| INLET SIZE/ TYPE    | OUTLET SIZE | CONTROL MODULE VOLTAGE | MATERIALS   | CERTIFICATIONS | WEIGHT (Lbs.) | MODEL               |
|---------------------|-------------|------------------------|-------------|----------------|---------------|---------------------|
| 4" 150# ANSI Flange | 3.5" NHT    | 12V DC                 | Elk-O-Lite® | CE             |               |                     |
| s                   | •           | •                      | •           | •              | 43            | 8294-04             |
|                     |             |                        | 1           |                |               | <i>Illustration</i> |

KEY s = standard o = option

### Components & Options Chart

| COMPONENTS & OPTIONS   | ILLUSTRATION   | MODEL |          |
|------------------------|--|-------|----------|
| Operator Controls      | Panel Mount Controller                                   | 3     | 81339001 |
|                        | Panel Mount Controller with Stow – adds stow button      | 5     | 81421001 |
|                        | Aerial Switch Box Controller                             | 2     | 81340001 |
|                        | Joy Stick Controller – operator control                  | 4     |          |
|                        | Hand-held remote control (includes receptacle)           | 6     | 81309001 |
| Relay Control Box      | Allows the monitor to interact with the operator control | 9     | 81480001 |
| Optional Control       | Hand held control receptacle                             | 7     | 81242001 |
| 24V Converter          | 24V to 12V   |       | 81093001 |
| Auxiliary Battery Pack | Back-up to truck power (12V)                             | 8     | 81466001 |
| Companion Flange Kit   | 4" 150# ANSI steel flange with bolts and gaskets         |       | 81317001 |

### Recommended Products

| SM-2000E – X-STREAM®  | ST-195 – STACKED TIP  | 181-3 – DELUGE TIP  | 284A – STREAM SHAPER  | 84 – BUTTERFLY WAFER VALVE   |
|---|---|---|---|--|
|  |  |  |  |  |
| <i>Page 6-7</i>   | <i>Page 1-26</i>  | <i>Page 1-26</i>  | <i>Page 1-27</i>  | <i>5-51</i>  |

### Product Highlights

The Scorpion® Electric provides two user selectable settings – stow position and stow signal output.

- The programmable options for the stow position are: 1) discharge up and 2) discharge down.
- The programmable options for stow signal output are: 1) no output until sequence is complete (for use as aerial interlock) and 2) flashing on/off signal during travel with steady signal when complete (for in-cab notification).



SCORPION®

MONITORS

## Scorpion®

- Lightweight Elk-O-Lite® construction makes this monitor perfect for aerial applications
- Efficient at high flows – 4” fully vaned waterway
- Choice of manual controls
  - Dual hand-wheel style delivers:
    - Full 360° horizontal rotation while allowing the lower hand-wheel to remain stationary
    - 10 vertical and 39 horizontal adjustable stop positions
  - Tiller, in the “Big Stick®” style, allows vertical and horizontal travel to be conveniently controlled with one handle
- Low maintenance
  - Stainless steel balls in all swivel joints with grease fittings
  - Fully enclosed gearcase
  - Steel worm gears
- Liquid-filled pressure gauge

5-24

(Nozzle sold separately)



Pressure gauge

Steel worm gears

Choice of manual controls — dual hand-wheel or tiller

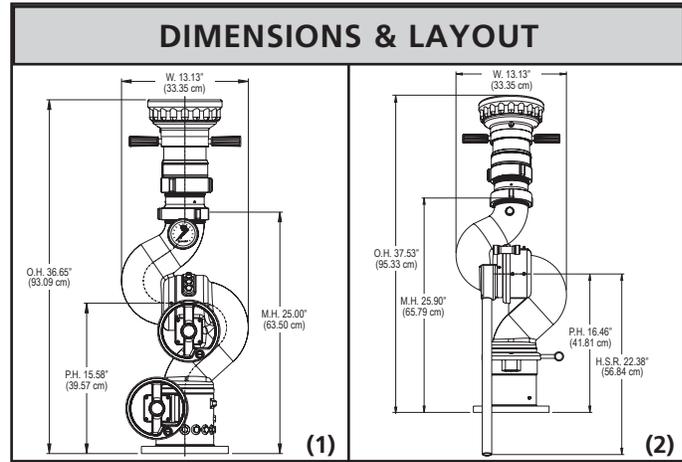
Fully vaned waterway

200  
PSI

2000  
GPM

CE

| SPECIFICATIONS             |                                      |
|----------------------------|--------------------------------------|
| Max. GPM (LPM)             | 2000 (7570)                          |
| Inlet                      | <b>Size</b>                          |
|                            | <b>Type</b>                          |
| Outlet                     | 4" 150# ANSI Flange                  |
| Controls                   | 3.5" NHT                             |
| Material/Finish            | Dual hand-wheel "Big Stick®"         |
| Friction Loss              | Elk-O-Lite® with red urethane enamel |
| Travel                     | 39 psi at 2000 gpm                   |
|                            | 15 psi at 1250 gpm                   |
| Weight                     | V -45° to +90° (135°)                |
|                            | H 360°                               |
| Ratings and Certifications | 38 Lbs.                              |
|                            | CE                                   |



### Scorpion® Selector Guide

| INLET SIZE/TYPE     | OUTLET SIZE | CONTROLS        |                     | CERTIFICATION | MODEL        |
|---------------------|-------------|-----------------|---------------------|---------------|--------------|
|                     |             | Dual Hand-wheel | Big Stick® (Tiller) |               |              |
| 4" 150# ANSI Flange | 3.5" NHT    |                 |                     | CE            |              |
| s                   | •           | •               | •                   | •             | 8294-02      |
| s                   | •           | •               | •                   | •             | 8294-131     |
|                     |             | 1               | 2                   |               | Illustration |

KEY s = standard o = option

**KEY CONFIGURATIONS (ACCESSORIES)**



(TILLER)  
"BIG STICK" (2)  
STYLE

### Components & Options Chart

| COMPONENTS & OPTIONS  | MODEL  |
|-----------------------|--|
| Companion Flange Kits | 4" 150# ANSI steel flange with bolts and gaskets<br>81317001 |

### Recommended Products

| SM-2000HF – SELF-EDUCTING   | SM-1250 – X-STREAM®   | CSW-L – SELECT-O-FLOW®  | 284-A – STREAM SHAPER   | 181-3A – DELUGE TIP  | 84 – BUTTERFLY WAFER VALVE  |
|---|---|---|---|--|---|
|  |  |  |  |  |  |
| 6-16  | Page 6-7  | 6-13  | Page 1-27   | Page 1-26  | 5-51  |

### ADDITIONAL INFORMATION

Technical Data on monitor performance may be found on page T-11.

# MONITORS



RAPID ATTACK MONITOR – R.A.M.®

## RAM XD™

- Easily deployed and operated by a single firefighter
- Patent pending hydraulic stability system harnesses reaction force to stabilize the monitor
- Four fold-out forged aluminum legs with carbide-tipped ground spikes extend to the largest footprint in its class for exceptional stability
- Rear ground spikes are angled to help carbide tips grip the surface
- Lock pin holds valve in a closed position to prevent accidental opening, allowing the R.A.M. to be carried attached to a charged line
- Patent pending design lowers friction loss and produces consistent stream quality in all ranges of motion
- Can be stored pre-connected
- Ergonomic U-shaped valve handle
- Attached safety strap includes storage pouch

MONITORS

5-26

RAM XD  
Mo. 8296  
(Nozzle sold separately)

Built-in vane for improved stream quality

Ergonomic carry handle



Rear angled carbide-tipped ground spikes

Counter balance system maintains vertical nozzle position from any angle

Carbide-tipped spring-loaded ground spikes



| SPECIFICATIONS             |                                      |
|----------------------------|--------------------------------------|
| Max. GPM (LPM)             | 500 (1893)                           |
| Inlet                      | Size                                 |
|                            | 2.5" NHT (F)                         |
| Outlet Size                | 2.5" NHT                             |
| Controls                   | Manual                               |
| Material/Finish            | Elk-O-Lite® with red urethane enamel |
| Friction Loss              | 9.5 psi at 500 gpm                   |
|                            | 5.8 psi at 400 gpm                   |
| Travel                     | V +14° to +51° (manned)              |
|                            | V +35° to +51° (unmanned)            |
|                            | H 20° in both directions (40°)       |
| Weight                     | 19.25 (Lbs.)                         |
| Ratings and Certifications | CE                                   |

### KEY CONFIGURATIONS (ACCESSORIES)



TRUCK STORAGE MOUNT (2)

### Recommended Products

| R.A.N.™  | ST-197A STACKED TIP   | 181-A DELUGE TIP  | 282-A - MINI STREAM SHAPER  | HF-500A HYDRO FOAM   | Oscillating R.A.N.™  |
|--|---|---|---|--|--|
| (3)  | (4)  | (5)  | (6)  | (7)  | (8)  |
| Page 6-5   | Page 1-26   | Page 1-26   | Page 1-27   | 6-16   |  |

### Components & Options Chart

| COMPONENTS & OPTIONS |                    |  | ILLUSTRATION | MODEL      |
|----------------------|--------------------|--|--------------|------------|
| R.A.N.™ Nozzle       | Fixed              | 500 GPM (1893 LPM)   | 3            | 3896       |
|                      | Selectable         | 250/350/500 GPM (946/1325/1893 LPM)                                  | 3            | 3895       |
|                      | Oscillating        | 500 GPM (1893 LPM)   | 8            | 3890       |
| Self-Educting Nozzle | Fixed              | 500 GPM (1893 LPM) with configurable ½, 1, or 3% foam proportioning. | 7            | HF-500A    |
| Smooth Bore Nozzle   | Triple Stack Tip   | Outlets: 1", 1 ¼", & 1 ½"  | 4            | ST-197-A   |
|                      |                    | Outlets: 1 ¼", 1 ⅛", & 1 ½"  | 4            | ST-197-A   |
|                      | Deluge Tip         | Outlet: 1 ⅛"   | 5            | 181-A      |
| Accessories          | Mini Stream Shaper | For use with R.A.M. smooth bore nozzles                              | 6            | 282-A Mini |
|                      | Mounting Bracket   | Truck storage mounting bracket for R.A.M.                            | 2            | 8296-MB    |

### ADDITIONAL INFORMATION

- Technical Data on monitor performance may be found on page T-11.
- Please inquire with our sales staff for additional thread options.

### Product Highlights



#### ACTIVE SAFETY SYSTEM

Should a firefighter stumble, slip or otherwise lose his grip on the R.A.M.®, the monitor automatically raises – increasing the down force for additional stability – to prevent the monitor from moving.



STINGER® 2.0

MONITORS

## Stinger® 2.0

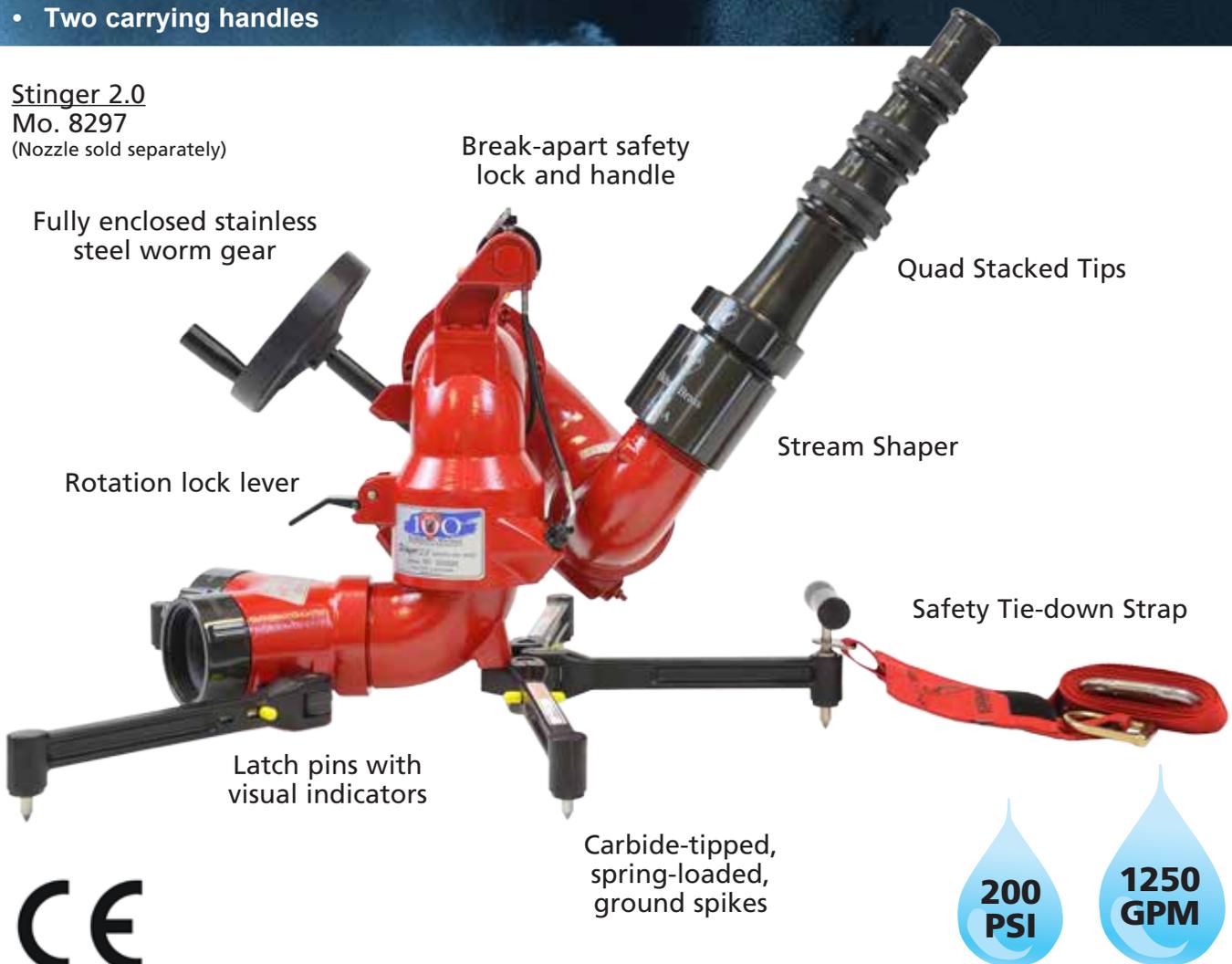
- Dual purpose break-apart monitor for use as a deck gun or portable monitor
- Numerous truck adapter and portable base options available to suit every need
- In portable mode, five forged aluminum legs with self-adjusting carbide-tipped ground spikes increase stability
- Rotation lock mechanism provides positive left-right lock with visual position indication
- By-passable safety stop at 35° above horizontal
- Safety strap for additional stability
- Lightweight for its class
- Most flow efficient in its class with a friction loss reducing 3<sup>3</sup>/<sub>8</sub>" vaned waterway
- Patented monitor to base latching mechanism is user-friendly and provides visual indication of status
- Fully enclosed stainless steel worm gear
- Liquid filled pressure gauge
- Two carrying handles

5-28

### Stinger 2.0

Mo. 8297

(Nozzle sold separately)



Break-apart safety lock and handle

Quad Stacked Tips

Fully enclosed stainless steel worm gear

Stream Shaper

Rotation lock lever

Safety Tie-down Strap

Latch pins with visual indicators

Carbide-tipped, spring-loaded, ground spikes



200  
PSI

1250  
GPM

| SPECIFICATIONS  |  |       |            |   |                             |
|-----------------|--|-------|------------|---|-----------------------------|
|                 | Portable                                     |       |            | Deck Mount                                  |                             |
| Max. GPM (LPM)  | 1250 (4732)                                  |       |            | 1250 (4732)                                 |                             |
| Inlets          | Sizes  | Types |            | Sizes                                       | Types                       |
|                 | 2 x 2.5"                                     | NHT   | (1000 GPM) | 1 x 3"                                      | NPT (1250 GPM)              |
|                 | 1 x 4.5"                                     | NHT   | (1250 GPM) | 1 x 3"                                      | 150# ANSI Flange (1250 GPM) |
|                 | 1 x 4"                                       | NHT   | (1250 GPM) | 2 x 2.5"                                    | NHT (1000 GPM)              |
|                 | 1 x 3.5"                                     | NHT   | (1250 GPM) |   |                             |
|                 | 1 x 5.0"                                     | Storz | (1250 GPM) |   |                             |
|                 | 1 x 4.0"                                     | Storz | (1250 GPM) |   |                             |
| Outlet Sizes    | 2.5" NHT                                     |       |            | 2.5" NHT                                    |                             |
| Control         | Single hand-wheel                            |       |            | Single hand-wheel                           |                             |
| Material/Finish | Elk-O-Lite® with red urethane enamel         |       |            | Elk-O-Lite® with red urethane enamel        |                             |
| Friction Loss   | 27 psi at 1250 gpm<br>16 psi at 1000 gpm     |       |            | 25 psi at 1250 gpm<br>16 psi at 1000 gpm    |                             |
| Travel          | V +35° to +75° (40°)<br>H L45° to R45° (90°) |       |            | V -15° to +75° (95°)<br>H 360° (continuous) |                             |
| Weight          | 29 Lbs. (with 2 x 2.5" inlets)               |       |            | 22 Lbs.                                     |                             |

### Stinger® 2.0 Selector Guide

| INLET SIZES / TYPES |          |          |            |            | DUAL     | OUTLET SIZE | ILLUSTRATION | MODEL        |
|---------------------|----------|----------|------------|------------|----------|-------------|--------------|--------------|
| SINGLE              |          |          |            |            |          |             |              |              |
| 3.5" NHT            | 4.0" NHT | 4.5" NHT | 4.0" STORZ | 5.0" STORZ | 2.5" NHT | 2.5"        |              |              |
| o                   | o        | o        | o          | o          | s        | •           | 1            | 8297-2.0*    |
| o                   | o        | o        | o          | o          | s        | •           | 2            | 8397-2.0     |
|                     |          |          |            | 6          | 7        |             |              | Illustration |

KEY s = standard o = option

\* For the Break-a-Part version, the upper and lower unit may be purchased separately.

8297 (1)



8397 (2)



### ADDITIONAL INFORMATION

- Technical Data on monitor performance may be found on page T-11.
- Please inquire with our sales staff for additional thread options.



## STINGER® 2.0

### KEY CONFIGURATIONS (ACCESSORIES)

|                     |                           |                    |                   |                        |                       |                   |                        |
|---------------------|---------------------------|--------------------|-------------------|------------------------|-----------------------|-------------------|------------------------|
|                     |                           |                    |                   |                        |                       |                   |                        |
| STORAGE BRACKET (3) | ANSI FLANGE TOP MOUNT (4) | LDH INLET BASE (6) | THE PIPE™ 2.0 (9) | DECK MOUNT ADAPTER (8) | PROTECTIVE COVER (10) | NPT TOP MOUNT (5) | SIAMESE INLET BASE (7) |

### Components & Options Chart

| COMPONENTS & OPTIONS            | ILLUSTRATION   | MODEL            |
|---------------------------------|--|------------------|
| Truck Mount Adapters (8297-2.0) | 1 x 3" NPT Female (without Flange)   | 5<br>8298 P 2.0  |
|                                 | 1 x 3" - 150# ANSI   | 4<br>8298 F 2.0  |
|                                 | 2 x 2.5" Deck Mount  | 8<br>8299        |
| Storage Bracket                 | Truck storage mounting bracket for portable base or complete monitor   | 3<br>8297 MB     |
| The PIPE™ (8297-2.0)            | Increases the height of a deck mounted Stinger® 2.0 by 18 inches – constructed of Elk-O-Lite® (approximately 10 Lbs.)  | 9<br>8298 EX 2.0 |
| Storage Bracket                 | Mounting bracket for storing the PIPE™ 2.0   | 8298 EX MB 2.0   |
| Caution Light                   | For use with the PIPE™ – visual confirmation that The PIPE™ is attached  | 81258001         |
| Anchor Kit                      | For portable monitors  | 81460001         |
| Companion Flange Kit            | 3" 150# ANSI steel flange with bolts and gasket  | 81315001         |
| Protective Cover                | A shaped polymer covering for deck-mounted or portable mounted bases, designed to protect the swivel bearing and/or ring gear. Attached tether for securing the cover. | 10               |

### Recommended Products

|                                  |                            |                              |                                   |
|----------------------------------|----------------------------|------------------------------|-----------------------------------|
| <b>SM-1000HF – SELF-EDUCTING</b> | <b>SM-1250 – X-STREAM®</b> | <b>282-A – STREAM SHAPER</b> | <b>ST-194 – QUAD STACKED TIPS</b> |
|                                  |                            |                              |                                   |
| 6-16                             | Page 6-7                   | Page 1-27                    | Page 1-26                         |

### Product Highlights

The Stinger® (8297 2.0) adds excellent value as the "break-apart" capability makes it two monitors in one – both a deck mount and a portable unit.

### Safety Aspects

Latch pin includes a visual position indicator which allows you to confirm, at a glance, that the pins are in the latched position.



Unlatched

Latched

# Vulcan™

- Efficient design creates the most cost effective monitor in its flow class
- Low friction loss due to 3 3/8" patented elliptical waterway with vaned interior
- Small footprint — less than 15" wide and requiring just 16" of clearance — makes it ideal for tight spaces
- Lightweight Elk-O-Lite® construction is compatible with aerial platform applications or any other use where a lightweight, highly flow-efficient monitor is needed
- Several control options are available, allowing customization for your needs:
  - Tiller control option allows for faster controls
  - Dual hand-wheel control features fully enclosed stainless steel worm gears and are available with either fixed or rotating base hand-wheel controls
- Liquid filled pressure gauge with bumper guard

Vulcan  
Mo. 8500-03  
(Nozzle sold separately)



Patented waterway

Pressure gauge with bumper guard

Choice of control type, including fixed and rotating base on the dual hand-wheel

360° continuous rotation

200  
PSI

1250  
GPM





VULCAN™

MONITORS

| SPECIFICATIONS             |                                      |                  |         |
|----------------------------|--------------------------------------|------------------|---------|
| Max. GPM (LPM)             | 1250 (4732)                          |                  |         |
| Inlets                     | Sizes                                | Types            |         |
|                            | 4"                                   | 150# ANSI Flange |         |
|                            | 3"                                   | 150# ANSI Flange | NPT (F) |
| Outlet                     | 2.5" NHT                             |                  |         |
| Controls                   | Tiller                               |                  |         |
|                            | Dual hand-wheel – rotating base      |                  |         |
|                            | Dual hand-wheel – fixed base         |                  |         |
| Material/Finish            | Elk-O-Lite® with red urethane enamel |                  |         |
| Friction Loss              | 16 psi at 1250 gpm                   |                  |         |
|                            | 12 psi at 1000 gpm                   |                  |         |
| Travel                     | V -45° to +90° (135°)                |                  |         |
|                            | H 360° (continuous)                  |                  |         |
| Weight                     | Variable (see chart for specifics)   |                  |         |
| Ratings and Certifications | CE                                   |                  |         |



HAND WHEEL (1)



TILLER BAR (2)

## Vulcan™ Selector Guide

| INLET SIZES / TYPES |                  |    | OUTLET SIZE | CONTROLS    |         |    | CERTIFICATION |            | Weight (Lbs.) | MODEL               |
|---------------------|------------------|----|-------------|-------------|---------|----|---------------|------------|---------------|---------------------|
| NPT                 | 150# ANSI Flange |    |             | Hand-wheels | Tillers | CE | CCC           |            |               |                     |
| 3"                  | 3"               | 4" | 2.5" NHT    |             |         |    |               | Fixed Base | Rotating Base | Bar                 |
| o                   | s                | o  | •           |             |         | s  | •             | •          | 18            | 8500-02             |
| o                   | s                | o  | •           |             | s       |    |               |            | 22            | 8500-03             |
| o                   | s                | o  | •           | s           |         |    |               |            | 22            | 8500-03X            |
|                     |                  |    |             | 3           | 1,4     | 2  |               |            |               | <i>Illustration</i> |

KEY s = standard o = option

## Recommended Products

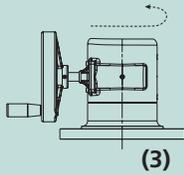
| SM-1000HF – SELF-EDUCTING   | SM-1250 – X-STREAM®   | ST-194 – QUAD STACKED TIPS  | 282-A – STREAM SHAPER  | 84 – BUTTERFLY WAFER VALVE  |
|---|---|---|--|---|
|  |  |  |  |  |
| 6-16  | Page 6-7  | Page 1-26   | Page 1-27  | 5-51  |

## Components & Options

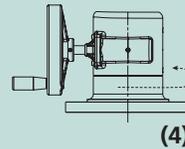
| COMPONENTS & OPTIONS  | ILLUSTRATION                                     | MODEL    |
|-----------------------|--|----------|
| Companion Flange Kits | 3" 150# ANSI steel flange with bolts and gaskets | 81315001 |
|                       | 4" 150# ANSI steel flange with bolts and gaskets | 81317001 |

## Product Highlights

The Vulcan™ offers a several control options including the dual hand-wheel which features a choice of two base configurations – fixed base or a rotating base.



- The fixed base dual hand-wheel control allows the operator to remain in a stationary position while manipulating the horizontal movement of the monitor. The fixed nature of the horizontal control can be especially beneficial when operating space is limited.



- When using the rotating base dual hand-wheel control, the operator moves in tandem with the monitor while managing the monitor's horizontal travel. The rotating base allows the operator to maintain visual contact with the monitor's water direction.

### ADDITIONAL INFORMATION

- Weights are approximate and will vary by selected inlet.
- Technical Data on monitor performance may be found on page T-11.



SPIT-FIRE

MONITORS

## Spit-Fire

- Efficient at high flows – 4” fully vaned waterway
- Choice of manual controls
  - Dual hand-wheel style delivers:
    - Full 360° horizontal rotation while allowing the lower hand-wheel to remain stationary
    - 10 vertical and 7 horizontal adjustable stop positions
  - Tiller, in the “Big Stick®” style, allows vertical and horizontal travel to be conveniently controlled with one handle
- Corrosion resistant brass construction
- Low maintenance
  - Fully enclosed gearcase
  - Steel worm gears
  - #316 stainless steel balls in all swivel joints with grease fittings
- Liquid-filled pressure gauge

5-34

Spit-Fire  
Mo. 8394-021  
(Nozzle sold separately)

Designed for  
industrial use

Fully cast-in  
vaned waterway

Choice of manual  
controls — dual  
hand-wheel or tiller

Steel worm  
gears

200  
PSI

2000  
GPM



| SPECIFICATIONS             |                                |                  |     |
|----------------------------|--------------------------------|------------------|-----|
| Max. GPM (LPM)             | 2000 (7570)                    |                  |     |
| Inlets                     | Size                           | Types            |     |
|                            | 4"                             | 150# ANSI Flange | NPT |
| Outlet Size                | 3.5" NHT                       |                  |     |
| Controls                   | Dual hand-wheel                |                  |     |
|                            | "Big Stick" Tiller             |                  |     |
| Material/Finish            | Brass with red urethane enamel |                  |     |
| Friction Loss              | 39 psi at 2000 gpm             |                  |     |
|                            | 15 psi at 1250 gpm             |                  |     |
| Travel                     | V -45° to +90° (135°)          |                  |     |
|                            | H 360°                         |                  |     |
| Weight                     | 126 Lbs.                       |                  |     |
| Ratings and Certifications | CE                             |                  |     |



HAND WHEEL (1)



TILLER (BIG STICK®) (2)



8394-04 (3)

### Spit-Fire Selector Guide

| INLET SIZES/TYPES |                     | OUTLET SIZE | CONTROLS        |                     |                        | CERTIFICATION | MODEL        |
|-------------------|---------------------|-------------|-----------------|---------------------|------------------------|---------------|--------------|
| 4" NPT            | 4" 150# ANSI Flange | 3.5" NHT    | Dual Hand-wheel | Tiller (Big Stick®) | Electric Operation 12V | CE            |              |
| o                 | s                   | •           | •               |                     |                        | •             | 8394-021     |
| o                 | s                   | •           |                 | •                   |                        | •             | 8394-121     |
|                   | s                   | •           |                 |                     | •                      |               | 8394-04      |
|                   |                     |             | 1               | 2                   | 3                      |               | Illustration |

KEY s = standard o = option

### Recommended Products (8394-021 & 8394-121)

| SM-2000HF - SELF-EDUCTING   | SM-2000B - SELECT-O-MATIC®  | CSW-LB - SELECT-O-FLOW®   | SM-2000BE - X-STREAM®   |
|---|---|---|---|
|  |  |  |  |
| Page 6-16   | Page 6-7  | Page 6-13   | Page 6-7  |
| 181-3 - DELUGE TIP  | 84 - BUTTERFLY WAFER VALVE  | 284-B STREAM SHAPER   | WPO-2000  |
|  |  |  |  |
| Page 1-26   | Page 5-51   | Page 1-27   | Page 5-53   |

| RECOMMENDED PRODUCTS (8394-04)  |   |   |
|---|---|---|
|  |  |   |
| TOGGLE CONTROL BOX  | JOYSTICK CONTROL BOX  |   |
|   |  |  |
| PANEL MOUNT CONTROL   | HAND HELD CONTROL   | HAND HELD RECEPTACLE  |



## SPIT-FIRE

### Components & Options Chart

| COMPONENTS & OPTIONS  | ILLUSTRATION                                     | MODEL    |
|-----------------------|--|----------|
| Companion Flange Kits | 4" 150# ANSI steel flange with bolts and gaskets | 81317001 |

### Product Highlights

- All construction features designed to minimize maintenance needs for increased industrial reliability:*
- *Corrosion resistant brass construction (85-5-5-5 "Marine Brass" available on select products)*
  - *Fully enclosed gearcase*
  - *Cast brass swivel joints*
  - *#316 stainless steel balls in all swivel joints*
  - *Grease zerks for easy lubrication*

### ADDITIONAL INFORMATION

- *Technical Data on monitor performance may be found on page T-11.*
- *Marine Brass (85-5-5-5) construction is available. Please inquire with our sales staff.*

# Stingray®

- Flow efficient 3" waterway allows for flows up to 1250 gpm
- All construction features designed to minimize maintenance needs
  - Choice of corrosion resistant brass or lightweight Elk-O-Lite® construction
  - Fully enclosed gearcase with stainless steel worm
  - Bronze balls in all swivel joints
  - Grease zerks for easy lubrication
- Flexible installation options include numerous base options and a hydrant mounting choice
- Compact size — 16" high or 21" high — is extremely versatile, allowing the monitor to serve a variety of real-world needs
- Built-in shut-off capabilities (with the Stingray® IV) from a full flow 3" ball valve



Vaned elbow

Horizontal twist lock

Stingray  
Mo. 8393IV  
(Nozzle sold separately)

200  
PSI

1250  
GPM





STINGRAY®

MONITORS

| SPECIFICATIONS             |   |                  |         |
|----------------------------|---|------------------|---------|
| Max. GPM (LPM)             | 1250 (4732)                                   |                  |         |
| Inlets                     | Sizes   |                  | Types   |
|                            | 4"  | 150# ANSI Flange |         |
|                            | 3"  | 150# ANSI Flange | NPT (F) |
| Outlet Size                | 2.5" NHT                                      |                  |         |
| Control                    | Single hand-wheel                             |                  |         |
| Material/Finish            | Brass or Elk-O-Lite® with red urethane enamel |                  |         |
| Friction Loss              | 27 psi at 1250 gpm                            |                  |         |
|                            | 17 psi at 1000 gpm                            |                  |         |
|                            | 9 psi at 750 gpm                              |                  |         |
| Travel                     | V -60° to +90° (150°)                         |                  |         |
|                            | H 360° (continuous)                           |                  |         |
| Weight                     | Varies (See specification chart)              |                  |         |
| Ratings and Certifications | CE and FM Approved                            |                  |         |

| KEY CONFIGURATIONS (ACCESSORIES)  |   |   |
|---|---|---|
| <br>STINGRAY® (2) | <br>PRESSURE GAUGE (3) | <br>BALL VALVE (4) |

NOTE: Ball valve cannot be ordered separate from monitor as a stand alone part.

## Stingray® Selector Guide

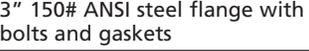
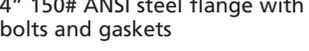
| INLET SIZES / TYPES |                   |    | OUTLET SIZE | VERTICAL TRAVEL |              | INTEGRAL COMPONENTS |                | MATERIALS |             | CERTIFICATIONS |             | DIMENSIONS  |             |              |               | ILLUSTRATION | MODEL        |
|---------------------|-------------------|----|-------------|-----------------|--------------|---------------------|----------------|-----------|-------------|----------------|-------------|-------------|-------------|--------------|---------------|--------------|--------------|
| NPT                 | 150 # ANSI Flange |    | 2.5"        | -60° to +70°    | -60° to +90° | Ball Valve          | Pressure Gauge | Brass     | Elk-O-Lite® | CE             | FM Approved | Width (In.) | Depth (In.) | Height (In.) | Weight (Lbs.) |              |              |
| 3"                  | 3"                | 4" | NHT         | (130°)          | (150°)       | 3"                  |                |           |             |                |             |             |             |              |               |              |              |
| o                   | o                 | s  | •           | o               | s            | s                   |                | •         |             | •              | •           | 14.75       | 15.75       | 20.375       | 68.25         | 1            | 8393IV       |
| o                   | o                 | s  | •           | s               | o            |                     | o              | •         |             | •              | •           | 14.75       | 15.75       | 15.75        | 47.5          | 2            | 8393         |
| o                   | o                 | s  | •           | s               | o            |                     | o              |           | •           | •              | •           | 14.75       | 15.75       | 15.75        | 16.0          | 2            | 8393-A       |
|                     |                   |    |             |                 |              | 4                   | 3              |           |             |                |             |             |             |              |               |              | Illustration |

KEY s = standard o = option

## Recommended Products

| SM-1000HF – SELF-EDUCTING   | IMS-500 SELECT-O-STREAM®  | J-MYSTERY®  | 282B STREAM SHAPER  | 181-SMOOTH BORE  | SM-1250B X-STREAM®  | WPO-2000  |
|---|---|---|---|--|---|---|
|  |  |  |  |  |  |  |
| Page 6-16   | Page 6-12   | Page 6-14   | Page 1-27   | Page 1-26  | Page 6-7  | Page 5-53   |

## Components & Options Chart

| COMPONENTS & OPTIONS  | ILLUSTRATION  | MODEL    |
|-----------------------|---|----------|
| Companion Flange Kits |  | 81315001 |
|                       |  | 81317001 |

## Product Highlights

Our Stingray® IV features a 3" integral quarter-turn full flow ball valve. The integrated valve eliminates the need for a separate valve; it is both easier to install and more reliable than a separate wafer valve. The benefits of the integrated valve include:

- 1) better total monitor efficiency as the friction loss between the traditional separate monitor and valve is reduced
- 2) a turn-key package created by integrating the valve into the monitor

Highlights of the Stingray® IV valve include:

- Hydraulically balanced acetal ball
- Teflon impregnated seats
- Full flow ball valve

## ADDITIONAL INFORMATION

- All flanges specified with the monitor are flat. Raised flanges are available with some inlet sizes. Please inquire with our sales staff.
- Marine Brass (85-5-5-5) construction is available on some models. Please inquire with our sales staff.
- Technical Data on monitor performance may be found on page T-11.
- The Stingray® is also available in a portable cart version. Please see page 5-56 for details.
- The Stingray® is also available in a hydrant mount version. Please see page 5-50 for details.



COPPERHEAD

MONITORS

## Copperhead

- Rugged, corrosion resistant brass construction is ideal for use in refineries, chemical plants, off shore installations and for shipboard use
- Specific industrial reliability/maintenance-free features of the Copperhead IV include:
  - Sealed grease bearings with a built-in, one way, pressure release
  - Enclosed, stainless steel locking mechanism
  - Environmentally-sealed valve actuator
- Efficient design creates the most cost effective brass monitor in its flow class
- Low friction loss due to 3 $\frac{3}{8}$ " patented vaned elliptical waterway
- Small footprint — less than 15" wide and requires just 16" of clearance — makes it ideal for tight spaces

5-40

Copperhead  
Mo. 8593IV  
(Nozzle sold separately)

Utilizes Unibody Valve technology with a stainless steel, quarter-turn, full-flow ball

Full 360° rotation



All surfaces sealed against moisture, sand, and particle penetration

Single bolt change-out rotates valve handle position in 45° increments

200  
PSI

1250  
GPM

FM

APPROVED

CE

| SPECIFICATIONS              |                                    |                  |         |
|-----------------------------|------------------------------------|------------------|---------|
| Max. GPM (LPM)              | 1250 (4732)                        |                  |         |
|                             | Sizes                              | Types            |         |
| Inlets                      | 4"                                 | 150# ANSI Flange |         |
|                             | 3"                                 | 150# ANSI Flange | NPT (F) |
| Outlet                      | 2.5" NHT                           |                  |         |
| Controls                    | Tiller                             |                  |         |
|                             | Dual hand-wheel – rotating base    |                  |         |
|                             | Dual hand-wheel – fixed base       |                  |         |
| Material/Finish             | Brass with red urethane enamel     |                  |         |
| Friction Loss Copperhead    | 16 psi at 1250 gpm                 |                  |         |
|                             | 12 psi at 1000 gpm                 |                  |         |
| Friction Loss Copperhead IV | 21 psi at 1250 gpm                 |                  |         |
|                             | 16 psi at 1000 gpm                 |                  |         |
| Travel                      | V -45° to +90° (135°)              |                  |         |
|                             | V -49° to +86° (135°)              |                  |         |
|                             | H 360° (continuous)                |                  |         |
| Weight                      | Variable (see chart for specifics) |                  |         |
| Ratings and Certifications  | CE, FM Approved                    |                  |         |



INTEGRATED VALVE (1)



TILLER BAR (3)



HAND WHEEL (4)

### Copperhead Selector Guide

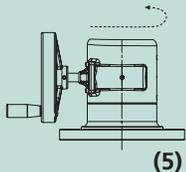
| INLET SIZES / TYPES |                  |    | OUTLET SIZE | CONTROLS                |                            |                             |                                | VERTICAL TRAVEL       |                       | INTEGRAL COMPONENTS |            | CERTIFICATION  |    | MODEL  |                            |
|---------------------|------------------|----|-------------|-------------------------|----------------------------|-----------------------------|--------------------------------|-----------------------|-----------------------|---------------------|------------|----------------|----|--------|----------------------------|
| NPT                 | 150# ANSI Flange |    |             | Fixed Base<br>(68 Lbs.) | Rotating Base<br>(68 Lbs.) | Copperhead Bar<br>(58 Lbs.) | Copperhead IV Bar<br>(87 Lbs.) | -45 to +90°<br>(135°) | -49 to +86°<br>(135°) | 3" Ball Valve       |            | Pressure Gauge | CE |        | FM Approved                |
| 3"                  | 3"               | 4" | Hand-wheel  |                         |                            |                             |                                |                       |                       | Tiller              | Hand-wheel |                |    | Tiller |                            |
| o                   | s*               | o* | •           |                         |                            | s                           | •                              |                       |                       |                     | o          | •              | •  | 3      | 8593-02                    |
| o                   | s                | o  | •           |                         | s                          |                             | •                              |                       |                       |                     | o          | •              | •  | 4,6    | 8593-03/<br>294-11rev.06   |
| o                   | s                | o  | •           | s                       |                            |                             | •                              |                       |                       |                     | o          | •              | •  | 4,5    | 8593-03X/<br>294-11rev.06x |
|                     |                  | s  | •           |                         |                            | s                           |                                | •                     |                       | o                   | s          | o              | •  | 1,2    | 8593IV                     |
|                     |                  |    |             | 4,5                     | 4,6                        | 3                           |                                |                       |                       | 2                   | 1          |                |    |        | Illustration               |

KEY s = standard o = option

\*NOTE: 8593-02 with 3" & 4" 150# ANSI Flange are made from 85 Brass.

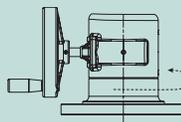
### PRODUCT HIGHLIGHTS

In addition to offering the only brass dual hand-wheel monitor of this size on the market, Elkhart's Copperhead monitor boasts a choice of base configurations:



(5)

- The fixed base dual hand-wheel control allows the operator to remain in a stationary position while manipulating the horizontal movement of the monitor. The fixed nature of the horizontal control can be especially beneficial when operating space is limited.



(6)

- When using the rotating base dual hand-wheel control, the operator moves in tandem with the monitor while managing the monitor's horizontal travel. The rotating base allows the operator to maintain visual contact with the monitor's stream direction.

In most industrial settings where the traditional- 294-11 is currently used, the Copperhead would be an appropriate replacement. The Copperhead offers a choice of control styles as well as higher flow capacity.



## COPPERHEAD

### Recommended Products

|   |  |   |  |   |
|---|--|---|--|---|
| <b>SM-1000HF – SELF-EDUCTING</b><br><br><i>Page 6-16</i> | <b>SM-1250B – X-STREAM®</b><br><br><i>Page 6-7</i>        | <b>CSW-LB – SELECT-O-FLOW®</b><br><br><i>Page 6-13</i> | <b>181 – DELUGE TIP</b><br><br><i>Page 1-26</i>       | <b>WPO-2000</b><br><br><i>Page 5-53</i> |
| <b>282B – STREAM SHAPER</b><br><br><i>Page 1-27</i>      | <b>84 – BUTTERFLY WAFER VALVE</b><br><br><i>Page 5-51</i> | <b>CJB – SELECT-O-STREAM®</b><br><br><i>Page 6-12</i>  | <b>IMS – SELECT-O-STREAM®</b><br><br><i>Page 6-12</i> |   |

### Components & Options Chart

| COMPONENTS & OPTIONS  |  | ILLUSTRATION | MODEL    |
|-----------------------|--|--------------|----------|
| Companion Flange Kits | 3" 150# ANSI steel flange with bolts and gaskets |              | 81315001 |
|                       | 4" 150# ANSI steel flange with bolts and gaskets |              | 81317001 |

### ADDITIONAL INFORMATION

- *Weights are approximate and will vary by selected inlet.*
- *Marine Brass (85-5-5-5) construction is available on the Copperhead. Please inquire with our sales staff.*
- *Technical Data on monitor performance may be found on page T-11.*
- *LA style handles available on the Copperhead.*

# Python®

- Seamless brass 2.5" waterway for flows up to 1250 gpm
- Flexible installation options
  - Extensive base options
  - Two choices in manual controls — tiller or steering wheel
  - Hydrant mounting option
- All construction features designed to minimize maintenance needs
  - Corrosion resistant brass construction
  - Cast brass swivel joints
  - Bronze balls in all swivel joints
  - Stainless steel handles
  - Grease zerks for easy lubrication
- Positive twist locks for both vertical and horizontal movement



Python  
 Mo. 299-11  
 (Nozzle sold separately)



Tiller control  
 allows fast action  
 changes

Seamless tube



# MONITORS



PYTHON®

MONITORS

| SPECIFICATIONS             |   |                  |                  |         |
|----------------------------|---|------------------|------------------|---------|
| Max. GPM (LPM)             | 1250 (4732)                                     |                  |                  |         |
| Inlets                     | Sizes   |                  | Types            |         |
|                            | 6"  | 150# ANSI Flange |                  |         |
|                            | 4"  | 150# ANSI Flange | 300# ANSI Flange | NPT (F) |
|                            | 3"  | 150# ANSI Flange | 300# ANSI Flange | NPT (F) |
|                            | 2.5"  | 150# ANSI Flange | 300# ANSI Flange | NPT (F) |
| Outlet Size                | 2.5" NHT  |                  |                  |         |
| Controls                   | Steering wheel                                  |                  |                  |         |
|                            | Tiller  |                  |                  |         |
| Material/Finish            | Brass with red urethane enamel or chrome-plated |                  |                  |         |
| Friction Loss              | 24 psi at 1250 gpm                              |                  |                  |         |
|                            | 18 psi at 1000 gpm                              |                  |                  |         |
|                            | 11 psi at 750 gpm                               |                  |                  |         |
| Travel                     | V -45° to +90° (135°)                           |                  |                  |         |
|                            | H 360° (continuous)                             |                  |                  |         |
| Weight                     | 45.00 Lbs. (See specification chart)            |                  |                  |         |
| Ratings and Certifications | FM Approved, CE                                 |                  |                  |         |

| KEY CONFIGURATIONS (ACCESSORIES)  |
|---|
|  <p><b>STEERING WHEEL HANDLE (2)</b></p> |
|  <p><b>PRESSURE GAUGE (3)</b></p>        |

## Python® Selector Guide

| INLETS                 |   |   |                  |   |   |   |                  |   |   | OUTLET SIZE       | MAX. GPM (LPM) |            | Pressure Gauge | CONTROLS       |            | CERT. | DIMENSIONS  |             |             |              | FINISHES      |              | MODEL |                     |
|------------------------|---|---|------------------|---|---|---|------------------|---|---|-------------------|----------------|------------|----------------|----------------|------------|-------|-------------|-------------|-------------|--------------|---------------|--------------|-------|---------------------|
| SIZES / TYPES (INCHES) |   |   |                  |   |   |   |                  |   |   | SIZE / TYPE (IN.) | 1250 (4732)    | 750 (2839) |                | Steering Wheel | Tiller Bar | CE    | FM Approved | Width (in.) | Depth (in.) | Height (in.) | Weight (Lbs.) | Red Urethane |       | Chrome-plated       |
| NPT                    |   |   | 150# ANSI FLANGE |   |   |   | 300# ANSI FLANGE |   |   | NHT               |                |            |                |                |            |       |             |             |             |              |               |              |       |                     |
| 2.5                    | 3 | 4 | 2.5              | 3 | 4 | 6 | 2.5              | 3 | 4 | 2.5               |                |            | 0              | 0              | s          | •     | •           | 18.0        | 31.5        | 17.5         | 45.0          | •            |       | 299-11              |
| o                      | o | o | o                | o | s | o | o                | o | o | •                 | •              |            | 3              | 2              | 1          |       |             |             |             |              |               |              |       | <i>Illustration</i> |

KEY s = standard o = option \* Swivel

## Recommended Products

| SM-1250B – X-STREAM®  | CJN-B – SELECT-O-STREAM®  | SM-1000HF – SELF-EDUCTING   | 282B – STREAM SHAPER  | 181 – DELUGE TIP  | 84 - BUTTERFLY WATER VALVE  |
|---|---|---|---|---|---|
|  |  |  |  |  |  |
| Page 6-7  | Page 6-12   | Page 6-16   | Page 1-27   | Page 1-26   | Page 5-51   |

## Components & Options Chart

| COMPONENTS & OPTIONS  | MODEL  |          |
|-----------------------|--|----------|
| Companion Flange Kits | 3" 150# ANSI steel flange includes bolts and gaskets | 81315001 |
|                       | 4" 150# ANSI steel flange includes bolts and gaskets | 81317001 |
| Drain Valve           | Automatic ball drip drain valve                      | 702      |

### ADDITIONAL INFORMATION

- All flanges specified with the monitor are flat faced. Raised face flanges are available with some inlet sizes. Please inquire with our sales staff.
- Technical Data on monitor performance may be found on page T-11.
- The Python® is also available in a hydrant mount version. Please see page 5-50 for details.

# Giant Python®

- 2500 gpm flow capacity — 3.5" waterway with seamless tube construction
- Double hand-wheel control for ease of operation and positive lock in any position
- All construction features designed to minimize maintenance needs
  - #304 stainless steel construction
  - Cast stainless swivel joints
  - Stainless steel balls in all swivel joints
  - Hand-wheel driven worm gears
- Liquid-filled pressure gauge



Hand-wheel rotates with monitor for continuous 360° horizontal travel

Red urethane finish

3.5" flow-efficient waterway

200  
PSI

2500  
GPM

FM

APPROVED

CE

Giant Python  
Mo. 299-20  
(Nozzle sold separately)



## GIANT PYTHON®

### Giant Python® Selector Guide

| INLET SIZES / TYPES |    |                  |    |    |                  |    |    | OUTLET SIZE | CERTIFICATIONS |             | MODEL               |
|---------------------|----|------------------|----|----|------------------|----|----|-------------|----------------|-------------|---------------------|
| NPT                 |    | 150# ANSI Flange |    |    | 300# ANSI Flange |    |    | 3.5"        | CE             | FM Approved |                     |
| 3"                  | 4" | 3"               | 4" | 6" | 3"               | 4" | 6" |             |                |             |                     |
| o                   | o  | o                | s  | o  | o                | o  | o  | •           | •              | •           | 299-20              |
|                     |    |                  | 1  |    |                  |    |    |             |                |             | <i>Illustration</i> |

KEY s = standard o = option

### Recommended Products

| CJK – MYSTERY®  | SM-2000B – X-STREAM®  | SM-2000HF – SELF-EDUCTING   | 181-3 – DELUGE TIP  | 284B – STREAM SHAPER   | 84 – BUTTERFLY WAFER VALVE  |
|---|---|---|---|--|---|
|  |  |  |  |  |  |
| <i>Page 6-14</i>  | <i>Page 6-7</i>   | <i>Page 6-16</i>  | <i>Page 1-26</i>  | <i>Page 1-27</i>   | <i>Page 5-51</i>  |

5-46

### Components & Options Chart

| COMPONENTS & OPTIONS  | ILLUSTRATION                                     | MODEL    |
|-----------------------|--|----------|
| Companion Flange Kits | 3" 150# ANSI steel flange with bolts and gaskets | 81315001 |
|                       | 4" 150# ANSI steel flange with bolts and gaskets | 81317001 |

| SPECIFICATIONS             |   |                  |                  |         |
|----------------------------|---|------------------|------------------|---------|
| Max. GPM (LPM)             | 2500 (9463)   |                  |                  |         |
| Inlets                     | Sizes   |                  | Types            |         |
|                            | 6"  | 150# ANSI Flange | 300# ANSI Flange |         |
|                            | 4"  | 150# ANSI Flange | 300# ANSI Flange | NPT (F) |
|                            | 3"  | 150# ANSI Flange | 300# ANSI Flange | NPT (F) |
| Outlet Size                | 3.5" NHT  |                  |                  |         |
| Controls                   | Dual hand-wheel   |                  |                  |         |
| Material/Finish            | Stainless steel with red urethane enamel and brass trim |                  |                  |         |
| Friction Loss              | 18 psi at 2500 gpm                                      |                  |                  |         |
|                            | 6 psi at 1250 gpm                                       |                  |                  |         |
| Travel                     | V -60° to +90° (150°)                                   |                  |                  |         |
|                            | H 360° (continuous)                                     |                  |                  |         |
| Weight                     | 126.00 Lbs.   |                  |                  |         |
| Ratings and Certifications | FM Approved, CE   |                  |                  |         |

### ADDITIONAL INFORMATION

- All flanges specified with the monitor are flat faced. Raised face flanges are available with some inlet sizes. Please inquire with our sales staff.
- Technical Data on monitor performance may be found on page T-11.

# Hydrant Mount

- Several available size and flow options
- All construction features designed to minimize maintenance needs
  - Corrosion resistant brass construction
  - Bronze balls in all swivel joints
  - Grease zerks for easy lubrication
- Two choices in manual controls — tiller or hand-wheel



Hydrant Mount  
Mo. 8393H  
(Nozzle sold separately)





## HYDRANT MOUNT

| SPECIFICATIONS             |                                |                                |
|----------------------------|--------------------------------|--------------------------------|
|                            | 8393H                          | 299-11H                        |
| Max. GPM (LPM)             | 1250 (4732)                    | 750 (2839)                     |
| Inlets                     | 2.5" NHT (F)                   | 2.5" NHT (F)                   |
| Outlet Size                | 2.5" NHT                       | 2.5" NHT                       |
| Controls                   | Single hand-wheel              |                                |
|                            |                                | Tiller                         |
| Material/Finish            | Brass with red urethane enamel | Brass with red urethane enamel |
|                            | 27 psi at 1250 gpm             | 11 psi at 750 gpm              |
| Friction Loss              | 17 psi at 1000 gpm             |                                |
|                            | 9 psi at 750 gpm               |                                |
|                            |                                |                                |
| Travel                     | V -60° to +70° (130°)          | V -60° to +70° (130°)          |
|                            | H 360° (continuous)            | H 360° (continuous)            |
| Weight Varies              | 85 lbs.                        | 61 lbs                         |
| Ratings and Certifications | CE and FM Approved             | CE and FM Approved             |

### ADDITIONAL INFORMATION

- For 8393H, the hydrant connection fits up to a 10.875" hydrant barrel and includes U-bolts, with nuts, in 10" and 8" sizes
- On all other hydrant mount monitors, the hydrant swivel connection attached to 2.5" hydrant nipple (includes elbow assembly and support rods)

### Hydrant Mount Selector Guide

| INLET    | OUTLET   | MAX. GPM (LPM) |            | VERTICAL TRAVEL    | CONTROLS   |            |        |        | CONNECTION TYPE | PRESSURE GAUGE | CERTIFICATIONS |             | DIMENSIONS  |              |              | ILLUSTRATION | MODEL |
|----------|----------|----------------|------------|--------------------|------------|------------|--------|--------|-----------------|----------------|----------------|-------------|-------------|--------------|--------------|--------------|-------|
|          |          | 1250 (4732)    | 750 (2839) |                    | Hand wheel | Tiller Bar | Nipple | Swivel |                 |                | CE             | FM Approved | Width (In.) | Height (In.) | Weight (Lb.) |              |       |
| NHT 2.5" | NHT 2.5" | 1250 (4732)    | 750 (2839) | -60° to +70° (130) | Hand wheel | Tiller Bar | Nipple | Swivel | Pressure Gauge  | CE             | FM Approved    | 14.75       | 37.5        | 85.0         | 2            | 8393H        |       |
| S        | •        | •              | •          | S                  | •          | •          | •      | •      | 0               | •              | •              | 17.75       | 25.5        | 61           | 3            | 299-11H      |       |
|          |          |                |            |                    |            |            |        |        | 3               |                |                |             |             |              |              | Illustration |       |

### Recommended Products

| HF-500 – HYDRO-FOAM   | CJN-B – SELECT-O-STREAM®  | J – MYSTERY®  | 181 – DELUGE TIP  | 282B – STREAM SHAPER   |
|---|---|---|---|--|
|  |  |  |  |  |
| Page 6-16   | Page 6-12   | Page 6-14   | Page 1-26   | Page 1-27  |

### KEY CONFIGURATIONS (ACCESSORIES)

|   |   |   |
|---|---|---|
|  |  |  |
| STINGRAY® (2)   | PYTHON (3)  | PRESSURE GAUGE (3)  |

# Manual Elevated

- Free standing or riser mounted
- Designed to have the horizontal and vertical movement controlled at ground level
- Control options:
  - Lever/tiller
  - Gear Driven



Manual Elevated  
Mo. 8394-02RC  
(Nozzle sold separately)

200  
PSI

1000  
GPM



## MANUAL ELEVATED

| SPECIFICATIONS                     |  |                  |                                |                  |
|------------------------------------|--|------------------|--------------------------------|------------------|
|                                    | 299-11EL*                                |                  | 8394-02RC                      |                  |
| Max. GPM (LPM)                     | 750                                      |                  | 1000                           |                  |
| Inlet                              | Sizes / Types                            |                  | Size / Type                    |                  |
|                                    | 6"                                       | 150# ANSI Flange |                                |                  |
|                                    | 4"                                       | 150# ANSI Flange | 4"                             | 150# ANSI Flange |
| Outlet                             | 2.5" NHT                                 |                  | 3.5" NHT                       |                  |
| Controls                           | Tiller with locks                        |                  | Dual hand-wheel                |                  |
| Material/Finish                    | Brass and steel with red urethane enamel |                  | Brass with red urethane enamel |                  |
| Friction Loss (excludes head loss) | 13 psi at 750 gpm                        |                  | 10 psi at 1000 gpm             |                  |
|                                    | 8 psi at 500 gpm                         |                  | 6 psi at 750 gpm               |                  |
| Travel                             | V -37° to +45° (78°)                     |                  | V -45° to +90° (135°)          |                  |
|                                    | H 360° (continuous)                      |                  | H 360° (continuous)            |                  |
| Elevation Height                   | Min. 10'                                 |                  | Min. 0'                        |                  |
|                                    | Max. 40'                                 |                  | Max. 34'                       |                  |
| Weight                             | 300 Lbs.                                 |                  | 140 Lbs.                       |                  |

\*All data supplied for 299-11EL assumes 10' riser pipe. Other lengths will change the data.

### 299-11EL



(1)

- Completely free standing
- Tiller handle operation for quick, easy stream directing
- Tubular steel horizontal drive sleeve for continuous 360° rotation
- Horizontal and vertical travel locks
- Available in standard heights from 10' to 40'

### 8394-02RC



(2)

- Base and upper that can be fabricated to any height (up to 34') with customer supplied intermediate pipe
- Lower base unit features chrome-plated brass worm gear and drive shaft
- Upper monitor unit features hardened steel worm gear, fully enclosed gear housing and stainless steel worm shaft
- Free standing to
  - 10' at 1000 gpm
  - 15' at 750 gpm
  - 20' at 500 gpm
- Up to 34' and/or higher flow requires use of support bearing
- 9" chrome hand-wheels
- Grease zerks furnished at swivel joints for easy lubrication
- Intermediate pipe attaches to upper monitor and base sections via NPT threads
- Intermediate pipe (4" schedule 40) and vertical drive rod (5/8") not included

### Elevated Monitor Selector Guide

| INLET SIZES |    | OUTLET SIZES |      | CONTROLS        |               | Galvanized Waterway | Riser Supplies | ELEVATION HEIGHT |      | Max Flow Limit @ Max Height | ILLUSTRATION | MODEL     |
|-------------|----|--------------|------|-----------------|---------------|---------------------|----------------|------------------|------|-----------------------------|--------------|-----------|
| 4"          | 6" | 2.5"         | 3.5" | Dual Hand-wheel | Tiller Handle |                     |                | Min.             | Max. |                             |              |           |
| s           | o  | •            |      |                 | •             | o                   | o              | 10'              | 40'  | 750                         | 1            | 299-11EL* |
| s           |    |              | •    | •               |               |                     |                | 0'               | 34'  | 500                         | 2            | 8394-02RC |

KEY: s = standard o = option  
Specify length when ordering.  
\* Per client installation

### Components & Options Chart

| COMPONENTS & OPTIONS         |           |   | ILLUSTRATION | MODEL |
|------------------------------|-----------|---|--------------|-------|
| <b>Support Bearing</b>       | 8394-02RC | For monitor support when overall height exceeds monitor limits (for use with 500 GPM flowed at 20'; 750 GPM flowed at 15'; or 1000 GPM flowed at 10') | 4            | 295   |
| <b>External Supply Items</b> |           |   |              |       |
| <b>Riser Pipe</b>            | 8394-02RC | 4" intermediate riser pipe  |              |       |
| <b>Drive Rod</b>             | 8394-02RC | 0.625" brass or stainless steel drive rod for linking the vertical drive unit to the monitor  |              |       |

### Recommended Products

| CJ-B-RC –<br>SELECT-O-STREAM®   | 283B –<br>STREAM SHAPER   | 181 –<br>DELUGE TIP   |
|---|---|---|
|  |  |  |
| Page 6-12   | Page 1-27   | Page 1-26   |

### ADDITIONAL INFORMATION

- Marine Brass (85-5-5-5) construction is available on some models. Please inquire with our sales staff.
- Other bases may be available on some models. Please inquire with our sales staff.
- Technical Data on monitor performance may be found on page T-11.
- Nozzle Reaction Force x Height (in feet) of monitor = torque (Foot Pounds) at base of monitor.

### OPTIONS

#### 295 SUPPORT BEARING



(4)

- Designed so that 4" waterway and vertical control rod can rotate inside of bearing. 3" NPT female for attaching to adjacent support
- Finish: red urethane enamel
- Weight: 31.5 lbs.

#### 90° INTAKE BASE



- Used with 299-11EL & 8394-02RC monitors
- Carbon steel construction
- 6"-150# & 6"-300# flange inlet
- 4"-150#, 6"-150#, & 6"-300# flange outlet
- Full 4" waterway
- Red epoxy finish



## ACCESSORIES

### The Extender - 8598

For use with the Elkhart monitors and a range of other compact monitors, the Extender is designed to provide better clearance for the monitor which allows for a wider coverage range and addresses firefighter safety concerns. It is compatible with monitor and nozzle flow ratings of 1250 gpm (max) with 100 psi nozzle pressure (max inlet pressure rating of 200 psi).

The Extender deploys in 10 seconds and extends a full 18 inches. The Extender is designed to flow in both the full up and full down positions.

Safety features of the Extender include:

- An in-cab warning light to alert the driver to incomplete retraction
- Pressure switch to limit the movement when internal pressure exceeds 10 psi

The Extender is electrically actuated through a pump panel pushbutton control pad with actuator rated for a static load of up to 2500 pounds. The chassis 12VDC electrical system provides power for the Extender.

The Extender is compliant with applicable 2003 NFPA #1901 standards.

All mounting and wiring materials are included in the Extender package.

The Extender 8598 is available with the following options:

#### Inlet / Outlet

- 3" VIC / 3" MNPT
- 3" MNPT / 3" MNPT
- 3" VIC / 3" 150# Flange
- 3" MNPT / 3" 150# Flange
- 3" 150# Flange / 3" 150# Flange

Available with secondary panel mounted controller.



### Components & Options Chart

| COMPONENTS & OPTIONS                    |                                  | MODEL    |
|---|----------------------------------|----------|
| Controller                              | with position indicator          | 81385101 |
| Harnesses                               | for primary/secondary controller | 36824000 |
|   | for caution lamp                 | 36838000 |
|   | to chassis (power)               | 36792000 |
| Power Sensor<br>Harness<br>(select one) | 5 ft                             | 36793300 |
|   | 10 ft                            | 36793500 |
|   | 20 ft                            | 36793600 |
|   | 30 ft                            | 36793700 |
|   | 40 ft                            | 36793800 |



### ANCHOR KIT

- Portable monitor (P/N 81460001)
  - Heavy duty spike
  - Mallet
  - Self-contained portable bag.



### 702 AUTOMATIC BALL DRIP DRAIN VALVE

- Drains at a rate of 2/3 gpm for up to 20' head of water when pressure drops below 10 psi
- 0.75" male NPT inlet and outlet
- Mounts horizontally
- Cast brass construction
- Good for saltwater applications
- Length: 3"
- Weight: 0.778 lbs.



### 84 BUTTERFLY WAFER VALVE

- Cast iron body with #316 stainless steel upper and lower stems
- Pressure rated at 250 psi
- Seat/seal is EPDM
- Standard handle features 10 locking positions
- Optional handle is gear operated
- Size: 3" (11.3 lbs.) or 4" (14.3 lbs.) – (specify)
- Thickness: 2"
- Not recommended for salt water application



### 90° INTAKE BASE FOR ELEVATED MONITORS

- Used with 299-11EL & 8394-02RC monitors
- Carbon steel construction
- 6"-150# & 6"-300# flange inlet
- 4"-150#, 6"-150#, & 6"-300# flange outlet
- Full 4" waterway
- Red epoxy finish



### WPO-2000 WATER POWERED MONITOR OSCILLATOR

- Used with Elkhart Brass Copperhead, Spit-Fire, and Stingray monitors
- 4" Inlet
- 200 PSI (13.8 BAR) max operating pressure
- 0-30°/sec oscillating speed range
- Arc of oscillation - 15° to 120°
- 316 stainless steel construction



# Portable Carts

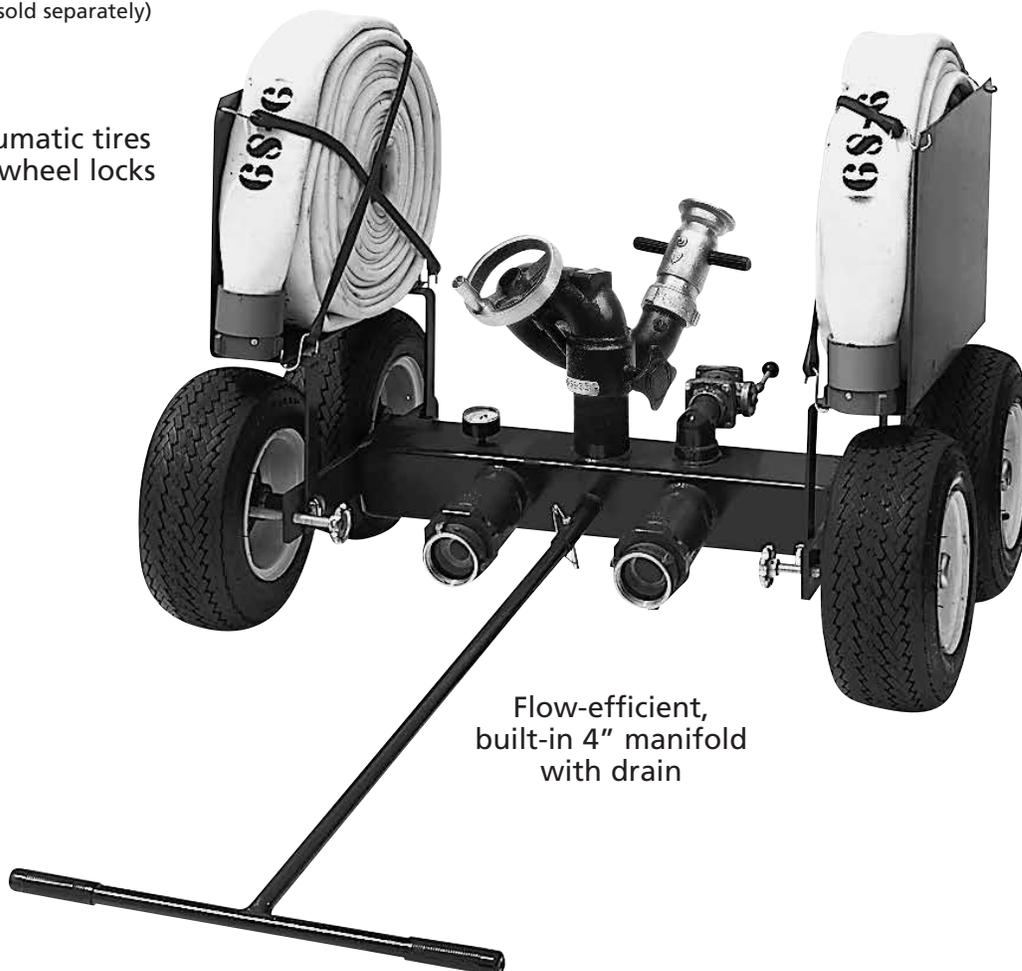
- Portable wheeled carts come furnished with a flow-efficient, built-in 4" manifold
- Wheels feature pneumatic tires and wheel locks
- The monitors have stop positions at 45° on either side of center and 20° above horizontal
- Cart specific highlights include:
  - The two wheel cart attaches with a 1 $\frac{7}{8}$ " or 2" coupler (please specify); to the vehicle for extra stability during flow; two hose beds each capable of holding two (2) 50' sections of 2 $\frac{1}{2}$ " or 3" hose
  - The four wheel cart has a detachable "tee" handle, optional hose racks above the wheels — each capable of holding a 50' "donut roll" of 2 $\frac{1}{2}$ " hose, and an optional 1 $\frac{1}{2}$ " gated outlet
- Liquid-filled pressure gauge

5-54

(Nozzle sold separately)

Pneumatic tires  
and wheel locks

Red urethane  
finished



Flow-efficient,  
built-in 4" manifold  
with drain

200  
PSI

1000  
GPM

| SPECIFICATIONS    |                                      |                        |
|-------------------|--------------------------------------|------------------------|
| Max. GPM (LPM)    | (See selector guide for specifics)   |                        |
| Inlet Sizes/Types | 2 x 2.5" NHT (F)                     |                        |
|                   | Optional Additional Cart Inlets      |                        |
|                   | 1 x 5" Storz                         |                        |
|                   | 1 x 4" Storz                         |                        |
| Outlet Size       | 2 x 2.5" NHT (F) (Swivel)            |                        |
|                   | 2.5" NHT                             |                        |
| Controls          | Single hand-wheel                    |                        |
| Material/Finish   | Brass with red urethane enamel       |                        |
| Friction Loss     | GPM                                  | Stingray® Carts (8393) |
|                   | 1000                                 | 56 psi                 |
|                   | 750                                  | 34 psi                 |
| Travel            | 500                                  | 12 psi                 |
|                   | V Variable (see chart for specifics) |                        |
| Weight            | H L45° to R45° (90°)                 |                        |
|                   | See selection chart for specifics    |                        |

| KEY CONFIGURATIONS (ACCESSORIES)   |   |
|--|---|
|  |  |
| 8393TW (1)   | 8393FW (2)  |

| ADDITIONAL INFORMATION   |
|--|
| <ul style="list-style-type: none"> <li>• These monitor types are also available in monitor only and hydrant versions.</li> <li>• Please see page 5-35 for Stingray® (8393 series) details.</li> <li>• When flowing 1000 gpm, the cart must be attached to vehicle for safety.</li> </ul> |

### Portable Cart Selector Guide

| Cart Type/<br>GPM (LPM) | Monitor       | INLET OPTIONS |                         |                         |               | OUT-LET | CART FEATURES |          |              |                | VERTICAL TRAVEL | CONTROLS | DIMENSIONS (Inches) |       |       | Weight (Lbs.) | ILLUSTRATION | MODEL        |
|-------------------------|---------------|---------------|-------------------------|-------------------------|---------------|---------|---------------|----------|--------------|----------------|-----------------|----------|---------------------|-------|-------|---------------|--------------|--------------|
|                         |               | 2 x 2.5" NHT* | 2 x 2.5" NHT* +4" Storz | 2 x 2.5" NHT* +5" Storz | 4 x 2.5" NHT* |         | 2.5" NHT      | T Handle | 1.875" Hitch | Pressure Gauge |                 |          | Hose Beds           | Width | Depth |               |              |              |
| 2-Wheel/<br>1000 (3875) | Stingray 8393 | s             | o                       | o                       | o             | •       |               | s        | s            | s              | •               | s        | 67.00               | 72.00 | 34.00 | 310.0         | 1            | 8393TW       |
| 4-Wheel/<br>750 (2839)  | Stingray 8393 | s             | o                       | o                       | o             | •       | s             |          | s            |                | •               | s        | 67.00               | 72.00 | 34.00 | 230.0         | 2            | 8393FW       |
|                         |               |               |                         |                         |               |         |               |          | 1            |                |                 |          |                     |       |       |               |              | Illustration |

KEY s = standard o = option

\* Clappered female swivel inlets.

\*\* This feature will change the height of the end product.

### Recommended Products

| SM-1000HF – SELF-EDUCTING   | IMS-500 – SELECT-O-STREAM®  | J – MYSTERY®  | 181 – DELUGE TIP  | 282B – STREAM SHAPER  |
|---|---|---|---|---|
|  |  |  |  |  |
| Page 6-16   | Page 6-12   | Page 6-14   | Page 1-26   | Page 1-27   |

# MASTER STREAM



## SELECTOR GUIDE

# MASTER STREAM

6-1

|                             | AVAILABLE BASE  | PRODUCT  | DESCRIPTION  | MATERIAL |           |             | "QUICK-KEY"   |
|-----------------------------|---|--|--|----------|-----------|-------------|---|
|                             |   |  |  | Brass    | Composite | Elk-O-Lite® |   |
| <b>FIXED</b>                | <b>5000E</b><br>Available GPM (LPM)<br>15-475 (57-1798)         | <br>Page 6-3    | <ul style="list-style-type: none"> <li>Combination nozzle</li> <li>12 or 24 VDC enclosed and sealed motor</li> </ul>   | Brass    | Composite | Elk-O-Lite® |     |
|                             |   |  |  |          |           |             |   |
| <b>AUTOMATIC</b>            | <b>SIM-10FE</b><br>Available GPM (LPM)<br>20-120 (76-454)       | <br>Page 6-3    | <ul style="list-style-type: none"> <li>Simplifies fireground hydraulics</li> <li>Maintains effective flow stream</li> <li>12 or 24 VDC enclosed and sealed motor</li> </ul>                              | Brass    | Composite | Elk-O-Lite® |     |
|                             |   |  |  |          |           |             |   |
| <b>FIXED/SELECTABLE</b>     | <b>R.A.N.</b><br>Available GPM (LPM)<br>250-500 (946-1893)      | <br>Page 6-5   | <ul style="list-style-type: none"> <li>Designed for use with R.A.M.</li> <li>Integral stream shaper</li> <li>1/4 turn stream adjustment</li> <li>Optional oscillating configuration available</li> </ul> | Brass    | Composite | Elk-O-Lite® |      |
|                             |   |  |  |          |           |             |   |
| <b>AUTOMATIC</b>            | <b>X-STREAM®</b><br>Available GPM (LPM)<br>300-2000 (1136-7571) | <br>Page 6-6  | <ul style="list-style-type: none"> <li>Simplifies fireground hydraulics</li> <li>Maintains effective flow stream</li> <li>Calibrated at lower pressures - 75 &amp; 80 PSI</li> </ul>                     | Brass    | Composite | Elk-O-Lite® |      |
|                             |   |  |  |          |           |             |   |
| <b>SELECTABLE</b>           | <b>6000</b><br>Available GPM (LPM)<br>15-700 (60-2700)          | <br>Page 6-9  | <ul style="list-style-type: none"> <li>Designed for use with Sidewinder EXM</li> <li>Maintains effective flow stream</li> <li>Motor enclosed and sealed</li> </ul>                                       | Brass    | Composite | Elk-O-Lite® |     |
|                             |   |  |  |          |           |             |   |
| <b>FOAM EXPANSION TUBES</b> | Available GPM (LPM)   | <br>Page 6-10 | <ul style="list-style-type: none"> <li>Quick-snap connection</li> <li>Composite or metal construction</li> </ul>   | Brass    | Composite | Elk-O-Lite® |     |
|                             |   |  |  |          |           |             |   |

|                         | AVAILABLE BASE                                 |     |     | PRODUCT  | DESCRIPTION  | MATERIAL |           |             | "QUICK-KEY"   |  |
|-------------------------|--|-----|-----|--|--|----------|-----------|-------------|---|--|
|                         | 1.5  | 2.5 | 3.5 |  |  | Brass    | Composite | Elk-O-Lite® |   |  |
| <b>FIXED</b>            | <b>SELECT-O-STREAM®</b>                        |     |     |  <p>Page 6-11</p>   | <ul style="list-style-type: none"> <li>Fully machined waterway for excellent stream quality</li> <li>Large handles for easy stream pattern management</li> <li>Constant Flow Nozzle</li> </ul> | •        | •         | •           |       |  |
|                         | Available GPM (LPM)<br>350-1000<br>(1325-3785) |     |     |  |  |          |           |             |   |  |
| <b>SELECTABLE</b>       | <b>SELECT-O-FLOW®</b>                          |     |     |  <p>Page 6-13</p>   | <ul style="list-style-type: none"> <li>Large handles for easy stream pattern management</li> <li>Operator set flow and stream</li> <li>Selectable Flow Nozzle</li> </ul>                       | •        | •         | •           |      |  |
|                         | Available GPM (LPM)<br>300-1250<br>(1136-4732) |     |     |  |  |          |           |             |   |  |
| <b>FIXED</b>            | <b>MYSTERY</b>                                 |     |     |  <p>Page 6-14</p>  | <ul style="list-style-type: none"> <li>Created for Industrial applications</li> <li>Large handles for easy stream pattern management</li> <li>Low maintenance</li> </ul>                       | •        | •         | •           |      |  |
|                         | Available GPM (LPM)<br>350-2000<br>(1325-7571) |     |     |  |  |          |           |             |   |  |
| <b>AUTOMATIC/FIXED</b>  | <b>SELF-EDUCTING</b>                           |     |     |  <p>Page 6-15</p> | <ul style="list-style-type: none"> <li>Self-educating Class A and B foam</li> <li>1/2%, 1%, 3%, or 6% proportioning</li> <li>Field-adjustable foam proportioning</li> </ul>                    | •        | •         | •           |      |  |
|                         | Available GPM (LPM)<br>350-2000<br>(1325-7571) |     |     |  |  |          |           |             |   |  |
| <b>ADJUSTABLE/FIXED</b> | <b>FIXED SYSTEM</b>                            |     |     |  <p>Page 6-19</p> | <ul style="list-style-type: none"> <li>Designed for use in fixed system applications</li> <li>Field-adjustable flow rate and fog pattern up to 120°</li> </ul>                                 | •        | •         | •           |    |  |
|                         | Available GPM (LPM)<br>5-1000<br>(20-3780)     |     |     |  |  |          |           |             |   |  |

**KEY:**

|   |   |   |   |   |   |   |  |   |   |   |   |
|---|---|---|---|---|---|---|--|---|---|---|---|
|  |  |  |  |  |  |  |  |  |  |  |  |
| Electrical Operation  | Manual Operation  | Remote Control Operation  | Hydraulic Operation   | Hazardous Location  | Self-Educting Foam  | Foam Compatible   | Underwriters Laboratories  | Twist Shut-off Available  | Low Pressure Available  | Conformity European   | Factory Mutual  |



5000E & SM-10FE

MASTER STREAM

## 5000E & SM-10FE

- Created for the specific challenges, such as water flow limitations and protection needs, of wildland firefighting, dust abatement, de-icing, etc.
- Used in conjunction with smaller monitors such as the Sidewinder®
- Constant flow — straight stream, narrow fog (30°), or wide fog (90°) — with spinning teeth
- Either automatic or fixed flow nozzle type available
- Motor (12V or 24V DC available) totally enclosed and sealed
- Manual override standard
- Lightweight Elk-O-Lite® construction with hard anodized finish
- AFFF compatible

6-3



# MASTER STREAM

5000E & SM-10FE

# MASTER STREAM

6-4

| Base Size | AVAILABLE STANDARD FLOW RATES (Fixed)<br>GPM (LPM) |          |          |          |          |          |           |           |           |           |           |            |            | STANDARD<br>FLOW RANGE<br>(Automatic)<br>GPM (LPM) | TEETH                  |          | Effective Reach at<br>Highest Flow (ft.) | Weight (Lbs.) | MODEL    | FIGURE   |      |
|-----------|--|----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|------------|------------|--|------------------------|----------|--|---------------|----------|----------|------|
|           | 15 (57)  | 30 (114) | 45 (170) | 60 (227) | 75 (284) | 95 (360) | 125 (473) | 150 (568) | 175 (662) | 200 (757) | 250 (946) | 350 (1325) | 400 (1514) | 475 (1798)   | 20 - 120<br>(76 - 454) | Spinning |  |               |          |          | None |
| 1.5"      | PSI (BAR)<br>100 ( 6.89)                           |          |          |          |          |          |           |           |           |           |           |            |            |  | •                      |          | 85                                       | 3.1           | 5000-04E | 2        |      |
|           | •  | •        | •        |          |          |          |           |           |           |           |           |            |            |  |                        | •        |  | 124           | 3.1      | 5000-14E | 2    |
|           |  |          |          | •        | •        | •        |           |           |           |           |           |            |            |  |                        | •        |  | 150           | 3.1      | 5000-24E | 2    |
|           |  |          |          |          |          |          |           |           |           |           |           |            |            |  | •                      | •        | 115                                      | 4.9           | SM-10FE* | 1        |      |

\* Suitable for de-icing / anti-icing use

## CONFIGURATIONS



Figures depict general product types only and are not intended to be inclusive of all product features.

| BASE SIZE | FLOW RATES<br>GPM (LPM)  | PRESSURE<br>PSI (BAR) | Effective Reach (Feet)<br>@ Highest Flow | Weight<br>(Lbs.) | MODEL     | FIGURE |
|-----------|--|-----------------------|--|------------------|-----------|--------|
| 1.5"      | 15/30/45/60/95/125/150/200/FLUSH<br>(60/120/170/250/360/500/550/750/FLUSH) | 100<br>(6.89)         | 124                                      | 4.7              | 6000-200E | 3      |



| OPTIONS  |
|--|
| THREADS  |
| <i>All nozzles are NHT unless otherwise specified.<br/>See index T-13 for optional base threads.</i> |

# MASTER STREAM



R.A.N.™ – RAPID ATTACK NOZZLE

MASTER STREAM

## R.A.N.™

- Designed to operate in conjunction with the R.A.M. at high flows with lower pressure (rated for 500 gpm at 75 psi)
- Integral stream shaper reduces weight and bulk
- 2.5" constant flow nozzle – straight stream, narrow fog (30°), or wide fog (90°)
- Quick turn from straight stream to full fog
- Compatible with foam concentrate



Elk-O-Lite® construction



Integral stream shaper

6-5

| Base Size  | AVAILABLE STANDARD FLOW RATES | PRESSURE  | FLOW TYPE |            | Oscillation | Effective Reach (Feet) @ 500 GPM | Weight (Lbs.) | MODEL | FIGURE |
|------------|-------------------------------|-----------|-----------|------------|-------------|----------------------------------|---------------|-------|--------|
|            |                               |           | Fixed     | Selectable |             |                                  |               |       |        |
| 2.5"       | GPM (LPM)                     | PSI (BAR) |           |            |             |                                  |               |       |        |
|            | 500 (1893)                    | 75 (5.17) | •         |            |             | 180                              | 3.2           | 3896  | 1      |
|            | 250/350/500 (946/1325/1893)   |           |           | •          |             |                                  | 180           | 3.6   | 3895   |
| 500 (1893) |                               |           | •         |            | •           | 180                              | 10.75         | 3890  | 3      |

### OPTIONS

#### THREADS

All nozzles are NHT unless otherwise specified. See index T-13 for optional base threads.

Figure 1



Figure 2



Figure 3



## X-Stream®

- Automatically adjusts to maintain effective stream and maximum reach at variable or reduced flows
- Calibrated at lower pressures — 70 and 85 psi — for better suitability to real world conditions
- Constant flow — straight stream, narrow fog (30°), or wide fog (90°) — with hydrodynamic vanes and hub for increased flow efficiency
- Excellent with AFFF or Class A foam applications
- Models available for use in hazardous locations and for gas mitigation
- Gas mitigation nozzle features wider (120°) fog pattern and smooth face tip (no teeth) for optimized water flow characteristics
- Electric motors and connectors are completely sealed, with manual overrides while manual models have large handles for easy stream pattern management
- Corrosion-resistant brass nozzles, for industrial applications, have satin brass finish while Elk-O-Lite® nozzles have a hard anodized finish



\* Not available on gas mitigation model

# MASTER STREAM



X-STREAM®

MASTER STREAM

6-7

| Base Size               | FLOW RANGES<br>GPM (LPM) | PRESSURE<br>PSI (BAR) | PATTERN CONTROL |                          |                               |           | MATERIAL |             | Effective Reach (Ft.) | Weight (Lbs.)  | MODEL          | FIGURE | FM APPROVED |                           |
|-------------------------|--------------------------|-----------------------|-----------------|--------------------------|-------------------------------|-----------|----------|-------------|-----------------------|----------------|----------------|--------|-------------|---------------------------|
|                         |                          |                       | Manual          | ELECTRIC                 |                               | HYDRAULIC | Brass    | Elk-O-Lite® |                       |                |                |        |             |                           |
|                         |                          |                       |                 | STANDARD<br>UNCLASSIFIED | CLASS 1<br>DIV 2              |           |          |             |                       |                |                |        |             |                           |
|                         |                          |                       |                 |                          | Hazardous Location<br>120V AC |           |          |             |                       |                |                |        |             | Gas Mitigation<br>120V AC |
| 2.5"                    | 350-1000<br>(1325-3785)  | 100<br>(6.89)         |                 | •                        |                               |           |          | •           | -                     | 9.0            | SM-500E-HP     | 2      |             |                           |
|                         |                          |                       |                 | •                        |                               |           |          | •           | -                     | 9.0            | SM-500E        | 2      |             |                           |
|                         |                          |                       | •               |                          |                               |           |          | •           | 255                   | 7.5            | SM-1000        | 1      |             |                           |
|                         |                          |                       |                 | •                        |                               |           |          | •           | 255                   | 9.2            | SM-1000E       | 2      |             |                           |
|                         |                          |                       |                 |                          |                               |           | •        | •           | 255                   | 8.3            | SM-1000H       | 3      |             |                           |
|                         |                          |                       |                 |                          |                               |           |          | •           | 271                   | 7.5            | SM-1250        | 1      |             |                           |
|                         | 350-1250<br>(1325-4732)  | 75<br>(5.17)          | •               |                          |                               |           |          | •           | 271                   | 7.5            | SM-1250B       | 1      | •           |                           |
|                         |                          |                       | •               |                          |                               |           |          | •           | 271                   | 20.6           | SM-1250BE      | 2      |             |                           |
|                         |                          |                       |                 | •                        |                               |           |          | •           | 271                   | 22.5           | SM-1250BE      | 2      |             |                           |
|                         |                          |                       |                 |                          |                               |           | •        | •           | 271                   | 9.2            | SM-1250E       | 2      |             |                           |
|                         |                          |                       |                 |                          |                               |           | •        | •           | 271                   | 8.3            | SM-1250H       | 3      |             |                           |
|                         |                          |                       |                 |                          |                               |           | •        | •           | 271                   | 19.8           | SM-1250HB      | 3      |             |                           |
|                         |                          |                       |                 |                          |                               |           |          | •           | 241                   | 7.5            | SM-1000        | 1      |             |                           |
|                         |                          |                       |                 |                          |                               |           |          | •           | 241                   | 9.2            | SM-1000E       | 2      |             |                           |
| 3.5"                    | 350-1000<br>(1325-3785)  | 80<br>(5.51)          | •               |                          |                               |           |          | •           | 241                   | 8.3            | SM-1000H       | 3      |             |                           |
|                         |                          |                       |                 | •                        |                               |           |          | •           | 241                   | 27.6           | SM-1000BE-HL   | 4      |             |                           |
|                         |                          |                       | •               |                          |                               |           |          | •           | 229                   | 7.5            | SM-1250        | 1      |             |                           |
|                         |                          |                       | •               |                          |                               |           |          | •           | 229                   | 20.6           | SM-1250B       | 1      | •           |                           |
|                         |                          |                       |                 | •                        |                               |           |          | •           | 229                   | 22.5           | SM-1250BE      | 2      |             |                           |
|                         |                          |                       |                 |                          |                               |           | •        | •           | 270                   | 27.6           | SM-1250BE-HL   | 4      | •           |                           |
|                         | 350-1250<br>(1325-4732)  | 75<br>(5.17)          |                 |                          |                               |           |          | •           | 270                   | 27.6           | SM-1250BE-HLGM | 5      | •           |                           |
|                         |                          |                       |                 | •                        |                               |           |          | •           | 229                   | 9.2            | SM-1250E       | 2      |             |                           |
|                         |                          |                       |                 |                          |                               |           | •        | •           | 229                   | 8.3            | SM-1250H       | 3      |             |                           |
|                         |                          |                       |                 |                          |                               |           | •        | •           | 229                   | 19.8           | SM-1250HB      | 3      |             |                           |
|                         |                          |                       |                 |                          |                               |           |          | •           | 240                   | 10.5           | SM-1500E       | 2      |             |                           |
|                         |                          |                       |                 | •                        |                               |           |          | •           | 300                   | 9.2            | SM-2000        | 1      |             |                           |
|                         |                          |                       |                 | •                        |                               |           |          | •           | 300                   | 24.7           | SM-2000B       | 1      | •           |                           |
|                         |                          |                       |                 |                          |                               |           |          | •           | 300                   | 26.6           | SM-2000BE      | 2      |             |                           |
| 500-2000<br>(1893-7571) | 80<br>(5.51)             |                       |                 |                          |                               |           | •        | 320         | 32.0                  | SM-2000BE-HL   | 4              | •      |             |                           |
|                         |                          |                       | •               |                          |                               |           | •        | 180         | 32.0                  | SM-2000BE-HLGM | 5              | •      |             |                           |
|                         |                          |                       |                 |                          |                               |           | •        | 300         | 10.5                  | SM-2000E       | 2              |        |             |                           |
|                         |                          |                       |                 |                          |                               | •         | •        | 300         | 10.0                  | SM-2000H       | 3              |        |             |                           |
|                         |                          |                       |                 |                          |                               | •         | •        | 300         | 24.8                  | SM-2000HB      | 3              |        |             |                           |
|                         |                          |                       |                 |                          |                               |           | •        | 300         | 24.8                  | SM-2000HB      | 3              |        |             |                           |

## X-STREAM® CONFIGURATIONS

|                        |   |
|------------------------|---|
| <p><b>Figure 1</b></p> | <p style="text-align: right;"><b>MANUAL</b></p>  <p style="text-align: right;"><i>Fig. 1</i></p>               |
| <p><b>Figure 2</b></p> | <p style="text-align: right;"><b>ELECTRIC</b></p>  <p style="text-align: right;"><i>Fig. 2</i></p>            |
| <p><b>Figure 3</b></p> | <p style="text-align: right;"><b>HYDRAULIC</b></p>  <p style="text-align: right;"><i>Fig. 3</i></p>          |
| <p><b>Figure 4</b></p> | <p style="text-align: right;"><b>HAZARDOUS LOCATION</b></p>  <p style="text-align: right;"><i>Fig. 4</i></p> |

Figures depict general product types only and are not intended to be inclusive of all product features.

### PRODUCT HIGHLIGHTS

- Gas Mitigation nozzles are designed for use in Class 1, Division 2 fire suppression and protection applications — the nozzles have a specially designed face and wide fog pattern to support the containment of gas vapors. Most commonly, the nozzles are used in areas with hydrofluoric acid vapors.
- The smooth face of the nozzle has been specifically designed to create an unbroken fog pattern.
- The fog pattern has been enhanced to a full 120° to allow for better coverage.

### OPTIONS

#### THREADS

*All nozzles are NHT unless otherwise specified. See index T-13 for optional base threads.*



# MASTER STREAM



6000 SERIES

MASTER STREAM

## 6000

- Designed for optimal performance when used with the Sidewinder EXM
- Features electric actuators for precise pattern control from straight stream to wide fog
- 2.5" constant flow nozzle – straight stream, narrow fog (30°), or wide fog (90°)
- Offers ultra-wide flow range with quick-turn, locking, flow selector ring
- Compatible with foam concentrate



| BASE SIZE | FLOW RATES<br>GPM (LPM)  | PRESSURE<br>PSI (BAR) | Effective Reach (Feet)<br>@ Highest Flow | Weight<br>(Lbs.) | MODEL     | FIGURE |
|-----------|--|-----------------------|--|------------------|-----------|--------|
| 1.5"      | 15/30/45/60/95/125/150/200/FLUSH<br>(60/120/170/250/360/500/550/750/FLUSH) | 100<br>(6.89)         | 124                                      | 4.7              | 6000-200E | 3      |
| 2.5"      | 15/30/45/60/95/125/150/200/FLUSH<br>(60/120/170/250/360/500/550/750/FLUSH) | 100<br>(6.89)         | 124                                      | 4.7              | 6000-200E | 1      |
|           | 250/350/500/700/FLUSH<br>(1000/1350/2000/2700/FLUSH)                       |                       | 190                                      | 5.8              | 6000-700E | 2      |



# Foam Expansion Tubes

Lightweight composite foam tubes are corrosion resistant and easy to handle with bases that snap securely onto the nozzle in seconds. The foam tubes are specifically designed to require no alteration of the nozzle itself for use. The base of the tube includes large air intakes; expansion rates are easily varied with nozzle pattern.



| Compatible Nozzle Model | FOAM TUBE MODELS |        |        |
|-------------------------|------------------|--------|--------|
|                         | 251-6            | 252-8  | 253-9  |
| R.A.N.™                 | •                |        |        |
| 6000 Series             | •                |        |        |
| HF – 350/350A/500/500A  | •                |        |        |
| IMS – 350/500           | •                |        |        |
| CJ – B/RC/B-RC          | •                |        |        |
| SM – 1000/E/H           |                  | •      |        |
| SM – 1250/E/B/BE/H/HB   |                  | •      |        |
| SM – 1500E              |                  |        | •      |
| SM – 2000/E/B/BE/H/HB   |                  |        | •      |
| SM – 1000-HF / E-HF     |                  |        | •      |
| SM – 2000-HF / E-HF     |                  |        | •      |
| Foam Tube Details       |                  |        |        |
| Length (Inches)         | 14.75            | 16.688 | 16.136 |
| Weight (Lbs.)           | 3.0              | 6.3    | 7.15   |
| Tube Base               | Composite        | Metal  | Metal  |



SELECT-O-STREAM®

## Select-O-Stream®

- Constant flow nozzle — straight stream, narrow fog (30°), or wide fog (90°)
- Flow efficient with a fully machined waterway for excellent stream quality
- Elk-O-Lite® nozzles are hard anodized with chrome-plated trim
- Corrosion resistant brass nozzles have a satin brass finish
- Large handles allow for easy stream pattern management
- Grease zerk for easy lubrication of tip threads
- Heavy-duty protective rubber bumper
- AFFF compatible
- Available FM rated

MASTER STREAM

6-11



| Base Size | AVAILABLE STANDARD FLOW RATES<br>GPM (LPM) |               |               |                | PATTERN CONTROL |                | TEETH | MATERIAL  |       | CERT. | EFFECTIVE REACH (Ft.) |                | Weight (Lbs.) | MODEL    | FIGURE |
|-----------|--|---------------|---------------|----------------|-----------------|----------------|-------|-----------|-------|-------|-----------------------|----------------|---------------|----------|--------|
|           | 350<br>(1325)                              | 500<br>(1893) | 750<br>(2839) | 1000<br>(3785) | Direct Manual   | Remote Control |       | Cut Metal | Brass |       | Elk-O-Lite®           | At Lowest Flow |               |          |        |
|           | PSI (BAR)<br>100 (6.89)                    |               |               |                |                 |                |       |           |       |       |                       |                |               |          |        |
| 2.5"      | •  | •             |               |                | •               |                | •     |           | •     |       | 150                   | 173            | 5.5           | CJ       | 1      |
|           | •  | •             |               |                | •               |                | •     | •         |       | •     | 150                   | 173            | 12.4          | CJ-B     | 1      |
|           | •  | •             |               |                |                 | •              | •     |           | •     |       | 150                   | 173            | 7.3           | CJ-RC    | 2      |
|           | •  | •             |               |                |                 | •              | •     | •         |       | •     | 150                   | 173            | 14.5          | CJ-B-RC  | 2      |
|           |  |               | •             | •              | •               |                | •     |           | •     |       | 238                   | 263            | 6.5           | CJN      | 1      |
|           |  |               | •             | •              | •               |                | •     | •         |       | •     | 238                   | 263            | 15.6          | CJN-B    | 1      |
|           |  |               | •             | •              |                 | •              | •     |           | •     |       | 238                   | 263            | 8.5           | CJN-RC   | 2      |
|           |  |               | •             | •              |                 | •              | •     | •         |       | •     | 238                   | 263            | 17.8          | CJN-B-RC | 2      |
|           | •  |               |               |                | •               |                |       | •         |       |       |                       | 150            | 10.8          | IMS-350* | 3      |
|           |  | •             |               |                | •               |                |       | •         |       | •     |                       | 173            | 10.8          | IMS-500* | 3      |
|           |  |               | •             |                | •               |                |       | •         |       | •     |                       | 238            | 13.1          | IMS-750  | 4      |
|           |  |               |               | •              | •               |                |       | •         |       | •     |                       | 263            | 13.1          | IMS-1000 | 4      |

\* Wide Fog is 140°

## SELECT-O-STREAM® CONFIGURATIONS

|   |   |
|---|---|
| <b>Figure 1</b>   | <b>Figure 2</b>   |
|  |  |
| MANUAL <span style="float: right;"><i>Fig. 1</i></span>                             | REMOTE <span style="float: right;"><i>Fig. 2</i></span>                             |
| <b>Figure 3</b>   | <b>Figure 4</b>   |
|  |  |
| IMS-350 <span style="float: right;"><i>Fig. 3</i></span>                            | IMS-1000 <span style="float: right;"><i>Fig. 3</i></span>                           |

|  |
|--|
| <b>OPTIONS</b>   |
| <b>THREADS</b>   |
| <i>All nozzles are NHT unless otherwise specified.<br/>See index T-13 for optional base threads.</i> |

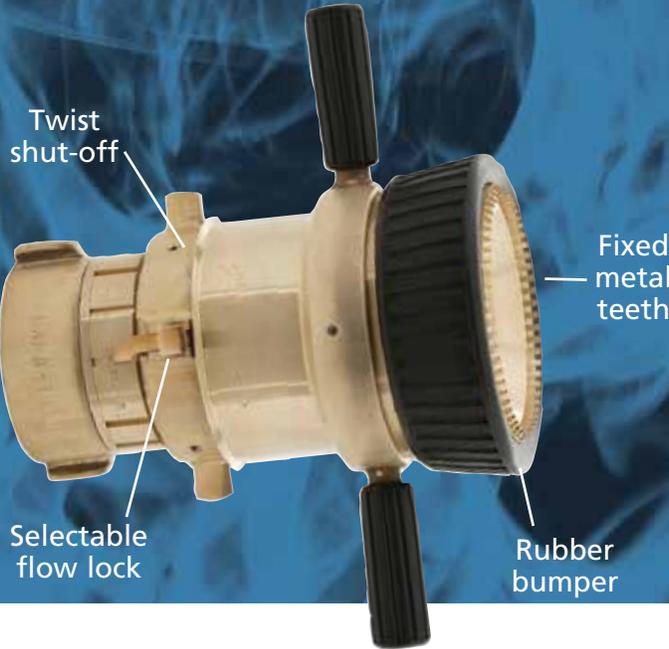
Figures depict general product types only and are not intended to be inclusive of all product features.

# MASTER STREAM



SELECT-O-FLOW®

## Select-O-Flow®



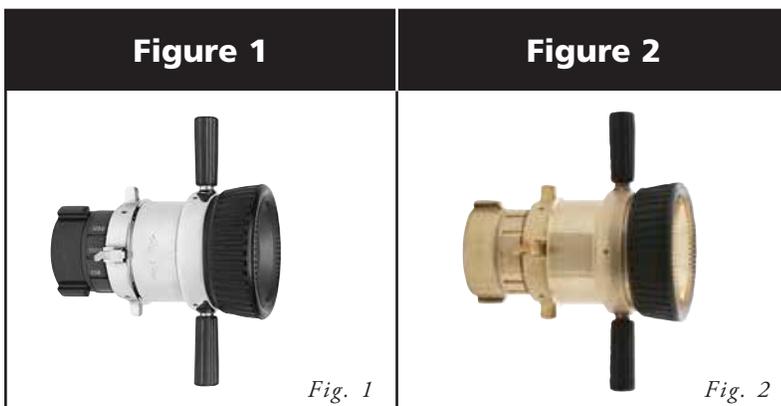
- Selectable flow rate, changeable even during flowing conditions
- Constant flow nozzle — straight stream, narrow fog (30°), or wide fog (90°)
- Flow efficient with a fully machined waterway for excellent stream quality
- Construction:
  - Elk-O-Lite® nozzles are hard anodized with chrome-plated trim and rubber bumper
  - Corrosion resistant brass nozzles have a heavy-duty protective rubber bumper
- Low maintenance components
- AFFF compatible

MASTER STREAM

6-13

| Base Size | FLOW RATES  | PRESSURE   | MATERIAL |             | Effective Reach (feet) @ Highest Flow | Weight (Lbs.) | MODEL | FIGURE |
|-----------|---|------------|----------|-------------|---------------------------------------|---------------|-------|--------|
|           |   |            | Brass    | Elk-O-Lite® |                                       |               |       |        |
| 2.5"      | GPM (LPM)   | 100 (6.89) |          |             |                                       |               |       |        |
|           | 300/550/750<br>(1136/2082/2839)                     |            | •        | 221         | 7.6                                   | CSW           | 1     |        |
|           | 350/500/750/1000/1250<br>(1325/1893/2839/3785/4732) |            | •        | 350         | 10.0                                  | CSW-L         | 1     |        |
|           |   |            | •        | 350         | 21.4                                  | CSW-LB        | 2     |        |

### SELECT-O-FLOW® CONFIGURATIONS



| OPTIONS   |
|---|
| THREADS   |
| <p><i>All nozzles are NHT unless otherwise specified. See index T-13 for optional base threads.</i></p> |

# Mystery®



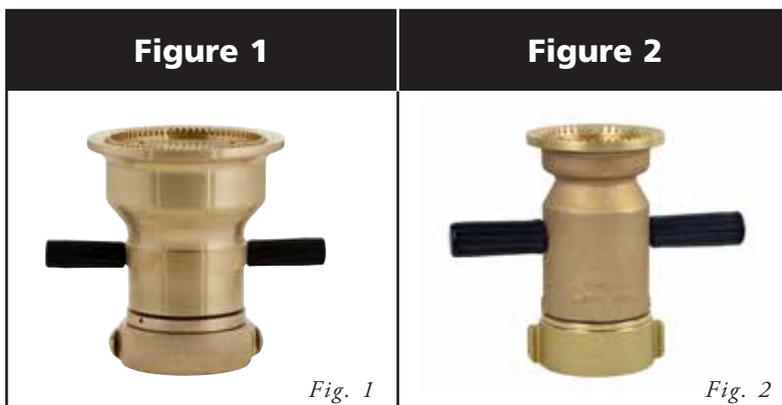
- Original Master Stream fog nozzle, created for industrial applications
- Combination nozzle — straight stream, narrow fog (30°), or wide fog (90°)
  - The J and JN nozzles feature variable flow from shut-off to wide fog
  - The CJK nozzle is a constant flow nozzle
- Low maintenance components and convenient grease zerks

**MASTER STREAM**

6-14

| Base Size | AVAILABLE STANDARD FLOW RATES<br>GPM (LPM) |               |                |                |                |                |                | Twist<br>Shut-off | Effective<br>Reach (Ft.) | Weight<br>(Lbs.) | MODEL | FIG. |
|-----------|--|---------------|----------------|----------------|----------------|----------------|----------------|-------------------|--------------------------|------------------|-------|------|
|           | 350<br>(1325)                              | 500<br>(1893) | 1000<br>(3785) | 1250<br>(4732) | 1500<br>(5678) | 1750<br>(6624) | 2000<br>(7571) |                   |                          |                  |       |      |
|           | PSI (BAR)<br>100 (6.89)                    |               |                |                |                |                |                |                   |                          |                  |       |      |
| 2.5"      | •  | •             |                |                |                |                |                | •                 | 135                      | 8.5              | J     | 2    |
|           |  |               | •              |                |                |                |                | •                 | 170                      | 9.3              | JN    | 2    |
| 3.5"      |  |               |                | •              | •              | •              | •              |                   | 325                      | 22.3             | CJK   | 1    |

## MYSTERY® CONFIGURATIONS



| OPTIONS  |
|--|
| THREADS  |
| <i>All nozzles are NHT unless otherwise specified. See index T-13 for optional base threads.</i> |

Figures depict general product types only and are not intended to be inclusive of all product features.



SELF-EDUCTING

MASTER STREAM

## Self-Educting

Self-Educting master stream nozzles turn any monitor into a foam station without the use of additional equipment and have been part of Elkhart's fire suppression arsenal for over 20 years. Elkhart is proud to have been one of the pioneers in the development of the Hydro-Foam® line of self-educting nozzles.

Some of the features of self-educting nozzles include:

- Designed specifically for use with Class A and B foam, including AFFF and fluoroprotein
- Field-adjustable foam proportioning with pre-set options
- Combination nozzle — include straight stream, narrow fog (30°), or wide fog (90°)

Since introduction, Elkhart has expanded the self-educting Master Stream nozzle line to include:

- Easy to use, original Hydro-Foam® nozzles of brass or Elk-O-Lite® construction
- X-Stream® nozzles that combine self-educting ability with the convenience of automatic metering

6-15

Foam pick-up hose attachment inlet



Large handles allow for easy pattern management



|                    | NOZZLE FAMILY  |  |
|--------------------|--|--|
|                    | X-Stream®  | Hydro-Foam®  |
| Flow Type          | Automatic  | Fixed  |
| Description        | High flow automatic nozzle   | Original self-educing nozzle   |
| Benefit            | Optimizes use of concentrate and produces effective foam under a variety of conditions                   | Simple to use and flows well. Elk-O-Lite® version is lightweight and excellent for portable monitor use. |
| Foam Proportioning | Dual range, field selectable (SM-1000-HF and SM-1000E-HF) or fixed metering (SM-2000-HF and SM-2000E-HF) | Fixed metering via orifice insert  |

| OPTIONS  |
|--|
| <ul style="list-style-type: none"> <li>SM-1000E-HF features an 8' pick-up tube</li> <li>SM-2000E-HF features an 8' pick-up tube</li> </ul> |
| THREADS  |
| All nozzles are NHT unless otherwise specified. See index T-13 for optional base threads.  |

| Base Size | FAMILY / FLOW RATE   |                      |                   |            |            | FOAM PROPORTIONING |   |   |            |    |    | Certifications | MATERIAL / FINISH |        |           |             | Effective Reach (ft.) | Weight (Lbs.) | MODEL | FIGURE      |    |
|-----------|----------------------|----------------------|-------------------|------------|------------|--------------------|---|---|------------|----|----|----------------|-------------------|--------|-----------|-------------|-----------------------|---------------|-------|-------------|----|
|           | X-STREAM®/AUTOMATIC  |                      | HYDRO-FOAM®/FIXED |            |            | CONFIGURABLE       |   |   | SELECTABLE |    |    |                | Brass (Satin)     | Chrome | Composite | Elk-O-Lite® |                       |               |       |             |    |
|           | GPM (LPM)            |                      |                   |            |            |                    |   |   | 1/2%       | 1% | 3% |                |                   |        |           |             |                       |               |       |             | 6% |
|           | 350-1000 (1325-3785) | 750-2000 (2839-7571) | 350 (1325)        | 500 (1893) | 750 (2839) | 1000 (3785)        |   |   |            |    |    |                |                   |        |           |             |                       |               |       |             |    |
| 2.5"      |                      |                      | •                 |            |            |                    | • | • | •          | •  |    |                | •                 | s      | o         |             |                       | 145           | 13.2  | HF-350      | 1  |
|           |                      |                      | •                 |            |            |                    | • | • | •          | •  |    |                |                   |        |           |             | s                     | 145           | 4.2   | HF-350-A    | 1  |
|           |                      |                      |                   |            | •          |                    | • | • | •          |    |    |                |                   | •      | s         | o           |                       | 162           | 13.2  | HF-500      | 1  |
|           |                      |                      |                   |            | •          |                    | • | • | •          |    |    |                |                   |        |           |             | s                     | 162           | 4.2   | HF-500-A    | 1  |
|           | •                    |                      |                   |            |            |                    |   |   |            |    |    |                |                   |        |           |             | s                     | 250           | 20.7  | SM-1000-HF  | 2  |
|           | •                    |                      |                   |            |            |                    |   |   |            |    |    |                |                   | •      |           |             | s                     | 250           | 20.7  | SM-1000E-HF | 3  |
|           |                      |                      |                   |            |            |                    |   |   | •          |    |    |                |                   |        | s         |             |                       | 212           | 22    | CSW-LBF     | 4  |
|           |                      |                      |                   |            |            |                    |   |   |            |    |    |                |                   |        | s         |             |                       | 22            |       | HF13-750    | 5  |
| 3.5"      |                      |                      |                   |            |            |                    |   |   |            |    |    |                |                   |        |           |             | s                     | 295           | 21.6  | SM-2000-HF  | 2  |
|           |                      |                      |                   |            |            |                    |   |   |            |    |    |                |                   |        |           |             | s                     | 295           | 21.6  | SM-2000E-HF | 3  |
|           |                      |                      |                   |            |            |                    |   |   |            |    |    |                |                   |        |           |             |                       |               |       |             |    |

KEY s = standard o = option  
 \*Fog pattern is 80°

## SELF-EDUCTING FOAM CONFIGURATIONS

|                 |  |                 |   |                 |  |
|-----------------|--|-----------------|---|-----------------|--|
| <b>Figure 1</b> | <br>HF-500-A    | <b>Figure 3</b> | <br>SM-1000E-HF | <b>Figure 5</b> | <br>HF13-1000 |
| <b>Figure 2</b> | <br>SM-2000E-HF | <b>Figure 4</b> | <br>CSW-LBF      |                 |  |

Figures depict general product types only and are not intended to be inclusive of all product features.



## SELF-EDUCTING NOZZLE ACCESSORIES



### QUICK-CONNECT COUPLING

- The brass Quick-Connect Coupling is a convenient way of attaching/detaching pick-up hose
- Specify brass or chrome finish
- Length: 3.4"
- Weight: 1.2 lbs.

### SHUT-OFF VALVE

- Quarter turn ball valve for positive shut-off of foam supply
- Attaches to foam inlet of nozzle
- Specify chrome or brass finish



### METERING VALVE

- The quarter turn ball valve for instant proportioning change
- Available in 1% / 3% or 3% / 6% configurations
- Attached to foam inlet of nozzle
- Specify chrome or brass finish
- Length: 3"
- Weight: 1.3 lbs.

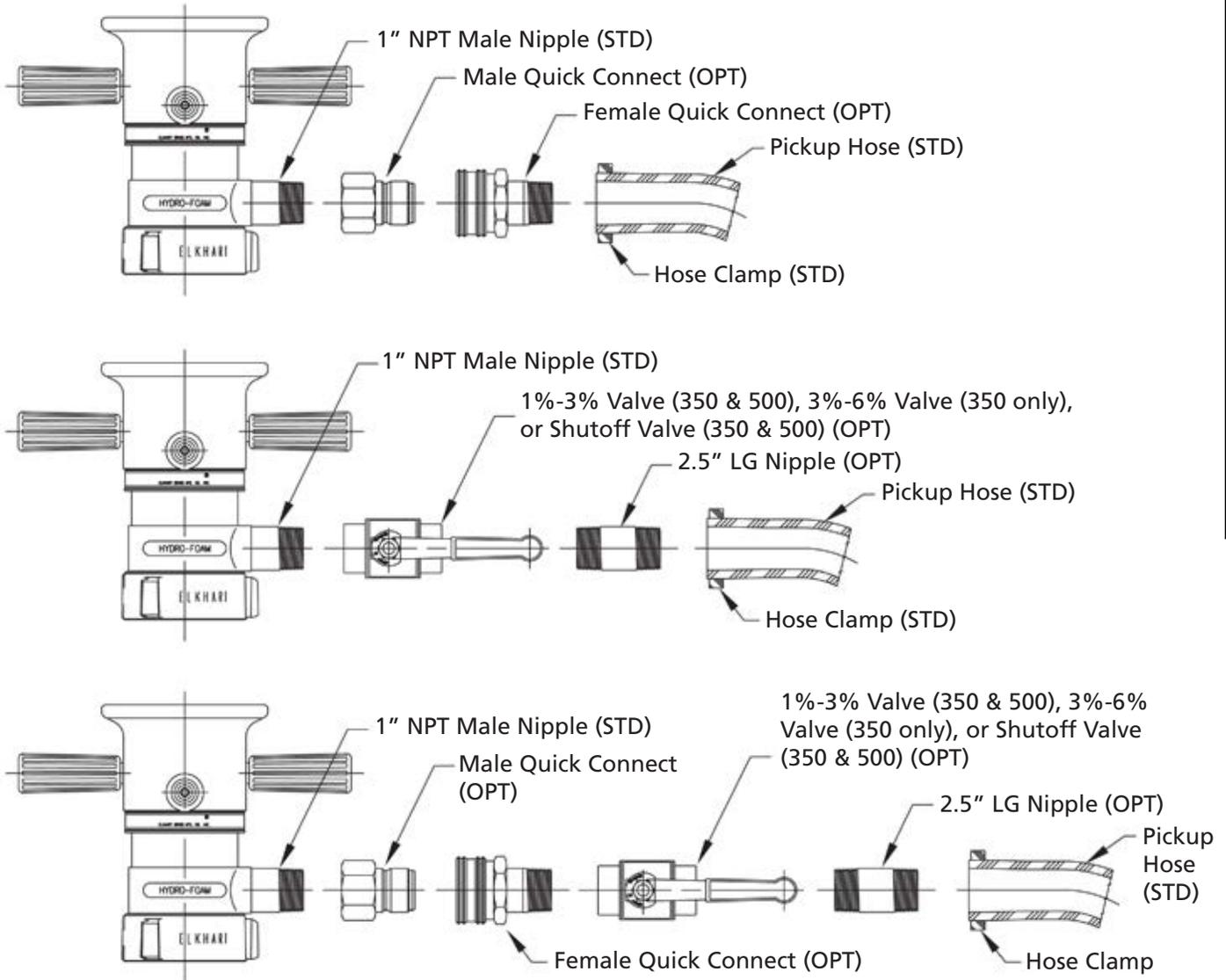


### DRUM PICK-UP KIT

- Allows foam inlet of nozzle to be pre-connected to a 55 gallon drum of concentrate
- Kit 1 includes PVC pick-up tube with shut-off valve, brass vacuum breaker, and clear reinforced vinyl pick-up hose (8 feet)
- Kit 3 or Kit 4 includes PVC pick-up tube with shut-off valve only. Replaces non-valve pick-up tube that comes with nozzle.

| COMPATIBLE ACCESSORIES                    |             |            |             |       |
|---|-------------|------------|-------------|-------|
| ITEM                                      | FOAM NOZZLE |            |             |       |
|   | X-Stream®   |            | Hydro-Foam® |       |
|   | SM-1000 HF  | SM-2000 HF | 350/A       | 500/A |
| Quick-connect                             |             |            | •           | •     |
| Shut-off Value with Quick-connect         |             |            | •           | •     |
| 1% / 3% Metering Valve with Quick-connect |             |            | •           | •     |
| 3% / 6% Metering Valve with Quick-connect |             |            | •           | •     |
| Shut-off Valve                            |             |            | •           | •     |
| 1% / 3% Metering Valve                    |             |            | •           | •     |
| 3% / 6% Metering Valve                    |             |            | •           | •     |
| Drum Pick-up Kit 1                        |             |            | •           | •     |
| Drum Pick-up Kit 3                        | •           |            |             |       |
| Drum Pick-up Kit 4                        |             | •          |             |       |

### OPTIONAL HARDWARE FOR FOAM INLET LINE



**NOTE:** These illustrations show typical combinations of valves and fittings. Other combinations can be provided to satisfy customer needs.

# MASTER STREAM



FIXED SYSTEM

## Fixed System

Designed for use in fixed system applications. Adjustable nozzles can be pre-set at the factory or set in the field at time of installation. The fog pattern, which can be set up to 120°, can easily be set or adjusted at the job site.



MASTER STREAM

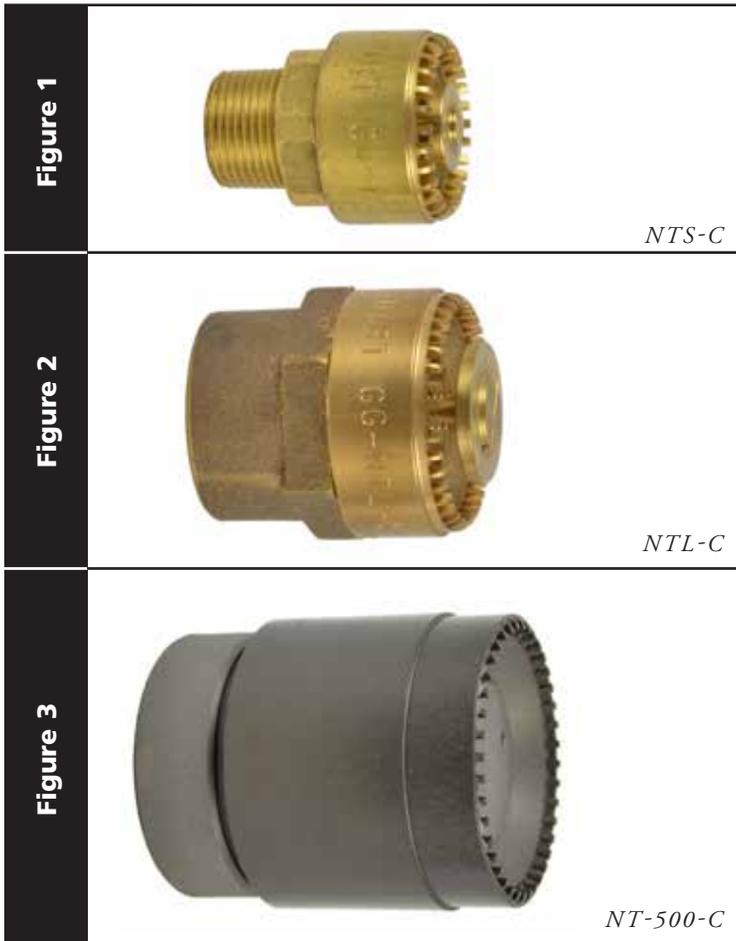
6-19

| Base Size | ADJUSTABLE FLOW RATES<br>GPM (LPM) |                     |                      | STANDARD FLOW RATES<br>GPM (LPM) |               |                | INLET OPTIONS |        | MATERIAL |             | MODEL     | FIGURE |
|-----------|------------------------------------|---------------------|----------------------|----------------------------------|---------------|----------------|---------------|--------|----------|-------------|-----------|--------|
|           | 5-40<br>(20-150)                   | 40-100<br>(150-380) | 100-250<br>(380-850) | 350<br>(1325)                    | 500<br>(1890) | 1000<br>(3780) | Male          | Female | Brass    | Elk-o-Lite® |           |        |
|           | PSI (BAR)<br>100 (6.89)            |                     |                      |                                  |               |                |               |        |          |             |           |        |
| 0.75"     | •                                  |                     |                      |                                  |               |                | s             | o      | •        |             | NTS-C*    | 1      |
| 1.0"      |                                    | •                   |                      |                                  |               |                | s             | o      | •        |             | NTL-C*    | 2      |
| 1.5"      |                                    |                     | •                    |                                  |               |                | s             |        | •        |             | NT-C*     | 2      |
| 2.5"      |                                    |                     |                      | •                                |               |                |               | s      |          | •           | NT-350-C  | 3      |
|           |                                    |                     |                      |                                  | •             |                |               | s      |          | •           | NT-500-C  | 3      |
|           |                                    |                     |                      |                                  |               | •              |               | s      |          | •           | NT-1000-C | 3      |

KEY s = standard o = option

\*NOTE: Fog pattern can be set up to 120°

## FIXED SYSTEM CONFIGURATIONS



| OPTIONS  |
|--|
| THREADS  |
| <i>All nozzles are rigid NPT connections unless otherwise specified. See index T-13 for optional base threads.</i> |

Figures depict general product types only and are not intended to be inclusive of all product features.



# Industrial Systems

Combining modern technology with years of experience, Elkhart's industrial systems are designed for use in many different types of industrial settings, including: refineries, chemical plants, loading docks, tanker berthings, railroad yards, offshore platforms, mining operations, etc.

A complete Elkhart Brass industrial fire suppression system is composed of hardware (water cannon / monitor, nozzle, valve, etc.), electrical capabilities (control system, wiring, etc.), programming, and integration of the hardware and software within the facility.

The instant the monitor is needed for fire protection or actual firefighting, it can be activated from a remote location where the operator can turn on the water supply; direct the monitor vertically or horizontally; and change the stream pattern of the nozzles; all from a safe distance. There is also an option that allows the monitor to oscillate automatically and start an auxiliary device such as foam or booster pump, thus freeing the operator to attend to other duties.

Elkhart's industrial systems are available as a pre-engineered solution or a custom created installation that offer multiple options that accomodate any installation:

- **Single Monitor or Multi-Monitor system**
- **Environment Conditions: Class I, Division 1 or Division/Zone 2 ; Marine (Saltwater) ; Caustic Gas Environments**
- **Material: Brass ASTM B-62/85-5-5-5 (Marine spec) or ASTM 584/81-3-7-9 ; Stainless Steel (299-20 Only)**
- **Actuation: Electric ; Hydraulic**
- **Communication: Electric (Discrete Cable) ; Electronic (Digital Network) ; Wireless (Digital Network)**
- **Operator Controls: Push Button ; Joystick (Electrical) ; Touch Screen / Digital Panel ; Plant Interface ; Portable RF**
- **Voltage: 120, 240, 480 VAC STD (380 VAC Optional)**
- **Common Elective Features: System status and warning notification, panic button discharge and oscillation, plant supervisory control integration, multiple control**

### ECHO (ERCM):

Electric Remote Controlled Monitor systems are pre-engineered systems specifically designed for hazardous location Class I, Division or Zone 2 environments.

Each ERCM includes: monitor / water cannon (85 brass), master stream nozzle (brass\*), monitor junction box (stainless steel), monitor motor control panel (stainless steel), and an operator control panel (stainless steel).

### HRCM:

Hydraulic Remote Controlled Monitor systems are pre-engineered systems specifically designed for hazardous location Class I, Division 1 environments.

Each HRCM includes: monitor / water cannon (85 brass or SS), master stream nozzle (brass), valve & pump box (NEMA 7/4 cast aluminum) with spool assembly (welded steel riser pipe), and operator control panel (NEMA 7/4 or NEMA 4X).

### Custom:

Custom systems are designed and engineered for your specific hazardous location application. This could include anything from gas mitigation to mining operations to marine & saltwater applications.

Custom systems allow the user to specify how many monitors per system, the environmental rating, material, actuation type, communication type, etc.

Contact your Elkhart Brass representative to start designing your next installation.



\*Available with Electroless Nickel for increased corrosion resistance.



ERCM

## ECHO

Hazardous Location: Class I, Division or Zone 2

When a fire strikes, seconds count. Prompt response can mean the difference between a minor inconvenience and a six-month plant shut-down. Instantaneous control needs to be in reach, but well out of harm's way. At Elkhart Brass, our advanced electronic controls provide prompt and dependable control of potential crisis situations. That's just one reason why many of the biggest names in the industry protect their physical investments with our electronic remote controlled monitor (ERCM) ECHO systems. They also know we have the experience and capabilities to do the entire job right - right from the start and all the way through final installation and service.

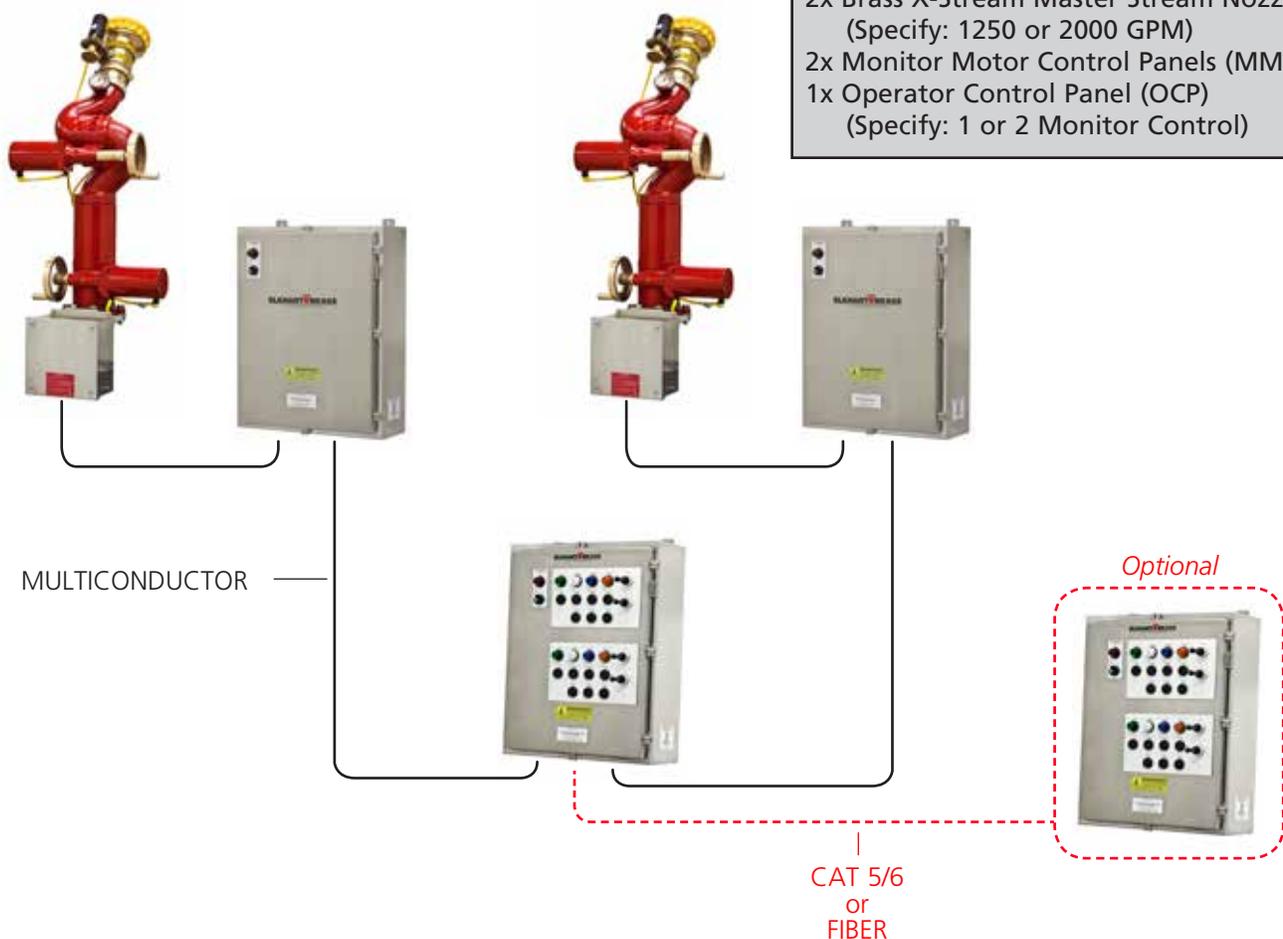
Pre-engineered ECHO systems are designed for remote firefighting and gas mitigation applications and support two to sixteen monitors thanks to systems expandability.

### Spit-Fire 8394053 Features:

- 2000 GPM (7570 LPM) max flow @ 200 PSI (13.8 BAR) max working pressure
- Rugged, corrosion-resistant cast brass
- 4"-150# ANSI flange base inlet
- 3.5" NHT male discharge outlet
- Double-race, SS bearings on brass vertical and horizontal swivels
- Junction Box is stainless steel, NEMA 4X (IP 66) water tight, corrosion resistant ATEX certified & UL listed
- 346° horizontal travel (L173°/R173°) & 135° vertical travel (+90° to -45°)
- Motors are UL recognized for Class I, Division or Zone 2 use and provide constant torque and speed, capable of continuous operation in all modes including stall conditions all at the same low current draw
- Monitor meets NEC (NFPA 70) Article 501 requirements for use in Class I, Groups A, B, C, & D, Division or Zone 2 & Article 505 – Class I, Zone 2, A Ex nA IIC T4 hazardous location areas
- System (Monitor, Cables, & Junction Box) is FM approved for Class I, Division or Zone 2, Groups A, B, C, D & T4
- FM approved: Includes whole monitor assembly (motors, cables, junction box, etc.)
  - FM approved for Class I, Division or Zone 2 use, Groups A, B, C & D, T4
  - Motors and cables FM rated to IP67, Junction Box FM rated to IP66



## ECHO Base System:



- 2x Spit-Fire Monitors
- 2x Brass X-Stream Master Stream Nozzles (Specify: 1250 or 2000 GPM)
- 2x Monitor Motor Control Panels (MMCP)
- 1x Operator Control Panel (OCP) (Specify: 1 or 2 Monitor Control)

## Components & Options:



| COMPONENTS & OPTIONS   |                     |   | ILLUSTRATION | MODEL     |
|------------------------|---------------------|---|--------------|-----------|
| X-Stream Series Nozzle | Automatic           | 1250 GPM (4731 LPM)                       | 1            | SM-1250BE |
|                        |                     | 2000 GPM (7570 LPM)                       | 1            | SM-2000BE |
| Industrial Valve       | Butterfly           | 4" (1300 in/lbs torque)                   | 2            | 70117000  |
|                        |                     | 8" (2500 in/lbs torque)                   | 2            | 70133000  |
| Control Panels         | Stainless Steel     | Monitor Motor Control Panel (MMCP)        | 3            | 81471068  |
|                        |                     | Operator Control Panel (OCP)              | 4            | 24359000  |
|                        | Touchscreen         | HMI Control Room Consolette               | 5            | 24352078  |
|                        | Portable RF Control | Wireless transmitter and receiver options | 6            |           |



HRCM

## HRCM

Hazardous Location: Class I, Division 1

The Hydraulic Remote Controlled Monitor (HRCM) system includes a monitor with nozzle, a valve box complete with hydraulic pump motor tank unit, and a control box with a complete panel of function controls. Both the valve box and the control panel are available in either stainless steel NEMA #4X for Class I, Division or Zone 2, or unclassified areas; or cast aluminum NEMA #7/4 for Class I, Groups B, C & D, Divisions 1 & 2 hazardous area classifications. Several monitors may be operated from one control station with the option of a secondary control station at another remote location.



### 294-11XBHC Features:

- 1100 GPM (4164 LPM) max flow
- Rugged, corrosion-resistant cast brass
- 4"-150# ANSI flange base inlet
- 2.5" NHT male discharge outlet
- Double-race, ball bearings on vertical and horizontal swivels



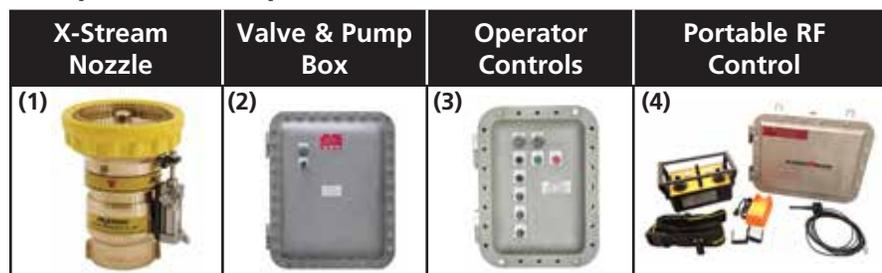
### 299-20XHC Features:

- 2000 GPM (7570 LPM) max flow
- Seamless, 304 stainless steel tubing (3.5" I.D.) with cast stainless steel swivel joints
- 4"-150# ANSI flange base inlet
- 3.5" NHT male discharge outlet
- Double-race, stainless steel bearings on vertical and horizontal swivels
- Safety covers on both vertical and horizontal spur gears

## Common Monitor Features:

- Powerful hydraulic actuators with sufficient torque to move the monitor even under the most adverse conditions.
- These actuators have built-in, hydraulic flow controlling, adjustable needle valves and are constructed of materials suitable for salt water environments.
- The vertical actuator allows movement of 150° (+90/-60).
- The horizontal rotation of 180° is standard; 270° and 360° are optional (please specify).
- Automatic horizontal oscillation is available upon request:
  - NEMA #4X - 20°-180° (requires NEMA #4X valve box)
  - NEMA #4X - 20°-360° (requires NEMA #4X valve box)
  - NEMA #7/4 - 20°-180° (requires NEMA #7/4 valve box)
  - NEMA #7/4 - 20°-360° (requires NEMA #7/4 valve box)
- Nozzle pattern is infinitely adjustable from straight stream to wide fog by means of two hydraulic pistons with a flow control, needle valve.
- Monitors are shipped mounted on top of a 38" long pipe spool (44" for monitors with optional horizontal oscillation) with all hydraulic lines attached and the valve box mounted to the spool.
- The entire assembly can be installed at ground level or in an elevated location.
- The monitors can also be utilized on fire boats or work boats.
- A red urethane enamel finish is standard on all monitors.

## Components & Options:



| COMPONENTS & OPTIONS   |   |  | ILLUSTRATION | MODEL     |
|------------------------|---|--|--------------|-----------|
| X-Stream Series Nozzle | Automatic   | 1250 GPM (4731 LPM)                              | 1            | SM-1250HB |
|                        |   | 2000 GPM (7570 LPM)                              | 1            | SM-2000HB |
| Control Panels         | Valve & Pump Box with Spool (riser pipe) Assembly | NEMA 4X (stainless steel) for unclassified areas |              | 81250001  |
|                        |   | NEMA 7/4 (cast aluminum) for hazardous locations | 2            | 81249001  |
|                        | Operator Control Panel (OCP)                      | 1 Monitor ; NEMA 4X (stainless steel)            |              | 24230000  |
|                        |   | 2 Monitor ; NEMA 4X (stainless steel)            |              | 24231000  |
|                        |   | 4 Monitor ; NEMA 4X (stainless steel)            |              | 24233000  |
|                        |   | 1 Monitor ; NEMA 7/4 (cast aluminum)             | 3            | 24224000  |
|                        |   | 2 Monitor ; NEMA 7/4 (cast aluminum)             | 3            | 24225000  |
|                        |   | 4 Monitor ; NEMA 7/4 (cast aluminum)             | 3            | 24227000  |
| Portable RF Control    | Wireless transmitter and receiver options         | 4  |              |           |

# APPARATUS VALVES



## SELECTOR GUIDE

The table below includes information for both Apparatus Valves and Industrial Valves.

| TYPES |           |       | SIZES (Inches) |         | STYLES |        | PRIMARY APPLICATION |                                 |                                       | ACTUATORS |          | CERT.       |           | VALVE SERIES                              | PAGE |
|-------|-----------|-------|----------------|---------|--------|--------|---------------------|---------------------------------|---------------------------------------|-----------|----------|-------------|-----------|---|------|
| Ball  | Butterfly | Other | Minimum        | Maximum | Angle  | Inline | Fire Apparatus      | Pressure Reducing / Restricting | Commercial / Industrial Installations | Manual    | Electric | FM Approved | UL Listed |   |      |
| •     |           |       | 1              | 1 ½     |        | •      | •                   |                                 |                                       | •         |          |             |           | Single Body Valve                         | 8-6  |
| •     | •         |       | 1 ½            | 8       |        | •      | •                   |                                 |                                       | •         | •        |             |           | Unibody Valve                             | 8-7  |
|       |           | •     | 3 ½            | 6       |        |        | •                   |                                 |                                       | •         |          |             |           | Piston Intake Valve                       | 4-10 |
|       |           | •     | 2 ½            | 3       | •      |        | •                   |                                 |                                       |           |          |             |           | Relief                                    | 8-28 |
|       | •         |       | 4 ½            | 6       |        | •      | •                   |                                 |                                       | •         |          |             |           | Suction Intakes                           | 8-2  |
|       |           | •     | 2 ½            | 2 ½     |        | •      | •                   |                                 |                                       |           |          |             |           | Tank-Fill Check                           | 8-28 |
| •     |           |       | 1              | 3       |        | •      | •                   |                                 |                                       | •         |          |             |           | 800 Series                                | 8-19 |
| •     |           |       | 1 ½            | 3       |        | •      | •                   |                                 |                                       | •         |          |             |           | 2800 Series                               | 8-19 |
| •     |           |       | 1 ½            | 4       |        | •      | •                   |                                 |                                       | •         | •        |             |           | 2900 Series                               | 8-19 |
|       | •         |       | 2              | 6       |        | •      | •                   |                                 |                                       | •         | •        |             |           | 2950 Series                               | 8-19 |
| •     |           |       | 2 ½            | 3       |        | •      | •                   |                                 |                                       | •         |          |             |           | 2925A                                     | 8-19 |
| •     |           |       | 3              | 3       |        | •      | •                   |                                 |                                       | •         |          |             |           | W-893                                     | 8-19 |
|       |           | •     | 1 ½            | 2.5     |        | •      | •                   |                                 |                                       |           |          |             |           | Hydrant                                   | 8-4  |
|       |           | •     | 2 ½            | 2 ½     | •      | •      |                     | •                               |                                       |           |          |             | •         | Field Adjustable Pressure Reducing (URFA) | 10-1 |
|       |           | •     | 1 ½            | 2 ½     | •      | •      |                     | •                               |                                       |           |          |             | •         | Pressure Reducing (Pressure-Matic)        | 10-3 |
|       |           | •     | 1 ½            | 2 ½     | •      |        |                     | •                               |                                       |           |          | •           | •         | Pressure Restricting                      | 10-5 |
|       |           | •     | 1 ½            | 2 ½     | •      |        |                     |                                 | •                                     |           |          | •           | •         | Angle                                     | 10-7 |
| •     |           |       | 3              | 4       |        | •      |                     |                                 | •                                     |           |          |             |           | 84 Butterfly Valve                        | 5-53 |

# Suction Intake

Elkhart Brass offers a special cast iron, butterfly valve with Elk-O-Lite® end caps for use as a suction intake in apparatus applications. The valve features:

- Aluminum/bronze disc
- Re-inforced EPDM seat (bi-directional)
- Two piece stainless steel stem
- Rated to 200 psi
- Finished in red urethane enamel with polished chrome hand-wheel and hard anodized end caps
- Gear operated version complies with NFPA 1901



Gearbox can be rotated to assist with positioning without interference

Shown with Female #16

Shown with Male #36

# APPARATUS VALVES



## SUCTION INTAKE

| MODELS                      |                   | 2850 | 2860 |
|-----------------------------|-------------------|------|------|
| Waterway Size (Inches)      |                   | 5"   | 6"   |
| Operation Style             | Gear              | s    | s    |
|                             | Lever/Trigger     | o    | o    |
| Weight (Lbs.)*              |                   | 35.8 | 42.4 |
| Available Adapters/End Caps | Type              | Size |      |
|                             | Rigid NPT Female  | 5"   | •    |
|                             |                   | 6"   | •    |
|                             | Rigid NHT Female  | 4.5" | •    |
|                             |                   | 5"   | •    |
|                             |                   | 6"   | •    |
|                             | Storz F/S         | 4"   | •    |
|                             |                   | 5"   | •    |
|                             | NHT Swivel Female | 4"   | •    |
|                             |                   | 4.5" | •    |
|                             |                   | 5"   | •    |
|                             |                   | 6"   | •    |
|                             | NHT Male          | 4"   | •    |
|                             |                   | 4.5" | •    |
|                             |                   | 5"   | •    |
|                             |                   | 6"   | •    |

### HOW TO ORDER

- Select suction intake model (2850 or 2860).
- Select intake adapter from available options.
- Select discharge adapter from available options.
- Specify operation style (gear or lever/trigger).

KEY s = standard o = option  
 \* Intakes only, excludes adapter options

### ADDITIONAL INFORMATION

#### OPTIONS

- NHT swivel female adapters available with long handle or rocker lug.
- Optional strainer available on some male adapters.
- Optional air bleeder valve on male adapters.

#### THREADS

Valve information is NHT unless otherwise specified. See index T-13 for alternative thread options.

## Hydrant

Available in sizes ranging from 1½" to LDH for portable use (in either aluminum or brass) or permanent mount utilizing the NPT inlet.



X-86A



X-86

# APPARATUS VALVES



## HYDRANT

| INLET SIZES  |      |              |      |      | OUTLET SIZES |      |      |       |      | VALVE TYPE |       | HANDLE STYLE |            |            | MATERIAL/TRIM |      |      |      | DIMENSIONS      |               | MODEL  | FIGURE |
|--------------|------|--------------|------|------|--------------|------|------|-------|------|------------|-------|--------------|------------|------------|---------------|------|------|------|-----------------|---------------|--------|--------|
| Female (NPT) |      | Female (NHT) |      |      | Male (NHT)   |      |      | Storz |      | Ball       | Gated | Crank        | Hand-wheel | Twist-Lock | Brass         |      |      |      | Length (Inches) | Weight (Lbs.) |        |        |
| 1.5"         | 2.5" | 2.5"         | 4.5" | 5.0" | 3.5"         | 4.0" | 4.5" | 1.5"  | 2.5" |            |       |              |            |            | 3.5"          | 4.0" | 4.5" | 4.0" |                 |               | 5.0"   | Cast   |
|              |      | s            |      |      |              |      |      |       | s    |            |       |              |            |            |               |      |      | s    | 12.5            | 5.5           | X-86A  | 3      |
|              |      | s            |      |      |              |      |      |       | s    |            |       |              |            |            |               |      |      | s    | 6.25            | 6.4           | B-96A  | 5      |
| s            |      |              |      |      |              |      |      | s     |      |            |       |              |            |            | s             |      | o    |      | 5.75            | 4.5           | 88-1.5 | 1      |
|              | s    |              |      |      |              |      |      |       | s    |            |       |              |            |            | s             |      | o    |      | 8.5             | 9.1           | 88-2.5 | 1      |
|              |      | s            |      |      |              |      |      |       | s    |            |       |              |            |            |               | s    | o    |      | 12.5            | 13.75         | X-86   | 2      |
|              |      | s            |      |      |              |      |      |       | s    |            |       |              |            |            |               | s    | o    |      | 8.0             | 19.75         | B-94   | 4      |

Figure 1



### 88

- Non-rising stem design
- Metal to metal seat
- Pressure rated to 300 psi (20.68 bar)

Fig. 1

Figure 4



### B-94

- Adjustable, teflon impregnated, neoprene seat
- Pressure rated to 250 psi (17.2 bar)
- Red urethane finish with satin brass or chrome trim (specify)

Fig. 4

Figure 2



### X-86

- Non-rising stem design
- Metal to metal seat
- Pressure rated at 175 psi (12.07 bar)
- Red urethane finish with satin brass or chrome trim (specify)

Fig. 2

Figure 5



### B-96A

- Adjustable, teflon impregnated, neoprene seat
- Pressure rated to 200 psi (13.79 bar)

Fig. 5

Figure 3



### X-86A

- Non-rising stem
- Metal to metal seat
- Pressure rated to 175 psi (12.07 bar)

Fig. 3

## ADDITIONAL INFORMATION

### OTHER PRODUCTS

Cap and chain are Elkhart model #310 and may be found on page 11-1.

### THREADS

Valve information is NHT unless otherwise specified. See index T-13 for alternative thread options.

# Single Body Apparatus

Single Body Apparatus Valves come with an integral actuator of your choice - direct or remote. Designed specially for reliability, ease of installation and ease of use. The Single Body ball valve is designed to the industry standard dimensions. Features the option to select one of eight handle positions with removal of a single bolt. It's that simple. Pair Single Body valves with Unibody Apparatus line for a total apparatus valve solution.

- 1" & 1.5" body sizes
- Dual self-adjusting seats provide bi-directional sealing
- Corrosion resistant brass body with stainless steel valve ball
- Eight position handle adjustment in 45° increments

Remote Handle (R1)



Direct Handle (TS)

| Size | ACTUATOR |    |        |         | MATERIALS       |                     |        | BALL TYPE | WORKING PRESSURE (psi) | C <sub>v</sub> VALUE | ELKHART MODEL | Akron Model |
|------|----------|----|--------|---------|-----------------|---------------------|--------|-----------|------------------------|----------------------|---------------|-------------|
|      | R1       | TS | Travel | Locking | Body            | Ball                | Seat   |           |                        |                      |               |             |
| 1"   | •        |    | 90°    |         | Brass Alloy 844 | 316 Stainless Steel | Hytrel | Round     | 250                    | 81                   | SB10/R1       | 8810/R-1    |
| 1½"  | •        |    | 90°    |         | Brass Alloy 844 | 316 Stainless Steel | Hytrel | Round     | 250                    | 206                  | SB15/R1       | 8815/R-1    |
| 1"   |          | •  | 105°   | •       | Brass Alloy 844 | 316 Stainless Steel | Hytrel | Round     | 250                    | 81                   | SB10/TS       | 8810/TS     |
| 1½"  |          | •  | 105°   | •       | Brass Alloy 844 | 316 Stainless Steel | Hytrel | Round     | 250                    | 206                  | SB15/TS       | 8815/TS     |

NOTE: See 8-15 for Single Body Adapters.



# Unibody Apparatus

The answer to all your apparatus valve needs — the Unibody Apparatus Valve. The Unibody ball valve has been designed to be dimensionally identical to the Akron Brass heavy-duty apparatus valves for cross compatibility. Additionally, Elkhart's Unibody ball valve has a single body design to simplify both configuration and installation.

A unique aspect of the Unibody valve actuator is the ability to be easily interchanged among the various Unibody valve sizes to simplify selecting or changing actuators. Just remove 4 bolts, and you can change the actuator on any Unibody Valve without breaking the waterway or internal plumbing.

- All valve materials are designed for endurance. (See chart on page 8-9 for specifics)
- Ball valves have dual self-adjusting seats, which provide bi-directional sealing and do not require O-rings that might cut and tear during servicing
- Ball valves feature swing-out construction, which allows for easy access to internal waterway without removing the valve from the truck plumbing
- Butterfly valves are bi-directional
- Adapters (end caps) and pump flanges are constructed of either brass or stainless steel
- Actuators are interchangeable — a valve may be easily converted to different actuation type without the need to break the waterway
- Durable handles and handle stops ensure dependability
- Manual handles may be easily changed to different positions by removing a single bolt
- The electric valve utilizes a three-inch extreme duty motor and gearbox for ultimate reliability
- Maximum working pressure rated to 250 psi (SB10, SB15, & EB15-EB35). EB40 rated to 250 psi if flow is in the direction of the arrow and 150 psi if in the opposite direction.
- Static pressure tested to 600 psi (SB10, SB15, & EB15-EB35) closed or open. EB40 is static pressure tested to 150/500 psi depending on which side pressure is applied when valve is closed, and 500 psi when valve is open.
- The Unibody valves meet or exceed NFPA 1901 standards



For order assistance, download the Unibody Configurator at [www.ElkhartBrass.com](http://www.ElkhartBrass.com)

EB   -     -     -

|   |          |   |   |   |
|---|----------|---|---|---|
| Valve body                                      | Page 8-9 | 1.5" Ball valve body                            | 1 | 5 |
|   |          | 2.0" Ball valve body                            | 2 | 0 |
|   |          | 2.5" Ball valve body                            | 2 | 5 |
|   |          | 3.0" Ball valve body                            | 3 | 0 |
|   |          | 3.5" Ball valve body                            | 3 | 5 |
|   |          | 4.0" Flat ball valve body                       | 4 | 0 |
|   |          | 3.0" Butterfly valve body                       | 3 | B |
|   |          | 4.0" Butterfly valve body                       | 4 | B |
|   |          | 4.0" High performance butterfly valve body      | 4 | J |
|   |          | 5.0" Butterfly valve body                       | 5 | B |
|   |          | 5.0" High performance butterfly valve body      | 5 | J |
|   |          | 6.0" Butterfly valve body                       | 6 | B |
|   |          | 6.0" High performance butterfly valve body      | 6 | J |
|   |          | 6.0" High performance butterfly valve body (SS) | 6 | S |
|   |          | 6.0" High efficiency butterfly valve body       | 6 | D |
|   |          | 8.0" Butterfly valve body                       | 8 | B |
| 8.0" High performance butterfly valve body      | 8        | J   |   |   |
| 8.0" High performance butterfly valve body (SS) | 8        | S   |   |   |

|                    |                      |  |                         |   |   |   |   |  |
|--------------------|----------------------|--|-------------------------|---|---|---|---|--|
| Adapters (endcaps) | Page 8-15            | No inlet endcap  | 0                       | 0 | 0 | 0 | 0 |  |
|                    |                      | Hose thread <i>EB15-EB40</i>                                 | H                       |   |   |   |   |  |
|                    |                      | Pipe thread (NPT)  | N                       |   |   |   |   |  |
|                    |                      | Victaulic  | V                       |   |   |   |   |  |
|                    |                      | Flex hose  | F                       |   |   |   |   |  |
|                    |                      | Pump flange  | P                       |   |   |   |   |  |
|                    |                      | Solder   | S                       |   |   |   |   |  |
|                    |                      | Weld (SS)  | W                       |   |   |   |   |  |
|                    |                      | Page 8-11  | Female <i>EB15-EB40</i> | F |   |   |   |  |
|                    |                      |  | Male                    | M |   |   |   |  |
|                    | Non-gender adapter   |  | A                       |   |   |   |   |  |
|                    | 4 bolt (pump flange) |  | 4                       |   |   |   |   |  |
|                    | 8 bolt (pump flange) |  | 8                       |   |   |   |   |  |
|                    | Page 8-13            | Two digit listing <i>EB15-EB40</i>                           |                         | X | X |   |   |  |
|                    |                      | Blank - no taps <i>EB15-EB40</i>                             |                         |   |   | B |   |  |
|                    |                      | Integrated check valve                                       |                         |   |   | C |   |  |
|                    |                      | Drain & pressure tap   |                         |   |   | D |   |  |
|                    |                      | Flow sensor port   |                         |   |   | F |   |  |
|                    | Repeat Inlet Steps   | No outlet endcap   |                         | 0 | 0 | 0 | 0 |  |
|                    |                      | Same options as available for inlet end cap <i>EB15-EB40</i> |                         |   |   |   |   |  |

|   |          |  |   |   |   |   |
|---|----------|--|---|---|---|---|
| Valve actuator<br><small>(remote push/pull rods and assemblies, handwheels, and electric controllers are ordered separately on page 8-17)</small> | Page 8-9 | No actuator  |   | 0 | 0 | 0 |
|   |          | Direct handle (long) <i>EB15-EB35</i>                    | D | 1 |   |   |
|   |          | Direct handle with chrome cover (long)                   | D | 2 |   |   |
|   |          | Direct handle (short)                                    | D | 3 |   |   |
|   |          | Direct handle with chrome cover (short)                  | D | 4 |   |   |
|   |          | Electric <i>All (except EB6D)</i>                        | E | 1 |   |   |
|   |          | Electric <i>EB6D</i>                                     | E | 2 |   |   |
|   |          | Gear <i>All (except EB6D)</i>                            | G | 1 |   |   |
|   |          | Gear <i>EB6D</i>   | G | 2 |   |   |
|   |          | Remote short handle (self-locking) <i>EB15-EB35</i>      | R | 1 |   |   |
|   |          | Remote long handle (self-locking)                        | R | 2 |   |   |
|   |          | Remote short handle (non-locking)                        | R | 3 |   |   |
|   |          | Remote long handle (non-locking)                         | R | 4 |   |   |
|   |          | Rack & sector  | S | 1 |   |   |
|   |          | Twist-lock handle  | T | 1 |   |   |
|   |          | Slow close <i>(D1, D3, R1, R2, R3, R4 &amp; S1 only)</i> |   |   |   | S |
|   |          | Free close   |   |   |   | F |

Example

EB 2 5 - P 4 2 9 B - H M 1 0 D - R 1 F

This is a complete model number for a 2.5" ball valve with: a simple 4 bolt pump flange inlet adapter, a male hose thread outlet adapter with drain tap, a remote push/pull style actuator handle without an additional mechanical slow close device.

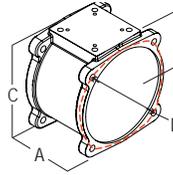
# APPARATUS VALVES



## UNIBODY APPARATUS

### BODIES

#### BALL VALVE BODY

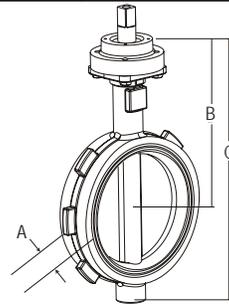


#### MODEL AND DIMENSION KEY

| Size | DIMENSIONS |     |     |     | MATERIALS       |                     |        | BALL TYPE | WORKING PRESSURE (psi) | C <sub>v</sub> VALUE | ELKHART MODEL | Akron Model |
|------|------------|-----|-----|-----|-----------------|---------------------|--------|-----------|------------------------|----------------------|---------------|-------------|
|      | A          | B   | C   | D*  | Body            | Ball                | Seat   |           |                        |                      |               |             |
| 1½"  | 3"         | 2¾" | 4¾" | 4½" | Brass Alloy 844 | 316 Stainless Steel | Hytrel | Round     | 250                    | 139                  | EB15          | 7615/7815   |
| 2"   | 3"         | 2¾" | 4¾" | 4½" | Brass Alloy 844 | 316 Stainless Steel | Hytrel | Round     | 250                    | 139                  | EB20          | 8620/8820   |
| 2½"  | 3½"        | 2¾" | 5½" | 5½" | Brass Alloy 844 | 316 Stainless Steel | Hytrel | Round     | 250                    | 277                  | EB25          | 8625/8825   |
| 3"   | 4"         | 3"  | 5½" | 6½" | Brass Alloy 844 | 316 Stainless Steel | Hytrel | Round     | 250                    | 510                  | EB30          | 8630/8830   |
| 3½"  | 4"         | 3"  | 5½" | 6½" | Brass Alloy 844 | 316 Stainless Steel | Hytrel | Round     | 250                    | 510                  | EB35          | 8635/8835   |
| 4"   | 4"         | 4½" | 8½" | 7½" | Brass Alloy 844 | Manganese Bronze    | Hytrel | Flat      | 250/150                | 694                  | EB40          | N/A         |

\* Bolt center diameter

#### BUTTERFLY VALVE



Butterfly Valve fits between 150# ANSI flanges. Butterfly Valves do not utilize adapters.

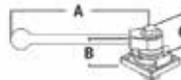
| Size | DIMENSIONS                        |                                   |                                    | MATERIALS           |                     |                         |      | WORKING PRESSURE (psi) | C <sub>v</sub> VALUE | ELKHART MODEL | Akron Model |     |      |      |
|------|-----------------------------------|-----------------------------------|------------------------------------|---------------------|---------------------|-------------------------|------|------------------------|----------------------|---------------|-------------|-----|------|------|
|      | A                                 | B                                 | C                                  | Body                | Wafer               | Shaft                   | Seat |                        |                      |               |             |     |      |      |
| 3"   | 1 <sup>13</sup> / <sub>16</sub> " | 7 <sup>57</sup> / <sub>64</sub> " | 11 <sup>29</sup> / <sub>32</sub> " | Cast Iron           | 316 Stainless Steel | 416 Stainless Steel     | EPDM | 250                    | 262                  | EB3B          |             |     |      |      |
| 4"   | 2 <sup>1</sup> / <sub>16</sub> "  | 8 <sup>45</sup> / <sub>64</sub> " | 13 <sup>3</sup> / <sub>4</sub> "   | Cast Iron           | 316 Stainless Steel | 416 Stainless Steel     | EPDM | 250                    | 647                  | EB4B          |             |     |      |      |
|      |                                   |                                   |                                    | Carbon Steel        | 316 Stainless Steel | 17-4 PH Stainless Steel | PTFE |                        |                      |               |             | 285 | 400  | EB4J |
| 5"   | 2 <sup>1</sup> / <sub>4</sub> "   | 9 <sup>17</sup> / <sub>64</sub> " | 14 <sup>23</sup> / <sub>32</sub> " | Cast Iron           | 316 Stainless Steel | 416 Stainless Steel     | EPDM | 250                    | 1141                 | EB5B          |             |     |      |      |
|      | 2½"                               | 6 <sup>17</sup> / <sub>32</sub> " | 13 <sup>7</sup> / <sub>32</sub> "  | Carbon Steel        | 316 Stainless Steel | 17-4 PH Stainless Steel | PTFE |                        |                      |               |             | 285 | 650  | EB5J |
|      | 2½"                               | 8½"                               | 13½"                               | 316 Stainless Steel | 316 Stainless Steel | 17-4 PH Stainless Steel | PTFE |                        |                      |               |             | 275 | 650  | EB5S |
| 6"   | 2½"                               | 9 <sup>57</sup> / <sub>64</sub> " | 15 <sup>57</sup> / <sub>64</sub> " | Cast Iron           | 316 Stainless Steel | 416 Stainless Steel     | EPDM | 250                    | 1580                 | EB6B          |             |     |      |      |
|      | 2½"                               | 9 <sup>13</sup> / <sub>32</sub> " | 11 <sup>13</sup> / <sub>32</sub> " | Ductile Iron        | Aluminum/Bronze     | 416 Stainless Steel     | EPDM |                        |                      |               |             | 250 | 1950 | EB6D |
|      | 2½"                               | 9¾"                               | 15½"                               | Carbon Steel        | 316 Stainless Steel | 17-4 PH Stainless Steel | PTFE |                        |                      |               |             | 285 | 1050 | EB6J |
|      | 2½"                               | 9 <sup>7</sup> / <sub>16</sub> "  | 15½"                               | 316 Stainless Steel | 316 Stainless Steel | 17-4 PH Stainless Steel | PTFE |                        |                      |               |             | 275 | 1050 | EB6S |
| 8"   | 2¾"                               | 11 <sup>5</sup> / <sub>64</sub> " | 18 <sup>7</sup> / <sub>32</sub> "  | Cast Iron           | 316 Stainless Steel | 416 Stainless Steel     | EPDM | 250                    | 2892                 | EB8B          |             |     |      |      |
|      | 2½"                               | 10 <sup>7</sup> / <sub>16</sub> " | 18 <sup>7</sup> / <sub>16</sub> "  | Carbon Steel        | 316 Stainless Steel | 17-4 PH Stainless Steel | PTFE |                        |                      |               |             | 285 | 2200 | EB8J |
|      | 2½"                               | 10 <sup>7</sup> / <sub>16</sub> " | 18 <sup>7</sup> / <sub>16</sub> "  | 316 Stainless Steel | 316 Stainless Steel | 17-4 PH Stainless Steel | PTFE |                        |                      |               |             | 275 | 2200 | EB8S |

### ACTUATORS

#### DIRECT HANDLE



| DIMENSIONS                         | INCHES                           | DESCRIPTION             | ELKHART MODEL | Akron Model |
|------------------------------------|----------------------------------|-------------------------|---------------|-------------|
| Handle Length A (short)            | 5"                               | Short                   | D3F           | TS          |
| Handle Length A (long)             | 9 <sup>9</sup> / <sub>16</sub> " | Long                    | D1F           | TS          |
| Handle Height B $\perp$            | 1 <sup>7</sup> / <sub>8</sub> "  | Short with slow close   | D3S           | TS          |
| Overall Height C                   | 2¼"                              | Long with slow close    | D1S           | TS          |
| Overall Height C (with slow close) | 3 <sup>5</sup> / <sub>8</sub> "  | Short with chrome cover | D4F           | TSC         |
|                                    |                                  | Long with chrome cover  | D2F           | TSC         |



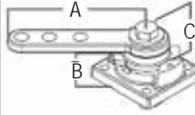
# APPARATUS VALVES

## UNIBODY APPARATUS

### REMOTE HANDLE



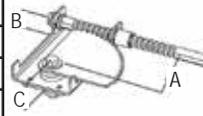
| DIMENSIONS                         | INCHES | DESCRIPTION           | ELKHART MODEL |             | Akron Model |
|------------------------------------|--------|-----------------------|---------------|-------------|-------------|
|                                    |        |                       | Self-Locking  | Non-Locking |             |
| Handle Length A (short)            | 4½"    | Short                 | R1F           | R3F         | R-1         |
| Handle Length A (long)             | 7"     | Long                  | R2F           | R4F         | R-2         |
| Handle Height B $\perp$            | 1⅞"    | Short with slow close | R1S           | R3S         | R-1         |
| Overall Height C                   | 2¼"    |                       | R2S           | R4S         | R-2         |
| Overall Height C (with slow close) | 3⅞"    | Long with slow close  |               |             |             |



### RACK & SECTOR



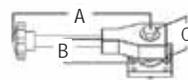
| DIMENSIONS                         | INCHES | DESCRIPTION              | ELKHART MODEL | Akron Model |
|------------------------------------|--------|--------------------------|---------------|-------------|
| Handle Offset A                    | 4⅞"    | Standard                 | S1F           | R/S         |
| Handle Height B $\perp$            | 1⅞"    |                          |               |             |
| Overall Height C                   | 1⅞"    | Standard with slow close | S1S           | R/S         |
| Overall Height C (with slow close) | 3⅞"    |                          |               |             |



### TWIST LOCK



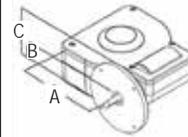
| DIMENSIONS              | INCHES                            | DESCRIPTION | ELKHART MODEL | Akron Model |
|-------------------------|-----------------------------------|-------------|---------------|-------------|
| Handle Length A         | 8 <sup>15</sup> / <sub>16</sub> " | Standard    | T1F           | SZ          |
| Handle Height B $\perp$ | 1⅞"                               |             |               |             |
| Overall Height C        | 3"                                |             |               |             |



### GEAR



| DIMENSIONS              | INCHES | DESCRIPTION   | ELKHART MODEL | Akron Model |
|-------------------------|--------|---------------|---------------|-------------|
| Handle Offset A         | 2⅞"    | Standard      | G1F           | G           |
| Handle Height B $\perp$ | 1⅞"    |               |               |             |
| Overall Height C        | 3⅞"    | High Pressure | G2F*          |             |



Hand-wheels are ordered separately

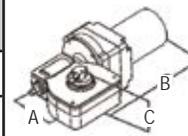
\* For use on the EB6D only.

### ELECTRIC



E1F & E2F

| DIMENSIONS       | INCHES | DESCRIPTION   | ELKHART MODEL | Akron Model |
|------------------|--------|---------------|---------------|-------------|
| Manual Offset A  | 2⅞"    | Standard      | E1F           | E           |
| Motor Length B   | 10¼"   |               |               |             |
| Overall Height C | 3¾"    | High Pressure | E2F*          |             |



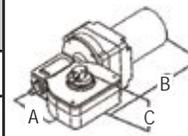
Controllers are ordered separately

\* For use on the EB6D only.



E3F & E5F

| DIMENSIONS       | INCHES | DESCRIPTION   | ELKHART MODEL | Akron Model |
|------------------|--------|---------------|---------------|-------------|
| Manual Offset A  | 2⅞"    | Standard      | E3F & E4F     | E           |
| Motor Length B   | 10¼"   |               |               |             |
| Overall Height C | 4⅞"    | High Pressure | E5F* & E6F*   |             |



Controllers are ordered separately

\* For use on the EB6D only.



E4F & E6F

### SLOW CLOSE



|  |  |  |  |
|--|--|--|--|
|  |  |  | Slow close may be bolted to remote, direct, and rack & sector actuators. |
|--|--|--|--|

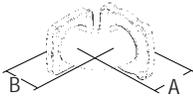
# APPARATUS VALVES



## UNIBODY APPARATUS

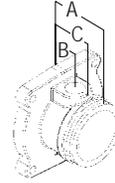
### ADAPTER DIMENSION KEY

#### PUMP ELBOW ADAPTERS



A = Valve Flange to  
Centerline of Elbow  
B = Pump Flange to  
Centerline of Elbow

#### DISCHARGE & INTAKE ADAPTERS



A = Overall Length  
B = Length to Centerline of  
Drain Hole  
C = Length to Edge of  
Drain Boss

|                           |            | ADAPTERS                      |         |       |       |       |        |         |              |           |          |           |           |           |        | MODEL       |             |                  |         |           |        |
|---------------------------|------------|-------------------------------|---------|-------|-------|-------|--------|---------|--------------|-----------|----------|-----------|-----------|-----------|--------|-------------|-------------|------------------|---------|-----------|--------|
| Style                     | Valve Size | Bolt Center Diameter (Inches) |         |       |       |       |        |         | Drain (1/2") | Flow Port | 4 Degree | 26 Degree | 90 Degree | 94 Degree | Offset | Dimension A | Dimension B | Dimension C      | Note    | Elkhart # | Akon # |
|                           |            | 4 3/4                         | 4 1 1/2 | 5 1/2 | 5 3/4 | 6 3/4 | 7 1/16 | 7 25/32 |              |           |          |           |           |           |        |             |             |                  |         |           |        |
| 4 BOLT PUMP FLANGE (HALE) |            | 2.5" 4 3/4                    |         |       |       |       |        |         |              | 4         |          |           |           |           | 2 1/2  | —           | —           |                  | P427B   |           |        |
|                           |            | 3.0" 4 3/4                    |         |       |       |       |        |         |              | 4         |          |           |           |           | 2 1/2  | —           | —           |                  | P427B   |           |        |
|                           |            | 3.5" 4 3/4                    |         |       |       |       |        |         |              | 4         |          |           |           |           | 2 1/2  | —           | —           |                  | P427B   |           |        |
|                           |            | 2.5" 4 3/4                    |         |       |       |       |        |         |              |           |          |           |           | 5d20m     | 6 1/4  | —           | —           |                  | P401B   | HD1-S     |        |
|                           |            | 2.5" 4 3/4                    |         |       |       |       |        |         |              |           |          |           |           | 5d20m     | 6 3/8  | —           | —           |                  | P403B   | HD3-S     |        |
|                           |            | 2.5" 4 3/4                    |         |       |       |       |        |         |              |           |          |           |           | 14d5m     | 5 1/2  | —           | —           |                  | P404B   | HD4-S     |        |
|                           |            | 2.5" 4 3/4                    |         |       |       |       |        |         |              | 4         |          |           |           |           | 10 1/4 | —           | —           |                  | P405B   | HD5-S     |        |
|                           |            | 3.0" 4 3/4                    |         |       |       |       |        |         |              |           |          |           |           |           | 7d     | 5 3/4       | —           | —                | P401B   | HD1-S     |        |
|                           |            | 3.5" 4 3/4                    |         |       |       |       |        |         |              |           |          |           |           |           | 7d     | 5 3/4       | —           | —                | P401B   | HD1-S     |        |
|                           |            | 2.5" 4 3/4                    |         |       |       |       |        |         |              | F         |          |           |           |           | 5d20m  | 6 1/4       | 3 3/8       | —                | P409F   | HD21-SF   |        |
|                           |            | 2.5" 4 3/4                    |         |       |       |       |        |         |              |           |          | 90        |           |           | 3 1/4  | 5 1/4       | —           | —                | P411B   | SE1-S     |        |
|                           |            | 2.5" 4 3/4                    |         |       |       |       |        |         |              |           |          | 90        |           |           | 5 1/4  | 5 1/4       | —           | —                | P412B   | SE2-S     |        |
|                           |            | 3.0" 4 3/4                    |         |       |       |       |        |         |              |           |          | 90        |           |           | 3 1/4  | 6           | —           | —                | P411B   | SE1-S     |        |
|                           |            | 3.0" 4 3/4                    |         |       |       |       |        |         |              |           |          | 90        |           |           | 4 3/4  | 6           | —           | —                | P412B   | SE2-S     |        |
|                           | 3.5" 4 3/4 |                               |         |       |       |       |        |         |              |           | 90       |           |           | 3 1/4     | 6      | —           | —           | P411B            | SE1-S   |           |        |
|                           | 3.5" 4 3/4 |                               |         |       |       |       |        |         |              |           | 90       |           |           | 4 3/4     | 6      | —           | —           | P412B            | SE2-S   |           |        |
|                           | 2.5" 4 3/4 |                               |         |       |       |       |        |         |              |           | 90       |           |           | 2 1/2     | 7 3/4  | —           | —           | P413B            | SE3-S   |           |        |
| 8 BOLT PUMP FLANGE (HALE) |            | 3.0"                          |         |       | 5 3/4 |       |        |         |              |           |          |           |           |           | 2 1/2  | —           | —           |                  | P851B   | B1-SE     |        |
|                           |            | 3.0"                          |         |       | 5 3/4 |       |        |         | 4            |           |          |           |           |           | 2 1/2  | —           | —           |                  | P853B   | B3-SE     |        |
|                           |            | 3.5"                          |         |       | 5 3/4 |       |        |         |              |           |          |           |           |           | 2 1/2  | —           | —           |                  | P851B   | B1-SE     |        |
|                           |            | 3.5"                          |         |       | 5 3/4 |       |        |         | 4            |           |          |           |           |           | 2 1/2  | —           | —           |                  | P853B   | B3-SE     |        |
|                           |            | 4.0"                          |         |       | 5 3/4 |       |        |         | 4            |           |          |           |           |           | 4      | —           | —           |                  | P853B   | B3-SE     |        |
|                           |            | 4.0"                          |         |       | 5 3/4 |       |        |         |              |           |          |           |           |           | 4      | —           | —           | Octagonal Flange | P858B   | B8-SH     |        |
|                           |            | 3.0"                          |         |       | 5 3/4 |       |        |         | 4            |           |          |           |           |           | 6 3/8  | —           | —           |                  | P856B   | B6-SE     |        |
|                           |            | 3.5"                          |         |       | 5 3/4 |       |        |         | 4            |           |          |           |           |           | 6 3/8  | —           | —           |                  | P856B   | B6-SE     |        |
|                           |            | 4.0"                          |         |       | 5 3/4 |       |        |         |              | F         |          |           |           |           | 5 1/6  | 2 1/16      | —           | —                | P850F   | B20-SHF   |        |
|                           |            | 3.0"                          |         |       | 5 3/4 |       |        |         |              |           |          | 90        |           |           | 4 3/8  | 4 3/8       | —           | —                | P861B   | HDE1-S    |        |
|                           |            | 3.5"                          |         |       | 5 3/4 |       |        |         |              |           |          | 90        |           |           | 4 3/8  | 4 3/8       | —           | —                | P861B   | HDE1-S    |        |
|                           |            | 4.0"                          |         |       | 5 3/4 |       |        |         |              |           |          | 90        |           |           | 9 1/2  | 5           | —           | —                | P861B   | HDE1-S    |        |
|                           | 4.0"       |                               |         | 5 3/4 |       |       |        |         |              |           | 94       |           |           | 9 1/2     | 5      | —           | —           | P869B            | HDE94-S |           |        |

# APPARATUS VALVES

## UNIBODY APPARATUS

|                              |            | ADAPTERS                     |       |       |       |       |       |         |              |          |          |           |           |           |        |             |             | MODEL             |         |           |         |
|------------------------------|------------|------------------------------|-------|-------|-------|-------|-------|---------|--------------|----------|----------|-----------|-----------|-----------|--------|-------------|-------------|-------------------|---------|-----------|---------|
| Style                        | Valve Size | BoltCenter Diameter (Inches) |       |       |       |       |       |         | Drain (1/4") | FlowPort | 4 Degree | 26 Degree | 90 Degree | 94 Degree | Offset | Dimension A | Dimension B | Dimension C       | Note    | Elkhart # | Akron # |
|                              |            | 4 3/8                        | 4 1/2 | 5 1/2 | 5 3/4 | 6 1/2 | 7 1/8 | 7 1/2   |              |          |          |           |           |           |        |             |             |                   |         |           |         |
| 4 BOLT PUMPFLANGE (WATEROUS) |            | 1.5"                         | 4 3/8 |       |       |       |       |         |              |          |          |           |           |           |        | 2 3/8       | —           | —                 | slots   | P429B     | B1-SX   |
|                              |            | 2.0"                         | 4 3/8 |       |       |       |       |         |              |          |          |           |           |           |        | 2 3/8       | —           | —                 | slots   | P429B     | B1-SX   |
|                              |            | 2.5"                         | 4 3/8 |       |       |       |       |         |              |          |          |           |           |           |        | 2 3/8       | —           | —                 | slots   | P429B     | B1-SX   |
|                              |            | 3.0"                         | 4 3/8 |       |       |       |       |         |              |          |          |           |           |           |        | 2 3/8       | —           | —                 | slots   | P429B     | B1-SX   |
|                              |            | 3.5"                         | 4 3/8 |       |       |       |       |         |              |          |          |           |           |           |        | 2 3/8       | —           | —                 | slots   | P429B     | B1-SX   |
|                              |            | 3.0"                         | 4 3/8 |       |       |       |       |         |              |          |          |           |           |           |        | 4 1/2       | —           | —                 | slots   | P425B     | B5-S    |
|                              |            | 3.5"                         | 4 3/8 |       |       |       |       |         |              |          |          |           |           |           |        | 4 1/2       | —           | —                 | slots   | P425B     | B5-S    |
|                              |            | 2.5"                         | 4 3/8 |       |       |       |       |         |              |          |          |           |           |           |        | 2 3/8       | —           | —                 |         | P423B     | B3-S    |
|                              |            | 2.5"                         | 4 3/8 |       |       |       |       |         |              |          |          |           |           |           |        | 1 1/8       | —           | —                 |         | P418B     | B2-SH   |
|                              |            | 3.0"                         |       |       |       |       |       | 7 25/32 |              | 4        |          |           |           |           |        | 1 3/8       | —           | —                 |         | P493B     | B3-SH   |
|                              |            | 3.5"                         |       |       |       |       |       | 7 25/32 |              | 4        |          |           |           |           |        | 1 3/8       | —           | —                 |         | P493B     | B3-SH   |
|                              |            | 4.0"                         |       |       |       | 6 3/8 |       |         |              | 4        |          |           |           |           |        | 2           | —           | —                 | 2 piece | P473B     | B3-SH   |
|                              |            | 2.5"                         | 4 3/8 |       |       |       |       |         |              |          |          |           |           |           |        | 1 3/8       | —           | —                 | clamp   | P419B     | B1-SW   |
|                              |            | 3.0"                         | 4 3/8 |       |       |       |       |         |              |          |          |           |           |           |        | 1 3/8       | —           | —                 | clamp   | P419B     | B1-SW   |
|                              |            | 3.5"                         | 4 3/8 |       |       |       |       |         |              |          |          |           |           |           |        | 1 3/8       | —           | —                 | clamp   | P419B     | B1-SW   |
|                              |            | 2.5"                         | 4 3/8 |       |       |       |       |         |              | F        |          |           |           |           |        | 3 1/2       | 1 3/16      | —                 |         | P410F     | B10-SF  |
|                              | 3.0"       | 4 3/8                        |       |       |       |       |       |         | F            |          |          |           |           |           | 3 3/16 | 1 3/8       | —           |                   | P410F   | B10-SF    |         |
|                              | 3.5"       | 4 3/8                        |       |       |       |       |       |         | F            |          |          |           |           |           | 3 3/16 | 1 3/8       | —           |                   | P410F   | B10-SF    |         |
|                              | 2.5"       | 4 3/8                        |       |       |       |       |       |         |              |          |          |           |           |           | 2 3/8  | —           | —           |                   | P814B   | B4-S      |         |
| 8 BOLT PUMPFLANGE (WATEROUS) |            | 2.5"                         | 4 3/8 |       |       |       |       |         |              |          |          |           |           |           | 4 1/2  | —           | —           | 4 holes & 4 slots | P815B   | B5-S      |         |
|                              |            | 2.5"                         | 4 3/8 |       |       |       |       |         |              |          |          |           |           |           | 6      | —           | —           |                   | P816B   | B6-S      |         |
|                              |            | 3.0"                         | 4 3/8 |       |       |       |       |         |              |          |          |           |           |           | 2 3/8  | —           | —           |                   | P814B   | B4-S      |         |
|                              |            | 3.5"                         | 4 3/8 |       |       |       |       |         |              |          |          |           |           |           | 2 3/8  | —           | —           |                   | P814B   | B4-S      |         |
|                              |            | 2.5"                         |       |       |       | 6 3/8 |       |         |              | 4        |          |           |           |           |        | 7/8         | —           | —                 |         | P871B     | B1-SH   |
|                              |            | 4.0"                         |       |       |       | 6 3/8 |       |         |              | 4        |          |           |           |           |        | 2           | —           | —                 | 2 piece | P871B     | B1-SH   |
|                              |            | 3.0"                         |       | 5 1/2 |       |       |       |         |              |          | 26       |           |           |           |        | 2 3/8       | —           | —                 |         | P842B     | B2-SW   |
|                              |            | 3.0"                         |       | 5 1/2 |       |       |       |         |              | 4        |          |           |           |           |        | 3 3/8       | —           | —                 |         | P843B     | B3-SW   |
|                              |            | 3.0"                         |       | 5 1/2 |       |       |       |         |              |          |          |           |           |           |        | 2 3/8       | —           | —                 | slots   | P841B     | B1-SEW  |
|                              |            | 3.5"                         |       | 5 1/2 |       |       |       |         |              |          | 26       |           |           |           |        | 2 3/8       | —           | —                 |         | P842B     | B2-SW   |
|                              |            | 3.5"                         |       | 5 1/2 |       |       |       |         |              | 4        |          |           |           |           |        | 3 3/8       | —           | —                 |         | P843B     | B3-SW   |
|                              |            | 3.5"                         |       | 5 1/2 |       |       |       |         |              |          |          |           |           |           |        | 2 3/8       | —           | —                 | slots   | P841B     | B1-SEW  |
|                              |            | 4.0"                         |       | 5 1/2 |       |       |       |         |              |          |          |           |           |           |        | 4           | —           | —                 |         | P848B     | B8-SW   |
|                              |            | 4.0"                         |       | 5 1/2 |       |       |       |         |              | F        |          |           |           |           |        | 5 1/16      | 2 11/16     | —                 |         | P840F     | B20-SFW |
|                              |            | 3.0"                         |       | 5 1/2 |       |       |       |         |              |          |          | 90        |           |           |        | 4 3/16      | 4 3/16      | —                 |         | P845B     | WDE1S   |
|                              |            | 3.5"                         |       | 5 1/2 |       |       |       |         |              |          |          | 90        |           |           |        | 4 3/16      | 4 3/16      | —                 |         | P845B     | WDE1-S  |
| 4.0"                         |            |                              | 5 1/2 |       |       |       |       |         |              |          | 90       |           |           |           | 9 1/2  | 5           | —           |                   | P845B   | WDE1-S    |         |
| 4.0"                         |            |                              | 5 1/2 |       |       |       |       |         |              |          |          | 94        |           |           | 9 1/2  | 5           | —           |                   | P849B   | WDE94-S   |         |
| GENERAL                      |            | 1.5"                         | 4 3/8 |       |       |       |       |         |              |          |          | 90        |           |           | 3 3/4  | 4 13/16     | —           |                   | P817B   | DE1-S     |         |
|                              |            | 1.5"                         | 4 3/8 |       |       |       |       |         |              |          |          | 90        |           |           | 3 3/4  | 5 1/2       | —           |                   | P818B   | DE2-S     |         |
|                              |            | 2.0"                         | 4 3/8 |       |       |       |       |         |              |          |          | 90        |           |           | 3 3/4  | 4 13/16     | —           |                   | P817B   | DE1-S     |         |
|                              |            | 2.0"                         | 4 3/8 |       |       |       |       |         |              |          |          | 90        |           |           | 3 3/4  | 5 1/2       | —           |                   | P818B   | DE2-S     |         |
| 4 BOLT PUMP FLANGE (DARLEY)  |            | 2.5"                         |       | 4 1/2 |       |       |       |         |              |          |          |           |           |           | 2 3/8  | —           | —           |                   | P432B   | B2-S      |         |
|                              |            | 3.0"                         |       | 4 1/2 |       |       |       |         |              |          |          |           |           |           | 2 3/8  | —           | —           |                   | P432B   | B2-S      |         |
|                              |            | 3.5"                         |       | 4 1/2 |       |       |       |         |              |          |          |           |           |           | 2 3/8  | —           | —           |                   | P432B   | B2-S      |         |
|                              |            | 2.5"                         |       | 4 1/2 |       |       |       |         |              |          |          |           | 6d        |           | 6 3/4  | —           | —           |                   | P431B   | DD1-S     |         |

APPARATUS VALVES

# APPARATUS VALVES



## UNIBODY APPARATUS

# APPARATUS VALVES

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|                  |            | ADAPTERS           |       |       |       |   |       |   |   |             |                    |           |             |                 |                 |                 | MODEL    |             |             |                   |                     |          |         |
|------------------|------------|--------------------|-------|-------|-------|---|-------|---|---|-------------|--------------------|-----------|-------------|-----------------|-----------------|-----------------|----------|-------------|-------------|-------------------|---------------------|----------|---------|
| Style            | Valve Size | Pipe Size (Inches) |       |       |       |   |       |   |   | Drain(1/4") | Pressure Tap(1/4") | Flow Port | Check Valve | 4 Degree Offset | 30 Degree Droop | 90 Degree Droop | Strainer | Dimension A | Dimension B | Dimension C       | Note                | Elkhart# | Akon #  |
|                  |            | 1                  | 1 1/2 | 2     | 2 1/2 | 3 | 3 1/2 | 4 | 5 |             |                    |           |             |                 |                 |                 |          |             |             |                   |                     |          |         |
| RIGID NPT MALE   |            | 1.5"               | 1 1/2 |       |       |   |       |   |   |             |                    |           |             |                 |                 |                 |          | 1 1/8       | —           | —                 |                     | NM01B    | M1-S    |
|                  |            | 2.0"               |       | 2     |       |   |       |   |   |             |                    |           |             |                 |                 |                 |          | 1 1/8       | —           | —                 |                     | NM01B    | M1-S    |
|                  |            | 2.5"               |       |       | 2 1/2 |   |       |   |   |             |                    |           |             |                 |                 |                 |          | 2           | —           | —                 |                     | NM01B    | M1-S    |
|                  |            | 3.0"               |       |       |       | 3 |       |   |   |             |                    |           |             |                 |                 |                 |          | 2 1/16      | —           | —                 |                     | NM01B    | M1-S    |
|                  |            | 3.5"               |       |       |       |   | 3 1/2 |   |   |             |                    |           |             |                 |                 |                 |          | 2 1/16      | —           | —                 |                     | NM01B    | M1-S    |
|                  |            | 4.0"               |       |       |       |   |       | 4 |   |             |                    |           |             |                 |                 |                 |          | 2 1/16      | —           | —                 |                     | NM01B    | M1-S    |
|                  |            | 2.5"               |       |       | 2 1/2 |   |       |   | D | P           |                    |           |             |                 |                 |                 |          | 3 3/16      | 1 1/8       | 1 1/8             |                     | NM03D    | M3-S    |
|                  |            | 3.0"               |       |       |       | 3 |       |   | D | P           |                    |           |             |                 |                 |                 |          | 3 3/16      | 1 1/8       | 2 1/8             |                     | NM03D    | M3-S    |
|                  |            | 4.0"               |       |       |       |   | 4     |   | D | P           |                    |           |             |                 |                 |                 |          | 4 1/4       | 1 1/8       | 2 3/8             |                     | NM03D    | M3-S    |
| RIGID NPT FEMALE |            | 2.0"               |       | 2 1/2 |       |   |       |   |   |             |                    |           |             |                 |                 |                 |          | 1 15/16     | —           | —                 |                     | NM12B    | M12-S   |
|                  |            | 3.0"               |       |       |       | 4 |       |   |   |             |                    |           |             |                 |                 |                 |          | 3 3/4       | —           | —                 |                     | NM12B    | M12-S   |
|                  |            | 1.5"               | 1 1/2 |       |       |   |       |   |   |             |                    |           |             |                 |                 |                 |          | 1 1/4       | —           | —                 |                     | NF01B    | P1-S    |
|                  |            | 2.0"               |       | 2     |       |   |       |   |   |             |                    |           |             |                 |                 |                 |          | 1 1/4       | —           | —                 |                     | NF01B    | P1-S    |
|                  |            | 2.5"               |       |       | 2 1/2 |   |       |   |   |             |                    |           |             |                 |                 |                 |          | 1 1/8       | —           | —                 |                     | NF01B    | P1-S    |
|                  |            | 3.0"               |       |       |       | 3 |       |   |   |             |                    |           |             |                 |                 |                 |          | 1 1/8       | —           | —                 |                     | NF01B    | P1-S    |
|                  |            | 3.5"               |       |       |       |   | 3 1/2 |   |   |             |                    |           |             |                 |                 |                 |          | 2           | —           | —                 |                     | NF01B    | P1-S    |
|                  |            | 4.0"               |       |       |       |   |       | 4 |   |             |                    |           |             |                 |                 |                 |          | 2           | —           | —                 |                     | NF01B    | P1-S    |
|                  |            | 1.5"               | 1 1/2 |       |       |   |       |   | D | P           |                    |           |             |                 |                 |                 |          | 3 3/4       | 1 3/8       | 2 3/8             |                     | NF02D    | P2-S    |
| RIGID NPT FEMALE |            | 2.0"               |       | 2     |       |   |       | D | P |             |                    |           |             |                 |                 |                 |          | 3 3/4       | 1 3/8       | 2 3/8             |                     | NF02D    | P2-S    |
|                  |            | 2.5"               |       |       | 2 1/2 |   |       | D | P |             |                    |           |             |                 |                 |                 |          | 3 3/8       | 1 3/8       | 2 3/8             |                     | NF02D    | P2-S    |
|                  |            | 2.5"               |       |       | 2 1/2 |   |       |   | D | P           |                    |           |             |                 |                 |                 |          | 4 3/16      | 1 3/4       | 2 1/2             |                     | NF22D    | P2-SE   |
|                  |            | 3.0"               |       |       |       | 3 |       |   | D | P           |                    |           |             |                 |                 |                 |          | 3 3/16      | 1 3/8       | 2 3/8             |                     | NF02D    | P2-S    |
|                  |            | 3.5"               |       |       |       |   | 3 1/2 |   | D | P           |                    |           |             |                 |                 |                 |          | 4           | 1 3/8       | 2 3/8             |                     | NF02D    | P2-S    |
|                  |            | 4.0"               |       |       |       |   |       | 4 | D | P           |                    |           |             |                 |                 |                 |          | 4 13/16     | 1 13/16     | 2 3/16            |                     | NF02D    | P2-S    |
|                  |            | 1.5"               | 1 1/2 | 2     |       |   |       |   |   |             |                    |           |             |                 |                 |                 |          | 2 1/16      | —           | —                 |                     | NF10B    | P10-S   |
|                  |            | 2.0"               |       |       | 2 1/2 |   |       |   |   |             |                    |           |             |                 |                 |                 |          | 2 1/16      | —           | —                 |                     | NF10B    | P10-S   |
|                  |            | 2.5"               |       |       |       | 3 |       |   |   |             |                    |           |             |                 |                 |                 |          | 3 3/16      | —           | —                 |                     | NF10B    | P10-S   |
|                  |            | 3.0"               |       |       |       |   | 4     |   | D | P           |                    |           |             |                 |                 |                 |          | 3 3/4       | 1 3/8       | 2 3/8             |                     | NF12D    | P12-S   |
|                  |            | 2.0"               |       | 2     | 2 1/2 |   |       |   |   |             | F                  |           |             |                 |                 |                 |          | 4 7/16      | —           | —                 | 2" F NPT & 2.5" Vic | NF20F    | P20-SF  |
|                  |            | 2.5"               |       |       | 2 1/2 | 3 |       |   |   |             | F                  |           |             |                 |                 |                 |          | 4 7/16      | —           | —                 | 2.5" F NPT & 3" Vic | NF20F    | P20-SF  |
|                  |            | 3.0"               |       |       |       | 3 |       |   |   |             | F                  |           |             |                 |                 |                 |          | 4 3/8       | —           | —                 |                     | NF20F    | P20-SF  |
|                  |            | 4.0"               |       |       |       |   | 4     |   |   |             | F                  |           |             |                 |                 |                 |          | 4 7/16      | —           | —                 |                     | NF20F    | P20-SF  |
|                  |            | 1.5"               | 1 1/2 | 2     |       |   |       |   | D |             |                    | C         |             |                 |                 |                 |          | 6           | 3 3/8       | 4 3/4             | 1.5" F NPT & 2" Vic | NF30C    | P30-SCV |
|                  |            | 2.0"               |       | 2     |       |   |       |   | D |             |                    | C         |             |                 |                 |                 |          | 5 1/8       | 3 3/8       | 4 3/8             |                     | NF30C    | P30-SCV |
|                  | 2.5"       |                    |       | 2 1/2 |       |   |       | D |   |             | C                  |           |             |                 |                 |                 | 6 1/2    | 4 3/16      | 5 1/16      |                   | NF30C               | P30-SCV  |         |
|                  | 3.0"       |                    |       |       | 3     |   |       | D |   |             | C                  |           |             |                 |                 |                 | 7 1/2    | 4 13/16     | 5 1/16      |                   | NF30C               | P30-SCV  |         |
|                  | 3.0"       |                    |       |       | 3     | 4 |       |   |   |             | C                  |           |             |                 |                 |                 | 6 1/16   | —           | —           | 3" F NPT & 4" Vic | NF40C               | P40-SCV  |         |
|                  | 3.0"       |                    |       |       | 3     | 4 |       |   |   |             |                    |           |             |                 |                 |                 | 2 3/16   | —           | —           | 3" F NPT & 4" Vic | NF71B               | VT1-S    |         |
|                  | 3.0"       |                    |       |       | 3     | 4 |       | D | P |             |                    |           |             |                 |                 |                 | 3 3/16   | —           | —           | 3" F NPT & 4" Vic | NF72D               | VT3-S    |         |
|                  | 4.0"       |                    |       |       |       | 4 | 5     |   |   |             |                    |           |             |                 |                 |                 | 2 3/8    | —           | —           | 4" F NPT & 5" Vic | NF71B               | VT1-S    |         |

# APPARATUS VALVES

## UNIBODY APPARATUS

| ADAPTERS  |   |                    |       |       |       |       |       |   |   |              |                     |           |             |                 |                 |                 |          |             |             |             |       |           |        |
|---|---|--------------------|-------|-------|-------|-------|-------|---|---|--------------|---------------------|-----------|-------------|-----------------|-----------------|-----------------|----------|-------------|-------------|-------------|-------|-----------|--------|
| Style   | Valve Size  | Pipe Size (Inches) |       |       |       |       |       |   |   | Drain (1/4") | Pressure Tap (1/4") | Flow Port | Check Valve | 4 Degree Offset | 30 Degree Droop | 90 Degree Droop | Strainer | Dimension A | Dimension B | Dimension C | Note  | MODEL     |        |
|   |   | 1                  | 1 1/2 | 2     | 2 1/2 | 3     | 3 1/2 | 4 | 5 |              |                     |           |             |                 |                 |                 |          |             |             |             |       | Elkhart # | Akon # |
| MALE DISCHARGE (HOSE THREAD)  |    | 1.5"               | 1 1/2 |       |       |       |       |   |   |              |                     |           |             |                 |                 |                 |          | 1 3/8       | —           | —           |       | HM01B     | M1-S   |
|   |   | 2.0"               |       | 2     |       |       |       |   |   |              |                     |           |             |                 |                 |                 |          | 1 3/8       | —           | —           |       | HM01B     | M1-S   |
|   |   | 2.0"               |       |       | 2 1/2 |       |       |   |   |              |                     |           |             |                 |                 |                 |          | 1 15/16     | —           | —           |       | HM02B     | M2-S   |
|   |   | 2.5"               |       |       | 2 1/2 |       |       |   |   |              |                     |           |             |                 |                 |                 |          | 2           | —           | —           |       | HM01B     | M1-S   |
|   |   | 3.0"               |       |       |       | 3     |       |   |   |              |                     |           |             |                 |                 |                 |          | 2 1/16      | —           | —           |       | HM01B     | M1-S   |
|   |   | 3.5"               |       |       |       |       | 3 1/2 |   |   |              |                     |           |             |                 |                 |                 |          | 2 1/4       | —           | —           |       | HM01B     | M1-S   |
|   |   | 4.0"               |       |       |       |       |       | 4 |   |              |                     |           |             |                 |                 |                 |          | 2 11/16     | —           | —           |       | HM01B     | M1-S   |
|   |    | 2.0"               |       |       | 2 1/2 |       |       |   | D | P            |                     |           |             |                 |                 |                 |          | 3 3/8       | 1 3/8       | 2 1/2       |       | HM10D     | M10-S  |
|   |   | 2.5"               |       |       | 2 1/2 |       |       |   | D | P            |                     |           |             |                 |                 |                 |          | 3 3/8       | 1 3/8       | 2 1/2       |       | HM03D     | M3-S   |
|   |   | 3.0"               |       |       |       | 3     |       |   | D | P            |                     |           |             |                 |                 |                 |          | 3 3/8       | 1 3/8       | 2 1/2       |       | HM03D     | M3-S   |
|   |   | 4.0"               |       |       |       |       | 4     |   | D | P            |                     |           |             |                 |                 |                 |          | 4           | 1 1/8       | 2 3/8       |       | HM03D     | M3-S   |
|   |    | 2.5"               |       |       | 2 1/2 |       |       |   | D | P            |                     |           |             |                 |                 |                 |          | 5           | 1 3/8       | 1 1/8       |       | HM04D     | M4-S   |
|   |   | 3.0"               |       |       |       | 3     |       |   | D | P            |                     |           |             |                 |                 |                 |          | 5           | 1 3/8       | 1 1/8       |       | HM04D     | M4-S   |
|   |   | 4.0"               |       |       |       |       | 4     |   | D | P            |                     |           |             |                 |                 |                 |          | 8 3/4       | 1 13/16     | 2 1/2       |       | HM04D     | M4-S   |
|   |   | 2.5"               |       |       | 2 1/2 |       |       |   | D | P            |                     |           |             |                 |                 |                 |          | 6 1/2       | 1 3/8       | 2 1/2       |       | HM07D     | M7-S   |
|   |   | 2.5"               |       |       | 2 1/2 |       |       |   | D | P            |                     |           |             |                 |                 |                 |          | 10          | 1 3/8       | 2 1/2       |       | HM06D     | M6-S   |
|   |  | 2.5"               |       |       | 2 1/2 |       |       |   | D | P            |                     |           |             | 30              |                 |                 |          | 7 1/16      | 1 3/8       | 2 1/2       |       | HM21D     | ME1-S  |
|   |   | 3.0"               |       |       |       | 3     |       |   | D | P            |                     |           |             | 30              |                 |                 |          | 7           | 1 3/8       | 2 1/2       |       | HM21D     | ME1-S  |
|   |   | 3.5"               |       |       |       |       | 3 1/2 |   | D | P            |                     |           |             | 30              |                 |                 |          | 7 1/16      | 1 3/8       | 2 1/2       |       | HM21D     | ME1-S  |
|   |   | 4.0"               |       |       |       |       |       | 4 | D | P            |                     |           |             | 30              |                 |                 |          | 9 3/4       | 1 3/8       | 2 3/16      |       | HM21D     | ME1-S  |
|  | 2.5"  |                    |       | 2 1/2 |       |       |       | D | P |              |                     |           | 30          |                 |                 |                 | 10 5/16  | 1 3/8       | 2 1/2       |             | HM23D | ME3-S     |        |
|   | 2.5"  |                    |       | 2 1/2 |       |       |       | D | P |              |                     |           | 30          |                 |                 |                 | 12 3/16  | 1 3/8       | 2 1/2       |             | HM24D | ME4-S     |        |
|   | 3.0"  |                    |       |       | 3     |       |       | D | P |              |                     |           | 30          |                 |                 |                 | 10 3/8   | 1 3/8       | 2 1/2       |             | HM23D | ME3-S     |        |
|   | 3.0"  |                    |       | 2 1/2 |       |       |       | D | P |              |                     |           | 30          |                 |                 |                 | 6 7/8    | 1 3/8       | 2 1/2       |             | HM25D | ME5-S     |        |
|  | 1.5"  | 1 1/2              |       |       |       |       |       |   |   |              |                     |           |             | 90              |                 |                 | 3 3/4    | —           | —           |             | HM31B | MES1-S    |        |
|   | 2.0"  |                    | 2     |       |       |       |       |   |   |              |                     |           |             | 90              |                 |                 | 3 3/4    | —           | —           |             | HM31B | MES1-S    |        |
|   | 2.5"  |                    |       | 2 1/2 |       |       |       |   |   |              |                     |           |             | 90              |                 |                 | 4 7/8    | —           | —           |             | HM31B | MES1-S    |        |
| FEMALE SWIVEL INTAKE (HOSE THREAD)  |  | 1.5"               | 1 1/2 |       |       |       |       |   |   |              |                     |           |             |                 |                 |                 |          | 1 3/4       | —           | —           |       | HF51B     | F1-S   |
|   |   | 2.5"               |       |       | 2 1/2 |       |       |   |   |              |                     |           |             |                 |                 |                 |          | 2 5/16      | —           | —           |       | HF51B     | F1-S   |
|   |   | 3.0"               |       |       |       | 3     |       |   |   |              |                     |           |             |                 |                 |                 |          | 2 5/16      | —           | —           |       | HF51B     | F1-S   |
|   |   | 3.5"               |       |       |       |       | 3 1/2 |   |   |              |                     |           |             |                 |                 |                 |          | 2 3/8       | —           | —           |       | HF51B     | F1-S   |
|   |   | 4.0"               |       |       |       |       |       | 4 |   |              |                     |           |             |                 |                 |                 |          | 3 3/8       | —           | —           |       | HF51B     | F1-S   |
|   |  | 2.5"               |       |       | 2 1/2 |       |       |   | D | P            |                     |           |             |                 |                 |                 |          | 3 1/2       | 1 3/8       | 2 1/2       |       | HF52D     | F2-S   |
|   |   | 2.5"               |       |       | 2 1/2 |       |       |   | D | P            |                     |           |             |                 |                 |                 |          | 5 1/2       | 1 3/8       | 2 1/2       |       | HF53D     | F3-S   |
|   |   | 3.0"               |       |       |       | 3     |       |   | D | P            |                     |           |             |                 |                 |                 |          | 3 3/4       | 1 3/8       | 2 1/2       |       | HF52D     | F2-S   |
|   |   | 3.0"               |       |       |       | 3     |       |   | D | P            |                     |           |             |                 |                 |                 |          | 5 1/2       | 1 3/8       | 2 1/2       |       | HF53D     | F3-S   |
|   |   | 4.0"               |       |       |       |       | 4     |   | D | P            |                     |           |             |                 |                 |                 |          | 5 1/2       | 1 13/16     | 2 3/16      |       | HF52D     | F2-S   |
|   |  | 1.5"               | 1 1/2 |       |       |       |       |   |   |              |                     |           |             |                 |                 |                 | S        | 1 3/4       | —           | —           |       | HF01B     | F1-SS  |
|   |   | 2.5"               |       |       | 2 1/2 |       |       |   |   |              |                     |           |             |                 |                 |                 | S        | 2 5/16      | —           | —           |       | HF01B     | F1-SS  |
|   |   | 3.0"               |       |       |       | 3     |       |   |   |              |                     |           |             |                 |                 |                 | S        | 2 5/16      | —           | —           |       | HF01B     | F1-SS  |
|   | 3.5"  |                    |       |       |       | 3 1/2 |       |   |   |              |                     |           |             |                 |                 | S               | 2 3/8    | —           | —           |             | HF01B | F1-SS     |        |
|   | 4.0"  |                    |       |       |       |       | 4     |   |   |              |                     |           |             |                 |                 | S               | 3 3/8    | —           | —           |             | HF01B | F1-SS     |        |

APPARATUS VALVES

# APPARATUS VALVES



## UNIBODY APPARATUS

# APPARATUS VALVES

8-15

|       |            | ADAPTERS           |       |   |       |       |              |                     |           |             |                 |                 |                 |          |             |             | MODEL       |       |           |         |
|-------|------------|--------------------|-------|---|-------|-------|--------------|---------------------|-----------|-------------|-----------------|-----------------|-----------------|----------|-------------|-------------|-------------|-------|-----------|---------|
| Style | Valve Size | Pipe Size (Inches) |       |   |       |       | Drain (3/4") | Pressure Tap (1/4") | Flow Port | Check Valve | 4 Degree Offset | 30 Degree Droop | 90 Degree Droop | Strainer | Dimension A | Dimension B | Dimension C | Note  | Elkhart # | Akron # |
|       |            | 1                  | 1 1/2 | 2 | 2 1/2 | 3     |              |                     |           |             |                 |                 |                 |          |             |             |             |       |           |         |
|       | 2.0"       |                    |       |   | 2 1/2 |       |              |                     |           |             |                 |                 | S               | 4 7/8    | 1 3/8       | 2 1/8       |             | HF12D | F12-SS    |         |
|       | 2.5"       |                    |       |   | 2 1/2 |       | D            | P                   |           |             |                 |                 | S               | 3 1/2    | 1 1/8       | 2 1/8       |             | HF02D | F2-SS     |         |
|       | 2.5"       |                    |       |   | 2 1/2 |       | D            | P                   |           |             |                 |                 | S               | 5 1/2    | 1 3/8       | 2 1/8       |             | HF03D | F3-SS     |         |
|       | 3.0"       |                    |       |   | 2 1/2 |       | D            | P                   |           |             |                 |                 | S               | 3 13/16  | 1 3/8       | 2 1/8       |             | HF04D | F4-SS     |         |
|       | 3.0"       |                    |       |   | 2 1/2 |       | D            | P                   |           |             |                 |                 | S               | 5 1/2    | 1 3/8       | 2 1/8       |             | HF05D | F5-SS     |         |
|       | 3.0"       |                    |       |   |       | 3     | D            | P                   |           |             |                 |                 | S               | 3 3/4    | 1 3/8       | 2 1/8       |             | HF02D | F2-SS     |         |
|       | 3.0"       |                    |       |   |       | 3     | D            | P                   |           |             |                 |                 | S               | 5 1/2    | 1 3/8       | 2 1/8       |             | HF03D | F3-SS     |         |
|       | 4.0"       |                    |       |   |       |       | 4            | D                   | P         |             |                 |                 | S               | 5 1/2    | 1 13/16     | 2 1/16      |             | HF02D | F2-SS     |         |
|       | 2.5"       |                    |       |   | 2 1/2 |       | D            | P                   |           |             |                 |                 | S               | 7 7/8    | 1 3/8       | 2 1/8       |             | HF23D | FE3-SS    |         |
|       | 3.0"       |                    |       |   |       | 3     | D            | P                   |           |             | 30              |                 | S               | 7 3/4    | 1 3/8       | 2 1/8       |             | HF23D | FE3-SS    |         |
|       | 3.5"       |                    |       |   |       | 3 1/2 | D            | P                   |           |             | 30              |                 | S               | 7 7/8    | 1 3/8       | 2 1/8       |             | HF23D | FE3-SS    |         |
|       | 2.5"       |                    |       |   | 2 1/2 |       |              |                     |           |             |                 |                 |                 | 1 7/8    | —           | —           |             | FM01B | P1-SH     |         |
|       | 3.0"       |                    |       |   |       | 3     |              |                     |           |             |                 |                 |                 | 1 15/16  | —           | —           |             | FM01B | P1-SH     |         |
|       | 3.0"       |                    |       |   |       | 3     |              |                     |           |             |                 |                 |                 | 2 1/4    | —           | —           |             | FM51B | PA-SH     |         |
|       | 3.0"       |                    |       |   |       | 3     |              |                     |           | 4           |                 |                 |                 | 2 1/4    | —           | —           |             | FM61B | PO-SH     |         |
|       | 3.0"       |                    |       |   |       |       | 4            |                     |           |             |                 |                 |                 | 1 15/16  | —           | —           |             | FM12B | P12-SH    |         |
|       | 1.5"       |                    | 1 1/2 |   |       |       |              |                     |           |             |                 |                 |                 | 1 1/4    | —           | —           |             | SF03B | P3-S      |         |
|       | 2.0"       |                    |       | 2 |       |       |              |                     |           |             |                 |                 |                 | 1 1/4    | —           | —           |             | SF03B | P3-S      |         |
|       | 2.5"       |                    |       |   | 2 1/2 |       |              |                     |           |             |                 |                 |                 | 1 7/8    | —           | —           |             | SF03B | P3-S      |         |
|       | 3.0"       |                    |       |   |       | 3     |              |                     |           |             |                 |                 |                 | 1 7/8    | —           | —           |             | SF03B | P3-S      |         |

|       |            | SINGLE BODY ADAPTERS |       |   |       |   |              |                     |           |             |                 |                 |                 |          |             |             | MODEL       |       |           |         |
|-------|------------|----------------------|-------|---|-------|---|--------------|---------------------|-----------|-------------|-----------------|-----------------|-----------------|----------|-------------|-------------|-------------|-------|-----------|---------|
| Style | Valve Size | Pipe Size (Inches)   |       |   |       |   | Drain (3/4") | Pressure Tap (1/4") | Flow Port | Check Valve | 4 Degree Offset | 30 Degree Droop | 90 Degree Droop | Strainer | Dimension A | Dimension B | Dimension C | Note  | Elkhart # | Akron # |
|       |            | 1                    | 1 1/2 | 2 | 2 1/2 | 3 |              |                     |           |             |                 |                 |                 |          |             |             |             |       |           |         |
| HOSE  | 1.5"       |                      | 1 1/2 |   |       |   |              |                     |           |             |                 |                 | S               | 1 3/16   |             |             | Female      | HF01B | F1-SS     |         |
|       | 1.0"       | 1                    |       |   |       |   |              |                     |           |             |                 |                 |                 | 1 11/16  |             |             | Male        | HM01B | M1-S      |         |
|       | 1.5"       |                      | 1 1/2 |   |       |   |              |                     |           |             |                 |                 |                 | 1 5/16   |             |             | Male        | HM01B | M1-S      |         |
| RIGID | 1.0"       | 1                    |       |   |       |   |              |                     |           |             |                 |                 |                 | 1 1/8    |             | 1           | Female      | NF01B | P1-S      |         |
|       | 1.5"       |                      | 1 1/2 |   |       |   |              |                     |           |             |                 |                 |                 | 1 1/8    |             | 1           | Female      | NF01B | P1-S      |         |
|       | 1.5"       |                      | 1 1/2 |   |       |   | D            | P                   |           |             |                 |                 |                 | 3 3/8    | 1 3/8       | 2 1/16      | Female      | NF02D | P2-S      |         |
|       | 1.0"       | 1                    |       |   |       |   |              |                     |           |             |                 |                 |                 | 1 21/32  |             |             | Male        | NM01B | M1-S      |         |
|       | 1.5"       |                      | 1 1/2 |   |       |   |              |                     |           |             |                 |                 |                 | 1 5/16   |             |             | Male        | NM01B | M1-S      |         |
| VICT. | 1.0"       | 1                    |       |   |       |   |              |                     |           |             |                 |                 |                 | 1 11/16  |             |             |             | VA01B | V1-S      |         |
|       | 1.5"       |                      | 1 1/2 |   |       |   |              |                     |           |             |                 |                 |                 | 1 3/4    |             |             |             | VA01B | V1-S      |         |
|       | 1.5"       |                      | 1 1/2 |   |       |   | D            |                     |           |             |                 |                 |                 | 3 5/16   | 1 3/8       | 2 1/16      |             | VA03D | V3-S      |         |

Single Body Adapters are for use with SB10 & SB15 valves. See 8-6 for Single Body Valves.

# APPARATUS VALVES

## UNIBODY APPARATUS

|   |   | ADAPTERS           |       |       |       |   |       |   |   |              |                     |           |             |                 | MODEL           |                 |          |             |             |                |                     |           |         |
|---|---|--------------------|-------|-------|-------|---|-------|---|---|--------------|---------------------|-----------|-------------|-----------------|-----------------|-----------------|----------|-------------|-------------|----------------|---------------------|-----------|---------|
| Style   | Valve Size  | Pipe Size (Inches) |       |       |       |   |       |   |   | Drain (3/4") | Pressure Tap (1/4") | Flow Port | Check Valve | 4 Degree Offset | 30 Degree Droop | 90 Degree Droop | Strainer | Dimension A | Dimension B | Dimension C    | Note                | Elkhart # | Akron # |
|   |   | 1                  | 1 1/2 | 2     | 2 1/2 | 3 | 3 1/2 | 4 | 5 |              |                     |           |             |                 |                 |                 |          |             |             |                |                     |           |         |
|    |    | 1.5"               | 1 1/2 |       |       |   |       |   |   |              |                     |           |             |                 |                 |                 |          | 1 1/16      | —           | —              |                     | VA01B     | V1-S    |
|   |   | 2.0"               |       | 2     |       |   |       |   |   |              |                     |           |             |                 |                 |                 |          | 1 1/16      | —           | —              |                     | VA01B     | V1-S    |
|   |   | 2.5"               |       |       | 2 1/2 |   |       |   |   |              |                     |           |             |                 |                 |                 |          | 1 1/16      | —           | —              |                     | VA01B     | V1-S    |
|   |   | 3.0"               |       |       |       | 3 |       |   |   |              |                     |           |             |                 |                 |                 |          | 2 1/8       | —           | —              |                     | VA01B     | V1-S    |
|   |   | 3.5"               |       |       |       |   | 3 1/2 |   |   |              |                     |           |             |                 |                 |                 |          | 2 1/8       | —           | —              |                     | VA01B     | V1-S    |
|   |   | 4.0"               |       |       |       |   |       | 4 |   |              |                     |           |             |                 |                 |                 |          | 2 1/4       | —           | —              |                     | VA01B     | V1-S    |
|   |   | 1.5"               | 1 1/2 |       |       |   |       |   |   | D            | P                   |           |             |                 |                 |                 |          | 3 1/4       | 1 3/8       | 2 3/8          |                     | VA03D     | V3-S    |
|   |   | 2.0"               |       | 2     |       |   |       |   |   | D            | P                   |           |             |                 |                 |                 |          | 3 1/4       | 1 3/8       | 2 3/8          |                     | VA03D     | V3-S    |
|   |   | 2.5"               |       |       | 2 1/2 |   |       |   |   | D            | P                   |           |             |                 |                 |                 |          | 3 3/16      | 1 3/8       | 2 3/8          |                     | VA03D     | V3-S    |
|   |   | 2.5"               |       |       |       | 3 |       |   |   | D            | P                   |           |             |                 |                 |                 |          | 3 1/2       | 1 3/8       | 2 3/8          |                     | VA04D     | V4-S    |
|   |   | 3.0"               |       |       |       | 3 |       |   |   | D            | P                   |           |             |                 |                 |                 |          | 3 3/16      | 1 3/8       | 2 3/8          |                     | VA03D     | V3-S    |
|   |   | 4.0"               |       |       |       |   | 4     |   |   | D            | P                   |           |             |                 |                 |                 |          | 4           | 1 1/16      | 2 1/16         |                     | VA03D     | V3-S    |
|   |   | 2.0"               |       | 2     | 2 1/2 |   |       |   |   |              |                     | F         |             |                 |                 |                 |          | 4 3/16      | —           | —              | 2" F NPT & 2.5" Vic | NF20F     | P20-SF  |
|   |   | 2.5"               |       |       | 2 1/2 | 3 |       |   |   |              |                     | F         |             |                 |                 |                 |          | 4 3/16      | —           | —              | 2.5" F NPT & 3" Vic | NF20F     | P20-SF  |
|   |   | 1.5"               | 1 1/2 | 2     |       |   |       |   |   | D            |                     |           | C           |                 |                 |                 |          | 6           | 3 3/8       | 4 3/4          | 1.5" F NPT & 2" Vic | NF30C     | P30-SCV |
|   |   | 3.0"               |       |       |       | 3 | 4     |   |   |              |                     |           | C           |                 |                 |                 |          | 6 1/16      | —           | —              | 3" F NPT & 4" Vic   | NF40C     | P40-SCV |
|   |   | 3.0"               |       |       |       | 3 | 4     |   |   |              |                     |           |             |                 |                 |                 |          | 2 3/16      | —           | —              | 3" F NPT & 4" Vic   | NF71B     | VT1-S   |
|   |   | 3.0"               |       |       |       | 3 | 4     |   |   | D            | P                   |           |             |                 |                 |                 |          | 3 3/16      | —           | —              | 3" F NPT & 4" Vic   | NF72D     | VT3-S   |
|   |   | 4.0"               |       |       |       |   | 4     | 5 |   |              |                     |           |             |                 |                 |                 |          | 2 3/8       | —           | —              | 4" F NPT & 5" Vic   | NF71B     | VT1-S   |
|   |   | 1.5"               | 1 1/2 |       |       |   |       |   |   | D            |                     |           |             |                 |                 | 90              |          | 3 3/4       | 3           | —              |                     | VA21D     | VE1-S   |
|   | 2.0"  |                    | 2     |       |       |   |       |   | D | P            |                     |           |             |                 | 90              |                 | 3 3/4    | 3           | —           |                | VA21D               | VE1-S     |         |
|   | 2.0"  |                    | 2     |       |       |   |       |   | D | P            |                     |           |             |                 | 90              |                 | 5 3/4    | 3           | —           |                | VA22D               | VE2-S     |         |
|   | 2.0"  |                    | 2     |       |       |   |       |   |   |              | F                   |           |             |                 |                 |                 | 3 3/16   | 1 1/4       | —           |                | VA20F               | V20-SF    |         |
|   | 2.5"  |                    |       | 2 1/2 |       |   |       |   |   |              | F                   |           |             |                 |                 |                 | 3 3/16   | 1 1/4       | —           |                | VA20F               | V20-SF    |         |
|   | 3.0"  |                    |       |       | 3     |   |       |   |   |              | F                   |           |             |                 |                 |                 | 4 1/4    | 1 1/4       | —           |                | VA20F               | V20-SF    |         |
|   | 2.0"  |                    | 2     |       |       |   |       |   | D |              |                     | C         |             |                 |                 |                 | 5 5/8    | 3 3/8       | 4 3/8       |                | VA30C               | V30-SCV   |         |
|   | 2.5"  |                    |       | 2 1/2 |       |   |       |   | D |              |                     | C         |             |                 |                 |                 | 6 1/4    | 4 7/16      | 5 1/16      |                | VA30C               | V30-SCV   |         |
|   | 3.0"  |                    |       |       | 3     |   |       |   | D |              |                     | C         |             |                 |                 |                 | 7 1/2    | 4 1/16      | 5 1/16      | 3 x 3/4" drain | VA30C               | V30-SCV   |         |
|  |  | 2.0"               |       | 2     |       |   |       |   |   |              |                     |           |             |                 |                 |                 | 2 1/4    | —           | —           |                | WA01B               |           |         |
|   |   | 2.5"               |       |       | 2 1/2 |   |       |   |   |              |                     |           |             |                 |                 |                 |          | 2 1/4       | —           | —              |                     | WA01B     |         |
|   |   | 3.0"               |       |       |       | 3 |       |   |   |              |                     |           |             |                 |                 |                 |          | 2 1/4       | —           | —              |                     | WA01B     |         |
|   |   | 3.5"               |       |       |       |   | 3 1/2 |   |   |              |                     |           |             |                 |                 |                 |          | 2 1/4       | —           | —              |                     | WA01B     |         |
|   |   | 4.0"               |       |       |       |   |       | 4 |   |              |                     |           |             |                 |                 |                 |          | 2 1/4       | —           | —              |                     | WA01B     |         |
|   |   | 2.0"               |       | 2     |       |   |       |   |   | D            | P                   |           |             |                 |                 |                 |          | 4 3/8       | 1 3/8       | 2 3/16         |                     | WA03D     |         |
|   |   | 2.5"               |       |       | 2 1/2 |   |       |   |   | D            | P                   |           |             |                 |                 |                 |          | 4 3/8       | 1 3/8       | 2 3/16         |                     | WA03D     |         |
|   |   | 3.0"               |       |       |       | 3 |       |   |   | D            | P                   |           |             |                 |                 |                 |          | 4 3/8       | 1 3/8       | 2 3/16         |                     | WA03D     |         |
|   |   | 3.5"               |       |       |       |   | 3 1/2 |   |   | D            | P                   |           |             |                 |                 |                 |          | 4 3/8       | 1 3/8       | 2 3/16         |                     | WA03D     |         |
|   |   | 4.0"               |       |       |       |   |       | 4 |   | D            | P                   |           |             |                 |                 |                 |          | 4 3/8       | 1 3/8       | 2 3/16         |                     | WA03D     |         |

# APPARATUS VALVES



UNIBODY ELECTRIC CONTROLLER

APPARATUS VALVES

## UNIBODY ELECTRIC CONTROLLER

Elkhart UBEC controllers feature a 10 LED ultra-bright display which indicates closed to fully opened status in 10% increments.

- Suitable for operation with any supply voltage between 12 and 24V DC and require no more than 10 amps
- Aluminum housing sealed to NEMA 4 rating
- A preset button is programmable for any position
- Ultra-bright LED display is visible in sunlight and automatically dims at night
- CAF controller displays CAF options and controls CAF modes. Features include:
  - Multiple programmable presets for several CAF options
  - Controls both water flow and air (on/off) infusion

8-17

UBEC 1



Valve position

UBEC 2



+Pressure

UBEC 3



+Flow

UICS 2



CAF

UBEC 1S



Open/Close

UBEC 1C

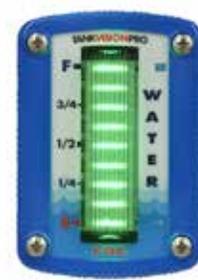


Valve position

UBEC 1AT



Tank Fill



### Controller Selector Chart

| DISPLAYS   |          |      |          |                 | MATERIAL |           | SIZE (DIA.) |    | MODEL    |
|------------|----------|------|----------|-----------------|----------|-----------|-------------|----|----------|
| Open/Close | Pressure | Flow | CAF Mode | 10-LED Position | Aluminum | Composite | 2.5"        | 4" |          |
| •          |          |      |          | •               | s        |           |             | •  | UBEC 1*  |
| •          | •        |      |          | •               | s        |           |             | •  | UBEC 2*  |
| •          | •        | •    |          | •               | s        |           |             | •  | UBEC 3*  |
| •          | •        |      | •        | •               | s        |           |             | •  | UISC 2*  |
| •          |          |      |          |                 |          | s         | •           |    | UBEC 1S  |
| •          |          |      |          | •               |          | s         | •           |    | UBEC 1C  |
| •          |          |      |          |                 | s        |           | •           |    | UBEC 1AT |

\*Controllers may be networked for primary-secondary operations with remote display

### Components & Options Chart

| OPTIONS & COMPONENTS |   |   | ILLUSTRATION | MODEL    |
|----------------------|---|---|--------------|----------|
| Electrical Harnesses | Valve to controller (Required for all controllers)                            | Specify:<br>10', 15', 20' or 40'                  |              |          |
|                      | Pressure sensor to controller harness (Required for UBEC2)                    | Specify:<br>10', 15', 20' or 40'                  |              |          |
|                      | Pressure and flow sensors to controller harness (Required for UBEC3)          | Specify:<br>10', 15', 20' or 40'                  |              |          |
|                      | Pressure sensor and solenoid valve to controller harness (Required for UISC2) | Specify:<br>10', 15', 20' or 40'                  |              |          |
| Pressure Sensor      | 0-600 PSI, 0.25" NPT (Required for UBEC2, UBEC3, or UISC2)                    |   | 3            | 65106000 |
| Flow Sensors         | Installs in Unibody Valve adapter equipped with a sensor port                 |   | 4            | 65107000 |
|                      | With Saddle Clamp   | Specify:<br>2", 2.5", 3", 3.5" or 4"              | 5            |          |
|                      | With Weldmount for Steel Pipe   | Specify:<br>2", 2.5", 3", 3.5", 4", 5", 6", or 8" |              |          |
|                      | With Weldmount for Stainless Steel Pipe                                       | Specify:<br>2", 2.5", 3", 3.5", 4", 5", 6", or 8" |              |          |
|                      | With Weldmount for Aluminum Pipe  | Specify:<br>2", 2.5", 3", 3.5", 4", 5", 6", or 8" |              |          |

| SENSORS |   |
|---------|---|
| (3)     |   |
| (4)     |  |
| (5)     |  |

### ADDITIONAL INFORMATION

- Controller has manual override capability.
- Unibody Valve information may be found on page 8-7.

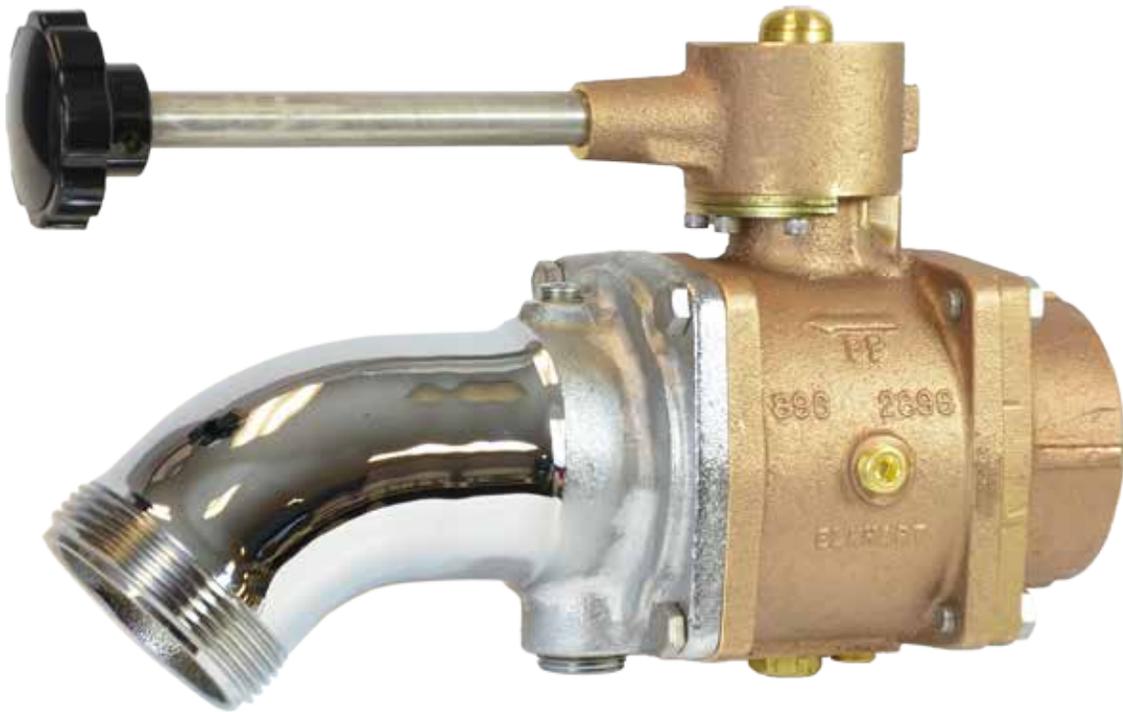


TRADITIONAL APPARATUS

## Traditional Apparatus

Elkhart Brass apparatus valves are designed for use as inline, suction, or discharge valves and feature the ability to be field serviced utilizing drop-out or swing-out. All valves offer full flow waterways; adjustable, hydraulically balanced acetal balls; a selection of handle types and positions (for manual valves); and a variety of end cap options customized to your needs. Every Elkhart valve is tested to meet NFPA 1901 standards.

In addition to manual and gear actuated valves, Elkhart offers a variety of electronically actuated valves, such as Elkhart's 2900 series, which allow the pump operator to easily and efficiently control the flow of the fire pump from a position at the pump control panel.





### 800 SERIES

- Brass construction
- Adjustable, teflon impregnated neoprene seat
- Pressure rated to 250 psi (17.2 bar)
- Available with remote and direct manual handle actuators



### 2800 SERIES – HYDRO-LOC®

- Brass construction
- Self-locking mechanism
- Adjustable, teflon impregnated neoprene seat
- Pressure rated to 250 psi (17.2 bar)
- Available with remote and direct manual handle actuators



### 2900 SERIES

- Brass construction
- UHMWPE valve seat(s)
- Pressure rated to 250 psi (17.2 bar)
- Available with gear or electric actuators



### 2950 SERIES

- Cast iron construction
- Aluminum/bronze disc with reinforced bi-directional EPDM seat
- Pressure rated to 250 psi (17.2 bar)
- Available with gear or electric actuators
- No end caps — fits between 150# ANSI flanges



### 2925A

- Lightweight Elk-O-Lite® construction
- Self-locking mechanism
- Dual neoprene seats with acetal ball
- Pressure rated to 250 psi (17.2 bar)
- End cap options include: #01, #10, #30, and #38
- Furnished with #80 handle for direct operation

# APPARATUS VALVES



## TRADITIONAL APPARATUS

# APPARATUS VALVES

8-21

| Waterway Size (Inches) | TYPE       |      | AVAILABLE ACTUATORS |   |   |          |                         |  | MATERIAL                    |       |           | Weight (Lbs.) | MODEL |                 |
|------------------------|------------|------|---------------------|---|---|----------|-------------------------|--|-----------------------------|-------|-----------|---------------|-------|-----------------|
|                        | Butterfly* | Ball | Handles             |   |   | Electric | Gear Hand-wheel Options |  |                             | Brass | Cast Iron |               |       | Elk-O-Lite®     |
|                        |            |      | D                   | E | F |          | Hand-wheel & Bushing    | Hand-wheel, Bushing and Valve Position Indicator Kit | Hand-wheel mounted to Valve |       |           |               |       |                 |
| 1                      |            | •    | •                   |   |   |          |                         |  |                             | •     |           |               | 3.6   | 890-xx-xx-D     |
|                        |            | •    |                     | • |   |          |                         |  |                             | •     |           |               | 3.6   | 890-xx-xx-E     |
| 1.5                    |            | •    | •                   |   |   |          |                         |  |                             | •     |           |               | 6.6   | 2891-xx-xx-D    |
|                        |            | •    |                     |   | • |          |                         |  |                             | •     |           |               | 6.6   | 2891-xx-xx-F    |
|                        |            | •    | •                   |   |   |          |                         |  |                             | •     |           |               | 6.6   | 891-xx-xx-D     |
|                        |            | •    |                     | • |   |          |                         |  |                             | •     |           |               | 6.6   | 891-xx-xx-E     |
|                        |            | •    |                     |   |   | •        |                         |  |                             |       | •         |               | 15.3  | 2915E-xx-xx-91  |
| 2                      |            | •    | •                   |   |   |          |                         |  |                             | •     |           |               | 9.5   | 2892-xx-xx-D    |
|                        |            | •    |                     |   | • |          |                         |  |                             | •     |           |               | 9.5   | 2892-xx-xx-F    |
|                        |            | •    | •                   |   |   |          |                         |  |                             | •     |           |               | 9.5   | 892-xx-xx-D     |
|                        |            | •    |                     | • |   |          |                         |  |                             | •     |           |               | 9.5   | 892-xx-xx-E     |
|                        |            | •    |                     |   |   | •        |                         |  |                             | •     |           |               | 18.9  | 2920E-xx-xx-91  |
|                        |            | •    |                     |   |   |          | •                       |  |                             | •     |           |               | 17.5  | 2920G-xx-xx-90  |
|                        |            | •    |                     |   |   |          |                         | •  |                             | •     |           |               | 17.5  | 2920G-xx-xx-92  |
|                        |            | •    |                     |   |   |          |                         |  | •                           | •     |           |               | 17.5  | 2920G-xx-xx-94  |
|                        |            | •    | •                   |   |   |          |                         |  |                             | •     |           |               | 17.4  | 2896-xx-xx-D    |
| 2.5                    |            | •    |                     |   | • |          |                         |  |                             | •     |           |               | 17.4  | 2896-xx-xx-F    |
|                        |            | •    | •                   |   |   |          |                         |  |                             | •     |           |               | 17.4  | 896-xx-xx-D     |
|                        |            | •    |                     | • |   |          |                         |  |                             | •     |           |               | 17.4  | 896-xx-xx-E     |
|                        |            | •    |                     |   | • |          |                         |  |                             | •     |           |               | 17.4  | 896-xx-xx-F     |
|                        |            | •    |                     |   |   |          |                         |  |                             |       | •         |               | 6.4   | 2925A-xx-xx-80  |
|                        |            | •    |                     |   |   | •        |                         |  |                             | •     |           |               | 22.3  | 2925E-xx-xx-91  |
|                        |            | •    |                     |   |   |          | •                       |  |                             | •     |           |               | 24.9  | 2925G-xx-xx-90  |
|                        |            | •    |                     |   |   |          |                         | •  |                             | •     |           |               | 24.9  | 2925G-xx-xx-92  |
|                        |            | •    |                     |   |   |          |                         |  | •                           | •     |           |               | 24.9  | 2925G-xx-xx-94  |
|                        |            | •    | •                   |   |   |          |                         |  |                             | •     |           |               | 22.3  | 2893-xx-xx-D    |
| 3                      |            | •    |                     |   | • |          |                         |  |                             | •     |           |               | 22.3  | 2893-xx-xx-F    |
|                        |            | •    | •                   |   |   |          |                         |  |                             | •     |           |               | 22.3  | 893-xx-xx-D     |
|                        |            | •    |                     | • |   |          |                         |  |                             | •     |           |               | 22.3  | 893-xx-xx-E     |
|                        |            | •    |                     |   | • |          |                         |  |                             | •     |           |               | 22.3  | 893-xx-xx-F     |
|                        |            | •    |                     |   |   | •        |                         |  |                             | •     |           |               | 28.1  | 2930E-xx-xx-91  |
|                        | •          |      |                     |   |   | •        |                         |  |                             |       | •         |               | 18.75 | 2953E-xx-xx-91  |
|                        |            | •    |                     |   |   |          | •                       |  |                             | •     |           |               | 28.8  | 2930G-xx-xx-90  |
|                        |            | •    |                     |   |   |          |                         | •  |                             | •     |           |               | 28.8  | 2930G-xx-xx-92  |
|                        |            | •    |                     |   |   |          |                         |  | •                           | •     |           |               | 28.8  | 2930G-xx-xx-94  |
| 4                      |            | •    |                     |   |   | •        |                         |  |                             | •     |           |               | 36.9  | 2940E-xx-xx-91  |
|                        |            | •    |                     |   |   | •        |                         |  |                             | •     |           |               | 15.3  | W2940E-xx-xx-91 |
|                        | •          |      |                     |   |   | •        |                         |  |                             |       | •         |               | 23.6  | 2954E-xx-xx-91  |
|                        |            | •    |                     |   |   |          | •                       |  |                             | •     |           |               | 37.6  | 2940G-xx-xx-90  |
|                        |            | •    |                     |   |   |          |                         | •  |                             | •     |           |               | 37.6  | 2940G-xx-xx-92  |
|                        |            | •    |                     |   |   |          |                         |  | •                           | •     |           |               | 37.6  | 2940G-xx-xx-94  |
|                        |            | •    |                     |   |   |          |                         | •  |                             |       | •         |               | 22.5  | 2954G-xx-xx-90  |
|                        |            | •    |                     |   |   |          |                         |  | •                           | •     |           |               | 22.5  | 2954G-xx-xx-92  |
|                        |            | •    |                     |   |   |          |                         |  |                             | •     | •         |               | 22.5  | 2954G-xx-xx-94  |
|                        |            | •    |                     |   |   | •        |                         |  |                             | •     |           |               | 27.1  | 2955E-xx-xx-91  |
| 5                      |            | •    |                     |   |   |          |                         |  | •                           | •     |           |               | 26.3  | 2955G-xx-xx-90  |
|                        |            | •    |                     |   |   |          |                         | •  |                             | •     |           |               | 26.3  | 2955G-xx-xx-92  |
|                        |            | •    |                     |   |   |          |                         |  | •                           | •     |           |               | 26.3  | 2955G-xx-xx-94  |
|                        |            | •    |                     |   |   | •        |                         |  |                             | •     |           |               | 33.8  | 2956E-xx-xx-91  |
| 6                      |            | •    |                     |   |   |          |                         |  | •                           | •     |           |               | 32.9  | 2956G-xx-xx-90  |
|                        |            | •    |                     |   |   |          |                         |  | •                           | •     |           |               | 32.9  | 2956G-xx-xx-92  |
|                        |            | •    |                     |   |   |          |                         |  | •                           | •     |           |               | 32.9  | 2956G-xx-xx-94  |
|                        |            | •    |                     |   |   | •        |                         |  |                             | •     |           |               | 32.9  | 2956G-xx-xx-94  |

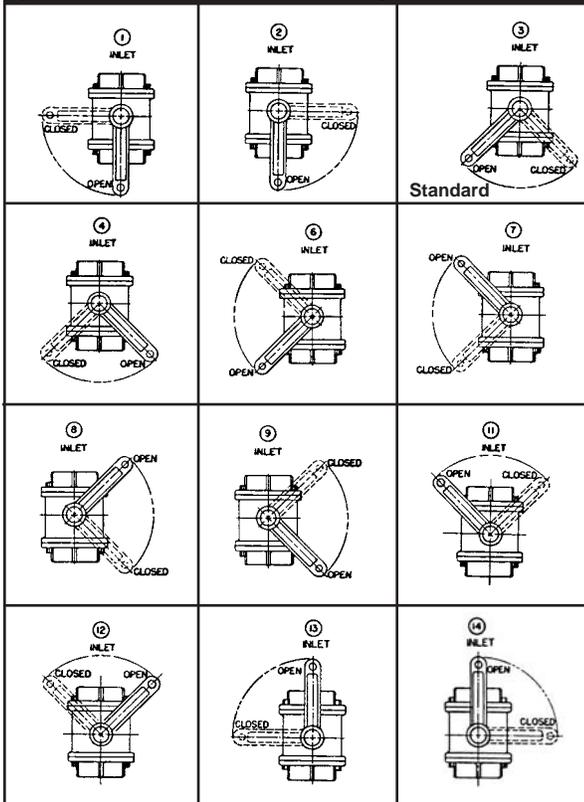
\*Fits between 150# ANSI flanges and aluminum/bronze disc with re-inforced EPDM seat. Butterfly valves do not utilize end caps.

### HOW TO ORDER A VALVE

Please follow the steps outlined below to order a valve

- Select base valve type model (ex: 892)
- Select inlet end cap (ex:-03)
- Select outlet end cap (ex:-03)
- Select handle or actuator (ex: -F)
- Select optional harness  
(for electric gear valves as applicable)
- Ex: 892-03-03-F

### OPTIONAL HANDLE POSITIONS (800 AND 2800 SERIES)



### ADDITIONAL INFORMATION

#### HANDLE POSITION

Please indicate your preferred handle or gear position when ordering if other than standard.

#### OTHER PRODUCTS

End cap options are based on valve size. End caps may be found beginning on page 8-23.

### VALVE CONTROLLER



Elkhart Brass' new line of valve controllers and valve position indicators is completely self-contained in a box that is more than 50% smaller than competitive units.

These new products:

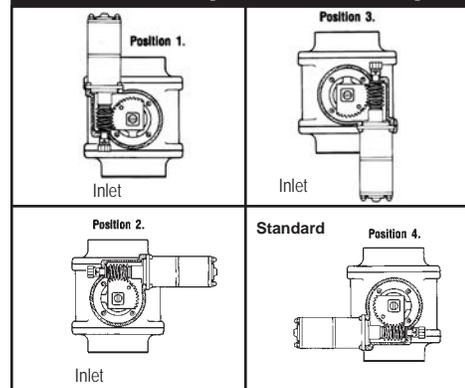
- Require minimal pump panel space
- Are easy to install
- Need no maintenance
- Feature 100,000 hour LEDs mounted within an optical filter to maximize visibility in bright sunlight
- Has durable push buttons that maintain NEMA 4 sealing
- Optional secondary controller

### ELECTRIC VALVE KIT

Includes:

- Valve controller (featuring a chrome bezel)
- One (1) harness to valve length (5', 10', 20' — standard, 30' or 40' — please specify)
- One (1) harness to power source length (6')
- In the case of a primary/secondary situation, two complete electric valve kits would be sent, as well as: a controller to valve harness (5', 10', 20' — standard, 30' or 40' — please specify) and a communication harness (5', 10', 20' — standard, 30' or 40' — please specify)

### OPTIONAL GEAR / MOTOR POSITIONS (2900 SERIES)





## END CAP OPTIONS

### END CAP (ADAPTER) OPTIONS

The 800, 2800 and 2900 series valves can be utilized as inline, suction, or discharge valves with virtually any fire pump. Choose any of these end cap options, based on valve size, to make up the valve combination that best fits your individual needs.

All dimensions shown in charts, unless otherwise noted, are the length (L) of the end cap. (Fig. 1)

All end caps for the 1.0", 1.5", 2.0", 2.5", and 4.0" valves have 4 bolts. (Fig. 2)

End caps for the 3.0" valves have 6 bolts. (Fig. 3)

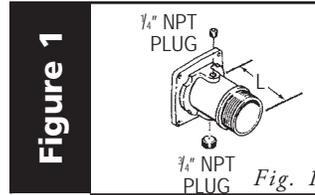


Figure 1

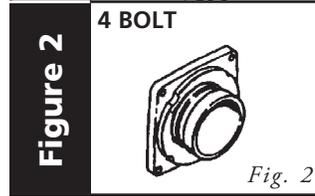


Figure 2

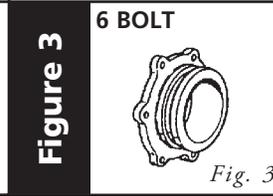


Figure 3

### MALE HOSE THREAD END CAPS

| End Cap No. | 30            | 31                           | 32            | 33             | 34                            |
|-------------|---------------|------------------------------|---------------|----------------|-------------------------------|
| Valve Size  |               |                              |               |                |                               |
| 1.5"        | 1.187" L<br>+ |                              |               | 2.000" L<br>+• |                               |
| 2.0"        | 1.375" L<br>+ | 1.562" L<br>(2.5" Thd)<br>++ |               |                | 3.000" L<br>(2.5" Thd)<br>++  |
| 2.5"        | 1.750" L<br>+ | 1.812" L<br>(3.0" Thd)<br>++ | 2.750" L<br>+ | 4.000" L<br>+  |                               |
| 3.0"        |               | 2.625" L<br>(3.5" Thd)<br>++ |               | 4.125" L<br>+♥ | 4.125" L<br>(3.5" Thd)<br>++♥ |

### MALE HOSE THREAD END CAPS

| End Cap No. | 35            | 36             | 37                             | 37.1           | 96            |
|-------------|---------------|----------------|--------------------------------|----------------|---------------|
| Valve Size  |               |                |                                |                |               |
| 2.5"        | 5.000" L<br>+ | 6.187" L<br>+♥ | 7.016" L (45°)<br>+            | 12.312" L<br>+ | 1.750" L<br>+ |
| 3.0"        |               |                | 6.724" L<br>(2.5" Thd)<br>+++• |                |               |
| 4.0"        |               |                |                                |                |               |

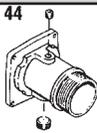
- + Thread size same as valve size.
- ++ Thread size larger than valve size.
- +++ Thread size smaller than valve size.
- ♥ Has two .750" NPT drain taps.
- No plugs in this end cap.

### ADDITIONAL INFORMATION

#### THREADS

All hose threads are NHT unless otherwise specified. See index T-13 for alternative thread options.

### MALE NPT END CAPS

| End Cap No. | 40  | 41  | 43  | 44  |
|-------------|---|---|---|---|
| Valve Size  |  |  |  |  |
| 1.5"        | 1.375" L<br>+   |   | 2.000" L<br>+ •   |   |
| 2.0"        | 1.625" L<br>+   | 1.937" L<br>(2.5" Thd)<br>++  |   | 3.000" L<br>+   |
| 2.5"        | 1.937" L<br>+   | 2.078" L<br>(3.0" Thd)<br>++  |   | 5.000" L<br>+   |
| 3.0"        | 2.625" L<br>+   |   |   |   |
| 4.0"        | 2.687" L<br>+   |   |   |   |

### VICTAULIC & FLEXHOSE END CAPS

| End Cap No. | 50  | 51  | 52  | 60  |
|-------------|---|---|---|---|
| Valve Size  |  |  |  |  |
| 1.5"        | 1.625" L<br>(1.5" VIC)  |   |   |   |
| 2.0"        | 1.625" L<br>(2.0" VIC)  |   | 3.000" L<br>(2.0" VIC)  |   |
| 2.5"        | 1.750" L<br>(2.5" VIC)  |   | 2.750" L<br>(2.5" VIC)  |   |
| 3.0"        | 1.937" L<br>(3.0" VIC)  | 1.750" L<br>(4.0" VIC)  | 3.531" L<br>(3.0" VIC)♥   | 1.963" L<br>(3.5" O.D.)<br>(4° PITCH)   |
| 4.0"        | 2.063" L<br>(4.0" VIC)  |   | 3.563" L<br>(4.0" VIC)  |   |

- + Thread size same as valve size.
- ++ Thread size larger than valve size.
- +++ Thread size smaller than valve size.
- ♥ Has two .750" NPT drain taps.
- No plugs in this end cap.

# APPARATUS VALVES



## END CAP OPTIONS

APPARATUS VALVES

8-25

### FLANGE END CAPS

| End Cap No. | 20  | 20  | 21  |
|-------------|---|---|---|
| Valve Size  |  |  |  |
| 1.5"        | 1.750" L<br>***   |   |   |
| 2.0"        | 2.750" L<br>W or H<br>++++  |   |   |
| 2.5"        | 2.750" L<br>W or H<br>++++  |   | 2.125" L<br>W or H<br>++++  |
| 3.0"        |   | 2.312" L<br>H<br>++++   | 2.312" L<br>H<br>++++   |

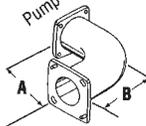
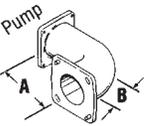
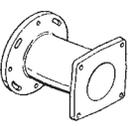
Designations for pump flanges:

D = Darley Pump  
H = Hale Pump  
W = Waterous Pump

### FLANGE END CAPS

| End Cap No. | 22   | 22   | 22.1   | 94   | 53   | 54   |
|-------------|--|--|--|--|--|--|
| Valve Size  |  |  |  |  |  |  |
| 2.5"        | 2.125" L<br>D<br>+   |  |  | 2.563" L<br>2.5" - 150#<br>(ANSI)  |  |  |
| 3.0"        |  | 2.312" L<br>H<br>++  | 2.312" L<br>D<br>+   |  | .750" L<br>W<br>**   | 2.675" L<br>W (4° Pitch)<br>+++  |
| 4.0"        |  |  |  | 3.000" L<br>4.0" - 150#<br>(ANSI)  |  |  |

### FLANGE END CAPS

| End Cap No. | 24  |        | 25  |        | 28  | 29  |
|-------------|---|--------|---|--------|---|---|
| Valve Size  |  |        |  |        |  |  |
|             | A   | B      | A   | B      |   |   |
| 2.0"        | 3.750"  | 5.500" |   |        |   |   |
|             | W or H<br>++++  |        |   |        |   |   |
| 2.5"        | 6.000"  | 5.500" | 6.000"  | 3.500" | 6.093" L<br>W or H<br>++++•   |   |
|             | W or H<br>++++  |        | W or H<br>++++  |        |   |   |
| 3.0"        |   |        |   |        | 5.500" L<br>W or H<br>++++•   |   |
| 4.0"        |   |        |   |        |   | 2.687" L<br>W<br>+++  |

+ Flange has 4.594" bolt circle.  
++ Flange has 5.750" bolt circle.  
+++ Flange has 5.500" bolt circle.  
++++ Flange has 4.375" bolt circle.

\* Flange has 6.625" bolt circle.  
\*\* Flange has 7.778" bolt circle.  
\*\*\* Flange has 3.000" bolt circle.  
\*\*\*\* Flange has 4.250" bolt circle.

• Offset .547" (10.8")  
▼ Elbow 94°

### FEMALE HOSE THREAD SWIVEL END CAPS

| End Cap No. | 10  | 11  | 19  | 12  | 13  | 14  | 17   | 15  | 16  | 18  | 98  |
|-------------|---|---|---|---|---|---|--|---|---|---|---|
| Valve Size  |  |  |  |  |  |  |  |  |  |  |  |
| 1.5"        | 1.766" L<br>+   |   |   |   |   |   |  |   |   |   |   |
| 2.0"        |   | 2.297" L<br>(2.5" Thd)<br>++  |   |   |   |   |  |   |   |   |   |
| 2.5"        | 2.297" L<br>+   | 2.437" L<br>(3.0" Thd)<br>++  |   | 3.203" L<br>+   | 4.922" L<br>+   | 5.062" L<br>(3.0" Thd)<br>++  |  | 7.297" L<br>+   | 7.437" L<br>(3.0" Thd)<br>++  | 7.933" L<br>(45°)<br>+  |   |
| 3.0"        |   |   | 2.859" L<br>(2.5" Thd)<br>+++   |   | 4.562" L<br>+♥  |   | 4.422" L<br>(2.5" Thd)<br>+++♥   |   |   |   | 6.219" L<br>+♥  |
| 4.0"        |   |   |   |   |   |   |  |   |   |   |   |

### FEMALE NPT END CAPS

| End Cap No. | 01  | 02  | 03  | 05  | 95  | 97  |
|-------------|---|---|---|---|---|---|
| Valve Size  |  |  |  |  |  |  |
| 1.5"        | .969" L<br>+  | 1.469" L<br>(2.0" Thd)<br>++  | 2.000" L<br>+•  |   |   |   |
| 2.0"        | 1.062" L<br>+   | 1.625" L<br>(2.5" Thd)<br>++  | 3.000" L<br>+   |   |   |   |
| 2.5"        | 1.937" L<br>+   | 2.078" L<br>(3.0" Thd)<br>++  | 4.000" L<br>+   |   | 1.937" L<br>+•  | 1.250" L<br>+   |
| 3.0"        | 1.625" L<br>+   | 2.625" L<br>(3.5" Thd)<br>++  | 4.125" L<br>+♥  | 4.500" L<br>(4.0" Thd)<br>++♥   |   |   |
| 4.0"        | 2.050" L<br>+   |   | 3.291" L<br>+*  |   |   |   |

- + Thread size same as valve size.
- ++ Thread size larger than valve size.
- +++ Thread size smaller than valve size.

- ♥ Has two .750" NPT Drain Taps.
- .125" NPT plug and no .750" plug.
- \* .750" NPT plug and no .250" plug.

# APPARATUS VALVES

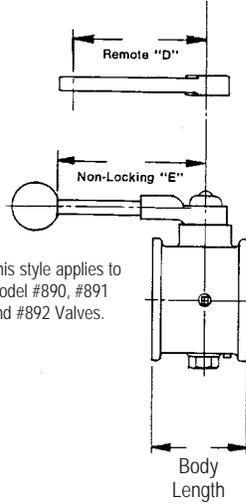
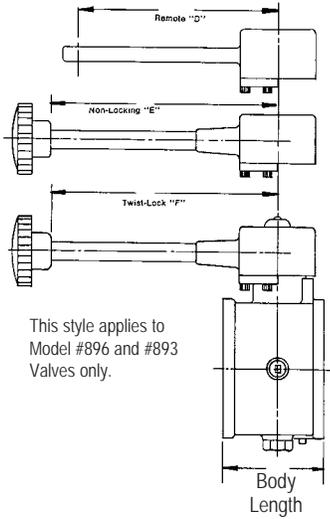


## HANDLE OPTIONS

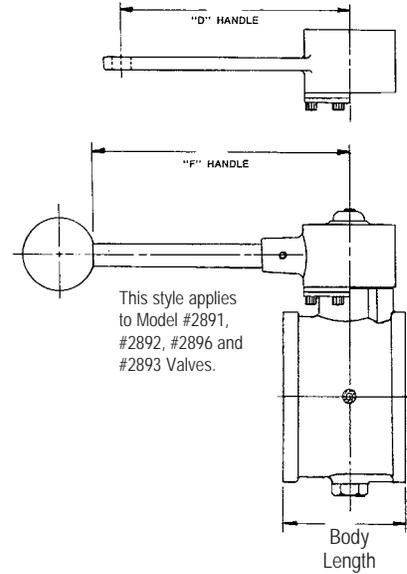
APPARATUS VALVES

8-27

### 800 SERIES VALVES

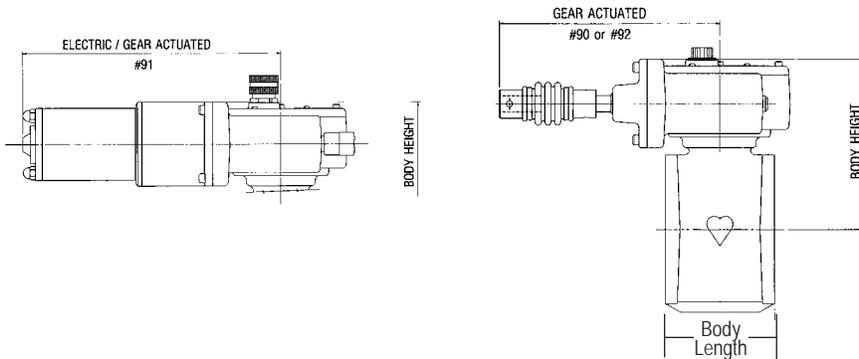


### 2800 SERIES VALVES



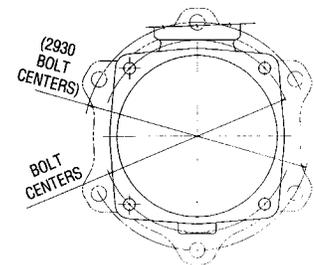
| Size | BODY  |        | HANDLES |        |        |
|------|-------|--------|---------|--------|--------|
|      | Model | Length | "D"     | "E"    | "F"    |
| 1.0" | 890   | 1.75"  | 3.5"    | 3.875" | —      |
|      | —     | —      | —       | —      | —      |
| 1.5" | 891   | 2.5"   | 3.5"    | 3.875" | —      |
|      | 2891  | 2.5"   | 3.5"    | —      | 4.312" |
| 2.0" | 892   | 3"     | 3.5"    | 3.875" | —      |
|      | 2892  | 3"     | 3.5"    | —      | 4.312" |
| 2.5" | 896   | 3.375" | 6.75"   | 8"     | 8"     |
|      | 2896  | 3.375" | 6.75"   | —      | 8"     |
| 3.0" | 893   | 4.234" | 6.75"   | 8"     | 8"     |
|      | 2893  | 4.234" | 6.75"   | —      | 8"     |

### 2900 SERIES VALVES



| Model | BODY |        | ACTUATOR LENGTH |       |       |       |
|-------|------|--------|-----------------|-------|-------|-------|
|       | Size | Length | Height          | #90   | #91   | #92   |
| 2915  | 1.5" | 2.5"   | 4.63"           | N/A   | 6.38" | N/A   |
| 2920  | 2"   | 3"     | 4.88"           | N/A   | 6.38" | N/A   |
| 2925  | 2.5" | 3.39"  | 5.16"           | —     | 6.38" | —     |
| 2930  | 3"   | 4.23"  | 6"              | 6.83" | 8.5"  | 6.82" |
| 2940  | 4"   | 4.77"  | 6.31"           | 6.82" | 8.5"  | 6.82" |

### BOLT CENTERS



| SIZE | END CAP BOLT CENTERS | END CAP BOLT PATTERN |
|------|----------------------|----------------------|
| 1.5" | 3.5"                 | 4 Bolt               |
| 2"   | 4.19"                | 4 Bolt               |
| 2.5" | 5.06"                | 4 Bolt               |
| 3"   | 6"                   | 6 Bolt               |
| 4"   | 7.25"                | 4 Bolt               |

| INLET SIZES |      |    |             |        |      |           | 2.5" OUTLET OPTIONS |            |     | MATERIAL   |             | DIMENSIONS      |               | MODEL | FIGURE |
|-------------|------|----|-------------|--------|------|-----------|---------------------|------------|-----|------------|-------------|-----------------|---------------|-------|--------|
| Female      | Male |    | 2.5" Flange |        |      |           | Male NPT            | Vic-taulic | NHT | Cast Brass | Elk-O Lite® | Length (Inches) | Weight (Lbs.) |       |        |
| 2.5"        | 2.5" | 3" | Ameri-can   | Darley | Hale | Water-ous |                     |            |     |            |             |                 |               |       |        |
| •           |      |    |             |        |      |           | s                   |            |     | •          |             | 6.3             | 11.1          | 40-10 | 1      |
|             |      |    | •           |        | •    | •         | s                   | o          | o   | •          |             | 6.8             | 11.2          | 40-20 | 1      |
|             |      |    |             | •      |      |           | o                   | s          |     | •          |             | 6.1             | 11.1          | 40-22 | 1      |
|             | ™    |    |             |        |      |           | s                   |            |     | •          |             | 6.8             | 10.9          | 40-32 | 2      |
|             | •    |    |             |        |      |           | s                   | o          |     | •          |             | 6.5             | 10.6          | 40-40 | 2      |
|             |      | •  |             |        |      |           | s                   | o          |     | •          |             | 6.1             | 10.9          | 40-41 | 2      |
| •           |      |    |             |        |      |           | s                   |            |     |            | •           | 6.3             | 3.5           | 40A   |        |

KEY s = standard o = option ™ = NHT

### 40 RELIEF VALVE

- For use on the suction side of the pump or on a designated LDH discharge outlet
- Material: Choice of cast brass or Elk-O-Lite® with stainless steel mechanism
- Rubber seat to ensure positive vacuum seal
- Adjustable psi of 75-250 (pre-set to 125 psi)



Figures depict general product types only and are not intended to be inclusive of all product features.

### PUSH/PULL DRAIN VALVE



110



115

| Product Information     | MODELS  |  |
|-------------------------|---|--|
|                         | 110   | 115                                      |
| Mounting                | Direct  | Panel                                    |
| Inlet                   | 0.75" NPT Female                                      |  |
| Outlet                  | .75" NPT Female                                       | Male shank outlet for .75" ID drain hose |
| Handle length           | 2.25"   |  |
| Optional handle lengths | 4.375", 3.0", or 1.5" (specify)                       |  |
| Material                | Cast brass valve body with stainless steel handle rod |  |
| Additional features     |   | Body pre-drilled for mounting            |

### 116 QUARTER TURN DRAIN VALVE

- Panel mounted
- Body pre-drilled for mounting to pump panel
- Material: Cast brass valve body with stainless steel handle rod
- Inlet: 0.75" NPT
- Outlet: 0.75" NPT
- Machined brass ball
- Optional adapter with .125" NPT tap for gauge



# APPARATUS FITTINGS



## INTRODUCTION

ELKHART BRASS ALSO OFFERS A VARIETY OF REMOTE VALVE CONTROLS TO COMPLEMENT OUR APPARATUS VALVES AND APPARATUS ACCESSORIES THAT MAKE YOUR JOB EASIER.

APPARATUS FITTINGS

9-1

# APPARATUS FITTINGS

## 90° DISCHARGE & SUCTION SWIVEL ELBOWS

| FEMALE INLET SIZE / TYPE |        |      | MALE OUTLET |          |      | MOUNT OPTIONS |      | MOUNTING SPACE |          | TWIST LOCK | BUILT-IN STRAINER | BALL RACE |        | MATERIAL | Weight (Lbs.) | MODEL | FIGURE |   |
|--------------------------|--------|------|-------------|----------|------|---------------|------|----------------|----------|------------|-------------------|-----------|--------|----------|---------------|-------|--------|---|
| (Inches)                 | SWIVEL |      |             | (Inches) |      |               | Stud | Flange         | (Inches) |            |                   | Single    | Double |          |               |       |        |   |
|                          | NPT    | NPSH | NHT         | NHT      | NPSH | NPT           |      |                | A        |            |                   |           |        |          |               |       |        | B |
| 1.5                      | •      |      |             | 1.5      |      |               |      |                | 2.5      | 3.8        |                   |           | •      | •        | 2.9           | 348   | 1      |   |
|                          | •      |      |             |          |      | 1.5           |      |                | 2.5      | 3.8        |                   |           | •      | •        | 2.9           | 348   | 1      |   |
|                          | •      |      |             | 1.5      |      |               |      |                | 4.0      | 3.8        |                   |           | •      |          | 3.5           | 348L  | 2      |   |
|                          |        | •    |             |          | 1.5  |               |      |                |          | 4.0        | 3.8               |           |        | •        |               | 3.5   | 348L   |   |
| 2.0                      | •      |      |             | 1.5      |      |               |      |                | 2.5      | 4.0        |                   |           | •      |          | 3.0           | 348   | 1      |   |
|                          | •      |      |             | 1.5      |      |               |      |                | 4.0      | 4.0        |                   |           | •      |          | 3.7           | 348L  | 2      |   |
|                          | •      |      |             |          | 1.5  |               |      |                | 4.0      | 4.0        |                   |           | •      |          | 3.7           | 348L  | 2      |   |
|                          | •      |      |             | 1.5      |      |               | •    |                | 2.5      | 4.0        |                   |           | •      |          | 3.3           | 348M  |        |   |
|                          | •      |      |             | 1.5      |      |               | •    |                | 4.0      | 4.0        |                   |           | •      |          | 3.4           | 348ML | 4      |   |
|                          | •      |      |             |          | 1.5  |               | •    |                | 4.0      | 4.0        |                   |           | •      |          | 3.4           | 348ML | 4      |   |
| 2.5                      | •      |      |             | 2.5      |      |               |      |                | 5.0      | 6.2        |                   |           | •      |          | 11.8          | 348   | 1      |   |
|                          |        |      |             | 2.5      |      |               | •    | •              | 5.0      | 6.3        |                   |           | •      |          | 11.8          | 348M  | 3      |   |
| 4.0                      | •      |      |             |          |      | 4.0           |      |                | 6.0      | 8.0        | s                 |           | •      |          | 30.3          | 348   | 5      |   |
| 5.0                      | •      |      |             | 5.0      |      |               |      |                | 6.8      | 9.5        | s                 | s         | •      |          | 45.0          | 348   | 5      |   |
|                          | •      |      |             | 6.0      |      |               |      |                | 6.4      | 9.5        | s                 | s         | •      |          | 48.5          | 348   | 5      |   |

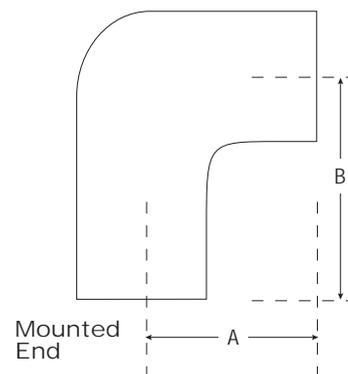
KEY s = standard o = option

### ELBOW CONFIGURATIONS



Figures depict general product types only and are not intended to be inclusive of all product features.

### MOUNTING SPACE DIAGRAM



### MOUNT OPTIONS

#### SIDE



#### FLANGE



### OPTIONS

Polished and rough chrome finish are available on some brass models. Please inquire with our sales staff.

### THREADS

All hose threads are NHT unless otherwise specified. See index T-13 for optional base threads.



## APPARATUS ACCESSORIES

(Front)



(Back)

### 471 – UNDERWRITERS TEST PLUG ADAPTER

- For testing pressure and vacuum on pumps
- Aluminum body with black face and aluminum lettering
- Length: 4"
- Weight: 0.3 lbs.



### S-320 – RUNNING BOARD HOLDER

- For mounting nozzles and accessories on running board or in compartment
- Available in sizes from 1.5" & 2.5"
- Male NH hose thread only
- Material: Cast brass with chrome-plated finish
- Weight: varies by size

### 653 – TRI-LOC NOZZLE HOLDER

- For mounting nozzles and accessories on running board or in compartment
- Positive grip
- One hand release
- Fits 2.5" hose thread (except NPSH)
- Material: Brass with chrome-plated finish
- Diameter: 5"
- Height: 1.25"
- Weight: 1.5 lbs.



### L653 – TRI-LOC NOZZLE HOLDER

- For mounting nozzles and accessories on running board or in compartment
- Positive grip
- One hand release
- Fits 1.5" hose thread (except NPSH)
- Material: Brass with chrome-plated finish
- Diameter: 5"
- Height: 1.25"
- Weight: 1.5 lbs.

### 315 – BARREL SUCTION STRAINER

- Complies with NFPA 1901
- Conforms to MIL-S-12165B, Type 1
- Rocker lugs or pin lugs (Specify)
- Available bases: 2.5" thru 6" female base, 2.5" or 3" male base (Specify)
- Material: Brass with chrome-plated finish
- Dimensions vary by base selection



### 315FN – BARREL STRAINER WITH FOOT VALVE

- Foot valve for holding water in suction hose during pump priming
- 3" female base
- Material: Cast brass
- Length: 14.5"
- Weight: 16 lbs.



### TEE HANDLE REMOTE CONTROL UNITS

Push-pull control for the operation of in-line, quarter turn ball valves or built-in eductors. Handle configuration allows identification/location label to be inserted.

| PRODUCT INFORMATION   | MODELS   |   |
|-----------------------|--|---|
|                       | RC-1   | RC-7                                    |
| Handle                | Locking  | Non-locking                             |
| Installation Diameter | 1.9" (Pump panel)  | 1" (Pump panel)                         |
| Furnished with        | 2 ball joint swivel connectors                                       |   |
| Travel                | 11"  | 7.3", 9.8" or 11.3"<br><i>(specify)</i> |
| Material              | Chrome-plated cast brass handle with anodized aluminum extrusion rod |   |
| Weight                | 4 lbs.   | 1.5 lbs.                                |



RC-1



## REMOTE VALVE CONTROLS



### RC-10 – SLOW CLOSING VALVE CONTROL

- Remote actuation of any ball valve
- Linear output screw-type actuator compliant with NFPA 1901 (as it pertains to slow-closing valves)
- Actuator and push-rod constructed of extruded aluminum alloys
- Precision needle thrust bearing and hardened thrust washers
- 5" cast alloy hand-wheel with collet-type connection allows for easy compact thru-panel installation (either new or retro-fit)
- Furnished with threaded ball swivel joint at end of drive rod
- Installation diameter: 1.03" (pump panel)
- Length: 16.4" (retracted) and 21.4" (extended)
- Weight: 3.2 lbs.
- Valve Status Indicator (optional)



### VALVE STATUS INDICATOR

- Requires minimal pump panel space
- Tri-color indicators: red (closed), yellow (gated) and green (open)
- Feature 100,000 hour ultra bright LEDs mounted within an optical filter to maximize visibility in bright sunlight
- NEMA 4 rated
- Chrome bezel included

## RC Accessories



### 775-5 – HANDLE

- For remote control screw type gate valve or gear driven valve
- Bored for .375" rod
- Material: Cast brass with chrome-plated finish
- Diameter: 4"
- Weight: 1.0 lbs.



### 775-11 – ROD GUIDE

- For centering and guiding remote control rod
- Nylon sleeve for 0.5" rod
- Material: Cast brass with chrome-plated finish
- Diameter: 1.5"
- Weight: 0.2 lbs.



### 775-15 – TEE HANDLE

- For use with push-pull rods to remotely operate in-line, quarter turn ball valves or built-in eductors
- Bored for 0.5" rod
- Can be threaded to .500" — 13 or .500" — 20 (specify)
- Handle configuration allows identification/location label to be inserted
- Material: Cast brass with chrome-plated finish
- Height: 1.1"
- Weight: 0.5 lbs.

### UNIBODY HAND-WHEEL

#### POSITION INDICATING

| PRODUCT INFORMATION   | MODELS              |          |
|-----------------------|---------------------|----------|
|                       | GWP-4               | GWP-6    |
| Hand-wheel diameter   | 4"                  | 6"       |
| Material              | Stainless Steel     |          |
| Finish                | Stainless Steel     |          |
| Type                  | Position Indicating |          |
| Installation diameter | 1.312"              |          |
| Weight                | 3.6 lbs.            | 4.1 lbs. |



GWP-4



GWP-6

#### PANEL MOUNT



| PRODUCT INFORMATION       | MODELS   |          |
|---------------------------|--|----------|
|                           | GWR-5  | GWR-6.5  |
| Hand-wheel diameter       | 5"   | 6.5"     |
| Material                  | Brass  |          |
| Finish ( <i>specify</i> ) | Chrome   |          |
| Type                      | Panel Mount  |          |
| Installation diameter     | 1.125"   |          |
| Furnished with            | Panel bushing and two universal swivel joints with protective rubber boots |          |
| Weight                    | 6.0 lbs.   | 7.0 lbs. |

#### DIRECT MOUNT

| PRODUCT INFORMATION       | MODELS       |          |
|---------------------------|--------------|----------|
|                           | GWD-5        | GWD-6.5  |
| Hand-wheel diameter       | 5"           | 6.5"     |
| Material                  | Brass        |          |
| Finish ( <i>specify</i> ) | Chrome       |          |
| Type                      | Direct Mount |          |
| Installation diameter     | -            |          |
| Furnished with            | -            |          |
| Weight                    | 6.0 lbs.     | 7.0 lbs. |



FIELD ADJUSTABLE PRESSURE REDUCING

INDUSTRIAL VALVES

## Field Adjustable Pressure Reducing (URFA)

Elkhart's URFA valve is a true pressure reducing valve, operated automatically by inner hydraulic controls. While the valves are preset at the factory, they are field adjustable — allowing you to tailor the pressure to your needs. They feature manual valve open and close, as well as pressure adjustment — all of which require extremely low torque to change due to the patent pending design. Inlet pressure up to 400 psi (27.58 bar) is controlled under all flow and no-flow conditions.

Valve size and weight permit installation in significantly tighter areas and smaller hose cabinets (those used for 1 1/2" or 2 1/2" valves) — allowing savings of both space and money. The URFA also functions as a floor control valve in automatic sprinkler systems as well as a standpipe valve or hose valve for Class I and Class III systems.

10-1



**URFA Series valves  
not intended for  
use in salt water  
applications.**



| INLET SIZE | OUTLET SIZES |        | TYPE   |          | CERT.     | DIMENSIONS (INCHES)             |                                 |                                 |                                 |                                |                               |   |    | Integral Superv. Switch | FINISH |        |     | Wt. (Lbs.) | MODEL    | FIGURE |
|------------|--------------|--------|--------|----------|-----------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|--------------------------------|-------------------------------|---|----|-------------------------|--------|--------|-----|------------|----------|--------|
|            |              |        |        |          |           | Closed                          |                                 |                                 |                                 | Open                           |                               |   |    |                         | Cast   | Chrome |     |            |          |        |
|            |              |        |        |          |           | A                               | B                               | A                               | B                               | C                              | D                             | E | F  |                         |        | Pol    | Pol |            |          |        |
| 2½" F NPT* | 2½" F(NPT)*  | M(NHT) | Angled | Straight | UL Listed | 13 <sup>7</sup> / <sub>16</sub> | 11 <sup>7</sup> / <sub>16</sub> | 14 <sup>7</sup> / <sub>16</sub> | 12 <sup>7</sup> / <sub>16</sub> | 2 <sup>7</sup> / <sub>16</sub> | 3 <sup>7</sup> / <sub>4</sub> | 5 | 5½ | o                       | s      | o      | o   | 28         | URFA-20  | 1      |
| •          | •            | •      | •      | •        | •         | 13 <sup>7</sup> / <sub>16</sub> | 11 <sup>7</sup> / <sub>16</sub> | 14 <sup>7</sup> / <sub>16</sub> | 12 <sup>7</sup> / <sub>16</sub> | 2 <sup>7</sup> / <sub>16</sub> | 3 <sup>7</sup> / <sub>8</sub> | 5 | -  | o                       | s      | o      | o   | 27         | URFA-25  | 2      |
| •          | •            | •      | •      | •        | •         | 14 <sup>7</sup> / <sub>16</sub> | 12 <sup>7</sup> / <sub>16</sub> | 15 <sup>7</sup> / <sub>16</sub> | 13 <sup>7</sup> / <sub>16</sub> | 3½                             | 4                             | 5 | 5½ | o                       | s      | o      | o   | 32         | URFA-20S | 3      |

KEY s = standard o = option

\* Grooved connection available for inlet or outlet use — add 1.44" per connection.

Figure 1

### URFA-20

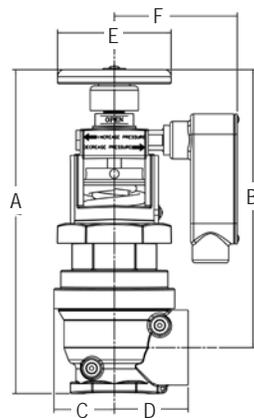


Fig. 1

Figure 2

### URFA-25

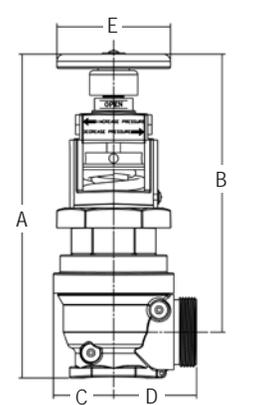


Fig. 2

Figure 3

### URFA-20S

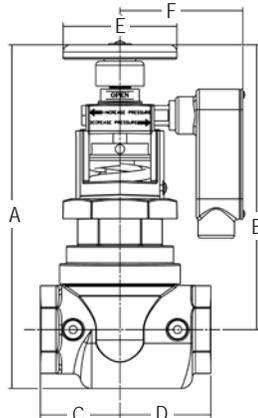


Fig. 3

## PRODUCT HIGHLIGHTS

URFA features include:

- Manual open-close requires less than 15 lbs. of torque
- Pressure rated up to 400 psi (27.58 bar)
- Flow rated up to 500 gpm (1893 lpm)
- Open-Close indication from 2 view directions
- Color-coded pressure reduction label
- Tapped for pressure gauge on both inlet and outlet side of valve
- Tamper-resistant protection
- UL Listed as a check valve for use in dual riser systems
- Optional integral supervisory switch (alarm) mounts directly to valve with no bracket required
- Optional integral supervisory switch (alarm) is available either "OPEN TO SIGNAL" or "CLOSE TO SIGNAL"
  - With the URFA valve in the full open position the supervisory switch contacts are CLOSED. When the valve hand wheel is turned in the closed direction the supervisory switch contacts OPEN. This is defined as "OPEN TO SIGNAL".
  - With the URFA valve in the full open position the supervisory switch contacts are OPEN. When the valve hand wheel is turned in the closed direction the supervisory switch contacts CLOSE. This is defined as "CLOSE TO SIGNAL".

## ADDITIONAL INFORMATION

Includes adjustment rod.

## THREADS

- Valve inlet information is NPT unless otherwise specified. Special threads available through adapter use.
- See index T-13 for alternative outlet thread options.



PRESSURE REDUCING

INDUSTRIAL VALVES

10-3

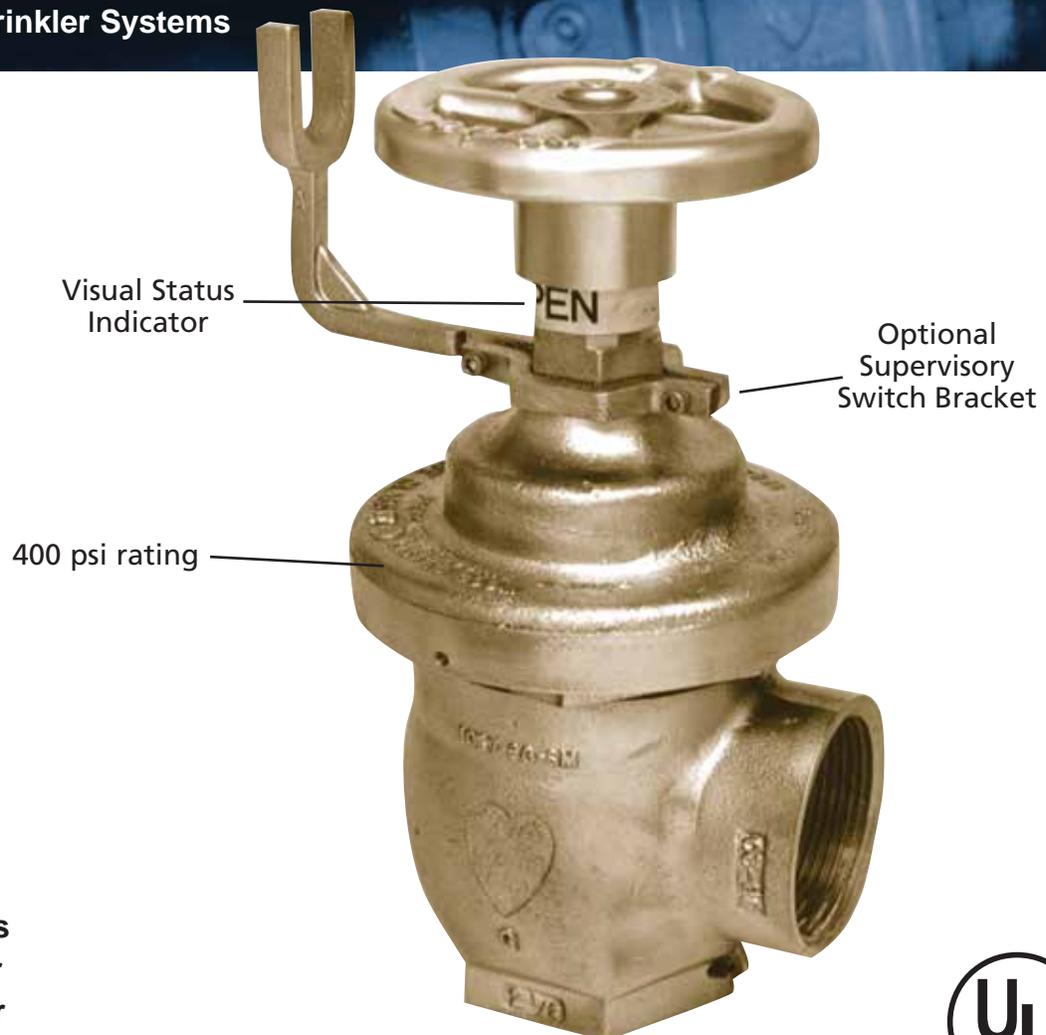
## Pressure Reducing (Pressure-Matic)

Elkhart's Pressure-Matic is a true pressure reducing valve, operated automatically by inner hydraulic controls. No diaphragms, springs or outside controls are involved with the unit, the action being completely dependent upon conditions at the nozzle or sprinkler system.

Elkhart Brass offers 18 different valve pressure types/ranges for building systems. Inlet pressure up to 400 psi (27.58 bar) is controlled under all flow and no-flow conditions. The UR valve series may be used as a standard shut-off. The valves are completely tamper-proof. They fit all existing cabinets where 1 1/2" or 2 1/2" valves are currently in use.

Pressure-Matic valves can be used for/in:

- Floor Control Valve
- Standpipe System
- Automatic Sprinkler Systems
- UL Listed as a check valve for use in dual riser systems

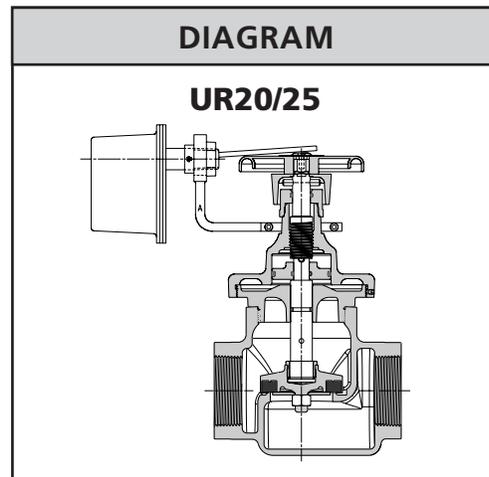
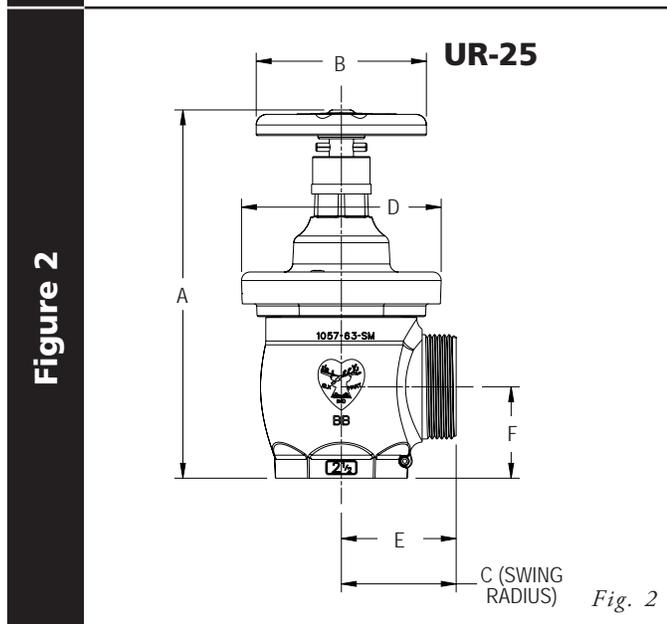
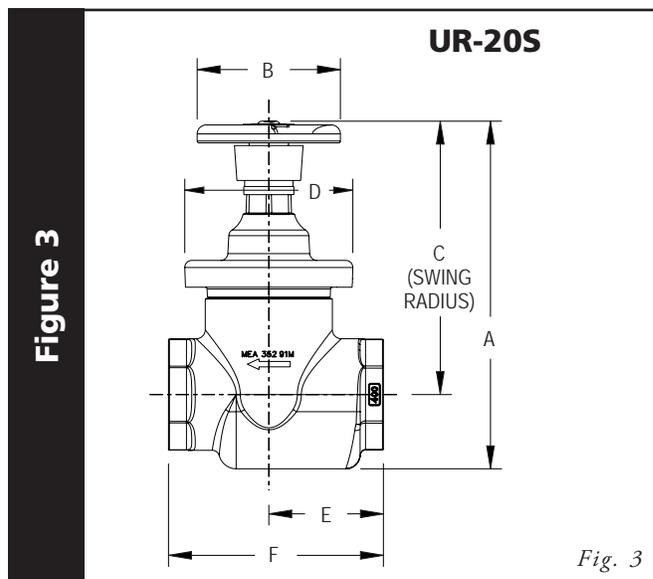
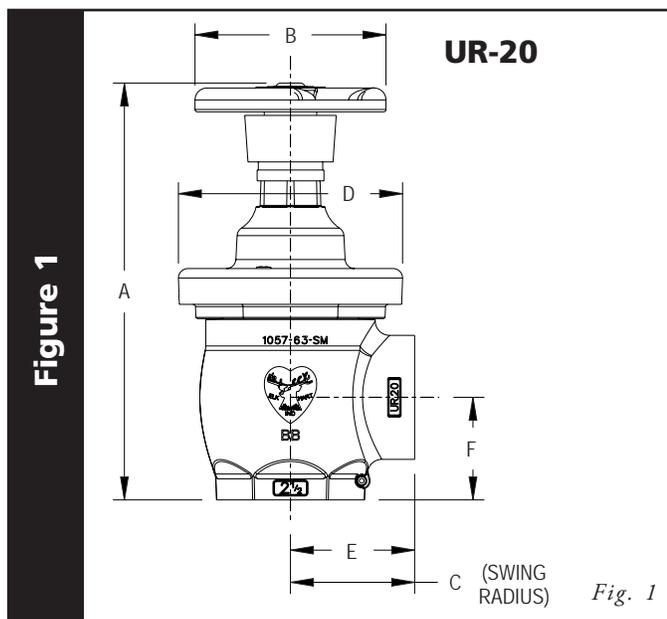


**UR Series valves  
not intended for  
use in salt water  
applications.**



| INLET SIZES  |     | OUTLET SIZES |     |            |     | TYPE |     | CERT.     | DIMENSIONS (Inches) |                   |   |                  |    |                  | BRASS FINISH     |      |           | Weight (Lbs.) | MODEL | FIGURE     |         |
|--------------|-----|--------------|-----|------------|-----|------|-----|-----------|---------------------|-------------------|---|------------------|----|------------------|------------------|------|-----------|---------------|-------|------------|---------|
| Female (NPT) |     | Female (NPT) |     | Male (NHT) |     | Ang  | Str | UL Listed | A                   |                   | B | C                | D  | E                | F                | Cast | Polished* |               |       |            | Chrome* |
| 1½"          | 2½" | 1½"          | 2½" | 1½"        | 2½" |      |     |           | Min                 | Max               |   |                  |    |                  |                  |      |           |               |       |            |         |
| •            |     | •            |     |            |     | •    |     | •         | 7¾                  | 8¾                | 4 | 2½               | 3½ | 2¾ <sub>16</sub> | 1⅞               | s    | o         | o             | 7½    | UR-20-1.5  | 1       |
| •            |     |              |     | •          |     | •    |     | •         | 7¾                  | 8¾                | 4 | 2⅞ <sub>16</sub> | 3½ | 2¾ <sub>16</sub> | 1⅞               | s    | o         | o             | 7½    | UR-25-1.5  | 2       |
|              | •   | •            |     |            |     | •    |     | •         | 11                  | 11⅞               | 5 | 2⅞               | 5⅞ | 3¼               | 2⅞ <sub>16</sub> | s    | o         | o             | 18½   | UR-20-2.5  | 1       |
|              | •   |              |     | •          |     | •    |     | •         | 10⅞ <sub>16</sub>   | 11⅞               | 5 | 2⅞               | 5⅞ | 3⅞               | 2⅞ <sub>16</sub> | s    | o         | o             | 18½   | UR-25-2.5  | 2       |
|              | •   | •            |     |            |     | •    |     | •         | 12⅞ <sub>16</sub>   | 12⅞ <sub>16</sub> | 5 | 10 to 10½        | 5⅞ | 4                | 7½               | s    | o         | o             | 26½   | UR-20S-2.5 | 3       |

KEY s = standard o = option \*Partial polished



### ADDITIONAL INFORMATION

- Customer must fill out valve data sheet on page G-8, factory setting required.
- Calculator for determining valve pressure range is available from Elkhart Brass. Please inquire with our sales staff or see our website.

### THREADS

Valve inlet information is NPT unless otherwise specified. See index T-13 for alternative outlet thread options.



PRESSURE RESTRICTING

## Pressure Restricting

Elkhart's pressure restricting valves all feature rugged cast brass construction in your choice of finishes. The pressure restricting valves feature rubber seats and are rated for use at 175 psi (12.15 bar). Although factory setting is recommended, all the pressure restricting valves are field-settable.

Pressure restricting valves:

- Reduce pressure under flowing conditions
- Allow fire departments to override settings in emergency conditions



**UP Series valves  
not intended for  
use in salt water  
applications.**



| INLET SIZES |     | OUTLET SIZES |     |      |     | CERTIFICATIONS | BRASS FINISH |      |          | DIMENSIONS (Inches)           |                                |   |                               |                               | Weight (Lbs.)                  | MODEL     | FIGURE |
|-------------|-----|--------------|-----|------|-----|----------------|--------------|------|----------|-------------------------------|--------------------------------|---|-------------------------------|-------------------------------|--------------------------------|-----------|--------|
| Female      |     | Female       |     | Male |     |                | UL Listed    | Cast | Polished | Chrome Polished               | Swing Radius                   | A | B                             | Height                        |                                |           |        |
| 1½"         | 2½" | 1½"          | 2½" | 1½"  | 2½" | Open           |              |      |          |                               |                                |   |                               | Closed                        |                                |           |        |
| •           |     | •            |     |      |     | •              | s            | o    | o        | 2½                            | 2 <sup>7</sup> / <sub>16</sub> | 4 | 7 <sup>7</sup> / <sub>8</sub> | 6 <sup>7</sup> / <sub>8</sub> | 6                              | UP-20-1.5 | 1      |
|             | •   |              | •   |      |     | •              | s            | o    | o        | 3 <sup>5</sup> / <sub>8</sub> | 3 <sup>1</sup> / <sub>4</sub>  | 5 | 11                            | 9 <sup>3</sup> / <sub>8</sub> | 11 <sup>3</sup> / <sub>4</sub> | UP-20-2.5 | 1      |
| •           |     |              |     | •    |     | •              | s            | o    | o        | 2½                            | 2 <sup>1</sup> / <sub>8</sub>  | 4 | 7 <sup>7</sup> / <sub>8</sub> | 6 <sup>7</sup> / <sub>8</sub> | 6                              | UP-25-1.5 | 2      |
|             | •   |              |     |      | •   | •              | s            | o    | o        | 3 <sup>5</sup> / <sub>8</sub> | 3 <sup>1</sup> / <sub>4</sub>  | 5 | 11                            | 9 <sup>3</sup> / <sub>8</sub> | 11 <sup>3</sup> / <sub>4</sub> | UP-25-2.5 | 2      |

KEY s = standard o = option

Figure 1

UP-20



Fig. 1

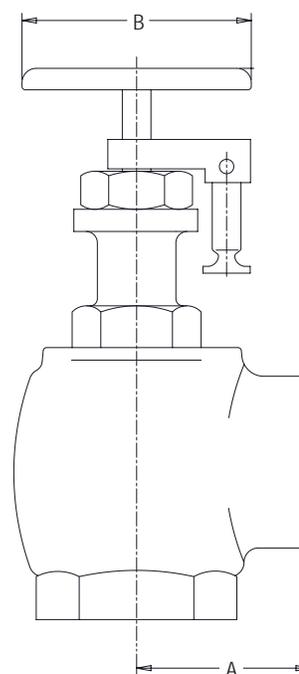
Figure 2

UP-25



Fig. 2

DIAGRAM



### ADDITIONAL INFORMATION

All valves can be factory set. To order any of the valves listed here factory set, customer must provide residual inlet pressure, desired residual outlet pressure, and flow rate. Please see ordering form on page G-8.

### OTHER PRODUCTS

For valves that reduce pressure in no-flow situations please see our Pressure-Matic (page 10-3) or URFA (page 10-1) valves.

### THREADS

Female inlet and outlet information is in NPT unless otherwise specified. Male outlet standard is NHT. Contact Elkhart Brass for alternative outlet thread options.

# INDUSTRIAL VALVES



ANGLE

## Angle

Elkhart's angle valves all feature rugged cast brass construction in your choice of finishes. Additionally, all feature rubber seats and are rated at 300 psi (20.68 bar).



**U Series valves  
not intended for  
use in salt water  
applications.**



| INLET SIZES |     | OUTLET SIZES |     |      |     | CERTIFICATIONS |           | BRASS FINISH |          |                 | DIMENSIONS (Inches)           |                                |   |                               |                               | Weight (Lbs.)                  | MODEL    | FIGURE |
|-------------|-----|--------------|-----|------|-----|----------------|-----------|--------------|----------|-----------------|-------------------------------|--------------------------------|---|-------------------------------|-------------------------------|--------------------------------|----------|--------|
| Female      |     | Female       |     | Male |     | FM App'd       | UL Listed | Cast         | Polished | Chrome Polished | Swing Radius                  | A                              | B | Height                        |                               |                                |          |        |
| 1½"         | 2½" | 1½"          | 2½" | 1½"  | 2½" |                |           |              |          |                 |                               |                                |   | Open                          | Closed                        |                                |          |        |
| •           |     | •            |     |      |     | •              | •         | s            | o        | o               | 2½                            | 2 <sup>3</sup> / <sub>16</sub> | 4 | 7 <sup>7</sup> / <sub>8</sub> | 6 <sup>7</sup> / <sub>8</sub> | 6                              | U-20-1.5 | 1      |
|             | •   |              | •   |      |     | •              | •         | s            | o        | o               | 3 <sup>5</sup> / <sub>8</sub> | 3 <sup>1</sup> / <sub>4</sub>  | 5 | 11                            | 9 <sup>3</sup> / <sub>8</sub> | 11 <sup>3</sup> / <sub>4</sub> | U-20-2.5 | 1      |
| •           |     |              |     | •    |     | •              | •         | s            | o        | o               | 2½                            | 2 <sup>3</sup> / <sub>16</sub> | 4 | 7 <sup>7</sup> / <sub>8</sub> | 6 <sup>7</sup> / <sub>8</sub> | 6                              | U-25-1.5 | 2      |
|             | •   |              |     |      | •   | •              | •         | s            | o        | o               | 3 <sup>5</sup> / <sub>8</sub> | 3 <sup>1</sup> / <sub>4</sub>  | 5 | 11                            | 9 <sup>3</sup> / <sub>8</sub> | 11 <sup>3</sup> / <sub>4</sub> | U-25-2.5 | 2      |

KEY s = standard o = option

Figure 1

U-20



Fig. 1

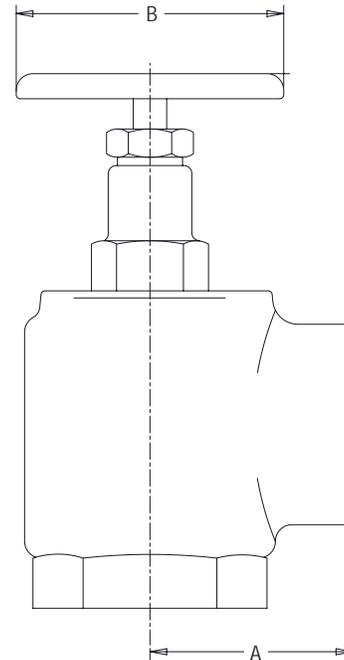
Figure 2

U-25



Fig. 2

DIAGRAM



### ADDITIONAL INFORMATION

#### THREADS

Valve inlet information is in NPT unless otherwise specified. See index T-13 for alternative outlet thread options.



## CAPS & PLUGS

| Cap/Plug | Size (Inches) | TYPE        |     |        |       | MATERIAL/FINISH |               |             | CHAIN |       | DIMENSION       |               | MODEL     | FIGURE |
|----------|---------------|-------------|-----|--------|-------|-----------------|---------------|-------------|-------|-------|-----------------|---------------|-----------|--------|
|          |               | Long Handle | Pin | Rocker | Storz | Brass           |               | Elk-O-Lite® | 9"    | 16"   | Length (Inches) | Weight (Lbs.) |           |        |
|          |               |             |     |        |       | Cast brass      | Chrome-plated |             |       |       |                 |               |           |        |
| Cap      | 1.0           |             |     | •      |       | s               | o             |             | s     | o     | 1.125           | 0.4           | 310       | 1      |
|          |               |             |     | •      |       |                 |               | s           | s     | o     | 1.125           | 0.2           | 310A      | 1      |
|          | 1.5           |             | •   |        |       | s               | o             |             | s     |       | 1.125           | 0.7           | 310       | 1      |
|          |               |             |     | •      |       | s               | o             |             | s     | o     | 1.125           | 0.5           | 310       | 1      |
|          | 2.5           | •           |     |        |       | s               | o             |             | s     | o     | 1.5             | 0.4           | 310A      | 1      |
|          |               |             | •   |        |       | s               | o             |             | s     |       | 1.5             | 2.5           | 310LH     | 3      |
|          | 3.0           |             |     | •      |       | s               | o             |             | s     | o     | 1.5             | 1.8           | 310       | 1      |
|          |               |             |     | •      |       | s               | o             |             | s     | o     | 1.5             | 1.3           | 310       | 1      |
|          | 4.0           |             |     |        | •     |                 |               |             |       | *     | 2.75            | 2.4           | 310 Storz | 2      |
|          |               | •           |     |        |       | s               | o             |             | s     | o     | 1.875           | 4.1           | 310       | 1      |
|          | 4.5           |             |     |        | •     |                 |               |             | s     |       | 1.75            | 4.5           | 310LH     | 3      |
|          |               | •           |     |        |       | s               | o             |             | s     | o     | 2.125           | 5.5           | 310       | 1      |
| 5.0      |               |             |     | •      |       |                 |               |             | *     | 2.125 | 8.0             | 310LH         | 3         |        |
|          | •             |             |     |        | s     | o               |               |             |       | 2.625 | 3.5             | 310 Storz     | 2         |        |
| 6.0      |               |             |     |        |       |                 |               |             |       | 1.5   | 6.8             | 310LH         | 3         |        |
|          | •             |             |     |        | s     | o               |               |             |       | 1.625 | 7.5             | 310LH         | 3         |        |
| Plug     | 1.5           |             | •   |        |       | s               | o             |             |       |       | 1.75            | 1.1           | 311       | 4      |
|          |               |             |     | •      |       | s               | o             |             |       |       | 1.75            | 1.1           | 311       | 4      |
|          | 2.5           |             |     | •      |       | s               | o             |             |       |       | 2.0             | 1.1           | 311       | 4      |
|          |               |             | •   |        |       | s               | o             |             |       |       | 2.125           | 2.2           | 311       | 4      |
|          | 3.0           |             |     | •      |       |                 |               | s           |       |       | 2.25            | 0.8           | 311A      | 4      |
|          |               | •           |     |        |       | s               | o             |             |       |       | 0.875           | 0.3           | 313       | 5      |

KEY s = standard o = option  
 \* Storz option comes with an 16" stainless steel cable.

Figure 1



**CAP**

- Available with 9" or 16" chain
- 175 PSI max rated pressure

*Fig. 1*

---

Figure 2



**STORZ CAP**

- 16" stainless steel cable

*Fig. 2*

---

Figure 3



**LONG HANDLE CAP**

- Conforms to NFPA 1901 for 500 psi service
- No chain

*Fig. 3*

Figure 4



**PLUG**

- Available with 9" chain

*Fig. 4*

---

Figure 5



**SPANNER LUG PLUG**

- "Easy-off" swivel cap
- No chain
- U.L. Listed

*Fig. 5*

Figures depict general product types only and are not intended to be inclusive of all product features.

**OPTIONS**

**THREADS**

*Where noted as hose thread, NHT is standard. See index T-13 for optional base threads.*

# Adapters

In the over 100 years Elkhart has been a fire service manufacturer, we have created a wide assortment of standardized adapters to meet the varied needs of the fire industry. This extensive selection includes thread adapters to suit any need — whether for a male to female; a suction adapter with built-in strainer, NHT, NPT or custom order; or even for a universal adapter — you can find the perfect fit here.

- A selection of rocker lug and pin lug options
- Aluminum, Brass, and Chrome finishes available

Adapter  
Mo. M-327



High Rise Elbow  
Mo. 105A



Several material options — lightweight Elk-O-Lite® or durable cast brass (including some with chrome-plated finish)

# ADAPTERS, CAPS & PLUGS



## HOSE TO HOSE ADAPTERS

# ADAPTERS, CAPS & PLUGS

11-3

| What kind of adapter do you need? |   |  |                                       |               |     |   |     |   |     |                   |     |      |   |       |        |                                       |        |       |     |                 |                |          |       |    |
|-----------------------------------|---|--|---------------------------------------|---------------|-----|---|-----|---|-----|-------------------|-----|------|---|-------|--------|---------------------------------------|--------|-------|-----|-----------------|----------------|----------|-------|----|
| Step 1:<br>Select<br>Material     | Step 2:<br>Choose<br>Connection<br>Type<br><br>(Inlet to<br>Outlet) | Step 3:<br>Determine<br>Gender<br><br>(Inlet to<br>Outlet) | Step 4: Select from available options |               |     |   |     |   |     |                   |     |      |   |       |        | Step 5:<br>Pick<br>Model<br><br>Model | Figure |       |     |                 |                |          |       |    |
|                                   |   |  | Inlet                                 | Size (Inches) |     |   |     |   |     | Construc-<br>tion |     | Type |   |       |        |                                       |        | Model |     |                 |                |          |       |    |
|                                   |   |  |                                       | 1             | 1.5 | 2 | 2.5 | 3 | 3.5 | 4                 | 4.5 | 5    | 6 | Solid | Swivel |                                       |        |       | Hex | Internal<br>Lug | Long<br>Handle | Rocker   |       |    |
| Brass                             | Hose Thread<br>to<br>Hose Thread                                    | NHT (M)<br>to<br>NHT (F)                                   | 1                                     | •             |     |   |     |   |     |                   |     |      |   |       | •      |                                       |        |       |     | s               | A-327          | 9        |       |    |
|                                   |   |  | 1.5                                   |               | •   |   |     |   |     |                   |     |      |   |       |        | •                                     |        |       |     |                 | s              | D-327    | 8     |    |
|                                   |   |  | 1.5                                   | •             |     | • |     |   |     |                   |     |      |   |       |        | •                                     |        |       |     |                 | s              | A-327*   | 9     |    |
|                                   |   |  | 1.5                                   |               |     | • |     |   |     |                   |     |      |   |       |        |                                       | •      |       |     |                 | s              | S-327    | 11    |    |
|                                   |   |  | 2                                     |               |     |   |     |   |     |                   |     |      |   |       |        | •                                     |        |       |     |                 |                | s        | A-327 | 9  |
|                                   |   |  | 2.5                                   | •             |     | • | •   |   |     |                   |     |      |   |       |        | •                                     |        |       |     |                 | s              | S-327    | 11    |    |
|                                   |   |  | 2.5                                   |               |     | • | •   |   |     |                   |     |      |   |       |        |                                       | •      |       |     |                 | s              | 105      | 3     |    |
|                                   |   |  | 2.5                                   |               |     | • | •   |   |     |                   |     |      |   |       |        |                                       |        | •     |     |                 |                | s        | A-327 | 9  |
|                                   |   |  | 3                                     |               |     | • | •   |   |     |                   |     |      |   |       |        |                                       | •      |       |     |                 |                | s        | S-327 | 11 |
|                                   |   | 3  |                                       |               |     | • | •   |   |     |                   |     |      |   |       |        |                                       | •      |       |     |                 | s              | A-327    | 9     |    |
|                                   |   | 3  |                                       |               |     | • | •   |   |     |                   |     |      |   |       |        |                                       | •      |       |     |                 | s              | S-327    | 11    |    |
|                                   |   | 3  |                                       |               |     | • | •   |   |     |                   |     |      |   |       |        |                                       | •      |       |     |                 | s              | 105      | 3     |    |
|                                   |   | 3  |                                       |               |     | • | •   |   |     |                   |     |      |   |       |        |                                       | •      |       |     |                 | s              | A-327    | 9     |    |
|                                   |   | 3  |                                       |               |     | • | •   |   |     |                   |     |      |   |       |        |                                       | •      |       |     |                 | s              | S-327    | 11    |    |
|                                   |   | 3  |                                       |               |     | • | •   |   |     |                   |     |      |   |       |        |                                       | •      |       |     |                 | s              | 105      | 3     |    |
|                                   |   | 3.5  |                                       |               |     |   |     |   |     |                   |     | •    |   |       |        |                                       | •      |       |     |                 | s              | A-327    | 9     |    |
|                                   |   | 3.5  |                                       |               |     |   |     |   |     |                   |     |      |   |       |        |                                       | •      |       |     |                 | s              | D-327    | 8     |    |
|                                   |   | 3.5  |                                       |               |     |   |     |   |     |                   |     |      |   |       |        |                                       | •      |       |     |                 | s              | A-327*   | 9     |    |
|                                   |   | NHT (F)<br>to<br>NHT (M)                                   | 2.5                                   | •             |     |   |     |   |     |                   |     |      |   |       |        |                                       | •      |       |     |                 |                | s        | S-327 | 11 |
|                                   |   |  | 2.5                                   | •             |     | • | •   |   |     |                   |     |      |   |       |        |                                       | •      |       |     |                 | s              | 105      | 3     |    |
|                                   |   |  | 2.5                                   | •             |     | • | •   |   |     |                   |     |      |   |       |        |                                       | •      |       |     |                 | s              | A-327    | 9     |    |
| 2.5                               | •   |  |                                       | •             | •   |   |     |   |     |                   |     |      |   |       |        | •                                     |        |       |     | s               | S-327          | 11       |       |    |
| 3                                 |   |  |                                       | •             | •   |   |     |   |     |                   |     |      |   |       | •      |                                       |        |       |     | s               | 105            | 3        |       |    |
| 3                                 |   |  |                                       | •             | •   |   |     |   |     |                   |     |      |   |       |        | •                                     |        |       |     | s               | A-327          | 9        |       |    |
| 3                                 |   |  |                                       | •             | •   |   |     |   |     |                   |     |      |   |       |        | •                                     |        |       |     | s               | S-327          | 11       |       |    |
| 3                                 |   |  |                                       | •             | •   |   |     |   |     |                   |     |      |   |       |        | •                                     |        |       |     | s               | 105            | 3        |       |    |
| 3.5                               |   |  |                                       |               |     |   |     |   |     |                   | •   |      |   |       |        | •                                     |        |       |     | s               | A-327          | 9        |       |    |
| NHT (M) to<br>NHT (M)             | 1.5   |  | •                                     |               |     |   |     |   |     |                   |     |      |   |       | •      |                                       |        |       |     | s               | M-327          | 6        |       |    |
|                                   | 2.5   |  |                                       |               | •   |   |     |   |     |                   |     |      |   |       | •      |                                       |        |       |     | s               |                |          |       |    |
|                                   | 1.5   |  | •                                     |               |     |   |     |   |     |                   |     |      |   |       |        | •                                     |        |       |     | s               | F-327          | 1        |       |    |
|                                   | 2.5   |  |                                       |               | •   |   |     |   |     |                   |     |      |   |       |        | •                                     |        |       |     | s               | F-327          | 1        |       |    |
|                                   | 3   |  |                                       |               |     |   | •   |   |     |                   |     |      |   |       |        | •                                     |        |       |     | s               | S-319          | 3        |       |    |
| Aluminum                          | Hose Thread<br>to<br>Hose Thread                                    | NHT (M)<br>to<br>NHT (F)                                   | 1.5                                   |               |     | • |     |   |     |                   |     |      |   |       | •      |                                       |        |       |     | s               | D-327A         | 7        |       |    |
|                                   |   |  | 1.5                                   |               | •   |   | •   |   |     |                   |     |      |   |       |        | •                                     |        |       |     |                 | s              | A-327A   | 10    |    |
|                                   |   | 2.5  |                                       |               |     | • |     |   |     |                   |     |      |   |       |        | •                                     |        |       |     |                 | s              | A-327A   | 10    |    |
|                                   |   | 2.5  |                                       |               |     | • |     |   |     |                   |     |      |   |       |        | •                                     |        |       |     |                 | s              | D-327A   | 7     |    |
|                                   |   | 2.5  |                                       |               |     | • |     |   |     |                   |     |      |   |       |        | •                                     |        |       |     |                 | s              | M-327A   | 4     |    |
|                                   |   | 2.5  |                                       |               |     | • |     |   |     |                   |     |      |   |       |        | •                                     |        |       |     |                 | s              | M-327ABI | 5     |    |
|                                   |   | 2.5  |                                       |               |     | • |     |   |     |                   |     |      |   |       |        | •                                     |        |       |     |                 | s              | F-327A   | 2     |    |
|                                   |   | 1.5  |                                       | •             |     |   |     |   |     |                   |     |      |   |       |        |                                       | •      |       |     |                 | s              |          |       |    |
|                                   |   | 2.5  |                                       |               |     |   | •   |   |     |                   |     |      |   |       |        |                                       | •      |       |     |                 | s              |          |       |    |

Key s = standard o = option

\* A327 has optional pin lug and chrome finish in the 2.5F by 1.5M/1.5M by 2.5F size.

### OPTIONS THREADS

NHT can also be called NST. See T-13 for optional threads.

### MEASUREMENTS

Length measurements shown on page T-15.

### UNIVERSAL ADAPTER



435

- Cast brass construction with chrome-plated finish
- Adapts any 2.5" hose thread to 2.5" NHT
- Positive ratchet lock with thumb release
- Weight: 6.42 lbs.

|  | FEMALE/FEMALE  | MALE/MALE   | MIXED  |
|--|--|---|--|
| <b>Figure 1</b>  |  <p><b>F-327</b></p> <ul style="list-style-type: none"> <li>• Double swivel female</li> <li>• Cast brass finish (chrome optional)</li> </ul> <p><i>Fig. 1</i></p>     |  <p><b>M-327A</b></p> <ul style="list-style-type: none"> <li>• Double male</li> </ul> <p><i>Fig. 4</i></p>   |  <p><b>D-327A</b></p> <ul style="list-style-type: none"> <li>• Direct connect adapter</li> </ul> <p><i>Fig. 7</i></p>   |
| <b>Figure 2</b>  |  <p><b>F-327A</b></p> <ul style="list-style-type: none"> <li>• Double swivel female</li> </ul> <p><i>Fig. 2</i></p>   |  <p><b>M-327ABI</b></p> <ul style="list-style-type: none"> <li>• Double male British Instantaneous</li> </ul> <p><i>Fig. 5</i></p>                       |  <p><b>D-327</b></p> <ul style="list-style-type: none"> <li>• Direct connect adapter</li> <li>• Chrome finish (cast brass optional)</li> </ul> <p><i>Fig. 8</i></p>                                     |
| <b>Figure 3</b>  |  <p><b>105</b></p> <ul style="list-style-type: none"> <li>• 45° discharge elbow</li> <li>• Female rocker lug</li> <li>• Chrome finish</li> </ul> <p><i>Fig. 3</i></p> |  <p><b>M-327</b></p> <ul style="list-style-type: none"> <li>• Double male</li> <li>• Cast brass finish (chrome optional)</li> </ul> <p><i>Fig. 6</i></p> |  <p><b>A-327</b></p> <ul style="list-style-type: none"> <li>• Female rocker lug</li> </ul> <p><i>Fig. 9</i></p>   |
| <div style="border: 1px solid black; padding: 5px;"> <p><b>ADDITIONAL INFORMATION</b></p> <p><i>When ordering, specify: model number; inlet size, gender, and thread; outlet size, gender, and thread; as well as any optional type or finish information.</i></p> </div>  |  |   |  |
| <div style="border: 1px solid black; padding: 5px;"> <p style="background-color: #008000; color: white; text-align: center; padding: 2px;"><b>105A High Rise Elbow</b></p> <ul style="list-style-type: none"> <li>• 45° drain elbow</li> <li>• 2.5" Female free swivel</li> <li>• 2.5" Male discharge</li> <li>• Integrated Model 114 drain valve</li> <li>• 250 GPM flow</li> <li>• 200 PSI operating pressure</li> <li>• 1 lb. 3 oz.</li> </ul>  </div> |  |   |  |
| <b>Figure 10</b>   |  |   |  <p><b>A-327A</b></p> <ul style="list-style-type: none"> <li>• Female rocker lug</li> </ul> <p><i>Fig. 10</i></p>   |
| <b>Figure 11</b>   |  |   |  <p><b>S-327</b></p> <ul style="list-style-type: none"> <li>• Internal lug body</li> <li>• External female rocker lug</li> <li>• Cast brass finish (chrome optional)</li> </ul> <p><i>Fig. 11</i></p> |

# ADAPTERS, CAPS & PLUGS



## HOSE TO PIPE / PIPE TO HOSE ADAPTERS

# ADAPTERS, CAPS & PLUGS

11-5

|                               |   | What kind of adapter do you need?                          |                                       |               |     |   |     |   |     |   |     |   |   |       |              |                          |                 |        |                |     |       |        |  |   |        |       |       |    |       |    |
|-------------------------------|---|--|---------------------------------------|---------------|-----|---|-----|---|-----|---|-----|---|---|-------|--------------|--------------------------|-----------------|--------|----------------|-----|-------|--------|--|---|--------|-------|-------|----|-------|----|
| Step 1:<br>Select<br>Material | Step 2:<br>Choose<br>Connection<br>Type<br><br>(Inlet to<br>Outlet) | Step 3:<br>Determine<br>Gender<br><br>(Inlet to<br>Outlet) | Step 4: Select from available options |               |     |   |     |   |     |   |     |   |   |       |              | Step 5:<br>Pick<br>Model |                 | Figure |                |     |       |        |  |   |        |       |       |    |       |    |
|                               |   |  | Inlet                                 | Size (Inches) |     |   |     |   |     |   |     |   |   |       | Construction |                          | Type            |        |                |     | Model |        |  |   |        |       |       |    |       |    |
|                               |   |  |                                       | 1             | 1.5 | 2 | 2.5 | 3 | 3.5 | 4 | 4.5 | 5 | 6 | Solid | Swivel       | Hex                      | Internal<br>Lug |        | Long<br>Handle | Pin |       | Rocker |  |   |        |       |       |    |       |    |
| Brass                         | Hose Thread<br>to<br>Pipe Thread                                    | NHT (M)<br>to<br>NPT (M)                                   | 1                                     | •             |     |   |     |   |     |   |     |   |   |       | •            |                          |                 | s      |                |     |       |        |  |   | 306    | 17    |       |    |       |    |
|                               |   |  | 1.5                                   |               | •   |   |     |   |     |   |     |   |   |       |              | •                        |                 |        | s              |     |       |        |  |   |        |       |       |    |       |    |
|                               |   |  | 2.5                                   |               |     | • | •   |   |     |   |     |   |   |       |              | •                        |                 |        | s              |     |       |        |  |   |        |       |       |    |       |    |
|                               |   |  | 4.5                                   |               |     |   |     |   |     |   |     |   |   |       | •            |                          |                 |        | s              |     |       |        |  |   |        |       |       |    |       |    |
|                               |   |  | 1.5                                   |               | •   |   | •   |   |     |   |     |   |   |       |              |                          | •               |        |                | s   |       |        |  |   |        |       |       |    | 307   | 18 |
|                               |   |  | 2.5                                   |               |     | • | •   | • |     |   |     |   |   |       |              |                          | •               |        |                | s   |       |        |  |   |        |       |       |    | 418-S | 21 |
|                               |   | 2.5  |                                       |               |     | • | •   | • |     |   |     |   |   |       |              | •                        |                 |        | s              |     |       |        |  |   |        | 307   | 18    |    |       |    |
|                               |   | 2.5  |                                       |               |     |   | •   |   |     |   |     |   |   |       |              | •                        |                 |        | s              |     |       |        |  |   |        | 418   | 19    |    |       |    |
|                               |   | 2.5  |                                       |               |     |   |     | • |     |   |     |   |   |       |              | •                        |                 |        | s              |     |       |        |  |   |        | 418-L | 20    |    |       |    |
|                               |   | 2.5  |                                       |               |     |   |     |   | •   |   |     |   |   |       |              | •                        |                 |        | s              |     |       |        |  |   |        | 418-S | 21    |    |       |    |
|                               |   | 3  |                                       |               |     |   |     |   |     | • |     |   |   |       |              | •                        |                 |        | s              |     |       |        |  |   |        |       |       |    |       |    |
|                               |   | 3.5  |                                       |               |     |   |     |   |     |   | •   |   |   |       |              | •                        |                 |        | s              |     |       |        |  |   |        |       |       |    |       |    |
|                               |   | 4  |                                       |               |     |   |     |   |     |   |     | • |   |       |              | •                        |                 |        | s              |     |       |        |  |   |        |       |       |    |       |    |
|                               |   | 4.5  |                                       |               |     |   |     |   |     |   |     |   | • |       |              | •                        |                 |        | s              |     |       |        |  |   |        |       |       |    |       |    |
|                               |   | 5  |                                       |               |     |   |     |   |     |   |     |   |   | •     |              | •                        |                 |        | s              |     |       |        |  |   |        |       |       |    |       |    |
|                               |   | 6  |                                       |               |     |   |     |   |     |   |     |   |   |       | •            | •                        |                 |        | s              |     |       |        |  |   |        |       |       |    |       |    |
|                               |   |  | NHT (F)<br>to<br>NPT (M)              | 1.5           |     | • |     |   |     |   |     |   |   |       |              |                          | •               |        |                | s   |       |        |  |   |        |       | 307   | 18 |       |    |
|                               |   | 2.5  |                                       |               | •   | • | •   | • |     |   |     |   |   |       |              |                          | •               |        |                | s   |       |        |  |   |        |       |       |    |       |    |
|                               | 3   |  |                                       |               |     |   | •   |   |     |   |     |   |   |       |              | •                        |                 |        | s              |     |       |        |  |   |        |       |       |    |       |    |
|                               | 1.5   |  |                                       |               | •   |   |     |   |     |   |     |   |   |       |              |                          | •               |        |                | s   |       |        |  |   |        |       | 3060  | 15 |       |    |
|                               | 2.5   |  |                                       |               |     |   | •   |   |     |   |     |   |   |       |              |                          | •               |        |                | s   |       |        |  |   |        |       | 160   | 14 |       |    |
|                               | 2.5   |  |                                       |               |     |   |     | • | •   |   |     |   |   |       |              |                          | •               |        |                | s   |       | s      |  | s |        |       | 419   | 16 |       |    |
|                               |   | NHT (F)<br>to<br>NPT (F)                                   | 2.5                                   |               |     |   | •   | • |     |   |     |   |   |       |              | •                        |                 |        | s              |     |       |        |  |   |        | 160   | 14    |    |       |    |
|                               | 3   |  |                                       |               |     |   | •   | • |     |   |     |   |   |       |              | •                        |                 |        | s              |     |       | s      |  |   |        | 160   | 14    |    |       |    |
|                               | 3   |  |                                       |               |     |   |     | • | •   |   |     |   |   |       |              | •                        |                 |        | s              |     |       | s      |  |   |        | 419   | 16    |    |       |    |
|                               | 3   |  |                                       |               |     |   |     | • | •   |   |     |   |   |       |              | •                        |                 |        | s              |     |       | s      |  |   |        | 419   | 16    |    |       |    |
|                               | 1   |  |                                       |               | •   |   |     |   |     |   |     |   |   |       |              |                          | •               |        |                | s   |       |        |  |   |        |       |       |    |       |    |
|                               | 1.5   |  |                                       |               |     | • |     |   |     |   |     |   |   |       |              |                          | •               |        |                | s   |       |        |  |   |        |       |       |    |       |    |
|                               |   | Pipe Thread<br>to<br>Hose Thread                           | NPT (M)<br>to<br>NHT (M)              | 1.5           |     | • |     |   |     |   |     |   |   |       |              | •                        |                 |        | s              |     |       |        |  |   |        | 306   | 17    |    |       |    |
|                               | 2.5   |  |                                       |               |     | • |     |   |     |   |     |   |   |       |              |                          | •               |        |                | s   |       |        |  |   |        |       |       |    |       |    |
| 3                             |   |  |                                       |               |     |   | •   |   |     |   |     |   |   |       |              | •                        |                 |        | s              |     |       |        |  |   |        |       |       |    |       |    |
| 4.5                           |   |  |                                       |               |     |   |     |   |     |   |     |   |   |       |              | •                        |                 |        | s              |     |       |        |  |   |        |       |       |    |       |    |
| 1.5                           |   |  |                                       |               | •   |   | •   |   |     |   |     |   |   |       |              |                          | •               |        |                | s   |       |        |  |   |        |       |       |    |       |    |
| 2                             |   |  |                                       |               |     | • |     |   |     |   |     |   |   |       |              |                          | •               |        |                | s   |       |        |  |   |        |       |       |    |       |    |
|                               | NPT (M)<br>to<br>NHT (F)  |  | 2                                     |               |     | • |     |   |     |   |     |   |   |       |              | •                        |                 |        | s              |     |       |        |  |   |        | 307   | 18    |    |       |    |
| 2.5                           |   |  |                                       |               |     |   | •   | • |     |   |     |   |   |       |              | •                        |                 |        | s              |     |       |        |  |   |        |       |       |    |       |    |
| 3                             |   |  |                                       |               |     |   |     | • |     |   |     |   |   |       |              | •                        |                 |        | s              |     |       |        |  |   |        |       |       |    |       |    |
| 1.5                           |   |  |                                       |               |     | • |     |   |     |   |     |   |   |       |              |                          | •               |        |                | s   |       |        |  |   |        |       | 307   | 18 |       |    |
| 2                             |   |  |                                       |               |     | • |     |   |     |   |     |   |   |       |              |                          | •               |        |                | s   |       |        |  |   |        |       | 418-S | 21 |       |    |
| 2.5                           |   |  |                                       |               |     | • |     |   |     |   |     |   |   |       |              |                          | •               |        |                | s   |       |        |  |   |        |       | 307   | 18 |       |    |
|                               | NPT (F)<br>to<br>NHT (M)  |  | 2.5                                   |               |     |   | •   |   |     |   |     |   |   |       |              | •                        |                 |        | s              |     |       |        |  |   |        | 418-L | 20    |    |       |    |
| 2.5                           |   |  |                                       |               |     |   |     | • |     |   |     |   |   |       |              | •                        |                 |        | s              |     |       |        |  |   |        | 418-S | 21    |    |       |    |
| 3                             |   |  |                                       |               |     |   |     | • |     |   |     |   |   |       |              | •                        |                 |        | s              |     |       |        |  |   |        | 307   | 18    |    |       |    |
| 3                             |   |  |                                       |               |     |   |     | • | •   |   |     |   |   |       |              | •                        |                 |        | s              |     |       |        |  |   |        |       |       |    |       |    |
| 3.5                           |   |  |                                       |               |     |   |     |   |     | • |     |   |   |       |              |                          | •               |        |                | s   |       |        |  |   |        |       |       |    |       |    |
| 4                             |   |  |                                       |               |     |   |     |   |     |   | •   | • |   |       |              |                          | •               |        |                | s   |       |        |  |   |        |       | 418   | 19 |       |    |
|                               | NPT (F)<br>to<br>NHT (F)  | 1.5  |                                       | •             |     |   |     |   |     |   |     |   |   |       | •            |                          |                 | s      |                |     |       |        |  |   | 3060   | 15    |       |    |       |    |
| 2.5                           |   |  |                                       |               |     |   | •   |   |     |   |     |   |   |       | •            |                          |                 | s      |                |     |       |        |  |   | 160    | 14    |       |    |       |    |
| 2.5                           |   |  |                                       |               |     |   |     | • | •   |   |     |   |   |       |              | •                        |                 |        | s              |     |       | s      |  |   | 419    | 16    |       |    |       |    |
| 2.5                           |   |  |                                       |               |     |   |     |   | •   | • |     |   |   |       |              | •                        |                 |        | s              |     |       | s      |  |   | 160    | 14    |       |    |       |    |
| 3                             |   |  |                                       |               |     |   |     |   | •   | • |     |   |   |       |              | •                        |                 |        | s              |     |       | s      |  |   | 419    | 16    |       |    |       |    |
| 3                             |   |  |                                       |               |     |   |     |   | •   | • |     |   |   |       |              | •                        |                 |        | s              |     |       | s      |  |   | 419    | 16    |       |    |       |    |
| Aluminum                      | Hose Thread<br>to<br>Pipe Thread                                    | NHT (M) to<br>NPT (F)                                      | 2.5                                   |               |     |   | •   |   |     |   |     |   |   | •     |              |                          |                 |        |                |     |       |        |  |   | 418-SA | 22    |       |    |       |    |
|                               | Pipe Thread<br>to<br>Hose Thread                                    | NPT (F) to<br>NHT (M)                                      | 2.5                                   |               |     |   | •   |   |     |   |     |   |   | •     |              |                          |                 |        |                |     |       |        |  |   | 418-SA | 22    |       |    |       |    |

Key s = standard o = option

|   |
|---|
| <b>OPTIONS</b>  |
| <b>THREADS</b>  |
| <i>NHT can also be called NST. See T-13 for optional threads.</i> |
| <b>MEASUREMENTS</b>   |
| <i>Length measurements shown on page T-15.</i>                    |

|                          |   |
|--------------------------|---|
| <b>UNIVERSAL ADAPTER</b> |   |
| <p>435</p>               | <ul style="list-style-type: none"> <li>• Cast brass construction with chrome-plated finish</li> <li>• Adapts any 2.5" hose thread to 2.5" NHT</li> <li>• Positive ratchet lock with thumb release</li> <li>• Weight: 6.42 lbs.</li> </ul> |

# ADAPTERS, CAPS & PLUGS

## HOSE TO PIPE / PIPE TO HOSE ADAPTERS

|                  | FEMALE/FEMALE   | MALE/MALE  | MIXED  |
|------------------|---|--|--|
| <b>Figure 14</b> |  <p><b>160</b></p> <ul style="list-style-type: none"> <li>• Swivel female to female</li> <li>• Cast brass finish (chrome optional)</li> </ul> <p><i>Fig. 14</i></p>                        |  <p><b>306</b></p> <ul style="list-style-type: none"> <li>• Double male</li> <li>• Cast brass finish (chrome optional)</li> </ul> <p><i>Fig. 17</i></p> |  <p><b>307</b></p> <ul style="list-style-type: none"> <li>• Cast brass finish (chrome optional)</li> </ul> <p><i>Fig. 18</i></p>                                    |
| <b>Figure 15</b> |  <p><b>3060</b></p> <ul style="list-style-type: none"> <li>• Double female</li> <li>• Cast brass finish (chrome optional)</li> </ul> <p><i>Fig. 15</i></p>                                 |  |  <p><b>418</b></p> <ul style="list-style-type: none"> <li>• Suction adapter</li> <li>• Removable strainer</li> <li>• Chrome finish</li> </ul> <p><i>Fig. 19</i></p> |
| <b>Figure 16</b> |  <p><b>419</b></p> <ul style="list-style-type: none"> <li>• Swivel female to female suction adapter</li> <li>• Built-in strainer</li> <li>• Chrome finish</li> </ul> <p><i>Fig. 16</i></p> |  |  <p><b>418-L</b></p> <ul style="list-style-type: none"> <li>• Long discharge adapter</li> <li>• Chrome finish</li> </ul> <p><i>Fig. 20</i></p>                      |
|                  |   |  |  <p><b>418-S</b></p> <ul style="list-style-type: none"> <li>• Short discharge adapter</li> <li>• Chrome finish</li> </ul> <p><i>Fig. 21</i></p>                   |
|                  |   |  |  <p><b>418-SA</b></p> <ul style="list-style-type: none"> <li>• Short discharge adapter</li> <li>• Female rocker lug</li> </ul> <p><i>Fig. 22</i></p>              |

### ADDITIONAL INFORMATION

*When ordering, specify: model number; inlet size, gender and thread; outlet size, gender and thread; as well as any optional type or finish information.*



## INTRODUCTION

**ELKHART PROVIDES A VARIETY OF BUILDING CONNECTIONS INCLUDING FREE STANDING, EXPOSED AND FLUSH; ALL WITH INLETS AND/OR OUTLETS. ALL BUILDING CONNECTIONS ARE CAST BRASS CONSTRUCTION.**

## Free Standing

Elkhart's 90° free standing inlet connections are cast brass construction, as are the sleeves and escutcheons, and come furnished with plugs, chains and an 18" polished brass or chrome sleeve for standpipe cover.

Elkhart's 90° free standing hydrants and pump test connections are cast brass construction, as are the sleeves and escutcheons, and come furnished with caps and chains.





## FREE STANDING INLET

| NPT<br>OUTLET<br>SIZE<br>(Inches) | NUMBER OF<br>2.5" F NHT<br>INLETS |   |   | CLAPPER<br>TYPE |       | CERTI-<br>FICATIONS |             | MEASUREMENTS (Inches) |        |     |        |          |          | AVAILABLE<br>ESCUTCHEONS |           |                            | FINISH         |                 | Weight (Lbs.) | MODEL    | FIGURE |
|-----------------------------------|-----------------------------------|---|---|-----------------|-------|---------------------|-------------|-----------------------|--------|-----|--------|----------|----------|--------------------------|-----------|----------------------------|----------------|-----------------|---------------|----------|--------|
|                                   | 2                                 | 3 | 4 | Body (Drop)     | Snoot | FM Approved         | U.L. Listed | A                     | B      | C   | D      | E        | F        | Auto-Spkr                | Standpipe | Standpipe and<br>Auto-Spkr | Polished Brass | Polished Chrome |               |          |        |
| 4.0                               | •                                 |   |   | •               |       | •                   | •           | 9 1/4                 | 8 7/16 | 1/2 | 18 1/4 | 23 11/16 | 23 11/16 | •                        | •         | •                          | s              | o               | 30            | 15-2W 4" | 1      |
| 6.0                               | •                                 |   |   | •               |       | •                   |             | 11 5/8                | 9 3/4  | 1/2 | 18 1/4 | 23 11/16 | 23 11/16 | •                        | •         | •                          | s              | o               | 36 1/4        | 15-2W 6" | 1      |
|                                   |                                   | • |   | •               |       |                     |             | 11 5/8                | 9 3/4  | 1/2 | 18 1/4 | 23 9/16  | 23 9/16  | •                        | •         | •                          | s              | o               | 39 3/4        | 15-3W    | 2      |
|                                   |                                   |   | • | •               |       |                     |             | 11 13/16              | 12 7/8 | 1/2 | 18 1/4 |          | 34 1/16  | •                        | •         | •                          | s              | o               | 134           | 15-4W**  | 3      |

Key s = standard o = option

\* Can order parts (sleeve or body with clapper) separately.

\*\* Bodies of the 4-way products are rough brass or rough chrome with balance of parts polished.

### ADDITIONAL INFORMATION

- Each 2 1/2" NHT inlet has a rated flow of 250 gpm (946 lpm).
- Elkhart's sidewalk bodies are rated for 175 psi (12.1 bar).
- Supplied with plugs (#311) and chains.

### THREADS

Unless otherwise noted, all hose threads are NHT. See index T-13 for available optional threads.

FIGURE 1

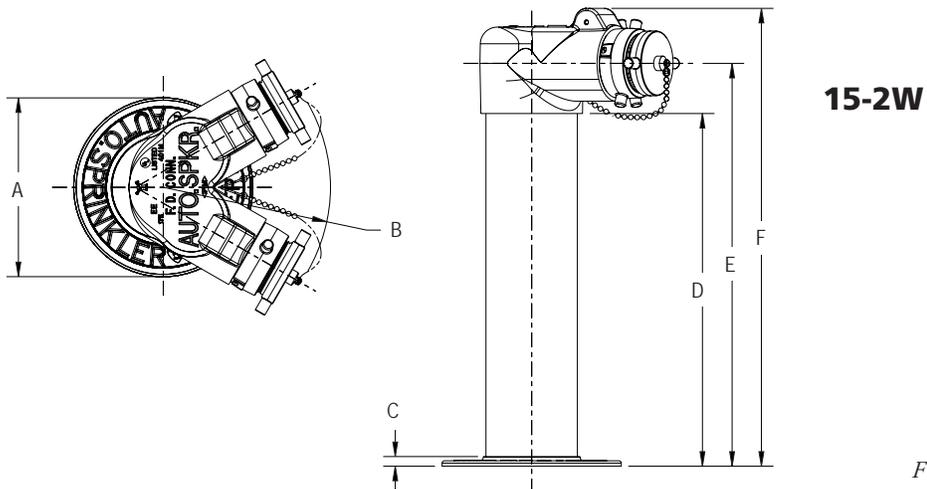


Fig. 1

FIGURE 2

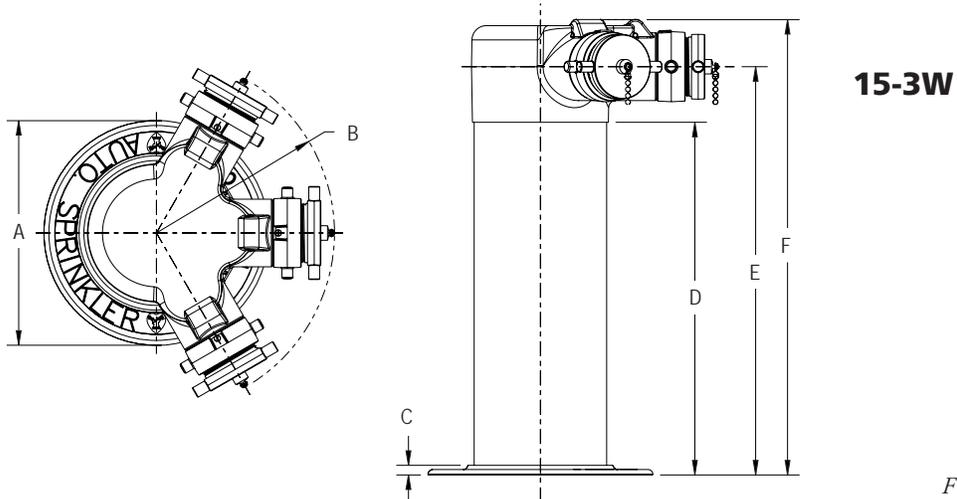


Fig. 2

FIGURE 3

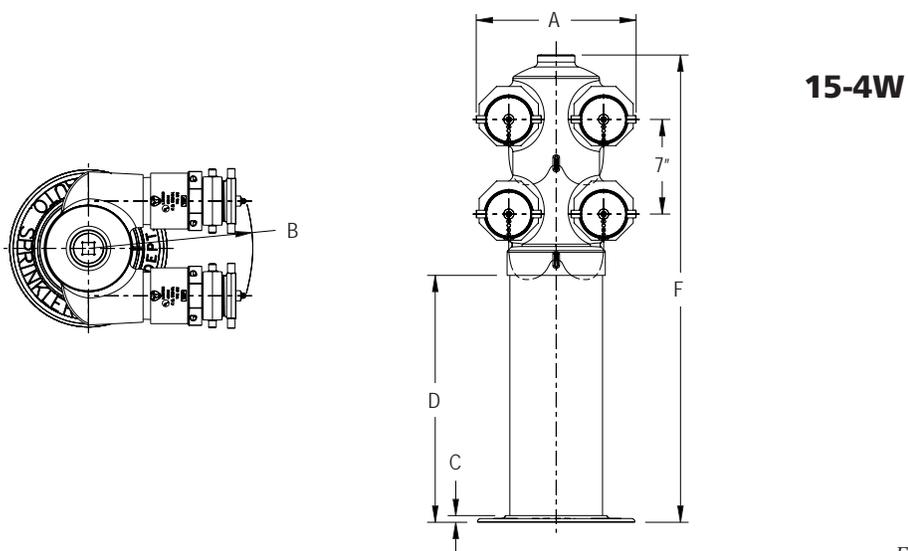


Fig. 3



## FREE STANDING OUTLET

| Type                  | NPT INLET SIZE (Inches) | NUMBER OF 2.5" M NHT OUTLETS |   |   | CERTIFICATION | MEASUREMENTS (Inches)          |                                  |                               |                                |                                |                                  | AVAILABLE ESCUTCHEONS           |         | FINISH          |                | Weight (Lbs.)                  | MODEL                          | FIGURE    |                 |
|-----------------------|-------------------------|------------------------------|---|---|---------------|--------------------------------|----------------------------------|-------------------------------|--------------------------------|--------------------------------|----------------------------------|---------------------------------|---------|-----------------|----------------|--------------------------------|--------------------------------|-----------|-----------------|
|                       |                         | 2                            | 3 | 4 |               | FM Approved                    | A                                | B                             | C                              | D                              | E                                | F                               | Hydrant | Pump Test Conn. | Polished Brass |                                |                                |           | Polished Chrome |
| Hydrants              | 4.0                     | •                            |   |   | •             | 9 <sup>1</sup> / <sub>4</sub>  | 8 <sup>5</sup> / <sub>16</sub>   | 1/2                           | 18 <sup>1</sup> / <sub>4</sub> | 20 <sup>7</sup> / <sub>8</sub> | 23 <sup>2</sup> / <sub>3</sub>   | •                               |         | s               | o              | 30                             | 16-2W 4"*                      | 1         |                 |
|                       | 6.0                     | •                            |   |   | •             | 11 <sup>5</sup> / <sub>8</sub> | 10 <sup>1</sup> / <sub>16</sub>  | 1/2                           | 18 <sup>1</sup> / <sub>4</sub> | 21                             | 23 <sup>13</sup> / <sub>16</sub> | •                               |         | s               | o              | 36 <sup>1</sup> / <sub>4</sub> | 16-2W 6"*                      | 1         |                 |
|                       |                         |                              | • |   |               | •                              | 11 <sup>5</sup> / <sub>8</sub>   | 8 <sup>7</sup> / <sub>8</sub> | 1/2                            | 18 <sup>1</sup> / <sub>4</sub> | 21 <sup>1</sup> / <sub>8</sub>   | 23 <sup>9</sup> / <sub>16</sub> | •       |                 | s              | o                              | 39 <sup>3</sup> / <sub>4</sub> | 16-3W     | 2               |
|                       |                         |                              |   | • |               | •                              | 11 <sup>11</sup> / <sub>16</sub> | 8 <sup>1</sup> / <sub>2</sub> | 1/2                            | 18 <sup>1</sup> / <sub>4</sub> |                                  | 34 <sup>9</sup> / <sub>16</sub> | •       |                 | s              | o                              | 134                            | 16-4W**   | 3               |
| Pump Test Connections | 4.0                     | •                            |   |   |               | 9 <sup>1</sup> / <sub>4</sub>  | 8 <sup>5</sup> / <sub>16</sub>   | 1/2                           | 18 <sup>1</sup> / <sub>4</sub> | 20 <sup>7</sup> / <sub>8</sub> | 23 <sup>3</sup> / <sub>4</sub>   |                                 | •       | s               | o              | 30                             | 16-P 2W 4"                     | 1         |                 |
|                       | 6.0                     | •                            |   |   |               | 11 <sup>5</sup> / <sub>8</sub> | 10 <sup>1</sup> / <sub>16</sub>  | 1/2                           | 18 <sup>1</sup> / <sub>4</sub> | 21                             | 23 <sup>13</sup> / <sub>16</sub> |                                 | •       | s               | o              | 36 <sup>1</sup> / <sub>4</sub> | 16-P 2W 6"                     | 1         |                 |
|                       |                         |                              | • |   |               |                                | 11 <sup>5</sup> / <sub>8</sub>   | 8 <sup>7</sup> / <sub>8</sub> | 1/2                            | 18 <sup>1</sup> / <sub>4</sub> | 21 <sup>1</sup> / <sub>8</sub>   | 23 <sup>9</sup> / <sub>16</sub> |         | •               | s              | o                              | 39 <sup>3</sup> / <sub>4</sub> | 16-P 3W   | 2               |
|                       |                         |                              |   | • |               |                                | 11 <sup>11</sup> / <sub>16</sub> | 8 <sup>1</sup> / <sub>2</sub> | 1/2                            | 18 <sup>1</sup> / <sub>4</sub> |                                  | 34 <sup>9</sup> / <sub>16</sub> |         | •               | s              | o                              | 134                            | 16-P 4W** | 3               |

Key s = standard o = option

\* Can order parts (sleeve or body) separately.

\*\* Bodies of the 4-way products are rough brass or rough chrome with balance of parts polished.

### ADDITIONAL INFORMATION

- Each outlet has a rated flow of 250 gpm (946 lpm).
- Elkhart's sidewalk bodies are rated for 175 psi (12.1 bar).
- Supplied with caps (#310) and chains.

### THREADS

Unless otherwise noted, all hose threads are NHT. See index T-13 for available optional threads.

### OTHER PRODUCTS

**154-S** – A cast brass valve control for actuating underground mounted valve, used with Elkhart's model #16 (a sidewalk type hydrant), is available. The 154-S comes with a 7/8" square steel extension rod that is 24" long and has a special coupling for attaching to stem of gate valve. Additionally, a cap, chain and sleeve are included. Please specify polished brass or polished chrome-plated sleeve.

- Note: a 2<sup>1</sup>/<sub>2</sub>" hole is required in the concrete slab, as well as a 1<sup>1</sup>/<sub>2</sub>" nipple and locknut which are not included.
- This product is similar, in function, to the 164 seen on page 13-18.
- Use of a X-86 gate valve is suggested on Pump Test Connections. Gate valve may be found on page 8-5.

FIGURE 1

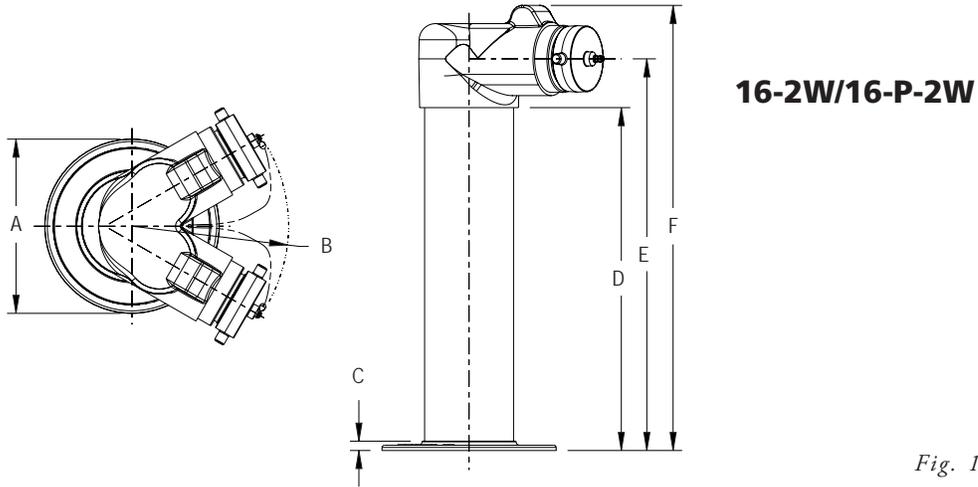


FIGURE 2

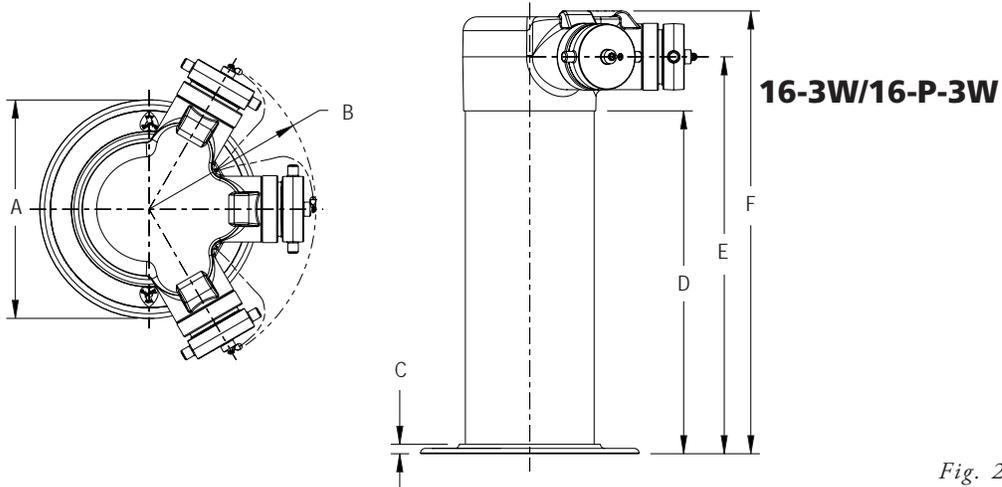
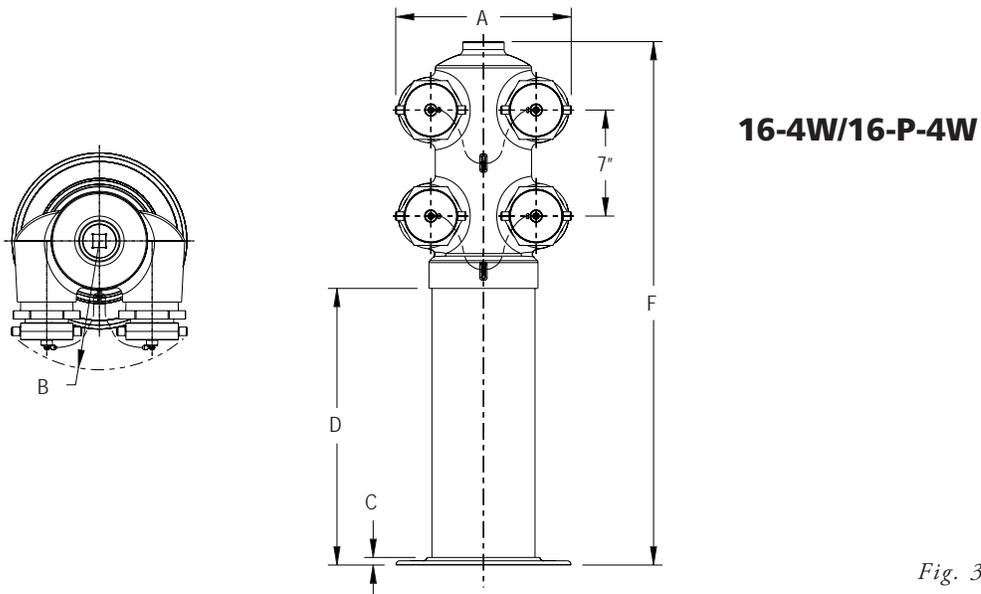


FIGURE 3





## TERMINOLOGY

### **FREE STANDING**

To better serve our customers, for this edition and future editions of the catalog, Elkhart Brass has adopted industry standard terminology for our products. In previous versions of our catalog, you may have found the items now listed as “free standing” under “sidewalk siamese” or “sidewalk hydrants”.

The industry standard terminology is more inclusive of different connection options.

### **EXPOSED**

To better serve our customers, for this edition and future editions of the catalog, Elkhart Brass has adopted industry standard terminology for our products. In previous versions of our catalog, you may have found the items now listed as “exposed” under “exposed siamese” or “exposed wall hydrants”.

The industry standard terminology is more inclusive of different connection options.

### **FLUSH**

To better serve our customers, for this edition and future editions of the catalog, Elkhart Brass has adopted industry standard terminology for our products. In previous versions of our catalog, you may have found the items now listed as “flush” under “flush siamese” or “flush wall hydrants” or “flush pump test”.

The industry standard terminology is more inclusive of different connection options.

EXPOSED

## Exposed

Elkhart offers a variety of exposed fire department connection options, including standpipe and 90° for post or wall mounting. All Elkhart's exposed fire department connections are cast brass construction; all inlets swivel and feature female threads.





## EXPOSED INLET

| NPT<br>OUTLET<br>SIZE<br>(Inches) | NUMBER<br>OF 2.5" F<br>NHT INLETS |   | CLAPPER         |          | MEASUREMENTS (Inches)            |                                  |                                |                                 |                                 | AVAILABLE<br>LETTERING |           |                            | CERTI-<br>FICATIONS |             | FINISH     |                |                 | Weight (Lbs.)                  | MODEL   | FIGURE |
|-----------------------------------|-----------------------------------|---|-----------------|----------|----------------------------------|----------------------------------|--------------------------------|---------------------------------|---------------------------------|------------------------|-----------|----------------------------|---------------------|-------------|------------|----------------|-----------------|--------------------------------|---------|--------|
|                                   | 2                                 | 3 | Individual Drop | Swinging | A                                | B                                | C                              | D                               | Swing<br>Radius                 | Auto-Spkr              | Standpipe | Standpipe and<br>Auto-Spkr | FM Approved         | U.L. Listed | Cast Brass | Polished Brass | Polished Chrome |                                |         |        |
|                                   |                                   |   |                 |          |                                  |                                  |                                |                                 |                                 |                        |           |                            |                     |             |            |                |                 |                                |         |        |
| 4.0                               | •                                 |   |                 | •        | 5 <sup>15</sup> / <sub>16</sub>  | 9 <sup>7</sup> / <sub>8</sub>    | 5 <sup>1</sup> / <sub>16</sub> | 4                               |                                 | s                      |           |                            | •                   | •           | s          |                |                 | 9                              | 11      | 1      |
|                                   | •                                 |   | •               |          | 7 <sup>9</sup> / <sub>16</sub>   | 11 <sup>5</sup> / <sub>16</sub>  | 5 <sup>1</sup> / <sub>4</sub>  |                                 |                                 | s                      | o         |                            | •                   | •           | s          | o              | o               | 16                             | 12 4"   | 3      |
|                                   | •                                 |   | •               |          | 8 <sup>3</sup> / <sub>4</sub>    | 12 <sup>3</sup> / <sub>4</sub>   | 5 <sup>1</sup> / <sub>2</sub>  | 11 <sup>1</sup> / <sub>16</sub> |                                 | s                      | o         | o                          | •                   | •           |            | s              | o               | 24 <sup>1</sup> / <sub>2</sub> | 156 4"  | 6      |
|                                   | •                                 |   | •               |          | 9 <sup>3</sup> / <sub>16</sub>   | 11 <sup>3</sup> / <sub>4</sub>   | 5 <sup>1</sup> / <sub>4</sub>  | 5 <sup>1</sup> / <sub>16</sub>  | 7 <sup>3</sup> / <sub>8</sub>   | s                      | o         |                            | •                   | •           | s          | o              | o               | 20 <sup>1</sup> / <sub>2</sub> | 10 4"   | 4      |
| 6.0                               |                                   | • | •               |          | 8 <sup>7</sup> / <sub>8</sub>    | 13 <sup>15</sup> / <sub>16</sub> | 7 <sup>1</sup> / <sub>4</sub>  | 4                               |                                 |                        |           |                            |                     |             | s          | o              | o               | 25 <sup>1</sup> / <sub>2</sub> | 18 6" * | 2      |
|                                   | •                                 |   | •               |          | 10                               | 11 <sup>1</sup> / <sub>2</sub>   | 7 <sup>1</sup> / <sub>2</sub>  |                                 |                                 | s                      | o         |                            | •                   |             | s          | o              | o               | 25                             | 12 6"   | 3      |
|                                   | •                                 |   | •               |          | 10 <sup>15</sup> / <sub>16</sub> | 12 <sup>3</sup> / <sub>4</sub>   | 7 <sup>1</sup> / <sub>2</sub>  | 11 <sup>1</sup> / <sub>16</sub> |                                 | s                      | o         | o                          | •                   |             |            | s              | o               | 33 <sup>3</sup> / <sub>4</sub> | 156 6"  | 6      |
|                                   | •                                 |   | •               |          | 11 <sup>9</sup> / <sub>16</sub>  | 11 <sup>3</sup> / <sub>16</sub>  | 7 <sup>1</sup> / <sub>2</sub>  | 5 <sup>1</sup> / <sub>16</sub>  | 8 <sup>9</sup> / <sub>16</sub>  | s                      | o         |                            | •                   |             | s          | o              | o               | 23 <sup>3</sup> / <sub>4</sub> | 10 6"   | 4      |
|                                   |                                   | • | •               |          | 11 <sup>1</sup> / <sub>8</sub>   | 11 <sup>7</sup> / <sub>8</sub>   | 7 <sup>1</sup> / <sub>8</sub>  |                                 | 7 <sup>13</sup> / <sub>16</sub> |                        |           |                            |                     |             |            | s              | o               | o                              | 25      | 29     |

Key s = standard o = option  
 \* Escutcheons available separately.

### ADDITIONAL INFORMATION

- Elkhart's intake connections bodies are rated for 175 psi (12.1 bar).
- Each 2<sup>1</sup>/<sub>2</sub>" NHT inlet has a rated flow of 250 gpm (946 lpm).
- Model 156 supplied with plug (#311) and chains.

### THREADS

Unless otherwise noted, all hose threads are NHT. See index T-13 for available optional threads.

### OTHER PRODUCTS

See page 11-1 for available chains and plugs.

FIGURE 1

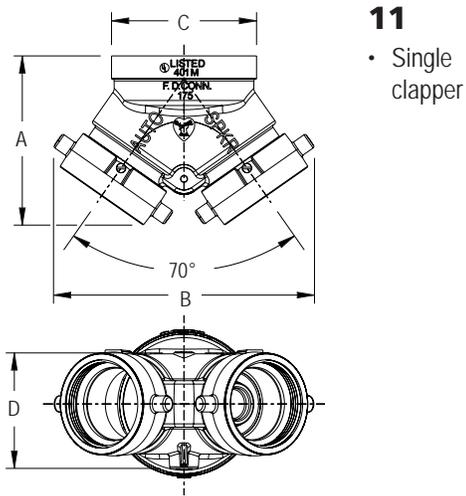


Fig. 1

FIGURE 4

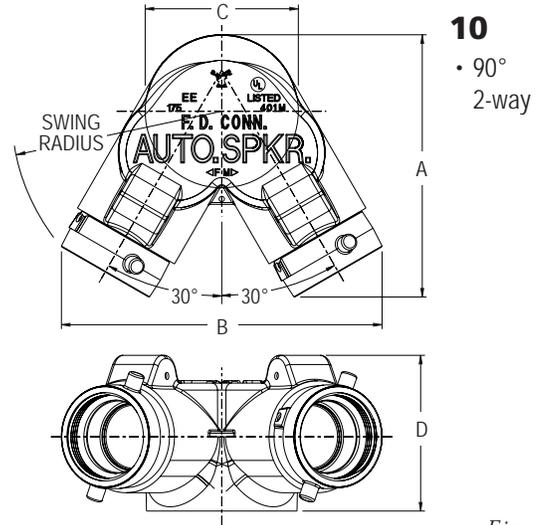


Fig. 4

FIGURE 2

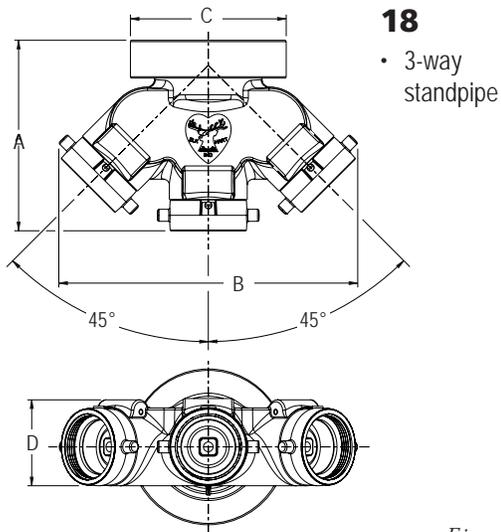


Fig. 2

FIGURE 5

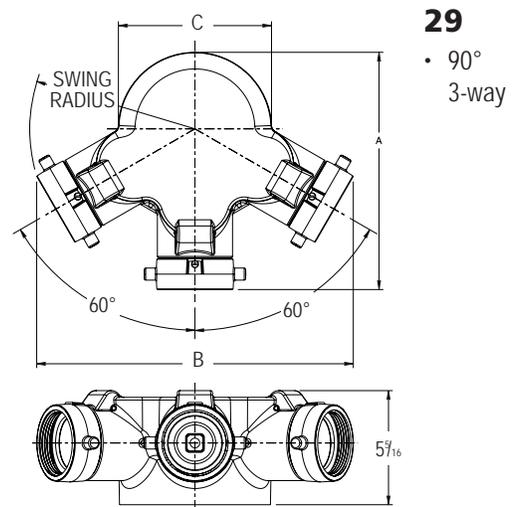


Fig. 5

FIGURE 3

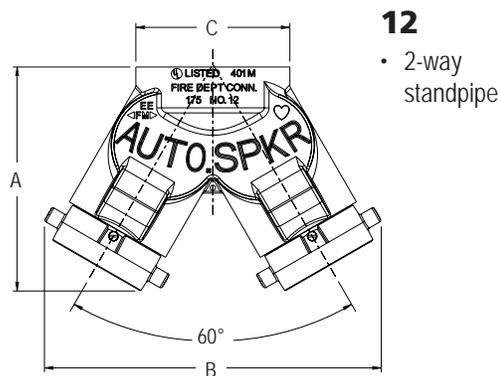


Fig. 3

FIGURE 6

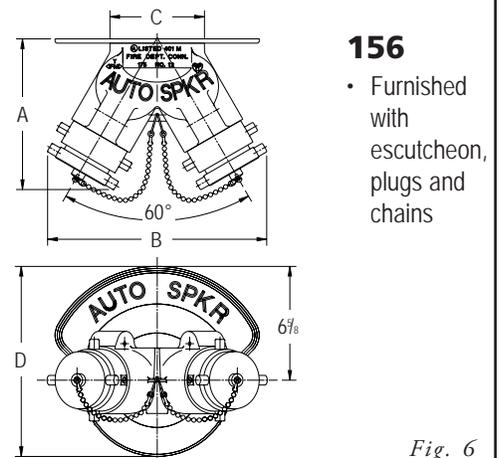


Fig. 6

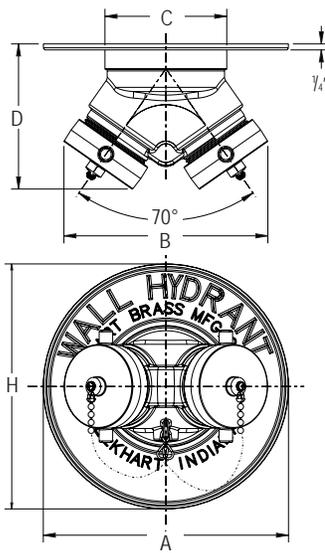


## EXPOSED OUTLET

| NPT INLET SIZE (Inches) | OUTLET SIZE | MEASUREMENTS (Inches)           |                                |    |                                  |                                 | AVAILABLE ESCUTCHEON LETTERING | FM Approved | FINISH     |                |                 | Weight (Lbs.) | MODEL | FIGURE |
|-------------------------|-------------|---------------------------------|--------------------------------|----|----------------------------------|---------------------------------|--------------------------------|-------------|------------|----------------|-----------------|---------------|-------|--------|
|                         |             | A                               | B                              | C  | D                                | H                               |                                |             | Cast Brass | Polished Brass | Polished Chrome |               |       |        |
| 4                       | 2½          | 10 <sup>3</sup> / <sub>16</sub> | 8½                             | 5½ | 6 <sup>1</sup> / <sub>16</sub>   | 10 <sup>3</sup> / <sub>16</sub> | s                              |             | s          |                |                 | 13            | 143*  | 1      |
| 6                       | 2½          | 11 <sup>7</sup> / <sub>8</sub>  | 12 <sup>5</sup> / <sub>8</sub> | 7½ | 11 <sup>13</sup> / <sub>16</sub> | 11 <sup>1</sup> / <sub>16</sub> | s                              | •           |            | s              | o               | 24            | 153   | 2      |

Key s = standard o = option  
 \* Can order body separately.

FIGURE 1

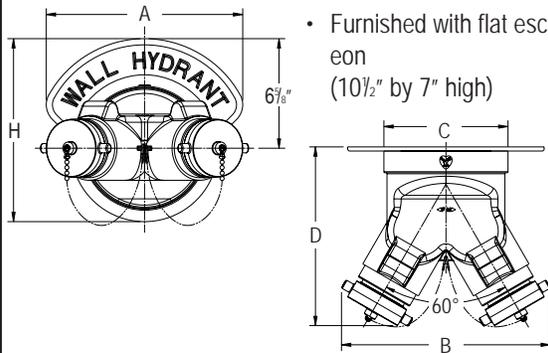


### 143

- Furnished with aluminum escutcheon with red painted letters

Fig. 1

FIGURE 2



### 153

- Furnished with flat escutcheon (10½" by 7" high)

Fig. 2

### ADDITIONAL INFORMATION

- Bodies rated for 175 psi (12.1 bar).
- Each 2½" M NHT outlet has a rated flow of 250 gpm (946 lpm).
- Supplied with caps (#310) and chains.

### THREADS

Unless otherwise noted, all hose threads are NHT. See index T-13 for available optional threads.

## Flush

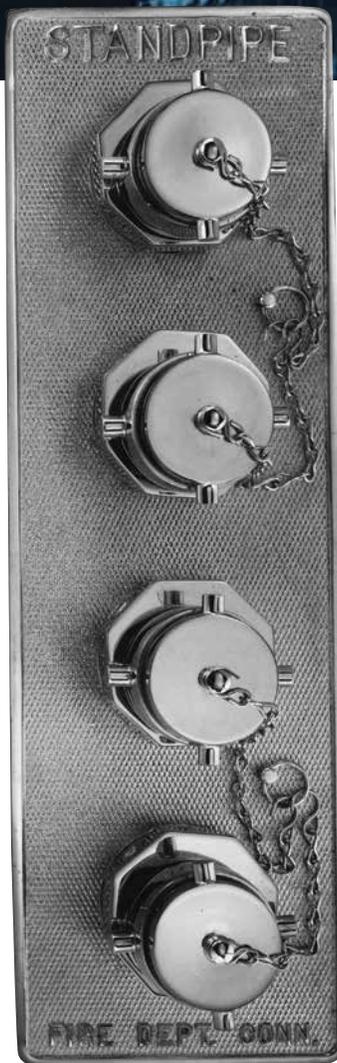
Elkhart offers a wide array of flush and 4-way connections. All connections are cast brass construction.

Wall-mounted options include:

- Inlet models furnished with plugs, chains and an escutcheon.
- Outlet models furnished with caps, chains and an escutcheon.

Four-way connections feature a 6" NPT connection, and come furnished with escutcheons.

- All 4-way inlet connection models feature snoots on each of the four 2½" outlets and are furnished with plug and chain assemblies.
- All 4-way outlet connection models have cap and chain assemblies plus a hex adapter.





## FLUSH INLET

| NPT<br>OUTLET<br>SIZE<br>(Inches) | INLETS  |      |       |    | BODY<br>TYPE | Individual Drop Clapper | MEASUREMENTS (Inches) |              |                                  |    |    |                                 |                                 |                                 |                                 |                                 | CERT                            |             | AVAILABLE<br>ESCUTCHEON<br>LETTERING |           | MATERIAL/<br>FINISH |                         |                | Weight (Lbs.) | MODEL | FIGURE |                 |             |   |    |            |                   |   |   |   |   |   |
|-----------------------------------|---------|------|-------|----|--------------|-------------------------|-----------------------|--------------|----------------------------------|----|----|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|-------------|--------------------------------------|-----------|---------------------|-------------------------|----------------|---------------|-------|--------|-----------------|-------------|---|----|------------|-------------------|---|---|---|---|---|
|                                   | NHT (F) |      | STORZ |    |              |                         | Straight              | Inverted 90° | A                                | B  | C  | D                               | E                               | F                               | G                               | H                               | J                               | FM Approved | U.L. Listed                          | Auto-Spkr | Standpipe           | Standpipe and Auto-Spkr | BRASS          |               |       |        |                 |             |   |    |            |                   |   |   |   |   |   |
|                                   | 1.5"    | 2.5" | 4"    | 5" |              |                         |                       |              |                                  |    |    |                                 |                                 |                                 |                                 |                                 |                                 |             |                                      |           |                     |                         | Polished Brass |               |       |        | Polished Chrome | Elk-O-Lite® |   |    |            |                   |   |   |   |   |   |
|                                   | 1       | 1    | 2     | 3  |              |                         |                       |              |                                  |    |    |                                 |                                 |                                 |                                 |                                 |                                 |             |                                      |           |                     |                         | 1              |               |       |        | 1               | 1           | 1 | 1  | 1          | 1                 | 1 | 1 | 1 | 1 | 1 |
| 1½                                | •       |      |       |    |              | *                       |                       |              |                                  |    |    |                                 |                                 |                                 |                                 |                                 |                                 |             |                                      |           |                     |                         |                | s             |       |        |                 |             | s | 1¼ | <b>141</b> | 1                 |   |   |   |   |   |
| 2½                                | •       |      |       |    |              | *                       |                       |              |                                  |    |    |                                 |                                 |                                 |                                 |                                 |                                 |             |                                      |           |                     |                         |                |               |       |        |                 |             |   |    |            |                   |   |   |   |   |   |
|                                   | •       |      |       |    |              | *                       |                       |              |                                  |    |    |                                 |                                 | 7                               | 10½                             |                                 |                                 |             |                                      |           |                     |                         |                |               |       |        |                 |             |   |    |            |                   |   |   |   |   |   |
| 3                                 | •       |      |       |    |              | *                       |                       |              |                                  |    |    |                                 |                                 |                                 |                                 |                                 |                                 |             |                                      |           |                     |                         |                |               |       |        |                 |             |   |    |            |                   |   |   |   |   |   |
|                                   | •       |      |       |    |              | *                       |                       |              |                                  |    |    |                                 |                                 | 7                               | 10½                             |                                 |                                 |             |                                      |           |                     |                         |                |               |       |        |                 |             |   |    |            |                   |   |   |   |   |   |
| 4                                 |         |      |       | •  |              | *                       |                       |              |                                  |    |    |                                 |                                 | 6                               |                                 |                                 |                                 |             |                                      |           |                     |                         |                |               |       |        |                 |             |   |    |            |                   |   |   |   |   |   |
|                                   |         |      |       |    | •            | *                       |                       |              |                                  |    |    |                                 |                                 | 5 <sup>29</sup> / <sub>32</sub> |                                 |                                 |                                 |             |                                      |           |                     |                         |                |               |       |        |                 |             |   |    |            |                   |   |   |   |   |   |
|                                   |         |      | •     |    |              | •                       |                       | •            | 11                               | 7½ | 5  | 6 <sup>7</sup> / <sub>16</sub>  | 3 <sup>25</sup> / <sub>32</sub> | 3 <sup>7</sup> / <sub>32</sub>  |                                 |                                 |                                 |             |                                      |           |                     |                         |                | •             | •     | s      | o               | o           | s | o  | 23         | <b>166-4-ST**</b> | 3 |   |   |   |   |
|                                   |         |      | •     |    |              | •                       | •                     | •            | 11½                              | 7½ | 5  | 6 <sup>7</sup> / <sub>16</sub>  | 3 <sup>19</sup> / <sub>32</sub> | 3 <sup>3</sup> / <sub>8</sub>   | 3 <sup>7</sup> / <sub>16</sub>  | 5 <sup>3</sup> / <sub>8</sub>   | 13 <sup>3</sup> / <sub>16</sub> | •           |                                      |           |                     |                         |                |               |       |        |                 |             |   |    |            |                   |   |   |   |   |   |
|                                   |         |      | •     |    |              | •                       | •                     | •            | 11 <sup>11</sup> / <sub>16</sub> | 7½ | 5  | 6 <sup>1</sup> / <sub>4</sub>   | 3 <sup>3</sup> / <sub>4</sub>   | 3 <sup>3</sup> / <sub>8</sub>   | 4 <sup>7</sup> / <sub>16</sub>  | 7 <sup>1</sup> / <sub>16</sub>  | 13 <sup>3</sup> / <sub>16</sub> |             |                                      |           |                     |                         |                |               |       |        |                 |             |   |    |            |                   |   |   |   |   |   |
| 6                                 |         |      |       | •  |              | *                       |                       |              |                                  |    |    |                                 |                                 | 6¼                              |                                 |                                 |                                 |             |                                      |           |                     |                         |                |               |       |        |                 |             |   |    |            |                   |   |   |   |   |   |
|                                   |         |      |       |    | •            | *                       |                       |              |                                  |    |    |                                 |                                 | 6¼                              |                                 |                                 |                                 |             |                                      |           |                     |                         |                |               |       |        |                 |             |   |    |            |                   |   |   |   |   |   |
|                                   |         |      | •     |    |              | •                       | •                     | •            | 11½                              | 7½ | 7½ | 8                               | 3¾                              | 3¾                              |                                 |                                 |                                 |             |                                      |           |                     |                         |                |               |       |        |                 |             |   |    |            |                   |   |   |   |   |   |
|                                   |         |      | •     |    |              | •                       | •                     | •            | 12                               | 7¾ | 7½ | 7¾                              | 4                               | 4 <sup>3</sup> / <sub>32</sub>  | 3 <sup>7</sup> / <sub>16</sub>  | 6 <sup>5</sup> / <sub>32</sub>  | 13 <sup>3</sup> / <sub>16</sub> | •           |                                      |           |                     |                         |                |               |       |        |                 |             |   |    |            |                   |   |   |   |   |   |
|                                   |         |      |       | •  |              | •                       | •                     | •            | 17 <sup>9</sup> / <sub>16</sub>  | 6¾ | 7¾ | 6 <sup>11</sup> / <sub>16</sub> | 3¾                              | 4 <sup>1</sup> / <sub>16</sub>  |                                 | 4 <sup>3</sup> / <sub>16</sub>  |                                 |             |                                      |           |                     |                         |                |               |       |        |                 |             |   |    |            |                   |   |   |   |   |   |
|                                   |         |      |       | •  |              | •                       | •                     | •            | 17¼                              | 6¾ | 7¾ | 8 <sup>7</sup> / <sub>16</sub>  | 4 <sup>15</sup> / <sub>32</sub> | 4                               | 3 <sup>15</sup> / <sub>16</sub> | 5 <sup>15</sup> / <sub>16</sub> | 20¼                             |             |                                      |           |                     |                         |                |               |       |        |                 |             |   |    |            |                   |   |   |   |   |   |
|                                   |         |      |       | •  |              | •                       | •                     | •            | 17¾                              | 6¾ | 7¾ | 8 <sup>7</sup> / <sub>16</sub>  | 4 <sup>15</sup> / <sub>32</sub> | 4                               | 3 <sup>15</sup> / <sub>16</sub> | 5 <sup>15</sup> / <sub>16</sub> | 20¼                             |             |                                      |           |                     |                         |                |               |       |        |                 |             |   |    |            |                   |   |   |   |   |   |

Key s = standard o = option  
 \* Straight connection adapter.  
 \*\* Can order body separately.  
 \*\*\* Can order parts (with or without clappers) separately.

### ADDITIONAL INFORMATION

- Bodies rated for 175 psi (12.1 bar).
- Each 2½" NHT inlet has a rated flow of 250 gpm (946 lpm).
- Supplied with plug(s) and chain(s).

### THREADS

Unless otherwise noted, all hose threads are NHT. See index T-13 for available optional threads.

### OTHER PRODUCTS

- See page 13-16 for Flush 4-Way Inlet Connections.
- 2½" nipple required for all 166 and 167-W models. Elkhart Brass does not supply.
- On the 166, the body is roughed in during construction; escutcheon and nipple assemblies are installed after construction. Elkhart Brass personnel can help with construction installation information.

FIGURE 1

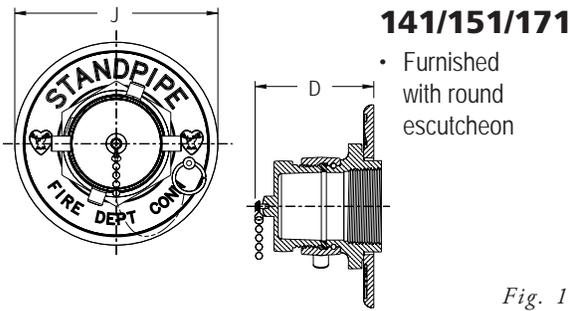


FIGURE 2

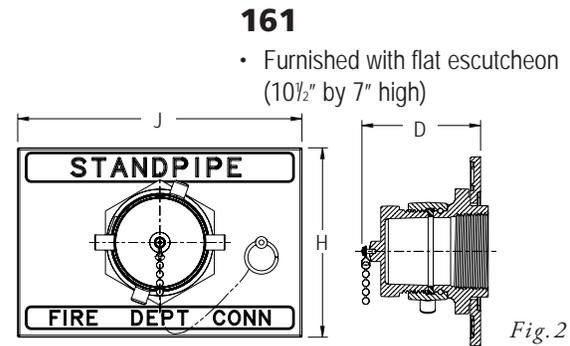


FIGURE 3

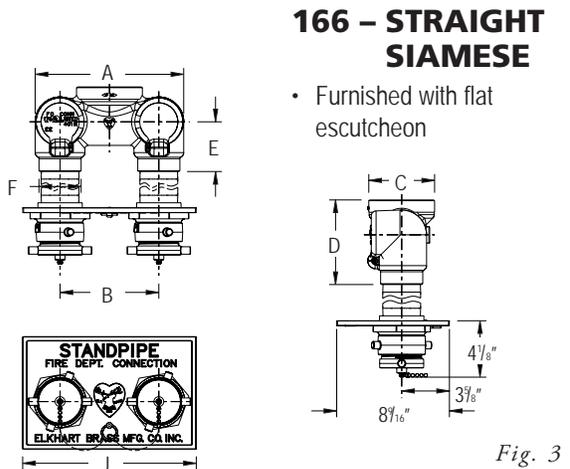


FIGURE 4

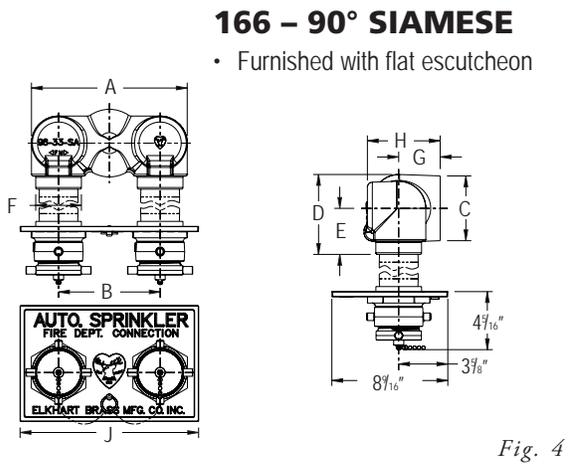


FIGURE 5

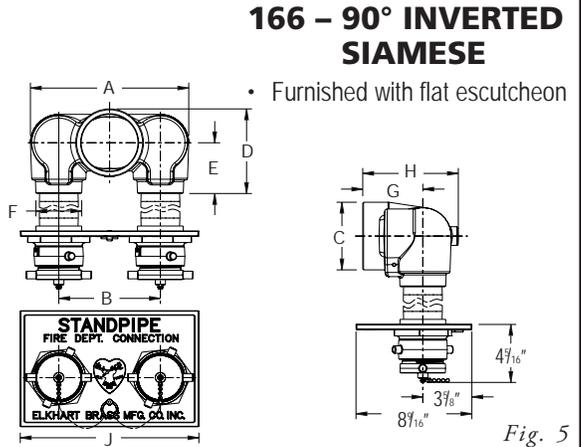


FIGURE 6

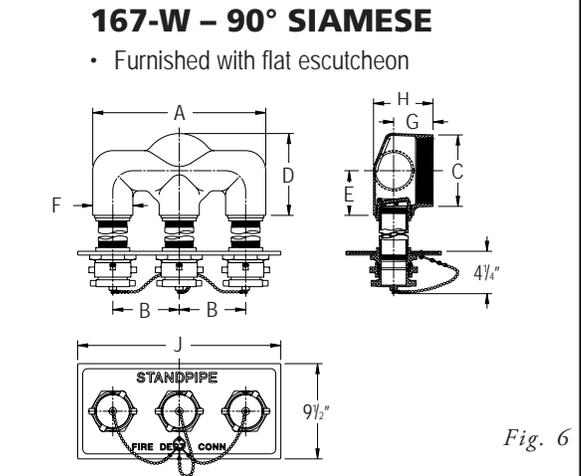


FIGURE 7

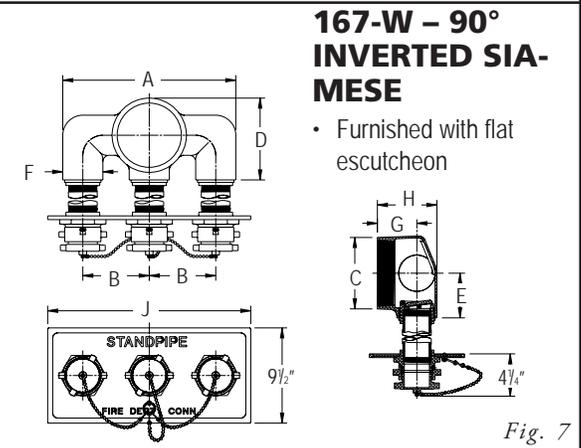
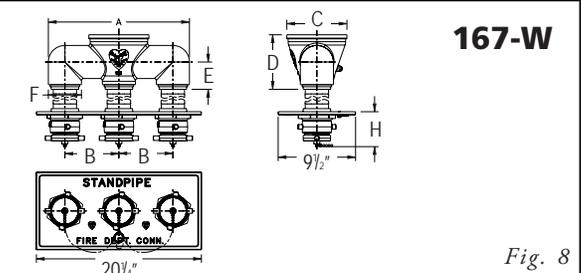


FIGURE 8

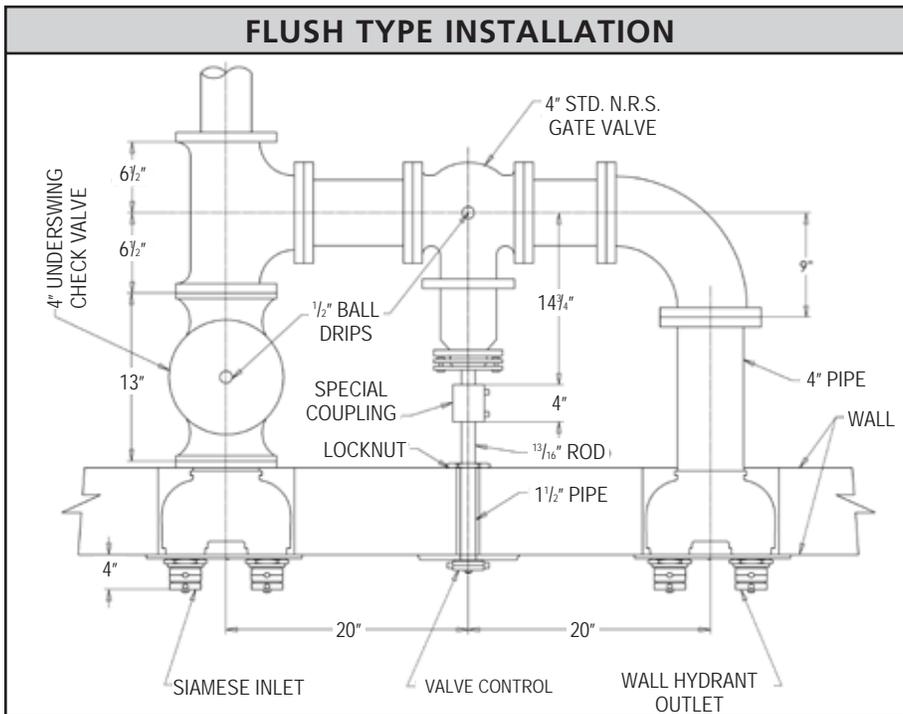




## FLUSH 4-WAY INLET

| INSTALLATION DIRECTION |            |        | BODY TYPE |     | SNOOT TYPE |              | MEASUREMENTS (Inches)         |                                | PSI (BAR)  | CERTIFICATION | AVAILABLE ESCUTCHEON LETTERING |               |           |                          | FINISH         |                 | Weight (Lbs.)                   | MODEL | FIGURE |
|------------------------|------------|--------|-----------|-----|------------|--------------|-------------------------------|--------------------------------|------------|---------------|--------------------------------|---------------|-----------|--------------------------|----------------|-----------------|---------------------------------|-------|--------|
| Vertical               | Horizontal | Square | Straight  | 90° | Clapper    | Spring Check | A                             | B                              | 175 (12.1) | U.L. Listed   | Auto-Sprkr                     | Dry Standpipe | Standpipe | Standpipe and Auto-Sprkr | Polished Brass | Polished Chrome |                                 |       |        |
| •                      |            |        |           | •   | •          |              | 8                             | 3 <sup>9</sup> / <sub>16</sub> | •          | •             | o                              | o             | s         | o                        | s              | o               | 96                              | 780   | 2      |
|                        | •          |        |           | •   | •          |              | 8                             | 3 <sup>9</sup> / <sub>16</sub> | •          | •             | o                              | o             | s         | o                        | s              | o               | 96                              | 781   | 3      |
| •                      |            |        | •         |     | •          |              | 5 <sup>7</sup> / <sub>8</sub> | 3 <sup>9</sup> / <sub>16</sub> | •          | •             | o                              | o             | s         | o                        | s              | o               | 96                              | 782   | 4      |
|                        | •          |        | •         |     | •          |              | 5 <sup>7</sup> / <sub>8</sub> | 3 <sup>9</sup> / <sub>16</sub> | •          | •             | o                              | o             | s         | o                        | s              | o               | 96                              | 783   | 5      |
|                        |            | •      |           | •   |            | •            |                               | 3 <sup>3</sup> / <sub>4</sub>  | •          |               | o                              | o             | s         | o                        | s              | o               | 107 <sup>7</sup> / <sub>8</sub> | 739*  | 1      |

Key    s = standard    o = option  
 \* Can order body separately.



### ADDITIONAL INFORMATION

- Each 2 1/2" F NHT inlet has a rated flow of 250 gpm (946 lpm).
- 6" outlet connection.
- Supplied with plugs and chains.

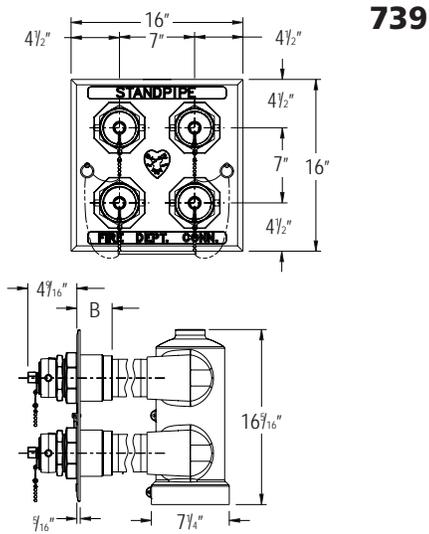
### THREADS

Unless otherwise noted, all hose threads are NHT. See index T-13 for available optional threads.

### OTHER PRODUCTS

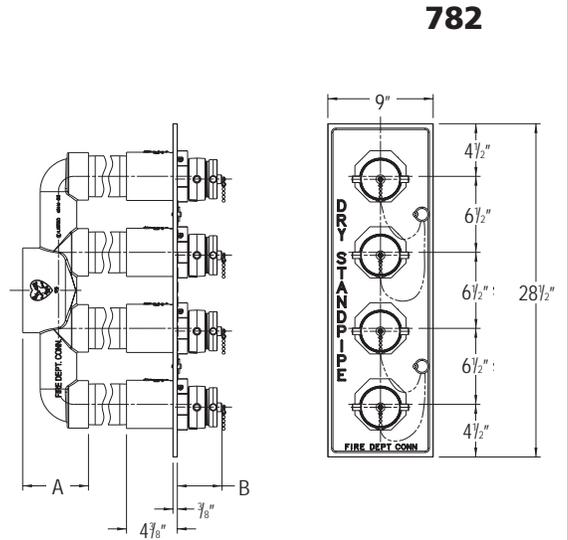
- See page 13-14 for Flush Inlet Connections.
- For 780 and 788 sub-components specifications, see page 13-22.
- 3" NPT nipples required. Elkhart Brass does not supply.

**FIGURE 1**



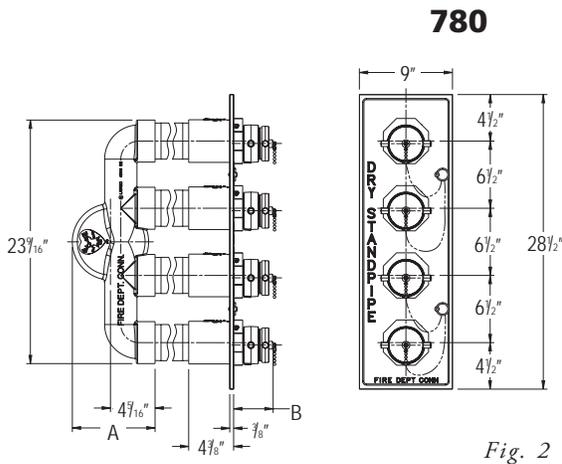
*Fig. 1*

**FIGURE 4**



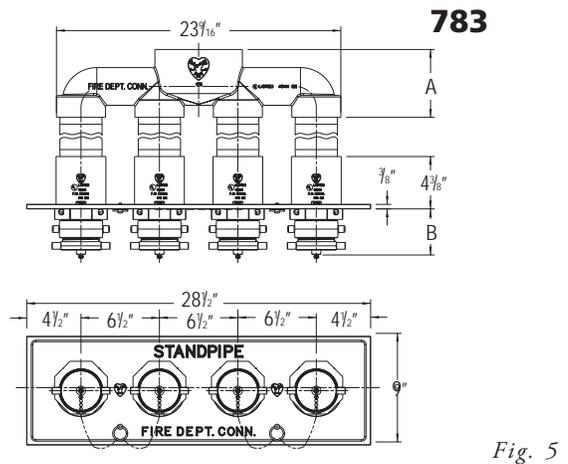
*Fig. 4*

**FIGURE 2**



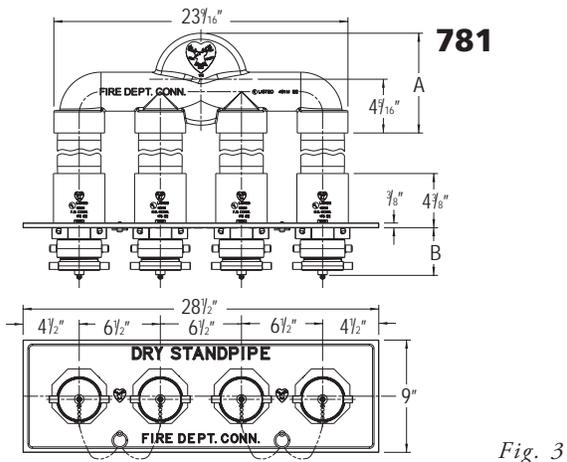
*Fig. 2*

**FIGURE 5**



*Fig. 5*

**FIGURE 3**



*Fig. 3*



## FLUSH OUTLET

| Type                  | NPT INLET SIZE (Inches) | OUTLETS                      |   |   | BODY TYPE | MEASUREMENTS (Inches) |     |    |   |    |    |    |    |     |     | AVAILABLE ESCUTCHEON LETTERING |           | FINISH       |                | Weight (lbs.) | MODEL      | FIGURE | FM APPROVED |                 |
|-----------------------|-------------------------|------------------------------|---|---|-----------|-----------------------|-----|----|---|----|----|----|----|-----|-----|--------------------------------|-----------|--------------|----------------|---------------|------------|--------|-------------|-----------------|
|                       |                         | Number of 2.5" M NHT Outlets |   |   |           | Straight              | 90° | A  | B | C  | D  | E  | F  | G   | H   | J                              | Pump Test | Wall Hydrant | Polished Brass |               |            |        |             | Polished Chrome |
|                       |                         | 1                            | 2 | 3 |           |                       |     |    |   |    |    |    |    |     |     |                                |           |              |                |               |            |        |             |                 |
| Hydrant               | 2½                      | •                            |   |   |           |                       | 7½  |    |   | ¾  |    |    |    |     |     |                                | s         | s            | o              | 6¾            | 152 2.5"   | 1      |             |                 |
|                       |                         | •                            |   |   |           |                       | 10½ |    |   | ¾  |    |    |    | 7   |     |                                | s         | s            | o              | 9¾            | 162 2.5"   | 2      |             |                 |
|                       | 3                       | •                            |   |   |           |                       | 7½  |    |   | ¾  |    |    |    |     |     |                                | s         | s            | o              | 5¾            | 152 3"     | 1      |             |                 |
|                       |                         | •                            |   |   |           |                       | 10½ |    |   | ¾  |    |    |    | 7   |     |                                | s         | s            | o              | 8¾            | 162 3"     | 2      |             |                 |
|                       | 4                       | •                            |   |   | s         |                       | 13¾ | 7½ |   |    |    | 5  | 6½ | 8½  | 11¼ |                                | s         | s            | o              | 31            | 163 4" ST* | 3      | •           |                 |
|                       |                         | •                            |   |   | o         |                       | 13¾ | 7½ | ¾ | ¾  | 6¾ | 5  | 6½ | 5½  | 11½ |                                | s         | s            | o              | 28¾           | 163 4" 90* | 4      | •           |                 |
| 6                     | •                       |                              |   | s |           | 13¾                   | 7½  |    |   |    | 7½ | 8  | 8½ | 11½ |     | s                              | s         | o            | 35¾            | 163 6" ST*    | 3          | •      |             |                 |
|                       | •                       |                              |   | s |           | 12                    | 7½  | 4¾ | ¾ | 4  | 7½ | 7¼ | 6¾ |     |     | s                              | s         | o            | 32¾            | 163 6" 90*    | 4          | •      |             |                 |
| Pump Test Connections | 4                       | •                            |   | s |           | 13¾                   | 7½  |    |   |    | 5  | 6½ | 8½ | 11¼ | s   |                                | s         | o            | 31             | 163P 4" ST    | 3          | •      |             |                 |
|                       |                         | •                            |   | s |           | 13¾                   | 7½  | ¾  | ¾ | 6¾ | 5  | 6½ | 5½ | 11½ | s   |                                | s         | o            | 28¾            | 163P 4" 90    | 4          | •      |             |                 |
|                       | 6                       | •                            |   | s |           | 13¾                   | 7½  |    |   |    | 7½ | 8  | 8½ | 11½ | s   |                                | s         | o            | 35¾            | 163P 6" ST    | 3          | •      |             |                 |
|                       |                         | •                            |   | s |           | 13¾                   | 7½  | 4¾ | ¾ | 4  | 7½ | 7¼ | ¾  | 12  | s   |                                | s         | o            | 32¾            | 163P 6" 90    | 4          | •      |             |                 |
|                       | 6                       | •                            |   | s |           | 20¾                   | 6¾  |    |   |    | 7¾ | 6¾ | 9½ | 17½ | s   |                                | s         | o            | 68             | 167-WP        | 5          |        |             |                 |
|                       |                         | •                            |   | s |           | 20¼                   | 6¾  |    |   |    | 7¾ | 8½ | 9½ | 17¼ | s   |                                | s         | o            | 70½            | 167-WP 90     | 6          |        |             |                 |

Key s = standard o = option  
\* Can order body separately.

### ADDITIONAL INFORMATION

- Bodies rated for 175 psi (12.1 bar).
- Each 2½" NHT outlet has a rated flow of 250 gpm (946 lpm).
- Supplied with cap(s) (#310) and chain(s).

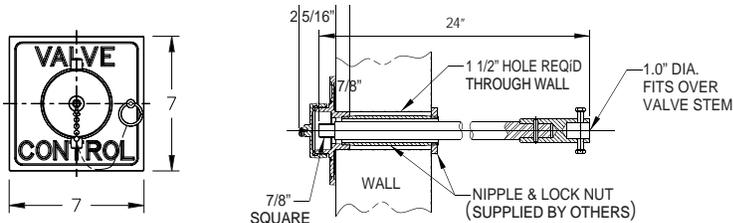
### THREADS

Unless otherwise noted, all hose threads are NHT. See index T-13 for available optional threads.

### OTHER PRODUCTS

- See page 13-20 for Flush 4-Way Outlet Connections.
- 2½" NPT nipple required for all 163, 163P and 167 WP models. Elkhart Brass does not supply.
- On the 163 and 163P, the body is roughed in during construction; escutcheon and nipple assemblies are installed after construction. Elkhart Brass personnel can help with construction installation information.

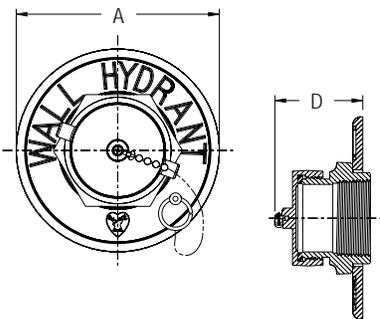
### OPTIONS



**164**

- **164** – A cast brass valve control for use with Elkhart's model 163 is available. The 164 comes with a 7/8" square steel extension rod that is 24" long and has a special coupling for attaching to stem of gate valve. Additionally, a cap, chain and 7" square escutcheon are included. Please specify polished brass or polished chrome-plated. (Note: a 2½" hole is required in the installation wall.)
- **480** – Tee handle used with 164 control valve.

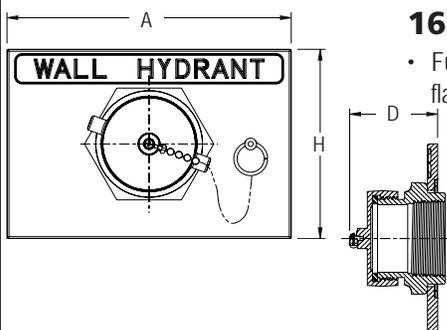
FIGURE 1



**152**  
 • Furnished with 7½" round escutcheon

Fig. 1

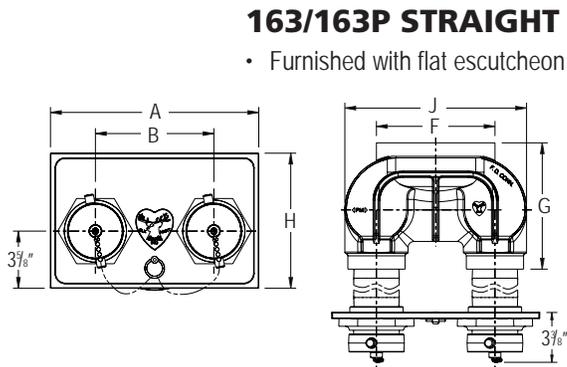
FIGURE 2



**162**  
 • Furnished with flat escutcheon (10½" by 7" high)

Fig. 2

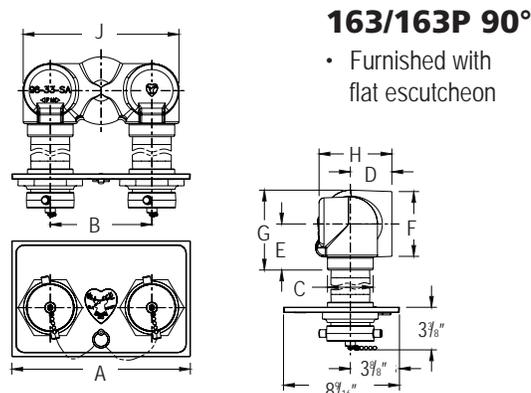
FIGURE 3



**163/163P STRAIGHT**  
 • Furnished with flat escutcheon

Fig. 3

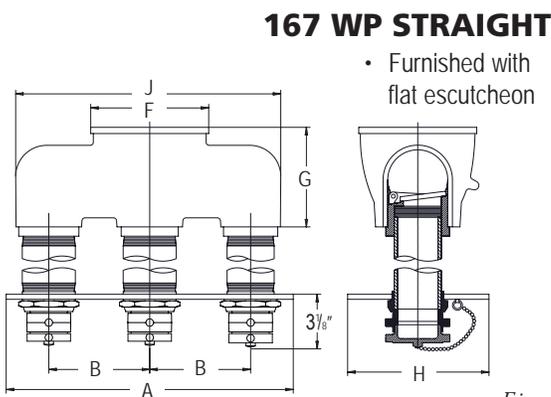
FIGURE 4



**163/163P 90°**  
 • Furnished with flat escutcheon

Fig. 4

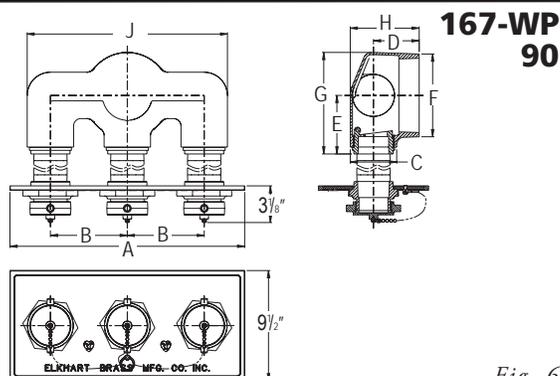
FIGURE 5



**167 WP STRAIGHT**  
 • Furnished with flat escutcheon

Fig. 5

FIGURE 6



**167-WP 90**

Fig. 6

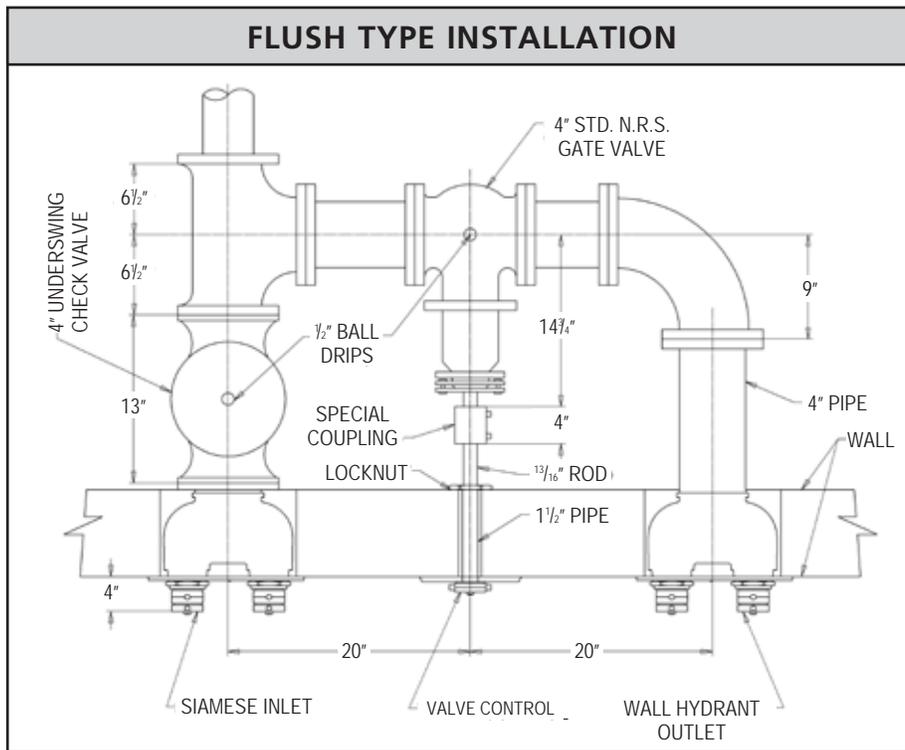


## FLUSH 4-WAY OUTLET

| INSTALLATION DIRECTION |            |        | BODY TYPE |     | AVAILABLE ESCUTCHEON LETTERING |                 | FINISH         |                 | Weight (Lbs.) | MODEL | FIGURE |
|------------------------|------------|--------|-----------|-----|--------------------------------|-----------------|----------------|-----------------|---------------|-------|--------|
| Vertical               | Horizontal | Square | Straight  | 90° | Hydrant                        | Pump Test Conn. | Polished Brass | Polished Chrome |               |       |        |
| •                      |            |        | •         |     | s                              |                 | s              | o               | 92            | 784   | 2      |
|                        | •          |        | •         |     | s                              |                 | s              | o               | 92            | 785   | 3      |
|                        | •          |        |           | •   | s                              |                 | s              | o               | 92            | 787   | 4      |
|                        |            | •      |           | •   | s                              |                 | s              | o               | 109 1/4       | 743   | 1      |
| •                      |            |        | •         |     |                                | s               | s              | o               | 92            | 784-P | 2      |
|                        | •          |        | •         |     |                                | s               | s              | o               | 92            | 785-P | 3      |

Key s = standard o = option

### FLUSH TYPE INSTALLATION



### ADDITIONAL INFORMATION

- Each 2 1/2" M NHT outlet has a rated flow of 250 gpm (946 lpm).
- Inlet connection is a 6" NPT.
- Supplied with caps (#310) and chains.
- Bodies rated for 175 psi (12.1 bar).

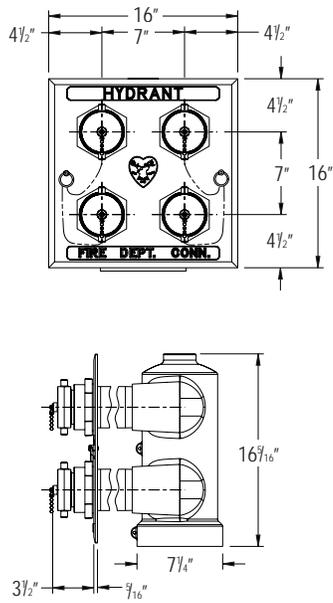
### THREADS

Unless otherwise noted, all hose threads are NHT. See index T-13 for available optional threads.

### OTHER PRODUCTS

- See page 13-18 for Flush Outlet Connections.
- 3" NPT nipple required. Elkhart Brass does not supply.

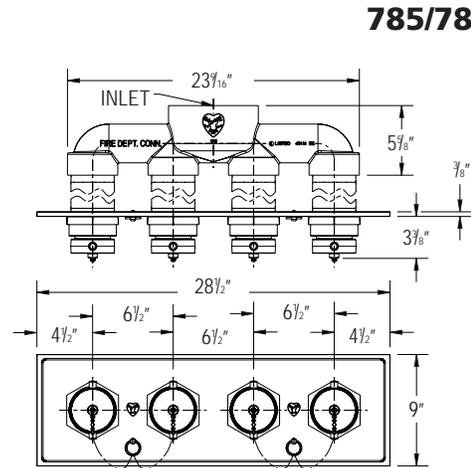
FIGURE 1



743

Fig. 1

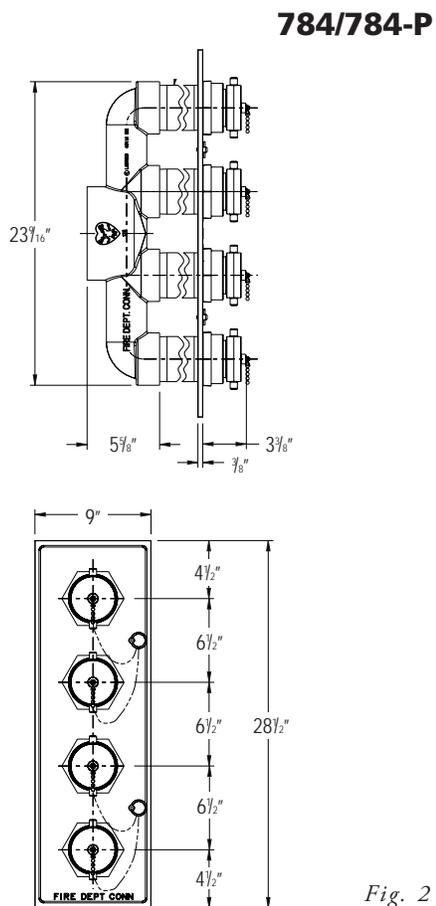
FIGURE 3



785/785-P

Fig. 3

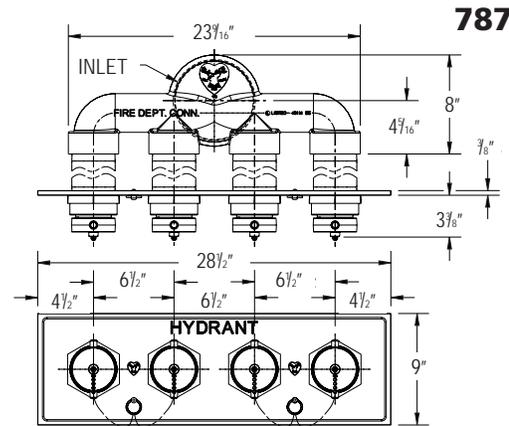
FIGURE 2



784/784-P

Fig. 2

FIGURE 4



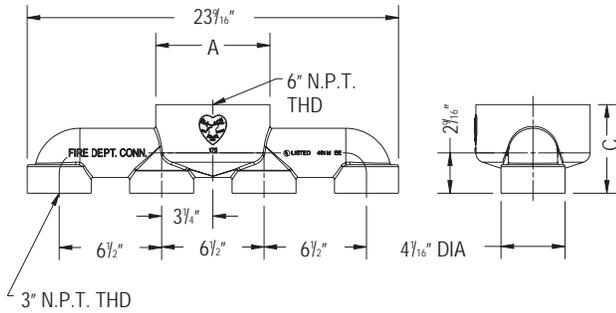
787

Fig. 4



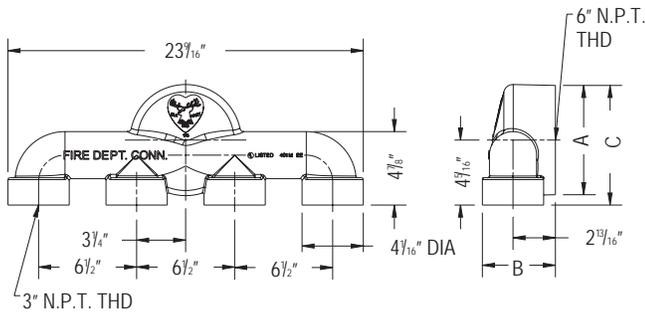
## BODY SUB-ASSEMBLIES

### 4-WAY STRAIGHT MANIFOLD



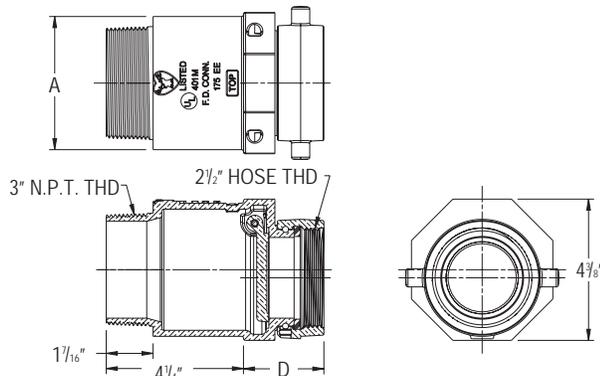
| PRODUCT INFORMATION              | MODELS  |
|----------------------------------|---|
|                                  | 710   |
| Size (Inches)                    | 6" x (4) 3"   |
| Escutcheon opening size (Inches) | 4 1/4"  |
| Dimension A (Inches)             | 7 1/4"  |
| Dimension C (Inches)             | 5 5/8"  |
| Material                         | Cast Brass  |
| Elkhart products used in         | 782, 783, 784, 785  |
| Additional uses                  | With Elkhart's 720 Clapper Snoot (without nipples) as an exposed inlet connection |
| Weight (Lbs.)                    | 28 1/2"   |
| PSI (BAR)                        | 175 (12.1)  |
| Certifications                   | U.L. Listed   |

### 4-WAY 90° MANIFOLD



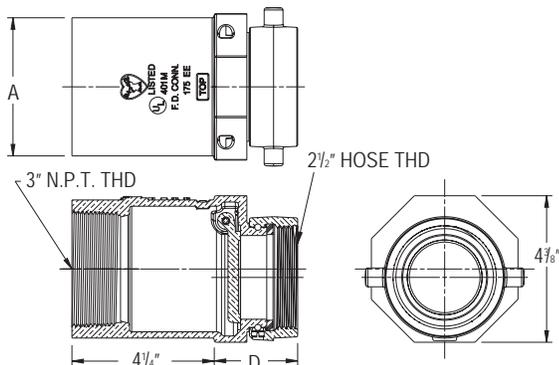
| PRODUCT INFORMATION              | MODELS  |
|----------------------------------|---|
|                                  | 711   |
| Size (Inches)                    | 6" x (4) 3"   |
| Escutcheon opening size (Inches) | 4 1/4"  |
| Dimension A (Inches)             | 7 1/4"  |
| Dimension B (Inches)             | 4 13/16"  |
| Dimension C (Inches)             | 7 15/16"  |
| Material                         | Cast Brass  |
| Elkhart products used in         | 780, 781, 786, 787  |
| Additional uses                  | With Elkhart's 720 Clapper Snoot (without nipples) as either a side walk intake connection or an exposed dry standpipe inlet connection |
| Weight (Lbs.)                    | 28"   |
| PSI (BAR)                        | 175 (12.1)  |
| Certifications                   | U.L. Listed   |

### MALE CLAPPER SNOOT



| PRODUCT INFORMATION  | MODELS  |
|----------------------|---|
|                      | 720   |
| Openings (Inches)    | 3" M x 2.5" F   |
| Dimension A (Inches) | 4 1/4"  |
| Dimension D (Inches) | 2 1/2"  |
| Material/Finish      | Cast brass with polished brass exposed parts (optional chrome plated available) |
| Additional uses      | Single fire department connection (plug and chain available separately)         |
| Weight (Lbs.)        | 9 1/2"  |
| PSI (BAR)            | 175 (12.1)  |
| Certifications       | U.L. Listed   |

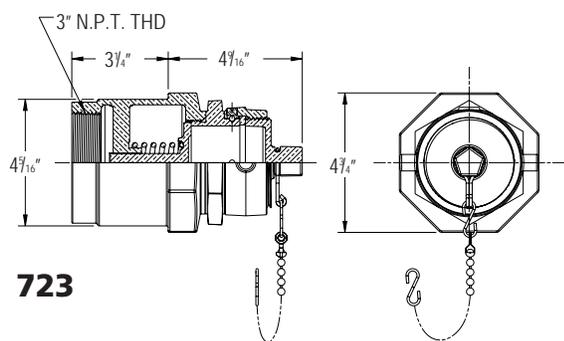
### FEMALE CLAPPER SNOOT



**721**

| PRODUCT INFORMATION      | MODELS  |
|--------------------------|---|
|                          | 721   |
| Size (Inches)            | 3" F x 2.5" F   |
| Dimension A (Inches)     | 4 1/8"  |
| Dimension D (Inches)     | 2 1/2"  |
| Material/Finish          | Cast brass with polished brass exposed parts (optional chrome plated available) |
| Elkhart products used in | 780, 781, 782, 783  |
| Additional uses          | Single fire department connection (plug and chain available separately)         |
| Weight (Lbs.)            | 9 1/2"  |
| PSI (BAR)                | 175 (12.1)  |
| Certifications           | U.L. Listed   |

### FEMALE SPRING CHECK SNOOT



**723**

|                     |   |
|---------------------|---|
| Sizes (Inches)      | 3" F x 2 1/2" or 3" F x 3"  |
| Material/Finish     | Cast brass with polished brass exposed parts (optional chrome plating available)  |
| Available with      | Plug  |
| Spring check action | Open @ 10 psi (0.69 bar)<br>Flows 250 GPM (946 lpm) @ 12 psi (0.83 bar)<br>Flows 500 GPM (1893 lpm) @ 24 psi (1.65 bar) |
| Weight (Lbs.)       | 12 1/4 or 11 3/5  |

### ADDITIONAL INFORMATION

*Components rated for 175 psi (12.1 bar), unless otherwise specified.*

#### THREADS

- 710 and 711 are NPT on all connections.
- 720, 721, and 723 feature NPT Inlets, while the outlets are hose thread (NHT). See index T-13 for available optional hose threads.

#### OTHER PRODUCTS

- Flush Siamese (utilizing the components) are available on page 13-16.
- Caps and plugs are available on page 11-1.
- Escutcheons available on page 13-27.



ROOF MANIFOLDS & CONNECTIONS

## Roof Manifolds & Connections

Elkhart provides several choices in roof manifolds and connections. Roof manifolds provide water control (on mounted building or adjacent buildings) when used with angle hose valves while the roof connections can be used to disperse water to adjacent buildings. All options offer cast brass construction and 2½" outlets rated at 250 gpm (946 lpm) per outlet.



| INLET SIZE<br>(Inches) | OUTLET |   |       |        | CERT.                         | MEASUREMENTS (Inches)          |                                  |                                  |                                 |                               |                                 | Weight (Lbs.)                  | MODEL | FIGURE |
|------------------------|--------|---|-------|--------|-------------------------------|--------------------------------|----------------------------------|----------------------------------|---------------------------------|-------------------------------|---------------------------------|--------------------------------|-------|--------|
|                        | NUMBER |   | STYLE |        | U.L. LISTED                   | A                              | B                                | C                                | D                               | E                             | F                               |                                |       |        |
|                        | 2      | 3 | MALE  | FEMALE |                               |                                |                                  |                                  |                                 |                               |                                 |                                |       |        |
| 4                      | •      |   | •     |        | •                             | 5 <sup>5</sup> / <sub>8</sub>  | 3 <sup>11</sup> / <sub>16</sub>  | 4 <sup>3</sup> / <sub>8</sub>    | 2 <sup>3</sup> / <sub>8</sub>   | 5 <sup>1</sup> / <sub>8</sub> | 4 <sup>15</sup> / <sub>16</sub> | 8                              | 168   | 1      |
|                        | •      |   |       | •      | •                             | 5                              | 7 <sup>1</sup> / <sub>2</sub>    | 11                               | 6 <sup>7</sup> / <sub>16</sub>  |                               |                                 | 26 <sup>1</sup> / <sub>4</sub> | 158   | 3      |
|                        | •      |   |       | •      | •                             | 5                              | 6 <sup>5</sup> / <sub>8</sub>    | 12 <sup>3</sup> / <sub>8</sub>   | 5 <sup>7</sup> / <sub>8</sub>   |                               |                                 | 16 <sup>1</sup> / <sub>4</sub> | 159   | 4      |
|                        | •      |   | •     |        | •                             | 5 <sup>1</sup> / <sub>16</sub> | 5 <sup>7</sup> / <sub>16</sub>   | 7 <sup>7</sup> / <sub>8</sub>    | 5 <sup>5</sup> / <sub>8</sub>   |                               |                                 | 9 <sup>3</sup> / <sub>4</sub>  | 751   | 6      |
|                        |        | • | •     |        | •                             | 4 <sup>1</sup> / <sub>5</sub>  | 5 <sup>1</sup> / <sub>4</sub>    | 4 <sup>13</sup> / <sub>16</sub>  | 2 <sup>1</sup> / <sub>2</sub>   |                               | 4 <sup>3</sup> / <sub>8</sub>   | 10 <sup>1</sup> / <sub>4</sub> | 168   | 2      |
|                        |        | • |       | •      | •                             | 5                              | 6 <sup>5</sup> / <sub>8</sub>    | 19                               | 5 <sup>7</sup> / <sub>8</sub>   |                               |                                 | 27 <sup>1</sup> / <sub>4</sub> | 159   | 4      |
| 6                      | •      |   | •     |        | •                             | 5 <sup>5</sup> / <sub>8</sub>  | 4 <sup>11</sup> / <sub>16</sub>  | 4 <sup>15</sup> / <sub>16</sub>  | 2 <sup>5</sup> / <sub>8</sub>   | 7 <sup>1</sup> / <sub>4</sub> | 5 <sup>11</sup> / <sub>16</sub> | 14 <sup>1</sup> / <sub>4</sub> | 168   | 1      |
|                        | •      |   |       | •      | •                             | 7 <sup>1</sup> / <sub>2</sub>  | 7 <sup>1</sup> / <sub>2</sub>    | 11 <sup>1</sup> / <sub>2</sub>   | 8                               |                               |                                 | 26 <sup>1</sup> / <sub>4</sub> | 158   | 3      |
|                        | •      |   |       | •      | •                             | 7 <sup>1</sup> / <sub>4</sub>  | 6 <sup>5</sup> / <sub>8</sub>    | 12 <sup>3</sup> / <sub>8</sub>   | 7 <sup>15</sup> / <sub>16</sub> |                               |                                 | 31 <sup>1</sup> / <sub>4</sub> | 159   | 4      |
|                        | •      |   | •     |        | •                             | 7 <sup>1</sup> / <sub>2</sub>  | 9 <sup>1</sup> / <sub>2</sub>    | 10 <sup>11</sup> / <sub>16</sub> | 8                               |                               |                                 | 20 <sup>1</sup> / <sub>4</sub> | 755   | 7      |
|                        |        | • | •     |        | •                             | 5 <sup>1</sup> / <sub>4</sub>  | 7 <sup>1</sup> / <sub>4</sub>    | 4 <sup>15</sup> / <sub>16</sub>  | 2 <sup>11</sup> / <sub>16</sub> |                               | 5 <sup>3</sup> / <sub>8</sub>   | 15 <sup>1</sup> / <sub>4</sub> | 168   | 2      |
|                        |        | • |       | •      | •                             | 7 <sup>3</sup> / <sub>8</sub>  | 6 <sup>5</sup> / <sub>8</sub>    | 17 <sup>1</sup> / <sub>4</sub>   | 6 <sup>1</sup> / <sub>8</sub>   |                               |                                 | 24 <sup>3</sup> / <sub>8</sub> | 158   | 3      |
|                        |        | • |       | •      | •                             | 7 <sup>1</sup> / <sub>4</sub>  | 6 <sup>5</sup> / <sub>8</sub>    | 19                               | 7 <sup>15</sup> / <sub>16</sub> |                               |                                 | 42 <sup>3</sup> / <sub>4</sub> | 159   | 4      |
|                        | •      | • |       | •      | 7 <sup>1</sup> / <sub>2</sub> | 4 <sup>3</sup> / <sub>4</sub>  | 10 <sup>11</sup> / <sub>16</sub> | 10 <sup>1</sup> / <sub>2</sub>   |                                 |                               | 20 <sup>3</sup> / <sub>8</sub>  | 761                            | 5     |        |

### ADDITIONAL INFORMATION

- When ordering, specify model number, inlet size and number of outlets.
- Each outlet has a rated flow of 250 gpm (946 lpm).
- Roof manifolds can be used in alternate applications and/or to test fire pump systems.

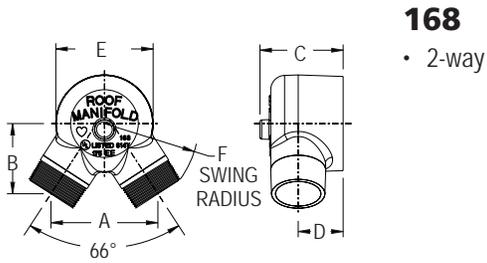
### THREADS

All threads are NPT unless otherwise specified.



## ROOF MANIFOLDS & CONNECTIONS

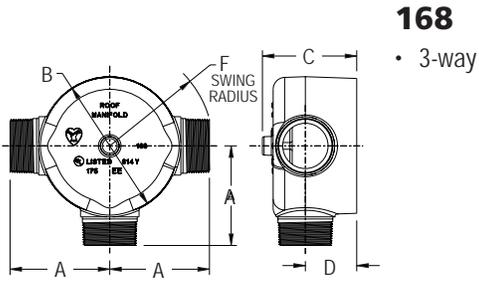
FIGURE 1



**168**  
• 2-way

Fig. 1

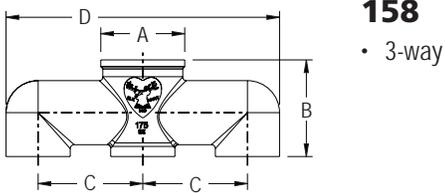
FIGURE 2



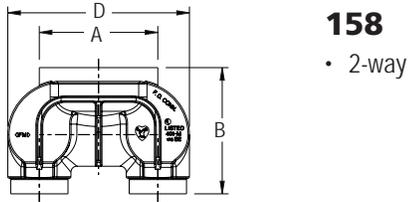
**168**  
• 3-way

Fig. 2

FIGURE 3



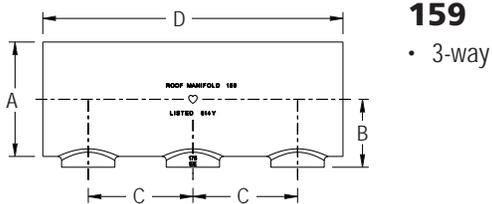
**158**  
• 3-way



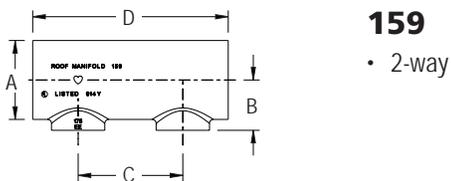
**158**  
• 2-way

Fig. 3

FIGURE 4



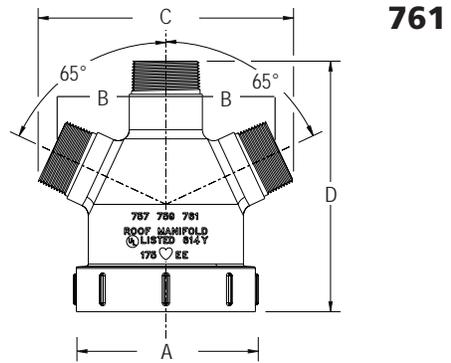
**159**  
• 3-way



**159**  
• 2-way

Fig. 4

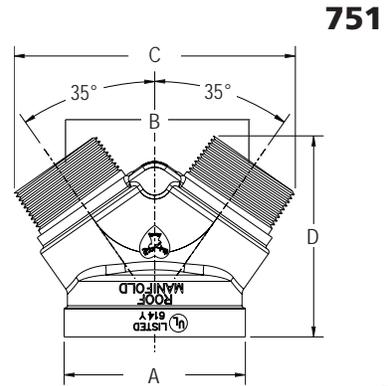
FIGURE 5



**761**

Fig. 5

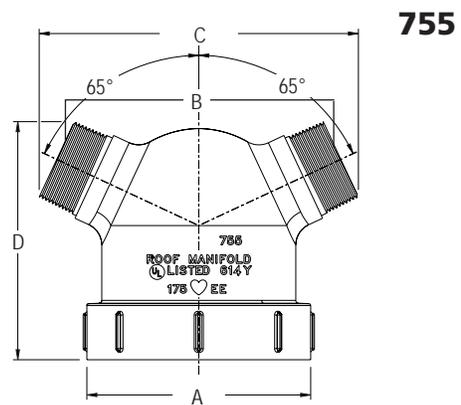
FIGURE 6



**751**

Fig. 6

FIGURE 7



**755**

Fig. 7

### ROUND ESCUTCHEON PLATE



| MEASUREMENTS       |                 |                  |           | AVAILABLE LETTERING OPTIONS |               |         |                 |           |                                 |               | MATERIAL/FINISH |       |       |               |              | Weight (Lbs.) | MODEL   |
|--------------------|-----------------|------------------|-----------|-----------------------------|---------------|---------|-----------------|-----------|---------------------------------|---------------|-----------------|-------|-------|---------------|--------------|---------------|---------|
| Pipe size (Inches) | Inside diameter | Outside diameter | Thickness | Automatic Sprinkler         | Dry Standpipe | Hydrant | Pump Test Conn. | Standpipe | Standpipe & Automatic Sprinkler | Wall Hydrants | Brass           |       |       | Aluminum      |              |               |         |
|                    |                 |                  |           |                             |               |         |                 |           |                                 |               | Polished        | Rough | Satin | Chrome-plated | Red urethane |               |         |
| 1 1/2              | 1 15/16         | 3                | 15/32     |                             |               |         |                 |           |                                 |               |                 |       |       | s             |              | 1/8           | 589-1.5 |
| 2 1/2              | 2 59/64         | 4 13/32          | 3/16      |                             |               |         |                 |           |                                 |               |                 |       |       | s             |              | 5/16          | 589-2.5 |
| 4                  | 4 3/16          | 10 3/16          | 1/4       | •                           | •             | •       | •               | •         | •                               | •             |                 |       |       |               | s            | 1             | 590-4-A |
|                    | 4 3/16          | 10 3/16          | 1/4       | •                           | •             | •       | •               | •         | •                               | •             | o               |       | s     | o             |              | 3 1/8         | 590-4-B |
| 6                  | 6 11/16         | 12               | 3/8       | •                           | •             | •       | •               | •         | •                               | •             |                 |       |       |               | s            | 2 1/8         | 590-6-A |
|                    | 6 11/16         | 12               | 3/8       | •                           | •             | •       | •               | •         | •                               | •             | o               |       | s     | o             |              | 6 7/8         | 590-6-B |

Key s = standard o = option

### RECTANGULAR ESCUTCHEON PLATE



| MEASUREMENTS (Inches) |       | AVAILABLE LETTERING OPTIONS |                |               |           |           |           |              | MATERIAL      |            |                |                 | Weight (Lbs.) | MODEL |
|-----------------------|-------|-----------------------------|----------------|---------------|-----------|-----------|-----------|--------------|---------------|------------|----------------|-----------------|---------------|-------|
| Length                | Width | Auto-Sprinkler              | Auto-Sprk/Stdp | Dry Standpipe | Pump Test | Sprinkler | Standpipe | Wall Hydrant | Cast Aluminum | Cast Brass | Polished Brass | Polished Chrome |               |       |
|                       |       | 11 1/2                      | 4 1/2          |               |           |           |           |              | •             |            | s              |                 |               |       |
| 11 1/2                | 4 1/2 |                             |                |               |           |           | •         |              |               | s          |                |                 | 2 5/8         | 591-B |
| 11 1/2                | 4 1/2 |                             |                |               |           | •         |           |              | s             |            |                |                 | 3/4           | 592-A |
| 11 1/2                | 4 1/2 |                             |                |               |           | •         |           |              |               | s          |                |                 | 2 5/8         | 592-B |

Key s = standard o = option

#### ADDITIONAL INFORMATION

Caps and plugs are available on page 11-1.



## NOZZLE KITS

## NOZZLE REPAIR KITS

### P/N 80800001 Field Service Kit

For all **1.0" and 1.5" nozzles** and **ball shut-offs (1.0" ID Ball)** • Kit contains the following parts:

- |                                    |                          |
|------------------------------------|--------------------------|
| 1 Adjustable Seat                  | 1 Actuator Shaft Screw   |
| 1 O-Ring for Adjustable Seat       | 1 Handle Pivot Screw     |
| 1 Actuator Shaft O/S               | 1 O-Ring for Pivot Screw |
| 1 Drive Pin for O/S Actuator Shaft | 1 O-Ring for Body Base   |
| 1 Actuator Shaft N/S               | 1 Repair Instructions    |
| 1 O-Ring for Actuator Shaft        |                          |

This kit can be used on the following nozzles and ball shut-offs:

- |                  |                   |                     |                    |
|------------------|-------------------|---------------------|--------------------|
| L-O (N/S)(O/S)   | SFL-BG            | SM-10FB (N/S)(O/S)  | 4000-02 (N/S)(O/S) |
| L-OE (N/S)(O/S)  | SFL-OG (N/S)(O/S) | LB-275 (N/S)(O/S)   | 4000-03 (N/S)(O/S) |
| L-OG (N/S)(O/S)  | SFS-O (N/S)(O/S)  | LB-275A (N/S)(O/S)  | 4000-10 (N/S)(O/S) |
| NSL              | SFS-OG (N/S)(O/S) | LB-275GA (N/S)(O/S) | 4000-11 (N/S)(O/S) |
| S-O (N/S)(O/S)   | SM-3F (N/S)(O/S)  | SB-275 (N/S)(O/S)   | 4000-12 (N/S)(O/S) |
| S-OE (N/S)(O/S)  | SM-3FG (N/S)(O/S) | SB-275A (N/S)(O/S)  | 4000-13 (N/S)(O/S) |
| SFL-O (N/S)(O/S) | SM-10F (N/S)(O/S) | 4000-01 (N/S)(O/S)  | OH-174             |
| SFL-B            | SM10FG (N/S)(O/S) |                     |                    |

(Optional ball is P/N 15076000)

### P/N 81464001 Field Service Kit

For **1.5" SFM HP/LP** • Kit contains the following parts:

- |                               |                                 |
|-------------------------------|---------------------------------|
| 2 O-Rings for Adjustable Seat | 2 Self-Adjusting Seats (UHMWPE) |
| 2 O-Rings for Actuator        | 2 Actuator Shaft Square Drive   |
| 2 O-Rings for Body Adapters   | 1 Repair Instructions           |

(Optional ball is P/N 17328001)

### P/N 81165001 Field Service Kit

For **SFL-O-DI (De-icing)** • Kit contains the following parts:

- |                              |                               |
|------------------------------|-------------------------------|
| 1 O-Ring for Adjustable Seat | 1 Actuator Shaft Screws       |
| 1 Drive Pin for Handle       | 1 Adjustable Seal             |
| 1 O-Ring for Actuator        | 1 Actuator Shaft              |
| 1 O-Ring for Pivot Screw     | 1 Handle Pivot Screw          |
| 2 O-Rings for Center Barrel  | 1 Actuator Shaft Square Drive |
| 1 O-Ring for Base Adapter    | 1 Repair Instructions         |

(Optional ball is P/N 15076)

### P/N 81825001 XD Field Service Kit

Kit contains the following parts:

- |                                      |                               |
|--------------------------------------|-------------------------------|
| 2 Actuator Shafts                    | 2 Self-Adjusting Seats UHMWPE |
| 2 O-Rings for Actuator Shafts        | 2 O-Rings for Valve Seats     |
| 2 Screws for Actuator Shafts (Inner) | 1 Screw for Body Adapter      |
| 2 Screws for Actuator Shafts (Outer) | 1 O-Ring for Body Adapter     |
| 2 O-Rings for Actuator Shaft Covers  | 1 Exploded Parts Drawing      |

This kit can be used on the following nozzles and ball shut-offs:

- |                  |                                 |
|------------------|---------------------------------|
| 1.5" XD Shutoff  | 1.5" Mid-Range Chief XD Nozzle  |
| 2.5" XD Shutoff  | 1.5" High-Range Chief XD Nozzle |
| 2.5" XD Playpipe | 2.5" High-Range Chief XD Nozzle |

(Optional 1.375" full round ball is P/N 17341000)

### P/N 80902001 Field Service Kit

For all **1.75", 2.0", and 2.5" nozzles** and **ball shut-offs (1.375" ID Ball)** • Kit contains the following parts:

- |                                    |                          |
|------------------------------------|--------------------------|
| 1 Adjustable Seat                  | 1 Actuator Shaft Screw   |
| 1 O-Ring for Adjustable Seat       | 1 Handle Pivot Screw     |
| 1 Actuator Shaft O/S               | 1 O-Ring for Pivot Screw |
| 1 Drive Pin for O/S Actuator Shaft | 1 O-Ring for Body Base   |
| 1 Actuator Shaft N/S               | 1 Repair Instructions    |
| 1 O-Ring for Actuator Shaft        |                          |

This kit can be used on the following nozzles and ball shut-offs:

- |                    |                     |                    |
|--------------------|---------------------|--------------------|
| A                  | SM-20FG (N/S)(O/S)  | DB-275 (N/S)(O/S)  |
| D (N/S)(O/S)       | SM-30F (N/S)(O/S)   | DB-275A (N/S)(O/S) |
| DSF (N/S)(O/S)     | SM-30FLP            | DB-275AT           |
| DSM-30F (N/S)(O/S) | SM-30FG (N/S)(O/S)  | DB-275-GAT         |
| DSM-30FLP          | SM-30FGLP           | B-278              |
| DSF-30FG           | SOS                 | B-278L             |
| DSM-30FGLP         | B-275 (N/S)(O/S)    | 4000-16            |
| SF                 | B-275A (N/S)(O/S)   | 4000-17            |
| SFM                | B-275AT             | 4000-20 (N/S)(O/S) |
| SFM-G              | B-275-GA (N/S)(O/S) | 4000-23 (N/S)(O/S) |
| SM-20F (N/S)(O/S)  | B-275-GAT           | 4000-26 (N/S)(O/S) |

(Optional ball is P/N 17304000)

### P/N 81277001 Field Service Kit

This **1 3/8" double drive kit** can be used on the following nozzle types: **B-375-A, B-375-AT, B-375-GA, B-375-GAT, DB-375-A, DB-375-AT, DB-375-GA, DB-375-GAT**

• Kit contains the following parts:

- |                                 |                                |
|---------------------------------|--------------------------------|
| 2 O-Rings for Adjustable Seat   | 1 O-Ring for F/S Base          |
| 2 O-Rings for Actuator Shafts   | 2 Actuator Shaft Square Drives |
| 3 O-Rings for Body Adapters     | 1 Repair Instructions          |
| 2 Self-Adjusting Seats (UHMWPE) |                                |

(Optional 1.375" single cut-away ball is P/N 17326001)

(Optional 1.375" double cut-away ball is P/N 17323000)

(Optional 1.375" full round ball is P/N 17328001)

### P/N 81463001 Field Service Kit

For **PSFS-HP, PSFS-HPG** • Kit contains the following parts:

- |                               |                               |
|-------------------------------|-------------------------------|
| 2 O-Rings for Adjustable Seat | 2 Seats                       |
| 2 O-Rings for Actuator        | 2 Actuator Shaft Square Drive |
| 2 O-Rings for Body Adapters   | 1 Repair Instructions         |

(Optional ball is P/N 17333001)

### P/N 81151001 Field Service Kit

For **SFL-GN (MIL-N-24408B Rev. D or MIL-N-24408B Rev. E)** • Kit contains the following parts:

- |                                    |                              |
|------------------------------------|------------------------------|
| 2 Pins                             | 2 O-Rings for Upstream Seat  |
| 2 O-Rings for Actuator Shafts      | 1 O-Ring for Downstream Seat |
| 2 Actuator Shaft Screws            | 2 Actuator Shafts            |
| 1 O-Ring for F/S Base              | 1 Repair Instructions        |
| 2 Self-Adjusting Seats (UHMWPE)    |                              |
| 1 O-Ring for inside Center Barrel  |                              |
| 1 O-Ring for outside Center Barrel |                              |
| 1 O-Ring for Pistol Grip to Body   |                              |

### VALVE REPAIR KITS

#### Field Service Kits for 800 and 2800 Series Apparatus Valves

For all **800** and **2800** series apparatus valves • Kit contains the following parts:

- 1 Seat
- 1 O-Ring for Seat
- 1 Seat Retainer
- 1 O-Ring for Seat Retainer
- 1 O-Ring for Actuator Shaft
- 1 O-Ring for Pivot Bolt
- 3 O-Rings for Body

Kits available for:

- 890** 1.0" Valve ..... Kit P/N 80426001    **2891** 1.5" Valve..... Kit P/N 80427001
- 891** 1.5" Valve ..... Kit P/N 80427001    **2892** 2.0" Valve..... Kit P/N 80428001
- 892** 2.0" Valve ..... Kit P/N 80428001    **2893** 3.0" Valve..... Kit P/N 80421001
- 893** 3.0" Valve ..... Kit P/N 80421001    **2896** 2.5" Valve..... Kit P/N 80326001
- 896** 2.5" Valve ..... Kit P/N 80326001    **B-94** 2.5" Valve ..... Kit P/N 80326001

\*Kit for W-893 is same kit as 893: 80421001.

Balls available for: 800 and 2800 Series Apparatus Valves

- 1" ..... P/N 15076000
- 1.5" ..... P/N 15077000
- 2" ..... P/N 17305000
- 2.5" ..... P/N 15079000
- 3" ..... P/N 15080000

P/N 11736001 ..... zinc anode for a 9786 valve

#### Single Body Seal Kits

Includes: Valve Ball, O-Rings, & 2x Valve Seat

- SB10** with ball ..... P/N 65982000 (less ball ..... P/N 65499000)
- SB15** with ball ..... P/N 65984000 (less ball ..... P/N 65983000)

#### Field Service Kits for 2900 Series Apparatus Valves

For all **2900** series apparatus valves • All kits (except for 2940) contain the following parts:

- 1 Valve Ball\*
- 2 Seats\*
- 3 O-Rings for Seat\*
- 3 O-Rings for Body
- 3 O-Rings for Seat Retainer

Kits available for:

- 2915** 1.5" Valve ..... Kit P/N 81105001
- 2920** 2.0" Valve ..... Kit P/N 81106001
- 2925** 2.5" Valve ..... Kit P/N 81107001
- 2930** 3.0" Valve ..... Kit P/N 81108001
- 2940** 4.0" Valve (O/S) ..... Kit P/N 81109001\*
- 2940** 4.0" Valve (N/S) ..... Kit P/N 81140001\*

\*Kits for 2940 valve (P/N 81140001) have only 1 seat, 1 O-Ring seat, and no valve ball. (Optional ball is P/N 17317001)

**Note:** New style (N/S) 2940 has 95 or 96 embossed on body casting above or below the heart.

#### Universal Seal Kits for use with the Elkhart Brass Unibody line or Akron Brass Apparatus Valves.

Kits contain the following parts:

- |                           |                            |
|---------------------------|----------------------------|
| <b>1.5" – 3.5" valves</b> | <b>4" Valves</b>           |
| 2 Valve Seats             | 1 Valve Seat               |
| 1 Trunnion O-ring         | 1 Gear Case Adapter O-ring |
| 3 Actuator Shaft O-rings  | 2 Actuator Shaft O-rings   |
|                           | 2 Seat Retainer O-rings    |
|                           | 2 Face Seals               |

|                    | <b>Kit</b>   | <b>Kit with Ball</b> |
|--------------------|--------------|----------------------|
| <b>EB15/EB20</b>   | P/N 65476000 | P/N 65477000         |
| <b>EB25</b>        | P/N 65478000 | P/N 65479000         |
| <b>EB30/EB35</b>   | P/N 65480000 | P/N 65481000         |
| <b>EB40</b>        | P/N 65482000 |                      |
| <b>EB40 (2015)</b> | P/N 65986000 |                      |

### APPLIANCE REPAIR KITS

#### P/N 80671001 Field Service Kit for B-90 Series

One Kit required for each 2.5" Inlet/Outlet on a:

- |              |              |              |
|--------------|--------------|--------------|
| <b>B-95</b>  | <b>B-97</b>  | <b>B-99</b>  |
| <b>B-95A</b> | <b>B-97A</b> | <b>B-99A</b> |
| <b>B-96</b>  | <b>B-98</b>  |              |
| <b>B-96A</b> | <b>B-98A</b> |              |

Kits contains the following parts:

- 1 Seat
- 1 O-Ring for Seat
- 1 O-Ring for Actuator Shaft
- 1 O-Ring for Pivot Bolt
- 1 Swivel Gasket (2.5")

(Optional ball is P/N 17303000)

Optional handles: P/N 8012104 (knob), P/N 36313100 (aluminum long), P/N 36313001 (molded urethane), P/N 80664001 (positive twist-lock), \*P/N 36319001 (short) and P/N 36749001 (long)

\*Additional parts may be required.

#### P/N 80947001 Field Service Kit for B-100, B-100A, or B-100-LA

For **B-100A (N/S)** gated wye • Kit contains the following parts:

- 2 Self-Adjusting Seats (UHMWPE)
- 2 O-Rings for Self-Adjusting Seat
- 2 O-Rings for Outlet Adapter
- 2 O-Rings for Actuator Shaft
- 2 O-Rings for Pivot Screw

(Optional ball is P/N 17304000)  
N/S has smooth plastic seats

# TECHNICAL DATA



## EDUCTOR/NOZZLE FLOW

This chart is designed to help you better understand the performance of portable foam eductors at various operating pressures. It will also assist you in selecting a nozzle that will be compatible with your new eductor.

As you can see, all of these eductors achieve their rated flow with an inlet pressure of 200 psi. At lower pressures the water flow is less, but the flow of foam concentrate will remain the same. Consequently, the foam solution will be a richer mixture than the metering valve indicates.

You will also note that at lower pressures (flows) the effective reach of the nozzles decreases. Take this into consideration when making your initial attack.

| Eductor Model              | Recommended Nozzles For Use With Eductor  | Hose Size                     | Inlet Pressure | Flow Rate <sup>^</sup> |        | Maximum Hose Lay* | Nozzle Pressure | Effective Reach** |      |
|----------------------------|---|-------------------------------|----------------|------------------------|--------|-------------------|-----------------|-------------------|------|
|                            |   |                               |                | GPM                    | L/Min. |                   |                 |                   |      |
| 241-30                     | SFS-O or SFS-OG (Set @ 30), 4000-02 (30) PSFS-HP, PSFS-HPG & TPSFS-HP (Set @ 30)  | 1.0"                          | 200 PSI        | 30                     | 114    | 100'              | 100 PSI         | 74'               |      |
|                            |   |                               | 150 PSI        | 26                     | 98     | 100'              | 75 PSI          | 63'               |      |
|                            |   |                               | 100 PSI        | 21                     | 79     | 100'              | 49 PSI          | 57'               |      |
|                            | SM-3F, SM-3FG   | 1.0"                          | 200 PSI        | 30                     | 114    | 100'              | 95PSI           | 65'               |      |
|                            |   |                               | —              | —                      | —      | —                 | —               | —                 |      |
|                            |   |                               | —              | —                      | —      | —                 | —               | —                 |      |
| 241-60 or 240-60           | SFL-O or SFL-OG (Set @ 60), 4000-10 (60), 4000-13 (60)  | 1.5"                          | 200 PSI        | 60                     | 227    | 300'              | 100 PSI         | 87'               |      |
|                            |   |                               | 150 PSI        | 52                     | 197    | 300'              | 75 PSI          | 77'               |      |
|                            |   |                               | 100 PSI        | 42                     | 159    | 300'              | 49 PSI          | 65'               |      |
|                            | SM-10F, SM-10FG, SM-10FB  | 1.5"                          | 200 PSI        | 60                     | 227    | 300'              | 92 PSI          | 82'               |      |
|                            |   |                               | —              | —                      | —      | —                 | —               | —                 |      |
|                            |   |                               | —              | —                      | —      | —                 | —               | —                 |      |
| 242-95 or 241-95 or 240-95 | SFL-O or SFL-OG (Set @ 95), SFL-B or SFL-BG (Set @ 95), SFL-N (95), SFL-GN (95), SFM-HP or SFM-HPG (Set @ 95) SFM-LP or SFM-LPG (Set @ 95) 4000-10 (95), 4000-13 (95)         | 1.5"                          | 200 PSI        | 95                     | 360    | 150'              | 100 PSI         | 99'               |      |
|                            |   |                               | 150 PSI        | 82                     | 310    | 150'              | 75 PSI          | 92'               |      |
|                            |   |                               | 100 PSI        | 67                     | 254    | 150'              | 50 PSI          | 77'               |      |
|                            |   | 1.75"                         | 200 PSI        | 95                     | 360    | 250'              | 100 PSI         | 99'               |      |
|                            |   |                               | 150 PSI        | 82                     | 310    | 250'              | 75 PSI          | 92'               |      |
|                            |   |                               | 100 PSI        | 67                     | 254    | 250'              | 50 PSI          | 77'               |      |
|                            | SM-10F, SM-10FG, SM-10FB  | 1.5"                          | 200 PSI        | 95                     | 360    | 150'              | 99 PSI          | 86'               |      |
|                            |   |                               | —              | —                      | —      | —                 | —               | —                 |      |
|                            |   |                               | —              | —                      | —      | —                 | —               | —                 |      |
|                            |   | 1.75"                         | 200 PSI        | 95                     | 360    | 250'              | 99 PSI          | 86'               |      |
|                            |   |                               | —              | —                      | —      | —                 | —               | —                 |      |
|                            |   |                               | —              | —                      | —      | —                 | —               | —                 |      |
| SM-20F, SM-20FG^^          | 1.5"  | 200 PSI                       | 95             | 360                    | 200'   | 81 PSI            | 97'             |                   |      |
|                            |   | —                             | —              | —                      | —      | —                 | —               |                   |      |
|                            |   | —                             | —              | —                      | —      | —                 | —               |                   |      |
|                            | 1.75"   | 200 PSI                       | 95             | 360                    | 400'   | 81 PSI            | 97'             |                   |      |
|                            |   | —                             | —              | —                      | —      | —                 | —               |                   |      |
|                            |   | —                             | —              | —                      | —      | —                 | —               |                   |      |
| 241-125 or 240-125         | SFL-O or SFL-OG (Set @ 125), SFL-B or SFL-BG (Set @ 125), SFL-N (125), SFL-GN (125), SFM-HP or SFM-HPG (Set @ 125) SFM-LP or SFM-LPG (Set @ 125) 4000-10 (125), 4000-13 (125) | 1.75"                         | 200 PSI        | 125                    | 473    | 150'              | 100 PSI         | 101'              |      |
|                            |   |                               | 150 PSI        | 108                    | 409    | 150'              | 75 PSI          | 92'               |      |
|                            |   |                               | 100 PSI        | 88                     | 333    | 150'              | 50 PSI          | 76'               |      |
|                            |   | 2.0"                          | 200 PSI        | 125                    | 473    | 300'              | 100 PSI         | 101'              |      |
|                            |   |                               | 150 PSI        | 108                    | 409    | 300'              | 75 PSI          | 92'               |      |
|                            |   |                               | 100 PSI        | 88                     | 333    | 300'              | 50 PSI          | 76'               |      |
|                            | SM-20F, SM-20FG^^   | 1.75"                         | 200 PSI        | 125                    | 473    | 200'              | 87 PSI          | 96'               |      |
|                            |   |                               | —              | —                      | —      | —                 | —               | —                 |      |
|                            |   |                               | —              | —                      | —      | —                 | —               | —                 |      |
|                            |   | 2.0"                          | 200 PSI        | 125                    | 473    | 400'              | 87 PSI          | 96'               |      |
|                            |   |                               | —              | —                      | —      | —                 | —               | —                 |      |
|                            |   |                               | —              | —                      | —      | —                 | —               | —                 |      |
| 241-150                    | 4000-14 } (150@75)<br>4000-16 }<br>4000-17 }  | 1.75"                         | 200 PSI        | 150                    | 568    | 150'              | 75 PSI          | 110'              |      |
|                            |   |                               | 150 PSI        | 130                    | 492    | 150'              | 56 PSI          | 92'               |      |
|                            |   |                               | 100 PSI        | 106                    | 401    | 150'              | 37 PSI          | 76'               |      |
|                            |   | SFM-LP or SFM-LPG (Set @ 150) | 2.0"           | 200 PSI                | 150    | 568               | 300'            | 75 PSI            | 110' |
|                            |   |                               |                | 150 PSI                | 130    | 492               | 300'            | 56 PSI            | 92'  |
|                            |   |                               |                | 100 PSI                | 106    | 401               | 300'            | 37 PSI            | 76'  |
|                            | SM-20-FLP<br>SM-20-FGLP^^   | 1.75"                         | 200 PSI        | 150                    | 568    | 150'              | 75 PSI          | 110'              |      |
|                            |   |                               | —              | —                      | —      | —                 | —               | —                 |      |
|                            |   |                               | —              | —                      | —      | —                 | —               | —                 |      |
|                            |   | 2.0"                          | 200 PSI        | 150                    | 568    | 300'              | 75 PSI          | 110'              |      |
|                            |   |                               | —              | —                      | —      | —                 | —               | —                 |      |
|                            |   |                               | —              | —                      | —      | —                 | —               | —                 |      |
| 241-250                    | Any SF Series (Set @ 250) or any 4000-20 Series (250)   | 2.5"                          | 200 PSI        | 250                    | 946    | 200'              | 100 PSI         | 120'              |      |
|                            |   |                               | 150 PSI        | 217                    | 821    | 200'              | 75 PSI          | 105'              |      |
|                            |   |                               | 100 PSI        | 177                    | 670    | 150'              | 50 PSI          | 83'               |      |
|                            | Any SM-30 Series  | 2.5"                          | 200 PSI        | 250                    | 946    | 200'              | 91 PSI          | 124'              |      |
|                            |   |                               | —              | —                      | —      | —                 | —               | —                 |      |
|                            |   |                               | —              | —                      | —      | —                 | —               | —                 |      |

\* Maximum hose lay from eductor discharge to nozzle. We recommend that you test your hose to see if this is applicable.

\*\* These figures are with foam solution flowing (rather than plain water) and the nozzle set on straight stream.

^ Total flow when picking-up 6% foam concentrate through metering valve.

^^ SM-30F and SM-30FG can also be utilized with these eductors. Flow and reach data will differ.

The flow and effective reach data found on the following pages is compiled and updated by our engineering staff in the testing area of our assembly department. The flow is determined by an electronic flowmeter while a piezometer gauge at the base/inlet of the nozzle establishes the "nozzle pressure."

The effective reach is determined by elevating the nozzle to 32 degrees above horizontal and at a height of 4' above ground level. The reach of Straight Stream, Narrow Fog (30 degrees) and Wide Fog (90 degrees) are then established by measuring where the last water droplets are falling at ground level. These tests are conducted in "still air" conditions, so the actual results will vary depending upon conditions.

Elkhart Brass Hard Facts Calculator app available now! Quick flow and pressure calculations for every situation at your fingertips!



| Catalog No.   | GPM           | Stream Setting | Discharge in U.S. GPM |     |     |     |     |     |     |     | Effective Reach in Feet |     |     |     |     |     |     |     |     |
|---|---------------|----------------|-----------------------|-----|-----|-----|-----|-----|-----|-----|-------------------------|-----|-----|-----|-----|-----|-----|-----|-----|
|   |               |                | Nozzle Pressure PSI   |     |     |     |     |     |     |     | Nozzle Pressure PSI     |     |     |     |     |     |     |     |     |
|   |               |                | 40                    | 50  | 75  | 100 | 125 | 150 | 175 | 200 | 40                      | 50  | 75  | 100 | 125 | 150 | 175 | 200 |     |
| 4000-02<br>4000-03<br>4000-04                       | 15            | SS             | —                     | —   | —   | —   | —   | —   | —   | —   | —                       | —   | —   | —   | —   | —   | —   | —   |     |
|   |               | Narrow Fog     | 9                     | 11  | 12  | 15  | 17  | 18  | 20  | 22  | —                       | 20  | 22  | 24  | 26  | 28  | 31  | 32  |     |
|   |               | Wide Fog       | —                     | —   | —   | —   | —   | —   | —   | —   | —                       | 11  | 14  | 15  | 17  | 19  | 21  | 22  |     |
|   | 30            | SS             | —                     | —   | —   | —   | —   | —   | —   | —   | —                       | 65  | 70  | 81  | 85  | 90  | 91  | 92  |     |
|   |               | Narrow Fog     | 20                    | 22  | 26  | 30  | 34  | 37  | 39  | 41  | —                       | 30  | 35  | 41  | 44  | 47  | 48  | 49  |     |
|   |               | Wide Fog       | —                     | —   | —   | —   | —   | —   | —   | —   | —                       | 15  | 16  | 19  | 21  | 23  | 25  | 26  |     |
|   | 45            | SS             | —                     | —   | —   | —   | —   | —   | —   | —   | —                       | 69  | 75  | 85  | 91  | 96  | 98  | 101 |     |
|   |               | Narrow Fog     | 32                    | 35  | 40  | 45  | 49  | 52  | 56  | 58  | —                       | 32  | 37  | 44  | 46  | 48  | 50  | 51  |     |
|   |               | Wide Fog       | —                     | —   | —   | —   | —   | —   | —   | —   | —                       | 17  | 18  | 21  | 23  | 25  | 26  | 28  |     |
| 4000-10<br>4000-12<br>4000-13<br>4000-14<br>4000-19 | 60            | SS             | 69                    | 76  | 89  | 96  | 104 | 110 | 115 | 124 | —                       | —   | —   | —   | —   | —   | —   | —   |     |
|   |               | Narrow Fog     | 38                    | 43  | 51  | 60  | 68  | 76  | —   | —   | 38                      | 41  | 44  | 49  | 55  | 61  | 66  | 71  |     |
|   |               | Wide Fog       | —                     | —   | —   | —   | —   | —   | —   | —   | 31                      | 33  | 35  | 41  | 43  | 47  | 51  | 58  |     |
|   | 75            | SS             | 73                    | 81  | 94  | 103 | 111 | 118 | —   | —   | 73                      | 81  | 94  | 103 | 111 | 118 | —   | —   |     |
|   |               | Narrow Fog     | 53                    | 58  | 65  | 75  | 84  | 92  | —   | —   | 39                      | 41  | 45  | 52  | 57  | 62  | —   | —   |     |
|   |               | Wide Fog       | —                     | —   | —   | —   | —   | —   | —   | —   | 29                      | 30  | 31  | 33  | 37  | 40  | —   | —   |     |
|   | 95            | SS             | 77                    | 86  | 101 | 111 | 118 | 118 | 126 | 130 | 138                     | 77  | 86  | 101 | 111 | 118 | 126 | 130 | 138 |
|   |               | Narrow Fog     | 63                    | 68  | 83  | 95  | 107 | 115 | —   | —   | 40                      | 41  | 46  | 55  | 59  | 64  | 67  | 70  |     |
|   |               | Wide Fog       | —                     | —   | —   | —   | —   | —   | —   | —   | 29                      | 30  | 33  | 36  | 40  | 44  | 47  | 51  |     |
| 125   | SS            | 78             | 86                    | 103 | 113 | 121 | 128 | 138 | 146 | 78  | 86                      | 103 | 113 | 121 | 128 | 138 | 146 |     |     |
|   | Narrow Fog    | 82             | 91                    | 110 | 125 | 140 | 153 | —   | —   | 44  | 48                      | 55  | 62  | 67  | 71  | 77  | 84  |     |     |
|   | Wide Fog      | —              | —                     | —   | —   | —   | —   | —   | —   | 32  | 36                      | 39  | 44  | 49  | 52  | 56  | 59  |     |     |
| 150   | SS            | 80             | 89                    | 108 | 124 | 138 | 148 | 156 | 162 | 80  | 89                      | 108 | 124 | 138 | 148 | 156 | 162 |     |     |
|   | Narrow Fog    | 97             | 107                   | 132 | 150 | 169 | 182 | —   | —   | 46  | 51                      | 53  | 56  | 58  | 60  | 62  | 64  |     |     |
|   | Wide Fog      | —              | —                     | —   | —   | —   | —   | —   | —   | 34  | 37                      | 43  | 46  | 48  | 51  | 52  | 55  |     |     |
| 4014-HR   | 175 @ 50      | SS             | 91                    | 101 | 117 | 132 | 148 | —   | —   | 91  | 101                     | 117 | 132 | 148 | —   | —   | —   |     |     |
|   |               | Narrow Fog     | 157                   | 175 | 214 | 247 | 277 | —   | —   | 51  | 54                      | 61  | 73  | 78  | —   | —   | —   |     |     |
|   |               | Wide Fog       | —                     | —   | —   | —   | —   | —   | —   | —   | 34                      | 36  | 40  | 44  | 48  | —   | —   | —   |     |
|   | 175           | SS             | 88                    | 98  | 114 | 126 | 141 | 152 | —   | —   | 88                      | 98  | 114 | 126 | 141 | 152 | —   | —   |     |
|   |               | Narrow Fog     | 111                   | 124 | 150 | 175 | 192 | 210 | —   | —   | 47                      | 51  | 59  | 69  | 76  | 81  | —   | —   |     |
|   |               | Wide Fog       | —                     | —   | —   | —   | —   | —   | —   | —   | 32                      | 34  | 36  | 39  | 44  | 48  | —   | —   |     |
|   | 200           | SS             | 88                    | 91  | 101 | 117 | 132 | 148 | —   | —   | 88                      | 91  | 101 | 117 | 132 | 148 | —   | —   |     |
|   |               | Narrow Fog     | 127                   | 141 | 173 | 200 | 224 | 245 | —   | —   | 49                      | 51  | 54  | 61  | 73  | 78  | —   | —   |     |
|   |               | Wide Fog       | —                     | —   | —   | —   | —   | —   | —   | —   | 33                      | 34  | 36  | 40  | 44  | 48  | —   | —   |     |
| 250   | SS            | 91             | 102                   | 118 | 136 | 152 | 164 | —   | —   | 91  | 102                     | 118 | 136 | 152 | 164 | —   | —   |     |     |
|   | Narrow Fog    | 172            | 192                   | 230 | 256 | 290 | 320 | —   | —   | 53  | 56                      | 62  | 70  | 79  | 83  | —   | —   |     |     |
|   | Wide Fog      | —              | —                     | —   | —   | —   | —   | —   | —   | 35  | 40                      | 43  | 47  | 51  | 54  | —   | —   |     |     |
| 4000-28   | 325           | SS             | 97                    | 108 | 126 | 142 | 160 | 173 | —   | —   | 97                      | 108 | 126 | 142 | 160 | 173 | —   | —   |     |
|   |               | Narrow Fog     | 220                   | 240 | 289 | 325 | 362 | 398 | —   | —   | 57                      | 61  | 67  | 75  | 86  | 89  | —   | —   |     |
|   |               | Wide Fog       | —                     | —   | —   | —   | —   | —   | —   | —   | 39                      | 43  | 47  | 52  | 55  | 59  | —   | —   |     |
|   | 350           | SS             | 97                    | 108 | 126 | 142 | 154 | —   | —   | 97  | 108                     | 126 | 142 | 154 | —   | —   | —   |     |     |
|   |               | Narrow Fog     | 221                   | 247 | 303 | 350 | 391 | —   | —   | 57  | 61                      | 67  | 77  | 84  | —   | —   | —   |     |     |
|   |               | Wide Fog       | —                     | —   | —   | —   | —   | —   | —   | —   | 39                      | 43  | 47  | 52  | 56  | —   | —   | —   |     |
| 4000-14<br>4000-16<br>4000-17<br>4000-18<br>4000-19 | *125 @ 75 PSI | SS             | 79                    | 88  | 106 | 122 | 135 | 145 | —   | —   | 79                      | 88  | 106 | 122 | 135 | 145 | —   | —   |     |
|   |               | Narrow Fog     | 91                    | 102 | 125 | 144 | 161 | 176 | —   | —   | 45                      | 50  | 52  | 55  | 57  | 59  | —   | —   |     |
|   |               | Wide Fog       | —                     | —   | —   | —   | —   | —   | —   | —   | 34                      | 37  | 43  | 46  | 48  | 51  | —   | —   |     |
|   | *150 @ 75 PSI | SS             | 82                    | 91  | 110 | 126 | 140 | 150 | —   | —   | 82                      | 91  | 110 | 126 | 140 | 150 | —   | —   |     |
|   |               | Narrow Fog     | 110                   | 122 | 150 | 173 | 194 | 212 | —   | —   | 47                      | 52  | 54  | 57  | 59  | 61  | —   | —   |     |
|   |               | Wide Fog       | —                     | —   | —   | —   | —   | —   | —   | —   | 34                      | 37  | 43  | 46  | 48  | 51  | —   | —   |     |
|   | 175 @ 75 PSI  | SS             | 85                    | 94  | 113 | 130 | —   | —   | —   | —   | 85                      | 94  | 113 | 130 | —   | —   | —   | —   |     |
|   |               | Narrow Fog     | 128                   | 143 | 175 | 202 | —   | —   | —   | —   | 49                      | 54  | 56  | 59  | —   | —   | —   | —   |     |
|   |               | Wide Fog       | —                     | —   | —   | —   | —   | —   | —   | —   | 35                      | 38  | 44  | 47  | —   | —   | —   | —   |     |
| 150 @ 50 PSI  | SS            | 87             | 96                    | 115 | 133 | —   | —   | —   | —   | 87  | 96                      | 115 | 133 | —   | —   | —   | —   |     |     |
|   | Narrow Fog    | 134            | 150                   | 184 | 212 | —   | —   | —   | —   | 50  | 55                      | 57  | 60  | —   | —   | —   | —   |     |     |
|   | Wide Fog      | —              | —                     | —   | —   | —   | —   | —   | —   | 35  | 38                      | 44  | 47  | —   | —   | —   | —   |     |     |

# TECHNICAL DATA



## NOZZLE FLOW

TECHNICAL DATA

T-3

| Catalog No.  | GPM             | Stream Setting | Discharge in U.S. GPM |     |     |     |     |     |     |     | Effective Reach in Feet |     |     |     |     |     |     |     |   |   |   |
|--|-----------------|----------------|-----------------------|-----|-----|-----|-----|-----|-----|-----|-------------------------|-----|-----|-----|-----|-----|-----|-----|---|---|---|
|  |                 |                | Nozzle Pressure PSI   |     |     |     |     |     |     |     | Nozzle Pressure PSI     |     |     |     |     |     |     |     |   |   |   |
|  |                 |                | 40                    | 50  | 75  | 100 | 125 | 150 | 175 | 200 | 40                      | 50  | 75  | 100 | 125 | 150 | 175 | 200 |   |   |   |
| CHIEF®<br>4000-20<br>4000-22<br>4000-23<br>4000-24<br>4000-26<br>4000-28 | 185 @<br>75 PSI | SS             |                       |     |     |     |     |     |     |     |                         |     |     |     |     |     |     |     |   |   |   |
|  |                 | Narrow Fog     | 135                   | 151 | 185 | 214 | 239 | 262 | —   | —   | 89                      | 100 | 115 | 130 | 145 | 155 | —   | —   |   |   |   |
|  |                 | Wide Fog       |                       |     |     |     |     |     |     |     | 50                      | 53  | 60  | 72  | 77  | 82  | —   | —   |   |   |   |
|  | 200 @<br>75 PSI | SS             |                       |     |     |     |     |     |     |     |                         |     |     |     |     |     |     |     |   |   |   |
|  |                 | Narrow Fog     | 146                   | 163 | 200 | 231 | 258 | 283 | —   | —   | 91                      | 101 | 117 | 132 | 148 | 159 | —   | —   |   |   |   |
|  |                 | Wide Fog       |                       |     |     |     |     |     |     |     | 51                      | 54  | 61  | 73  | 78  | 83  | —   | —   |   |   |   |
|  | 250 @<br>75 PSI | SS             |                       |     |     |     |     |     |     |     |                         |     |     |     |     |     |     |     |   |   |   |
|  |                 | Narrow Fog     | 183                   | 204 | 250 | 289 | 323 | 353 | —   | —   | 93                      | 103 | 118 | 137 | 154 | 165 | —   | —   |   |   |   |
|  |                 | Wide Fog       |                       |     |     |     |     |     |     |     | 54                      | 57  | 64  | 75  | 80  | 84  | —   | —   |   |   |   |
|  | 275 @<br>75 PSI | SS             |                       |     |     |     |     |     |     |     |                         |     |     |     |     |     |     |     |   |   |   |
|  |                 | Narrow Fog     | 201                   | 225 | 275 | 318 | 355 | —   | —   | —   | 95                      | 105 | 122 | 139 | 156 | —   | —   | —   | — | — | — |
|  |                 | Wide Fog       |                       |     |     |     |     |     |     |     | 55                      | 58  | 64  | 76  | 82  | —   | —   | —   | — | — | — |
| 300 @<br>75 PSI  | SS              |                |                       |     |     |     |     |     |     |     |                         |     |     |     |     |     |     |     |   |   |   |
|  | Narrow Fog      | 219            | 245                   | 300 | 346 | —   | —   | —   | —   | 97  | 108                     | 126 | 142 | —   | —   | —   | —   | —   | — | — |   |
|  | Wide Fog        |                |                       |     |     |     |     |     |     | 57  | 61                      | 67  | 77  | —   | —   | —   | —   | —   | — | — |   |
| 200 @<br>50 PSI  | SS              |                |                       |     |     |     |     |     |     |     |                         |     |     |     |     |     |     |     |   |   |   |
|  | Narrow Fog      | 179            | 200                   | 245 | 283 | 316 | 346 | —   | —   | 91  | 102                     | 118 | 142 | 160 | 173 | —   | —   |     |   |   |   |
|  | Wide Fog        |                |                       |     |     |     |     |     |     | 53  | 56                      | 62  | 70  | 86  | 89  | —   | —   |     |   |   |   |
| 250 @<br>50 PSI  | SS              |                |                       |     |     |     |     |     |     |     |                         |     |     |     |     |     |     |     |   |   |   |
|  | Narrow Fog      | 224            | 250                   | 306 | 353 | —   | —   | —   | —   | 98  | 109                     | 127 | 144 | —   | —   | —   | —   | —   | — | — |   |
|  | Wide Fog        |                |                       |     |     |     |     |     |     | 57  | 61                      | 67  | 77  | —   | —   | —   | —   | —   | — | — |   |

| Catalog No.                   | Stream Setting | Discharge in U.S. GPM |     |     |     |     |     |     |     |     |     |     | Effective Reach in Feet |    |     |     |     |     |     |     |     |     |     |
|-------------------------------|----------------|-----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------------------------|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|                               |                | Nozzle Pressure PSI   |     |     |     |     |     |     |     |     |     |     | Nozzle Pressure PSI     |    |     |     |     |     |     |     |     |     |     |
|                               |                | 50                    | 60  | 70  | 75  | 80  | 85  | 90  | 95  | 100 | 105 | 110 | 50                      | 60 | 70  | 75  | 80  | 85  | 90  | 95  | 100 | 105 | 110 |
| SM-3F Series<br>TSM-3F        | SS             |                       |     |     |     |     |     |     |     |     |     |     |                         |    |     |     |     |     |     |     |     |     |     |
|                               | Narrow Fog     | 5                     | 7   | 9   | 11  | 14  | 17  | 22  | 30  | 35  | 47  | 56  | —                       | —  | —   | 52  | 53  | 55  | 64  | 72  | 77  | 94  | 98  |
|                               | Wide Fog       |                       |     |     |     |     |     |     |     |     |     |     | —                       | —  | —   | 22  | 25  | 27  | 33  | 36  | 39  | 46  | 48  |
| SM-10-FE                      | SS             |                       |     |     |     |     |     |     |     |     |     |     |                         |    |     |     |     |     |     |     |     |     |     |
|                               | Narrow Fog     | 20                    | 22  | 24  | 25  | 26  | 27  | 28  | 32  | 51  | 81  | 120 | 60                      | 62 | 64  | 66  | 68  | 70  | 74  | 79  | 85  | 93  | 110 |
|                               | Wide Fog       |                       |     |     |     |     |     |     |     |     |     |     | 30                      | 31 | 32  | 33  | 34  | 35  | 36  | 38  | 44  | 50  | 60  |
| SM-10F Series<br>TSM-10F      | SS             |                       |     |     |     |     |     |     |     |     |     |     |                         |    |     |     |     |     |     |     |     |     |     |
|                               | Narrow Fog     | 40                    | 43  | 46  | 48  | 50  | 52  | 57  | 65  | 100 | 130 | 148 | —                       | —  | —   | 78  | 80  | 82  | 84  | 88  | 98  | 104 | 112 |
|                               | Wide Fog       |                       |     |     |     |     |     |     |     |     |     |     | —                       | —  | —   | 42  | 43  | 46  | 48  | 52  | 65  | 69  | 72  |
| SM-20F Series<br>TSM-20F      | SS             |                       |     |     |     |     |     |     |     |     |     |     |                         |    |     |     |     |     |     |     |     |     |     |
|                               | Narrow Fog     | 50                    | 55  | 64  | 73  | 87  | 105 | 130 | 170 | 212 | 234 | 245 | —                       | —  | —   | 88  | 96  | 103 | 114 | 120 | 124 | 126 | —   |
|                               | Wide Fog       |                       |     |     |     |     |     |     |     |     |     |     | —                       | —  | —   | 50  | 52  | 55  | 58  | 60  | 62  | 63  | —   |
| SM-20-FLP Series<br>TSM-20FLP | SS             |                       |     |     |     |     |     |     |     |     |     |     |                         |    |     |     |     |     |     |     |     |     |     |
|                               | Narrow Fog     | 50                    | 67  | 156 | 204 | —   | —   | —   | —   | —   | —   | —   | 69                      | 75 | 108 | 115 | —   | —   | —   | —   | —   | —   | —   |
|                               | Wide Fog       |                       |     |     |     |     |     |     |     |     |     |     | 38                      | 40 | 55  | 60  | —   | —   | —   | —   | —   | —   | —   |
| SM-30F Series<br>TSM-30F      | SS             |                       |     |     |     |     |     |     |     |     |     |     |                         |    |     |     |     |     |     |     |     |     |     |
|                               | Narrow Fog     | 50                    | 69  | 88  | 112 | 150 | 190 | 226 | 264 | 300 | 324 | 342 | —                       | —  | —   | 105 | 120 | 133 | 137 | 141 | 145 | 148 | —   |
|                               | Wide Fog       |                       |     |     |     |     |     |     |     |     |     |     | —                       | —  | —   | 69  | 75  | 75  | 75  | 76  | 76  | 76  | —   |
| SM-30-FLP Series<br>TSM-30FLP | SS             |                       |     |     |     |     |     |     |     |     |     |     |                         |    |     |     |     |     |     |     |     |     |     |
|                               | Narrow Fog     | 50                    | 100 | 225 | 325 | —   | —   | —   | —   | —   | —   | —   | —                       | —  | —   | 135 | 140 | 145 | —   | —   | —   | —   | —   |
|                               | Wide Fog       |                       |     |     |     |     |     |     |     |     |     |     | —                       | —  | —   | 70  | 75  | 75  | —   | —   | —   | —   | —   |

| Catalog No.   | GPM        | Stream Setting | Discharge in U.S. GPM |     |     |     |     |     |     |     | Effective Reach in Feet |    |     |     |     |     |     |     |  |  |  |  |  |
|---|------------|----------------|-----------------------|-----|-----|-----|-----|-----|-----|-----|-------------------------|----|-----|-----|-----|-----|-----|-----|--|--|--|--|--|
|   |            |                | Nozzle Pressure PSI   |     |     |     |     |     |     |     | Nozzle Pressure PSI     |    |     |     |     |     |     |     |  |  |  |  |  |
|   |            |                | 40                    | 50  | 75  | 100 | 125 | 150 | 175 | 200 | 40                      | 50 | 75  | 100 | 125 | 150 | 175 | 200 |  |  |  |  |  |
| PHANTOM®<br>PSFS-HP<br>PSFS-HPG<br>TPSFS-HP<br>TPSFS-HPPT | 15         | SS             |                       |     |     |     |     |     |     |     |                         |    |     |     |     |     |     |     |  |  |  |  |  |
|   |            | Narrow Fog     | 9                     | 11  | 12  | 15  | 17  | 18  | 20  | 22  | 45                      | 48 | 56  | 58  | 61  | 63  | 65  | 66  |  |  |  |  |  |
|   |            | Wide Fog       |                       |     |     |     |     |     |     |     | 19                      | 20 | 22  | 24  | 26  | 28  | 31  | 32  |  |  |  |  |  |
|   | 30         | SS             |                       |     |     |     |     |     |     |     |                         |    |     |     |     |     |     |     |  |  |  |  |  |
|   |            | Narrow Fog     | 20                    | 22  | 26  | 30  | 34  | 37  | 39  | 41  | 10                      | 11 | 14  | 15  | 17  | 19  | 21  | 22  |  |  |  |  |  |
|   |            | Wide Fog       |                       |     |     |     |     |     |     |     | 63                      | 65 | 70  | 81  | 85  | 90  | 91  | 92  |  |  |  |  |  |
|   | 45         | SS             |                       |     |     |     |     |     |     |     |                         |    |     |     |     |     |     |     |  |  |  |  |  |
|   |            | Narrow Fog     | 32                    | 35  | 40  | 45  | 49  | 52  | 56  | 58  | 28                      | 30 | 35  | 41  | 44  | 47  | 48  | 49  |  |  |  |  |  |
|   |            | Wide Fog       |                       |     |     |     |     |     |     |     | 14                      | 15 | 16  | 19  | 21  | 23  | 25  | 26  |  |  |  |  |  |
|   | 60         | SS             |                       |     |     |     |     |     |     |     |                         |    |     |     |     |     |     |     |  |  |  |  |  |
|   |            | Narrow Fog     | 39                    | 43  | 52  | 60  | 66  | 72  | 78  | 84  | 67                      | 69 | 75  | 85  | 91  | 96  | 98  | 101 |  |  |  |  |  |
|   |            | Wide Fog       |                       |     |     |     |     |     |     |     | 30                      | 32 | 37  | 44  | 46  | 48  | 50  | 51  |  |  |  |  |  |
| 95  | SS         |                |                       |     |     |     |     |     |     |     |                         |    |     |     |     |     |     |     |  |  |  |  |  |
|   | Narrow Fog | 22             | 24                    | 30  | 35  | 39  | NA  | —   | —   | 16  | 17                      | 18 | 21  | 23  | 25  | 26  | 28  |     |  |  |  |  |  |
|   | Wide Fog   |                |                       |     |     |     |     |     |     | 69  | 74                      | 85 | 94  | 100 | 104 | 109 | 113 |     |  |  |  |  |  |
| SFM-LP<br>SFM-LPG<br>TSFM-LP<br>TSFM-LPT                  | SS         |                |                       |     |     |     |     |     |     |     |                         |    |     |     |     |     |     |     |  |  |  |  |  |
|   | Narrow Fog | 39             | 43                    | 52  | 60  | 66  | 72  | 78  | 84  | 37  | 39                      | 41 | 45  | 50  | 54  | 58  | 62  |     |  |  |  |  |  |
|   | Wide Fog   |                |                       |     |     |     |     |     |     | 27  | 28                      | 30 | 36  | 40  | 42  | 47  | 55  |     |  |  |  |  |  |
| 150   | SS         |                |                       |     |     |     |     |     |     |     |                         |    |     |     |     |     |     |     |  |  |  |  |  |
|   | Narrow Fog | 110            | 122                   | 150 | 173 | 194 | NA  | —   | —   | 60  | 62                      | 67 | 78  | 82  | —   | —   | —   |     |  |  |  |  |  |
|   | Wide Fog   |                |                       |     |     |     |     |     |     | 26  | 28                      | 33 | 39  | 42  | —   | —   | —   |     |  |  |  |  |  |
| 200   | SS         |                |                       |     |     |     |     |     |     |     |                         |    |     |     |     |     |     |     |  |  |  |  |  |
|   | Narrow Fog | 146            | 163                   | 200 | 231 | 258 | NA  | —   | —   | 14  | 15                      | 16 | 19  | 21  | —   | —   | —   |     |  |  |  |  |  |
|   | Wide Fog   |                |                       |     |     |     |     |     |     | 75  | 84                      | 99 | 109 | 116 | —   | —   | —   |     |  |  |  |  |  |

| Catalog No.  | GPM          | Stream Setting | Discharge in U.S. GPM |     |     |     |     |     |     |     | Effective Reach in Feet |     |     |     |     |     |     |     |
|--|--------------|----------------|-----------------------|-----|-----|-----|-----|-----|-----|-----|-------------------------|-----|-----|-----|-----|-----|-----|-----|
|  |              |                | Nozzle Pressure PSI   |     |     |     |     |     |     |     | Nozzle Pressure PSI     |     |     |     |     |     |     |     |
|  |              |                | 40                    | 50  | 75  | 100 | 125 | 150 | 175 | 200 | 40                      | 50  | 75  | 100 | 125 | 150 | 175 | 200 |
| PHANTOM®<br>SFM-HP<br>SFM-HPG<br>TSFM-HP<br>TSFM-HPT   | 30           | SS             |                       |     |     |     |     |     |     |     |                         |     |     |     |     |     |     |     |
|  |              | Narrow Fog     | 20                    | 22  | 26  | 30  | 34  | 37  | —   | —   | 28                      | 30  | 35  | 41  | 44  | 47  | —   | —   |
|  |              | Wide Fog       |                       |     |     |     |     |     |     |     | 14                      | 15  | 16  | 19  | 21  | 23  | —   | —   |
|  | 95           | SS             |                       |     |     |     |     |     |     |     |                         |     |     |     |     |     |     |     |
|  |              | Narrow Fog     | 63                    | 68  | 83  | 95  | 107 | 115 | —   | —   | 40                      | 41  | 46  | 55  | 59  | 64  | —   | —   |
|  |              | Wide Fog       |                       |     |     |     |     |     |     |     | 29                      | 30  | 33  | 38  | 40  | 44  | —   | —   |
|  | 125          | SS             |                       |     |     |     |     |     |     |     |                         |     |     |     |     |     |     |     |
|  |              | Narrow Fog     | 82                    | 91  | 110 | 125 | 140 | 153 | —   | —   | 43                      | 45  | 51  | 60  | 66  | 70  | —   | —   |
|  |              | Wide Fog       |                       |     |     |     |     |     |     |     | 31                      | 33  | 36  | 41  | 43  | 47  | —   | —   |
|  | 150          | SS             |                       |     |     |     |     |     |     |     |                         |     |     |     |     |     |     |     |
|  |              | Narrow Fog     | 97                    | 107 | 132 | 150 | 169 | 182 | —   | —   | 46                      | 49  | 55  | 64  | 70  | 74  | —   | —   |
|  |              | Wide Fog       |                       |     |     |     |     |     |     |     | 33                      | 35  | 38  | 43  | 45  | 49  | —   | —   |
| 200  | SS           |                |                       |     |     |     |     |     |     |     |                         |     |     |     |     |     |     |     |
|  | Narrow Fog   | 126            | 141                   | 173 | 200 | 224 | 245 | —   | —   | 52  | 54                      | 63  | 72  | 78  | 82  | —   | —   |     |
|  | Wide Fog     |                |                       |     |     |     |     |     |     | 36  | 39                      | 42  | 47  | 49  | 53  | —   | —   |     |
| MYSTERY®<br>L-200<br>L-205-B<br>L-205-BA<br>L-205-BA<br>D-200*<br>205-EB**<br>205-B*<br>D-205-B*<br>205-BA<br>D-205-BA | 60           | SS             |                       |     |     |     |     |     |     |     |                         |     |     |     |     |     |     |     |
|  |              | Narrow Fog     | 39                    | 43  | 41  | 60  | 68  | 75  | 81  | 86  | 68                      | 75  | 92  | 103 | 110 | 115 | 120 | 123 |
|  |              | Wide Fog       |                       |     |     |     |     |     |     |     | 36                      | 38  | 45  | 50  | 55  | 60  | 70  | 75  |
|  | 95           | SS             |                       |     |     |     |     |     |     |     |                         |     |     |     |     |     |     |     |
|  |              | Narrow Fog     | 65                    | 73  | 88  | 101 | 112 | 122 | 130 | 136 | 27                      | 28  | 32  | 35  | 38  | 42  | 48  | 54  |
|  |              | Wide Fog       |                       |     |     |     |     |     |     |     | 76                      | 83  | 100 | 107 | 115 | 120 | 125 | 130 |
|  | 125          | SS             |                       |     |     |     |     |     |     |     |                         |     |     |     |     |     |     |     |
|  |              | Narrow Fog     | 81                    | 89  | 111 | 126 | 141 | 157 | 172 | 187 | 41                      | 45  | 55  | 65  | 70  | 75  | 85  | 95  |
|  |              | Wide Fog       |                       |     |     |     |     |     |     |     | 28                      | 30  | 36  | 43  | 49  | 55  | 60  | 65  |
|  | 125 @ 75 PSI | SS             |                       |     |     |     |     |     |     |     |                         |     |     |     |     |     |     |     |
|  |              | Narrow Fog     | 91                    | 102 | 125 | 144 | 161 | 176 | —   | —   | 91                      | 100 | 118 | 130 | 140 | 150 | 155 | 157 |
|  |              | Wide Fog       |                       |     |     |     |     |     |     |     | 46                      | 50  | 60  | 68  | 75  | 83  | 90  | 95  |
| 170  | SS           |                |                       |     |     |     |     |     |     |     |                         |     |     |     |     |     |     |     |
|  | Narrow Fog   | 115            | 126                   | 148 | 170 | 190 | —   | —   | —   | 28  | 30                      | 35  | 40  | 45  | 50  | 55  | 60  |     |
|  | Wide Fog     |                |                       |     |     |     |     |     |     | 92  | 101                     | 119 | 130 | 141 | 150 | —   | —   |     |
| 250  | SS           |                |                       |     |     |     |     |     |     |     |                         |     |     |     |     |     |     |     |
|  | Narrow Fog   | 165            | 188                   | 222 | 245 | 286 | —   | —   | —   | 29  | 31                      | 36  | 41  | 46  | 51  | —   | —   |     |
|  | Wide Fog     |                |                       |     |     |     |     |     |     | 84  | 92                      | 95  | 96  | 102 | 105 | 108 | 115 |     |
| 125 @ 75 PSI   | SS           |                |                       |     |     |     |     |     |     |     |                         |     |     |     |     |     |     |     |
|  | Narrow Fog   | 91             | 102                   | 125 | 144 | 161 | 176 | —   | —   | 49  | 55                      | 59  | 63  | 66  | 68  | 70  | 75  |     |
|  | Wide Fog     |                |                       |     |     |     |     |     |     | 31  | 32                      | 34  | 35  | 38  | 42  | 44  | 47  |     |
| 200 @ 75 PSI   | SS           |                |                       |     |     |     |     |     |     |     |                         |     |     |     |     |     |     |     |
|  | Narrow Fog   | 146            | 163                   | 200 | 231 | 258 | 283 | —   | —   | 87  | 94                      | 99  | 103 | 107 | 110 | 112 | 120 |     |
|  | Wide Fog     |                |                       |     |     |     |     |     |     | 56  | 60                      | 64  | 68  | 71  | 73  | 75  | 80  |     |
| 200 @ 50 PSI   | SS           |                |                       |     |     |     |     |     |     |     |                         |     |     |     |     |     |     |     |
|  | Narrow Fog   | 179            | 200                   | 245 | 245 | 316 | —   | —   | —   | 33  | 35                      | 37  | 39  | 41  | 43  | 45  | 50  |     |
|  | Wide Fog     |                |                       |     |     |     |     |     |     | 81  | 89                      | 92  | 95  | 99  | 104 | —   | —   |     |

\* 170 or 250 only

^ This nozzle does not produce a straight stream

| Catalog No.                    | GPM        | Stream Setting | Discharge in U.S. GPM |    |     |     |     |     |     | Effective Reach in Feet |    |    |     |     |     |     |     |     |
|--------------------------------|------------|----------------|-----------------------|----|-----|-----|-----|-----|-----|-------------------------|----|----|-----|-----|-----|-----|-----|-----|
|                                |            |                | Nozzle Pressure PSI   |    |     |     |     |     |     | Nozzle Pressure PSI     |    |    |     |     |     |     |     |     |
|                                |            |                | 50                    | 75 | 100 | 150 | 200 | 300 | 400 | 500                     | 50 | 75 | 100 | 150 | 200 | 300 | 400 | 500 |
| SELECT-O-FLOW®<br>SFS-O Series | 10         | SS             |                       |    |     |     |     |     |     |                         |    |    |     |     |     |     |     |     |
|                                |            | Narrow Fog     | 5                     | 7  | 10  | 11  | 12  | 15  | 18  | 20                      | 45 | 50 | 53  | 57  | 60  | 61  | 62  | 63  |
|                                |            | Wide Fog       |                       |    |     |     |     |     |     |                         | 20 | 21 | 23  | 28  | 31  | 33  | 35  | 37  |
|                                | 20         | SS             |                       |    |     |     |     |     |     |                         |    |    |     |     |     |     |     |     |
|                                |            | Narrow Fog     | 15                    | 18 | 20  | 24  | 28  | 35  | 41  | 46                      | 11 | 12 | 13  | 15  | 16  | 17  | 19  | 21  |
|                                |            | Wide Fog       |                       |    |     |     |     |     |     |                         | 50 | 62 | 64  | 68  | 70  | 73  | 75  | 77  |
| 30                             | SS         |                |                       |    |     |     |     |     |     |                         |    |    |     |     |     |     |     |     |
|                                | Narrow Fog | 21             | 27                    | 30 | 36  | 40  | 50  | 58  | 64  | 22                      | 24 | 26 | 28  | 32  | 36  | 45  | 51  |     |
|                                | Wide Fog   |                |                       |    |     |     |     |     |     | 15                      | 17 | 19 | 23  | 25  | 27  | 30  | 33  |     |

| Catalog No.  | GPM        | Stream Setting | Discharge in U.S. GPM |     |     |     |     |     |     | Effective Reach in Feet |    |     |     |     |     |     |     |     |
|--|------------|----------------|-----------------------|-----|-----|-----|-----|-----|-----|-------------------------|----|-----|-----|-----|-----|-----|-----|-----|
|  |            |                | Nozzle Pressure PSI   |     |     |     |     |     |     | Nozzle Pressure PSI     |    |     |     |     |     |     |     |     |
|  |            |                | 40                    | 50  | 75  | 100 | 125 | 150 | 175 | 200                     | 40 | 50  | 75  | 100 | 125 | 150 | 175 | 200 |
| SELECT-O-FLOW®<br>SFL-O Series<br>SFL-B<br>SFL-N<br>TSFLO<br>L-205-EB<br>NSL (95 GPM only) | 40         | SS             |                       |     |     |     |     |     |     |                         |    |     |     |     |     |     |     |     |
|  |            | Narrow Fog     | 25                    | 29  | 34  | 40  | 44  | 48  | 52  | 56                      | 59 | 65  | 77  | 83  | 86  | 90  | 93  | 96  |
|  |            | Wide Fog       |                       |     |     |     |     |     |     |                         | 35 | 38  | 41  | 44  | 47  | 50  | 53  | 56  |
|  | 60         | SS             |                       |     |     |     |     |     |     |                         |    |     |     |     |     |     |     |     |
|  |            | Narrow Fog     | 39                    | 44  | 54  | 60  | 70  | 77  | 85  | 92                      | 29 | 34  | 36  | 37  | 39  | 40  | 41  | 43  |
|  |            | Wide Fog       |                       |     |     |     |     |     |     |                         | 69 | 75  | 90  | 97  | 103 | 110 | 116 | 123 |
|  | 95         | SS             |                       |     |     |     |     |     |     |                         |    |     |     |     |     |     |     |     |
|  |            | Narrow Fog     | 59                    | 67  | 82  | 95  | 105 | 114 | 123 | 132                     | 38 | 40  | 45  | 50  | 55  | 60  | 65  | 70  |
|  |            | Wide Fog       |                       |     |     |     |     |     |     |                         | 31 | 32  | 35  | 40  | 44  | 48  | 52  | 57  |
|  | 125        | SS             |                       |     |     |     |     |     |     |                         |    |     |     |     |     |     |     |     |
|  |            | Narrow Fog     | 79                    | 88  | 105 | 125 | 140 | 154 | 168 | 182                     | 77 | 85  | 102 | 110 | 117 | 124 | 131 | 183 |
|  |            | Wide Fog       |                       |     |     |     |     |     |     |                         | 39 | 41  | 47  | 54  | 60  | 63  | 66  | 69  |
| 60   | SS         |                |                       |     |     |     |     |     |     |                         |    |     |     |     |     |     |     |     |
|  | Narrow Fog | 39             | 43                    | 51  | 60  | 68  | 75  | 81  | 86  | 28                      | 30 | 34  | 38  | 41  | 45  | 49  | 52  |     |
|  | Wide Fog   |                |                       |     |     |     |     |     |     | 77                      | 85 | 102 | 112 | 120 | 129 | 138 | 146 |     |
| 95   | SS         |                |                       |     |     |     |     |     |     |                         |    |     |     |     |     |     |     |     |
|  | Narrow Fog | 65             | 73                    | 86  | 101 | 112 | 122 | 130 | 136 | 45                      | 48 | 55  | 61  | 66  | 72  | 78  | 83  |     |
|  | Wide Fog   |                |                       |     |     |     |     |     |     | 33                      | 35 | 40  | 45  | 48  | 52  | 56  | 59  |     |
| 125  | SS         |                |                       |     |     |     |     |     |     |                         |    |     |     |     |     |     |     |     |
|  | Narrow Fog | 81             | 89                    | 111 | 126 | 141 | 157 | 172 | 187 | 36                      | 38 | 45  | 50  | 55  | 60  | 70  | 75  |     |
|  | Wide Fog   |                |                       |     |     |     |     |     |     | 27                      | 28 | 32  | 35  | 38  | 42  | 48  | 54  |     |

# TECHNICAL DATA



## NOZZLE FLOW

TECHNICAL DATA

T-5

| SELECT-O-FLOW® | Catalog No. | GPM | Stream Setting | Discharge in U.S. GPM |     |     |     |     |     | Effective Reach in Feet |     |    |     |     |     |     |     |     |     |
|----------------|-------------|-----|----------------|-----------------------|-----|-----|-----|-----|-----|-------------------------|-----|----|-----|-----|-----|-----|-----|-----|-----|
|                |             |     |                | Nozzle Pressure PSI   |     |     |     |     |     | Nozzle Pressure PSI     |     |    |     |     |     |     |     |     |     |
|                |             |     |                | 40                    | 50  | 75  | 100 | 125 | 150 | 175                     | 200 | 40 | 50  | 75  | 100 | 125 | 150 | 175 | 200 |
| SF             | 125         | SS  | 83             | 90                    | 110 | 125 | 141 | 153 | 167 | 179                     | 70  | 80 | 103 | 122 | 136 | —   | —   | —   |     |
|                |             |     | Narrow Fog     | 33                    | 35  | 40  | 45  | 50  | —   | —                       | —   | 33 | 35  | 40  | 45  | 50  | —   | —   | —   |
|                |             |     | Wide Fog       | 18                    | 20  | 25  | 30  | 35  | —   | —                       | —   | 18 | 20  | 25  | 30  | 35  | —   | —   | —   |
| TSF            | 175         | SS  | 108            | 120                   | 139 | 175 | 194 | 211 | 227 | 244                     | 86  | 98 | 113 | 127 | 140 | —   | —   | —   |     |
|                |             |     | Narrow Fog     | 46                    | 50  | 60  | 70  | 75  | —   | —                       | —   | 46 | 50  | 60  | 70  | 75  | —   | —   | —   |
|                |             |     | Wide Fog       | 31                    | 32  | 35  | 40  | 45  | —   | —                       | —   | 31 | 32  | 35  | 40  | 45  | —   | —   | —   |
| DSF            | 250         | SS  | 160            | 180                   | 218 | 250 | 280 | 304 | 327 | 351                     | 81  | 92 | 116 | 133 | 149 | —   | —   | —   |     |
|                |             |     | Narrow Fog     | 43                    | 46  | 54  | 61  | 68  | —   | —                       | —   | 43 | 46  | 54  | 61  | 68  | —   | —   | —   |
|                |             |     | Wide Fog       | 28                    | 30  | 36  | 40  | 45  | —   | —                       | —   | 28 | 30  | 36  | 40  | 45  | —   | —   | —   |

| SELECT-O-STREAM® | Catalog No. | GPM | Stream Setting | Discharge in U.S. GPM |     |     |     |     |     | Effective Reach in Feet |     |     |     |     |     |     |      |     |     |
|------------------|-------------|-----|----------------|-----------------------|-----|-----|-----|-----|-----|-------------------------|-----|-----|-----|-----|-----|-----|------|-----|-----|
|                  |             |     |                | Nozzle Pressure PSI   |     |     |     |     |     | Nozzle Pressure PSI     |     |     |     |     |     |     |      |     |     |
|                  |             |     |                | 40                    | 50  | 75  | 100 | 125 | 150 | 175                     | 200 | 40  | 50  | 75  | 100 | 125 | 150  | 175 | 200 |
| L-O Series       | 40          | SS  | 26             | 28                    | 35  | 41  | 47  | 51  | 55  | 58                      | 53  | 60  | 73  | 61  | 85  | 86  | 86.5 | 87  |     |
|                  |             |     | Narrow Fog     | 37                    | 40  | 42  | 43  | 44  | 45  | 48                      | 50  | 37  | 40  | 42  | 43  | 44  | 45   | 48  | 50  |
|                  |             |     | Wide Fog       | 26                    | 28  | 30  | 31  | 32  | 33  | 34                      | 35  | 26  | 28  | 30  | 31  | 32  | 33   | 34  | 35  |
|                  | 60          | SS  | 39             | 43                    | 41  | 60  | 68  | 75  | 81  | 86                      | 68  | 75  | 92  | 103 | 110 | 115 | 120  | 123 |     |
|                  |             |     | Narrow Fog     | 36                    | 38  | 45  | 50  | 55  | 60  | 70                      | 75  | 36  | 38  | 45  | 50  | 55  | 60   | 70  | 75  |
|                  |             |     | Wide Fog       | 27                    | 28  | 32  | 35  | 38  | 42  | 48                      | 54  | 27  | 28  | 32  | 35  | 38  | 42   | 48  | 54  |
|                  | 95          | SS  | 65             | 73                    | 88  | 101 | 112 | 122 | 130 | 136                     | 76  | 83  | 100 | 107 | 115 | 120 | 125  | 130 |     |
|                  |             |     | Narrow Fog     | 41                    | 45  | 55  | 65  | 70  | 75  | 85                      | 95  | 41  | 45  | 55  | 65  | 70  | 75   | 85  | 95  |
|                  |             |     | Wide Fog       | 28                    | 30  | 36  | 43  | 49  | 55  | 60                      | 65  | 28  | 30  | 36  | 43  | 49  | 55   | 60  | 65  |
|                  | 125         | SS  | 81             | 89                    | 111 | 126 | 141 | 157 | 172 | 187                     | 91  | 100 | 118 | 130 | 140 | 150 | 155  | 157 |     |
|                  |             |     | Narrow Fog     | 46                    | 50  | 60  | 68  | 75  | 83  | 90                      | 95  | 46  | 50  | 60  | 68  | 75  | 83   | 90  | 95  |
|                  |             |     | Wide Fog       | 28                    | 30  | 35  | 40  | 45  | 50  | 55                      | 60  | 28  | 30  | 35  | 40  | 45  | 50   | 55  | 60  |
| D                | 170         | SS  | 85             | 100                   | 122 | 142 | 163 | —   | —   | —                       | 84  | 92  | 100 | 108 | 115 | —   | —    | —   |     |
|                  |             |     | Narrow Fog     | 103                   | 114 | 139 | 162 | 178 | —   | —                       | —   | 49  | 55  | 65  | 70  | 75  | —    | —   | —   |
|                  |             |     | Wide Fog       | 139                   | 154 | 185 | 213 | 234 | —   | —                       | —   | 31  | 32  | 37  | 44  | 47  | —    | —   | —   |
|                  | 250         | SS  | 98             | 108                   | 127 | 145 | 160 | —   | —   | —                       | 87  | 94  | 105 | 112 | 120 | —   | —    | —   |     |
|                  |             |     | Narrow Fog     | 156                   | 173 | 210 | 245 | 278 | —   | —                       | —   | 56  | 60  | 70  | 75  | 80  | —    | —   | —   |
|                  |             |     | Wide Fog       | 203                   | 225 | 278 | 323 | 368 | —   | —                       | —   | 33  | 35  | 40  | 45  | 50  | —    | —   | —   |

| SPECIAL USE NOZZLES | Catalog No. | GPM | Stream Setting | Discharge in U.S. GPM |    |     |     |     |     | Effective Reach in Feet |     |    |    |     |     |     |     |     |     |
|---------------------|-------------|-----|----------------|-----------------------|----|-----|-----|-----|-----|-------------------------|-----|----|----|-----|-----|-----|-----|-----|-----|
|                     |             |     |                | Nozzle Pressure PSI   |    |     |     |     |     | Nozzle Pressure PSI     |     |    |    |     |     |     |     |     |     |
|                     |             |     |                | 50                    | 75 | 100 | 150 | 200 | 300 | 400                     | 500 | 50 | 75 | 100 | 150 | 200 | 300 | 400 | 500 |
| S-205-B             | 12          | SS  | 46             | 55                    | 59 | 64  | 68  | -   | -   | -                       | 46  | 55 | 59 | 64  | 68  | -   | -   | -   |     |
|                     |             |     | Narrow Fog     | 25                    | 32 | 34  | 36  | 38  | -   | -                       | -   | 25 | 32 | 34  | 36  | 38  | -   | -   | -   |
|                     |             |     | Wide Fog       | 15                    | 18 | 20  | 23  | 25  | -   | -                       | -   | 15 | 18 | 20  | 23  | 25  | -   | -   | -   |
| S-205-BAF           | 23          | SS  | 53             | 65                    | 75 | 81  | 83  | -   | -   | -                       | 53  | 65 | 75 | 81  | 83  | -   | -   | -   |     |
|                     |             |     | Narrow Fog     | 40                    | 43 | 45  | 55  | 60  | -   | -                       | -   | 40 | 43 | 45  | 55  | 60  | -   | -   | -   |
|                     |             |     | Wide Fog       | 24                    | 26 | 30  | 37  | 39  | -   | -                       | -   | 24 | 26 | 30  | 37  | 39  | -   | -   | -   |

| CELLAR/BRESNAN | Catalog No. | GPM | Stream Setting | Discharge in U.S. GPM |     |     |     |     |     | Effective Reach in Feet |     |    |    |    |    |    |    |     |     |
|----------------|-------------|-----|----------------|-----------------------|-----|-----|-----|-----|-----|-------------------------|-----|----|----|----|----|----|----|-----|-----|
|                |             |     |                | Nozzle Pressure PSI   |     |     |     |     |     | Nozzle Pressure PSI     |     |    |    |    |    |    |    |     |     |
|                |             |     |                | 40                    | 50  | 60  | 70  | 80  | 90  | 100                     | 125 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 125 |
| LR             | —           | —   | —              | 99                    | 114 | 124 | 133 | 144 | 154 | 160                     | 179 | —  | —  | —  | —  | —  | —  | —   | —   |
| R              | —           | —   | —              | 227                   | 253 | 276 | 296 | 317 | 335 | 353                     | 395 | —  | —  | —  | —  | —  | —  | —   | —   |
| 193-6(1.5)     | —           | —   | —              | 91                    | 101 | 110 | 117 | 125 | 133 | 140                     | 157 | —  | —  | —  | —  | —  | —  | —   | —   |
| 193-6(2.5)     | —           | —   | —              | 262                   | 287 | 312 | 335 | 356 | 375 | 394                     | 441 | —  | —  | —  | —  | —  | —  | —   | —   |
| 193-9(2.5)     | —           | —   | —              | 325                   | 360 | 390 | 419 | 446 | 471 | 495                     | 553 | —  | —  | —  | —  | —  | —  | —   | —   |

| CHIEF XD            | Size | Flow & Pressure | Stream Setting | Discharge in GPM    |     |     |     |     | Effective Reach in Feet |     |     |     |     |
|---------------------|------|-----------------|----------------|---------------------|-----|-----|-----|-----|-------------------------|-----|-----|-----|-----|
|                     |      |                 |                | Nozzle Pressure PSI |     |     |     |     | Nozzle Pressure PSI     |     |     |     |     |
|                     |      |                 |                | 40                  | 50  | 75  | 100 | 125 | 40                      | 50  | 75  | 100 | 125 |
| Mid - Range         | 1.5" | 95 @ 100        | SS             | 60                  | 67  | 82  | 95  | 106 | 95                      | 103 | 108 | 119 | 129 |
|                     |      | 125 @ 75        | SS             | 91                  | 102 | 125 | 144 | 161 | 105                     | 114 | 141 | 154 | 172 |
|                     |      | 125 @ 100       | SS             | 79                  | 88  | 108 | 125 | 140 | 102                     | 111 | 134 | 140 | 145 |
|                     |      | 150 @ 50        | SS             | 134                 | 150 | 184 | 212 | 237 | 111                     | 127 | 150 | 167 | 178 |
|                     |      | 150 @ 75        | SS             | 110                 | 122 | 150 | 173 | 194 | 113                     | 128 | 154 | 169 | 175 |
|                     |      | 150 @ 100       | SS             | 95                  | 106 | 130 | 150 | 168 | 118                     | 132 | 156 | 169 | 182 |
|                     |      | 175 @ 75        | SS             | 128                 | 143 | 175 | 202 | 226 | 126                     | 140 | 167 | 187 | 203 |
|                     |      | 175 @ 100       | SS             | 111                 | 124 | 152 | 175 | 196 | 120                     | 132 | 159 | 175 | 184 |
|                     |      | 160 @ 50        | SS             | 143                 | 160 | 196 | 226 | 253 | 128                     | 142 | 170 | 191 | 205 |
|                     |      | 175 @ 50        | SS             | 157                 | 175 | 214 | 247 | 277 | 122                     | 131 | 151 | 166 | 181 |
|                     |      | 185 @ 75        | SS             | 135                 | 151 | 185 | 214 | 239 | 126                     | 144 | 170 | 186 | 206 |
|                     |      | 200 @ 75        | SS             | 146                 | 163 | 200 | 231 | 258 | 131                     | 146 | 171 | 188 | 203 |
| High - Range (2.5") | 2.5" | 185 @ 50        | SS             | 165                 | 185 | 227 | 262 | 293 | 126                     | 144 | 162 | 170 | 183 |
|                     |      | 210 @ 50        | SS             | 188                 | 210 | 257 | 297 | 332 | 128                     | 142 | 168 | 184 | 205 |
|                     |      | 250 @ 50        | SS             | 224                 | 250 | 306 | 354 | 395 | 126                     | 145 | 168 | 179 | 183 |
|                     |      | 250 @ 75        | SS             | 183                 | 204 | 250 | 289 | 323 | 118                     | 135 | 163 | 179 | 204 |
|                     |      | 250 @ 100       | SS             | 158                 | 177 | 217 | 250 | 280 | 117                     | 133 | 155 | 184 | 202 |
|                     |      | 265 @ 50        | SS             | 237                 | 265 | 325 | 375 | 419 | 114                     | 126 | 144 | 155 | 163 |
|                     |      | 300 @ 75        | SS             | 219                 | 245 | 300 | 346 | 387 | 121                     | 132 | 157 | 174 | 186 |

For more info on the Chief XD, engine company education, and fact based equipment selection visit [BrassTacksHardFacts.com](http://BrassTacksHardFacts.com)

| 5000E    | Catalog No. | GPM        | Stream Setting | Discharge in U.S. GPM |     |     |     |     |     |     |     | Effective Reach in Feet |    |    |     |     |     |     |     |
|----------|-------------|------------|----------------|-----------------------|-----|-----|-----|-----|-----|-----|-----|-------------------------|----|----|-----|-----|-----|-----|-----|
|          |             |            |                | Nozzle Pressure PSI   |     |     |     |     |     |     |     | Nozzle Pressure PSI     |    |    |     |     |     |     |     |
|          |             |            |                | 40                    | 50  | 75  | 100 | 125 | 150 | 175 | 200 | 40                      | 50 | 75 | 100 | 125 | 150 | 175 | 200 |
| 5000-04E | 15          | SS         | —              | —                     | —   | —   | —   | —   | —   | —   | —   | —                       | —  | —  | —   | —   | —   | —   |     |
|          |             |            | Narrow Fog     | 9                     | 11  | 12  | 15  | 17  | 18  | 20  | 22  | —                       | 48 | 56 | 58  | 61  | 63  | 65  | 66  |
|          |             |            | Wide Fog       | —                     | —   | —   | —   | —   | —   | —   | —   | —                       | 20 | 22 | 24  | 26  | 28  | 31  | 32  |
|          | 30          | SS         | —              | —                     | —   | —   | —   | —   | —   | —   | —   | —                       | —  | —  | —   | —   | —   | —   |     |
|          |             |            | Narrow Fog     | 20                    | 22  | 26  | 30  | 34  | 37  | 39  | 41  | —                       | 65 | 70 | 81  | 85  | 90  | 91  | 92  |
|          |             |            | Wide Fog       | —                     | —   | —   | —   | —   | —   | —   | —   | —                       | 30 | 35 | 41  | 44  | 47  | 48  | 49  |
|          | 45          | SS         | —              | —                     | —   | —   | —   | —   | —   | —   | —   | —                       | —  | —  | —   | —   | —   | —   |     |
|          |             |            | Narrow Fog     | 32                    | 35  | 40  | 45  | 49  | 52  | 56  | 58  | —                       | 15 | 16 | 19  | 21  | 23  | 25  | 26  |
|          |             |            | Wide Fog       | —                     | —   | —   | —   | —   | —   | —   | —   | —                       | 69 | 75 | 85  | 91  | 96  | 98  | 101 |
| 5000-14E | 60          | SS         | 69             | 76                    | 89  | 96  | 104 | 110 | 115 | 124 | —   | —                       | —  | —  | —   | —   | —   | —   |     |
|          |             |            | Narrow Fog     | 38                    | 43  | 51  | 60  | 68  | 76  | —   | —   | 38                      | 41 | 44 | 49  | 55  | 61  | 66  | 71  |
|          |             |            | Wide Fog       | —                     | —   | —   | —   | —   | —   | —   | —   | 31                      | 33 | 35 | 41  | 43  | 47  | 51  | 58  |
|          | 75          | SS         | 73             | 81                    | 94  | 103 | 111 | 118 | —   | —   | —   | —                       | —  | —  | —   | —   | —   | —   |     |
|          |             |            | Narrow Fog     | 53                    | 58  | 65  | 75  | 84  | 92  | —   | —   | 39                      | 41 | 45 | 52  | 57  | 62  | —   | —   |
|          |             |            | Wide Fog       | —                     | —   | —   | —   | —   | —   | —   | —   | 29                      | 30 | 31 | 33  | 37  | 40  | —   | —   |
|          | 95          | SS         | 77             | 86                    | 101 | 111 | 118 | 118 | 126 | 130 | 138 | —                       | —  | —  | —   | —   | —   | —   | —   |
|          |             |            | Narrow Fog     | 63                    | 68  | 83  | 95  | 107 | 115 | —   | —   | 40                      | 41 | 46 | 55  | 59  | 64  | 67  | 70  |
|          |             |            | Wide Fog       | —                     | —   | —   | —   | —   | —   | —   | —   | 29                      | 30 | 33 | 36  | 40  | 44  | 47  | 51  |
|          | 125         | SS         | 78             | 86                    | 103 | 113 | 121 | 128 | 138 | 146 | —   | —                       | —  | —  | —   | —   | —   | —   |     |
|          |             |            | Narrow Fog     | 82                    | 91  | 110 | 125 | 140 | 153 | —   | —   | 44                      | 48 | 55 | 62  | 67  | 71  | 77  | 84  |
|          |             |            | Wide Fog       | —                     | —   | —   | —   | —   | —   | —   | —   | 32                      | 36 | 39 | 44  | 49  | 52  | 56  | 59  |
| 150      | SS          | 80         | 89             | 108                   | 124 | 138 | 148 | 156 | 162 | —   | —   | —                       | —  | —  | —   | —   | —   |     |     |
|          |             | Narrow Fog | 97             | 107                   | 132 | 150 | 169 | 182 | —   | —   | 46  | 51                      | 53 | 56 | 58  | 60  | 62  | 64  |     |
|          |             | Wide Fog   | —              | —                     | —   | —   | —   | —   | —   | —   | 34  | 37                      | 43 | 46 | 48  | 51  | 52  | 55  |     |
| 5000-24E | 175         | SS         | 88             | 98                    | 114 | 126 | 141 | 152 | —   | —   | —   | —                       | —  | —  | —   | —   | —   | —   |     |
|          |             |            | Narrow Fog     | 111                   | 124 | 150 | 175 | 192 | 210 | —   | —   | 47                      | 51 | 59 | 69  | 76  | 81  | —   | —   |
|          |             |            | Wide Fog       | —                     | —   | —   | —   | —   | —   | —   | —   | 32                      | 34 | 36 | 39  | 44  | 48  | —   | —   |
|          | 200         | SS         | 88             | 91                    | 101 | 117 | 132 | 148 | —   | —   | —   | —                       | —  | —  | —   | —   | —   | —   |     |
|          |             |            | Narrow Fog     | 127                   | 141 | 173 | 200 | 224 | 245 | —   | —   | 49                      | 51 | 54 | 61  | 73  | 78  | —   | —   |
|          |             |            | Wide Fog       | —                     | —   | —   | —   | —   | —   | —   | —   | 33                      | 34 | 36 | 40  | 44  | 48  | —   | —   |
|          | 250         | SS         | 91             | 102                   | 118 | 136 | 152 | 164 | —   | —   | —   | —                       | —  | —  | —   | —   | —   | —   |     |
|          |             |            | Narrow Fog     | 172                   | 192 | 230 | 256 | 290 | 320 | —   | —   | 53                      | 56 | 62 | 70  | 79  | 83  | —   | —   |
|          |             |            | Wide Fog       | —                     | —   | —   | —   | —   | —   | —   | —   | 35                      | 40 | 43 | 47  | 51  | 54  | —   | —   |
| 325      | SS          | 97         | 108            | 126                   | 142 | 160 | 173 | —   | —   | —   | —   | —                       | —  | —  | —   | —   | —   |     |     |
|          |             | Narrow Fog | 220            | 240                   | 289 | 325 | 362 | 398 | —   | —   | 57  | 61                      | 67 | 75 | 86  | 89  | —   | —   |     |
|          |             | Wide Fog   | —              | —                     | —   | —   | —   | —   | —   | —   | 39  | 43                      | 47 | 52 | 55  | 59  | —   | —   |     |
| 350      | SS          | 97         | 108            | 126                   | 142 | 154 | —   | —   | —   | —   | —   | —                       | —  | —  | —   | —   | —   |     |     |
|          |             | Narrow Fog | 221            | 247                   | 303 | 350 | 391 | —   | —   | —   | 57  | 61                      | 67 | 77 | 84  | —   | —   | —   |     |
|          |             | Wide Fog   | —              | —                     | —   | —   | —   | —   | —   | —   | 39  | 43                      | 47 | 52 | 56  | —   | —   | —   |     |

| R.A.N.™      | Catalog No. | GPM | Stream Setting | Discharge in U.S. GPM |     |     |     |     |     |     | Effective Reach in Feet |    |     |     |     |     |     |     |     |
|--------------|-------------|-----|----------------|-----------------------|-----|-----|-----|-----|-----|-----|-------------------------|----|-----|-----|-----|-----|-----|-----|-----|
|              |             |     |                | Nozzle Pressure PSI   |     |     |     |     |     |     | Nozzle Pressure PSI     |    |     |     |     |     |     |     |     |
|              |             |     |                | 40                    | 50  | 60  | 70  | 80  | 90  | 100 | 125                     | 40 | 50  | 60  | 70  | 80  | 90  | 100 | 125 |
| 3896 R.A.N.® | 500         | SS  | 135            | 149                   | 162 | 172 | 181 | 188 | 194 | —   | —                       | —  | —   | —   | —   | —   | —   | —   |     |
|              |             |     | Narrow Fog     | 358                   | 400 | 443 | 477 | 509 | 540 | 570 | —                       | 92 | 101 | 109 | 117 | 125 | 133 | 140 | —   |
|              |             |     | Wide Fog       | —                     | —   | —   | —   | —   | —   | —   | —                       | 48 | 52  | 56  | 60  | 63  | 67  | 71  | —   |

| X-STREAM®      | Catalog No. | Inlet Size | Stream Setting | Discharge in U.S. GPM |     |     |      |      | Effective Reach in Feet |     |     |     |     |     |     |
|----------------|-------------|------------|----------------|-----------------------|-----|-----|------|------|-------------------------|-----|-----|-----|-----|-----|-----|
|                |             |            |                | Nozzle Pressure PSI   |     |     |      |      | Nozzle Pressure PSI     |     |     |     |     |     |     |
|                |             |            |                | 50                    | 60  | 65  | 70   | 75   | 80                      | 50  | 60  | 65  | 70  | 75  | 80  |
| SM-1000 Series | 2.5         | SS         | 108            | 134                   | 165 | 198 | 255  | —    | —                       | —   | —   | —   | —   | —   |     |
|                |             |            | Narrow Fog     | 113                   | 244 | 350 | 500  | 1000 | —                       | 89  | 94  | 98  | 107 | 124 | —   |
|                |             |            | Wide Fog       | —                     | —   | —   | —    | —    | —                       | 47  | 61  | 65  | 68  | 81  | —   |
|                | 3.5         | SS         | 123            | 142                   | 176 | 210 | 221  | 241  | —                       | —   | —   | —   | —   | —   |     |
|                |             |            | Narrow Fog     | 130                   | 297 | 405 | 530  | 675  | 1000                    | 88  | 90  | 93  | 100 | 115 | 125 |
|                |             |            | Wide Fog       | —                     | —   | —   | —    | —    | —                       | 55  | 66  | 77  | 90  | 97  | 103 |
| SM-1250 Series | 2.5         | SS         | 139            | 182                   | 220 | 257 | 271  | —    | —                       | —   | —   | —   | —   | —   |     |
|                |             |            | Narrow Fog     | 315                   | 525 | 630 | 925  | 1250 | —                       | 105 | 110 | 116 | 119 | 130 | —   |
|                |             |            | Wide Fog       | —                     | —   | —   | —    | —    | —                       | 57  | 62  | 69  | 77  | 92  | —   |
|                | 3.5         | SS         | 110            | 140                   | 172 | 220 | 229  | —    | —                       | —   | —   | —   | —   | —   |     |
|                |             |            | Narrow Fog     | 385                   | 655 | 875 | 1100 | 1250 | —                       | 100 | 129 | 132 | 136 | 140 | —   |
|                |             |            | Wide Fog       | —                     | —   | —   | —    | —    | —                       | 56  | 62  | 68  | 72  | 82  | —   |

# TECHNICAL DATA



## NOZZLE FLOW

| X-STREAM®                        | Catalog No. | Stream Setting | Discharge in U.S. GPM |     |      |      |      |    |    |    |     |     |     | Effective Reach in Feet |    |    |     |     |    |    |    |     |     |     |
|----------------------------------|-------------|----------------|-----------------------|-----|------|------|------|----|----|----|-----|-----|-----|-------------------------|----|----|-----|-----|----|----|----|-----|-----|-----|
|                                  |             |                | Nozzle Pressure PSI   |     |      |      |      |    |    |    |     |     |     | Nozzle Pressure PSI     |    |    |     |     |    |    |    |     |     |     |
|                                  |             |                | 50                    | 60  | 70   | 75   | 80   | 85 | 90 | 95 | 100 | 105 | 110 | 50                      | 60 | 70 | 75  | 80  | 85 | 90 | 95 | 100 | 105 | 110 |
| SM-1500 Series<br>SM-2000 Series |             | SS             | —                     | —   | —    | —    | —    | —  | —  | —  | —   | —   | —   | —                       | —  | —  | —   | —   | —  | —  | —  | —   | —   |     |
|                                  |             | Narrow Fog     | 500                   | 850 | 1250 | 1500 | 2000 | —  | —  | —  | —   | —   | —   | —                       | —  | —  | 240 | 300 | —  | —  | —  | —   | —   |     |
|                                  |             | Wide Fog       | —                     | —   | —    | —    | —    | —  | —  | —  | —   | —   | —   | —                       | —  | —  | 90  | 100 | —  | —  | —  | —   | —   |     |

| SELECT-O-STREAM® MASTER STREAM | Catalog No.     | GPM        | Stream Setting | Discharge in U.S. GPM |            |     |     |      |     |     |     |     |     |     | Effective Reach in Feet |     |     |     |     |     |     |  |  |  |  |
|--------------------------------|-----------------|------------|----------------|-----------------------|------------|-----|-----|------|-----|-----|-----|-----|-----|-----|-------------------------|-----|-----|-----|-----|-----|-----|--|--|--|--|
|                                |                 |            |                | Nozzle Pressure PSI   |            |     |     |      |     |     |     |     |     |     | Nozzle Pressure PSI     |     |     |     |     |     |     |  |  |  |  |
|                                |                 |            |                | 40                    | 50         | 60  | 70  | 80   | 90  | 100 | 125 | 40  | 50  | 60  | 70                      | 80  | 90  | 100 | 125 |     |     |  |  |  |  |
| CJ Series<br>IMS<br>IMS-N      | 350             |            | SS             | 109                   | 125        | 131 | 137 | 142  | 146 | 150 | 155 | 61  | 65  | 69  | 73                      | 77  | 82  | 87  | 100 |     |     |  |  |  |  |
|                                |                 |            | Narrow Fog     | 41                    | 45         | 49  | 53  | 56   | 58  | 60  | 65  | 119 | 134 | 142 | 150                     | 158 | 165 | 173 | 190 |     |     |  |  |  |  |
|                                |                 |            | Wide Fog       | 68                    | 72         | 77  | 82  | 87   | 92  | 97  | 110 | 36  | 40  | 44  | 48                      | 52  | 56  | 60  | 70  |     |     |  |  |  |  |
|                                | 500             |            | SS             | 148                   | 170        | 184 | 198 | 212  | 226 | 238 | 236 | 104 | 115 | 125 | 135                     | 144 | 152 | 160 | 180 |     |     |  |  |  |  |
|                                |                 |            | Narrow Fog     | 80                    | 89         | 98  | 107 | 117  | 126 | 135 | 159 | 59  | 66  | 72  | 80                      | 88  | 98  | 100 | 118 |     |     |  |  |  |  |
|                                |                 |            | Wide Fog       | 58                    | 65         | 71  | 77  | 83   | 89  | 95  | 105 | 159 | 180 | 204 | 225                     | 242 | 252 | 263 | 289 |     |     |  |  |  |  |
| 1000                           |                 | SS         | 159            | 180                   | 204        | 225 | 242 | 252  | 263 | 289 | 104 | 115 | 125 | 135 | 144                     | 152 | 160 | 180 |     |     |     |  |  |  |  |
|                                |                 | Narrow Fog | 67             | 74                    | 81         | 88  | 95  | 102  | 110 | —   | 59  | 66  | 72  | 80  | 88                      | 98  | 100 | 118 |     |     |     |  |  |  |  |
|                                |                 | Wide Fog   | 84             | 91                    | 98         | 105 | 112 | 119  | 126 | —   | 107 | 121 | 130 | 137 | 142                     | 147 | 150 | 159 |     |     |     |  |  |  |  |
| SELECT-O-FLOW® MASTER STREAM   | CSW             | 300        |                | SS                    | 76         | 87  | 97  | 104  | 110 | 115 | 120 | 128 | 49  | 54  | 58                      | 62  | 65  | 68  | 71  | 78  |     |  |  |  |  |
|                                |                 |            |                | Narrow Fog            | 135        | 149 | 162 | 172  | 181 | 188 | 194 | 208 | 92  | 101 | 109                     | 117 | 125 | 133 | 140 | 154 |     |  |  |  |  |
|                                |                 |            |                | Wide Fog              | 48         | 52  | 56  | 60   | 63  | 67  | 71  | 81  | 140 | 165 | 180                     | 191 | 202 | 213 | 221 | 252 |     |  |  |  |  |
|                                |                 | 550        |                | SS                    | 94         | 104 | 114 | 124  | 133 | 143 | 152 | 172 | 46  | 49  | 52                      | 54  | 56  | 58  | 60  | 65  |     |  |  |  |  |
|                                |                 |            |                | Narrow Fog            | 109        | 125 | 131 | 137  | 142 | 146 | 150 | 155 | 109 | 125 | 131                     | 137 | 142 | 146 | 150 | 155 |     |  |  |  |  |
|                                |                 |            |                | Wide Fog              | 61         | 65  | 69  | 73   | 77  | 82  | 87  | 100 | 41  | 45  | 49                      | 53  | 56  | 58  | 60  | 65  |     |  |  |  |  |
|                                | CSWL<br>CSWL-B  | 500        |                | SS                    | 119        | 134 | 142 | 150  | 158 | 165 | 173 | 190 | 68  | 72  | 77                      | 82  | 87  | 92  | 97  | 110 |     |  |  |  |  |
|                                |                 |            |                | Narrow Fog            | 36         | 40  | 44  | 48   | 52  | 56  | 60  | 70  | 119 | 134 | 142                     | 150 | 158 | 165 | 173 | 190 |     |  |  |  |  |
|                                |                 |            |                | Wide Fog              | 68         | 72  | 77  | 82   | 87  | 92  | 97  | 110 | 36  | 40  | 44                      | 48  | 52  | 56  | 60  | 70  |     |  |  |  |  |
|                                |                 | 750        |                | SS                    | 150        | 178 | 191 | 202  | 211 | 222 | 235 | 264 | 150 | 178 | 191                     | 202 | 211 | 222 | 235 | 264 |     |  |  |  |  |
|                                |                 |            |                | Narrow Fog            | 91         | 105 | 117 | 129  | 140 | 150 | 158 | 175 | 91  | 105 | 117                     | 129 | 140 | 150 | 158 | 175 |     |  |  |  |  |
|                                |                 |            |                | Wide Fog              | 60         | 64  | 71  | 82   | 90  | 101 | 107 | 112 | 168 | 192 | 215                     | 236 | 251 | 266 | 278 | 291 |     |  |  |  |  |
| 1000                           |                 | SS         | 168            | 192                   | 215        | 236 | 251 | 266  | 278 | 291 | 84  | 96  | 108 | 115 | 125                     | 136 | 146 | 163 |     |     |     |  |  |  |  |
|                                |                 | Narrow Fog | 84             | 96                    | 108        | 115 | 125 | 136  | 146 | 163 | 61  | 69  | 77  | 84  | 91                      | 102 | 115 | 119 |     |     |     |  |  |  |  |
|                                |                 | Wide Fog   | 61             | 69                    | 77         | 84  | 91  | 102  | 115 | 119 | 180 | 200 | 220 | 240 | 260                     | 280 | 300 | —   |     |     |     |  |  |  |  |
| 1250                           |                 | SS         | 180            | 200                   | 220        | 240 | 260 | 280  | 300 | —   | 104 | 120 | 135 | 145 | 155                     | 165 | 175 | —   |     |     |     |  |  |  |  |
|                                |                 | Narrow Fog | 104            | 120                   | 135        | 145 | 155 | 165  | 175 | —   | 71  | 84  | 98  | 112 | 123                     | 132 | 140 | —   |     |     |     |  |  |  |  |
|                                |                 | Wide Fog   | 71             | 84                    | 98         | 112 | 123 | 132  | 140 | —   | —   | —   | —   | —   | —                       | —   | —   | —   |     |     |     |  |  |  |  |
| MYSTERY® MASTER STREAM         | J               | 350        |                | SS                    | 226        | 251 | 275 | 295  | 314 | 333 | 350 | 390 | 81  | 95  | 105                     | 114 | 122 | 129 | 135 | 150 |     |  |  |  |  |
|                                |                 |            |                | Narrow Fog            | 330        | 366 | 400 | 433  | 463 | 488 | 515 | 574 | 38  | 40  | 42                      | 44  | 46  | 48  | 50  | 55  |     |  |  |  |  |
|                                |                 |            |                | Wide Fog              | 396        | 442 | 481 | 515  | 550 | 585 | 615 | 688 | 28  | 30  | 32                      | 34  | 36  | 38  | 40  | 45  |     |  |  |  |  |
|                                |                 | 500        |                | SS                    | 316        | 360 | 398 | 426  | 454 | 480 | 502 | 558 | 106 | 118 | 124                     | 129 | 133 | 137 | 141 | 150 |     |  |  |  |  |
|                                |                 |            |                | Narrow Fog            | 422        | 471 | 516 | 557  | 591 | 625 | 656 | 730 | 69  | 75  | 80                      | 83  | 86  | 88  | 90  | 95  |     |  |  |  |  |
|                                |                 |            |                | Wide Fog              | 552        | 614 | 671 | 720  | 765 | 811 | 854 | 956 | 50  | 54  | 57                      | 61  | 64  | 68  | 71  | 80  |     |  |  |  |  |
|                                | 1000            |            | SS             | 448                   | 498        | 550 | 590 | 630  | 663 | 696 | —   | 120 | 134 | 142 | 152                     | 160 | 165 | 170 | —   |     |     |  |  |  |  |
|                                |                 |            | Narrow Fog     | 585                   | 652        | 714 | 764 | 813  | 863 | 910 | —   | 78  | 92  | 100 | 110                     | 120 | 128 | 135 | —   |     |     |  |  |  |  |
|                                |                 |            | Wide Fog       | 740                   | 824        | 900 | 971 | 1039 | —   | —   | —   | 40  | 45  | 55  | 60                      | 65  | —   | —   | —   |     |     |  |  |  |  |
|                                | CJ-K<br>CJ-K-HP | 1250       |                | SS                    | 130        | 150 | 172 | 191  | 209 | 230 | 266 | 292 | 63  | 72  | 83                      | 92  | 100 | 110 | 128 | 140 |     |  |  |  |  |
|                                |                 |            |                | Narrow Fog            | 49         | 57  | 65  | 73   | 79  | 87  | 101 | 111 | 140 | 166 | 190                     | 212 | 233 | 255 | 276 | 320 |     |  |  |  |  |
|                                |                 |            |                | Wide Fog              | 67         | 80  | 91  | 102  | 112 | 122 | 132 | 150 | 53  | 63  | 72                      | 81  | 89  | 97  | 105 | 122 |     |  |  |  |  |
|                                |                 |            | 1500           |                       | SS         | 150 | 176 | 200  | 224 | 248 | 272 | 296 | 354 | 150 | 176                     | 200 | 224 | 248 | 272 | 296 | 354 |  |  |  |  |
|                                |                 |            |                |                       | Narrow Fog | 72  | 84  | 96   | 107 | 119 | 131 | 142 | 170 | 67  | 80                      | 91  | 102 | 112 | 122 | 132 | 150 |  |  |  |  |
|                                |                 |            |                |                       | Wide Fog   | 57  | 67  | 76   | 85  | 94  | 103 | 112 | 135 | 53  | 63                      | 72  | 81  | 89  | 97  | 105 | 122 |  |  |  |  |
|                                |                 | 1750       |                | SS                    | 174        | 200 | 224 | 248  | 273 | 298 | 325 | 375 | 150 | 176 | 200                     | 224 | 248 | 272 | 296 | 354 |     |  |  |  |  |
|                                |                 |            |                | Narrow Fog            | 72         | 84  | 96  | 107  | 119 | 131 | 142 | 170 | 72  | 84  | 96                      | 107 | 119 | 131 | 142 | 170 |     |  |  |  |  |
|                                |                 |            |                | Wide Fog              | 57         | 67  | 76  | 85   | 94  | 103 | 112 | 135 | 57  | 67  | 76                      | 85  | 94  | 103 | 112 | 135 |     |  |  |  |  |
| 2000                           |                 |            | SS             | 174                   | 200        | 224 | 248 | 273  | 298 | 325 | 375 | 174 | 200 | 224 | 248                     | 273 | 298 | 325 | 375 |     |     |  |  |  |  |
|                                |                 |            | Narrow Fog     | 84                    | 96         | 107 | 119 | 131  | 142 | 156 | 180 | 84  | 96  | 107 | 119                     | 131 | 143 | 156 | 180 |     |     |  |  |  |  |
|                                |                 |            | Wide Fog       | 66                    | 76         | 85  | 94  | 103  | 113 | 124 | 143 | 66  | 76  | 85  | 94                      | 103 | 113 | 124 | 143 |     |     |  |  |  |  |

| IND & ELE FOG | Catalog No. | Stream Setting | Discharge in U.S. GPM |    |    |     |     | Effective Reach in Feet |    |    |     |     |     |     |
|---------------|-------------|----------------|-----------------------|----|----|-----|-----|-------------------------|----|----|-----|-----|-----|-----|
|               |             |                | Nozzle Pressure PSI   |    |    |     |     | Nozzle Pressure PSI     |    |    |     |     |     |     |
|               |             |                | 40                    | 50 | 75 | 100 | 150 | 40                      | 50 | 75 | 100 | 125 | 150 |     |
| L-206-T       |             | SS             | 36                    | 41 | 50 | 56  | 63  | 68                      | 60 | 68 | 75  | 85  | 95  | 105 |
|               |             | Narrow Fog     | 38                    | 44 | 53 | 60  | 68  | 73                      | 35 | 37 | 44  | 49  | 54  | 59  |
|               |             | Wide Fog       | 62                    | 71 | 86 | 98  | 110 | 119                     | 26 | 28 | 34  | 41  | 47  | 53  |

TECHNICAL DATA

T-7

| Catalog No. | GPM        | Stream Setting | Discharge in U.S. GPM |     |     |     |     |     |     |
|-------------|------------|----------------|-----------------------|-----|-----|-----|-----|-----|-----|
|             |            |                | Nozzle Pressure PSI   |     |     |     |     |     |     |
|             |            |                | 40                    | 50  | 75  | 100 | 125 | 150 | 175 |
| 6000-200E   | 15         | SS             |                       |     |     |     |     |     |     |
|             |            | Narrow Fog     | 9                     | 11  | 13  | 15  | 17  | 18  | -   |
|             |            | Wide Fog       |                       |     |     |     |     |     |     |
|             | 30         | SS             |                       |     |     |     |     |     |     |
|             |            | Narrow Fog     | 19                    | 21  | 26  | 30  | 34  | 37  | -   |
|             |            | Wide Fog       |                       |     |     |     |     |     |     |
|             | 45         | SS             |                       |     |     |     |     |     |     |
|             |            | Narrow Fog     | 28                    | 32  | 39  | 45  | 50  | 55  | -   |
|             |            | Wide Fog       |                       |     |     |     |     |     |     |
|             | 60         | SS             |                       |     |     |     |     |     |     |
|             |            | Narrow Fog     | 38                    | 42  | 52  | 60  | 67  | 73  | -   |
|             |            | Wide Fog       |                       |     |     |     |     |     |     |
|             | 95         | SS             |                       |     |     |     |     |     |     |
|             |            | Narrow Fog     | 60                    | 67  | 82  | 92  | 106 | 116 | -   |
|             |            | Wide Fog       |                       |     |     |     |     |     |     |
|             | 125        | SS             |                       |     |     |     |     |     |     |
|             |            | Narrow Fog     | 79                    | 88  | 108 | 125 | 140 | 153 | -   |
|             |            | Wide Fog       |                       |     |     |     |     |     |     |
|             | 150        | SS             |                       |     |     |     |     |     |     |
|             |            | Narrow Fog     | 95                    | 106 | 130 | 150 | 168 | 184 | -   |
|             |            | Wide Fog       |                       |     |     |     |     |     |     |
|             | 200        | SS             |                       |     |     |     |     |     |     |
|             |            | Narrow Fog     | 126                   | 141 | 173 | 200 | 224 | 245 | -   |
|             |            | Wide Fog       |                       |     |     |     |     |     |     |
| 250         | SS         |                |                       |     |     |     |     |     |     |
|             | Narrow Fog | 158            | 177                   | 217 | 250 | 280 | 306 | -   |     |
|             | Wide Fog   |                |                       |     |     |     |     |     |     |
| 350         | SS         |                |                       |     |     |     |     |     |     |
|             | Narrow Fog | 221            | 247                   | 303 | 350 | 391 | 429 | -   |     |
|             | Wide Fog   |                |                       |     |     |     |     |     |     |
| 500         | SS         |                |                       |     |     |     |     |     |     |
|             | Narrow Fog | 316            | 354                   | 433 | 500 | 559 |     | -   |     |
|             | Wide Fog   |                |                       |     |     |     |     |     |     |
| 700         | SS         |                |                       |     |     |     |     |     |     |
|             | Narrow Fog | 443            | 495                   | 606 | 700 |     |     | -   |     |
|             | Wide Fog   |                |                       |     |     |     |     |     |     |

### NOZZLE REACTION FORMULA

#### STRAIGHT BORE NOZZLES

NR = 1.5 d<sup>2</sup>NP  
 Where NR = Nozzle Reaction (Pounds)  
 d = Nozzle Diameter (Inches)  
 NP = Nozzle Pressure (psi)  
 1.5 is a constant

#### COMBINATION FOG NOZZLES

NR = 0.0505 Q√P  
 Where NR = Nozzle Reaction (Pounds)  
 Q = Flow (GPM)  
 P = Nozzle Pressure (psi at base of nozzle)  
 0.0505 is a constant  
 This formula is with nozzle set on straight stream.  
 Reaction will decrease as pattern is widened to fog.

# TECHNICAL DATA



## SMOOTH BORE DISCHARGE

### DISCHARGE OF SMOOTH BORE NOZZLES/TIPS

| Nozzle Pressure in psi* | Nozzle Diameter In Inches |      |       |      |      |      |      |        |     |         |        |         |        |        |        |        |        |        |      |        |        |      |
|-------------------------|---------------------------|------|-------|------|------|------|------|--------|-----|---------|--------|---------|--------|--------|--------|--------|--------|--------|------|--------|--------|------|
|                         | 1/4"                      | 3/8" | 7/16" | 1/2" | 5/8" | 3/4" | 7/8" | 15/16" | 1"  | 1 1/16" | 1 1/8" | 1 3/16" | 1 1/4" | 1 3/8" | 1 1/2" | 1 5/8" | 1 3/4" | 1 7/8" | 2"   | 2 1/4" | 2 1/2" | 3"   |
|                         | Gallons Per Minute        |      |       |      |      |      |      |        |     |         |        |         |        |        |        |        |        |        |      |        |        |      |
| 20                      | 8                         | 19   | 25    | 33   | 52   | 75   | 102  | 117    | 133 | 150     | 168    | 187     | 208    | 251    | 299    | 351    | 407    | 467    | 531  | 672    | 830    | 1195 |
| 22                      | 9                         | 20   | 27    | 35   | 54   | 78   | 107  | 122    | 139 | 157     | 176    | 196     | 218    | 263    | 313    | 368    | 427    | 490    | 557  | 705    | 871    | 1254 |
| 24                      | 9                         | 20   | 28    | 36   | 57   | 82   | 111  | 128    | 145 | 164     | 184    | 205     | 227    | 275    | 327    | 384    | 446    | 512    | 582  | 737    | 909    | 1309 |
| 26                      | 9                         | 21   | 29    | 38   | 59   | 85   | 116  | 133    | 151 | 171     | 192    | 214     | 237    | 286    | 341    | 400    | 464    | 532    | 606  | 767    | 947    | 1363 |
| 28                      | 10                        | 22   | 30    | 39   | 61   | 88   | 120  | 138    | 157 | 177     | 199    | 222     | 246    | 297    | 354    | 415    | 481    | 553    | 629  | 796    | 982    | 1414 |
| 30                      | 10                        | 23   | 31    | 41   | 64   | 92   | 125  | 143    | 163 | 184     | 206    | 229     | 254    | 308    | 366    | 430    | 498    | 572    | 651  | 824    | 1017   | 1464 |
| 32                      | 11                        | 24   | 32    | 42   | 66   | 95   | 129  | 148    | 168 | 190     | 213    | 237     | 263    | 318    | 378    | 444    | 515    | 591    | 672  | 851    | 1050   | 1512 |
| 34                      | 11                        | 24   | 33    | 43   | 68   | 97   | 133  | 152    | 173 | 196     | 219    | 244     | 271    | 327    | 390    | 457    | 530    | 609    | 693  | 877    | 1082   | 1559 |
| 36                      | 11                        | 25   | 34    | 45   | 70   | 100  | 136  | 157    | 178 | 201     | 226    | 251     | 278    | 337    | 401    | 471    | 546    | 626    | 713  | 902    | 1114   | 1604 |
| 38                      | 11                        | 26   | 35    | 46   | 72   | 103  | 140  | 161    | 183 | 207     | 232    | 258     | 286    | 346    | 412    | 483    | 561    | 644    | 732  | 927    | 1144   | 1648 |
| 40                      | 12                        | 26   | 36    | 47   | 73   | 106  | 144  | 165    | 188 | 212     | 238    | 265     | 293    | 355    | 423    | 496    | 575    | 660    | 751  | 951    | 1174   | 1691 |
| 42                      | 12                        | 27   | 37    | 48   | 75   | 108  | 147  | 169    | 192 | 217     | 244    | 271     | 301    | 364    | 433    | 508    | 589    | 677    | 770  | 974    | 1203   | 1732 |
| 44                      | 12                        | 28   | 38    | 49   | 77   | 111  | 151  | 173    | 197 | 222     | 249    | 278     | 308    | 372    | 443    | 520    | 603    | 693    | 788  | 997    | 1231   | 1773 |
| 46                      | 13                        | 28   | 39    | 50   | 79   | 113  | 154  | 177    | 201 | 227     | 255    | 284     | 315    | 381    | 453    | 532    | 617    | 708    | 806  | 1020   | 1259   | 1813 |
| 48                      | 13                        | 29   | 39    | 51   | 80   | 116  | 158  | 181    | 206 | 232     | 260    | 290     | 322    | 389    | 463    | 543    | 630    | 723    | 823  | 1042   | 1286   | 1852 |
| 50                      | 13                        | 30   | 40    | 53   | 82   | 118  | 161  | 185    | 210 | 237     | 266    | 296     | 328    | 397    | 473    | 555    | 643    | 738    | 840  | 1063   | 1313   | 1890 |
| 52                      | 13                        | 30   | 41    | 54   | 84   | 120  | 164  | 188    | 214 | 242     | 271    | 302     | 335    | 405    | 482    | 566    | 656    | 753    | 857  | 1084   | 1339   | 1928 |
| 54                      | 14                        | 31   | 42    | 55   | 85   | 123  | 167  | 192    | 218 | 246     | 276    | 308     | 341    | 413    | 491    | 576    | 668    | 767    | 873  | 1105   | 1364   | 1964 |
| 56                      | 14                        | 31   | 43    | 56   | 87   | 125  | 170  | 195    | 222 | 251     | 281    | 313     | 347    | 420    | 500    | 587    | 681    | 781    | 889  | 1125   | 1389   | 2000 |
| 58                      | 14                        | 32   | 43    | 57   | 88   | 127  | 173  | 199    | 226 | 255     | 286    | 319     | 353    | 428    | 509    | 597    | 693    | 795    | 905  | 1145   | 1414   | 2036 |
| 60                      | 14                        | 32   | 44    | 58   | 90   | 129  | 176  | 202    | 230 | 260     | 291    | 324     | 359    | 435    | 518    | 607    | 705    | 809    | 920  | 1165   | 1438   | 2070 |
| 62                      | 15                        | 33   | 45    | 58   | 91   | 132  | 179  | 206    | 234 | 264     | 296    | 330     | 365    | 442    | 526    | 618    | 716    | 822    | 935  | 1184   | 1462   | 2105 |
| 64                      | 15                        | 33   | 45    | 59   | 93   | 134  | 182  | 209    | 238 | 268     | 301    | 335     | 371    | 449    | 535    | 627    | 728    | 835    | 950  | 1203   | 1485   | 2138 |
| 66                      | 15                        | 34   | 46    | 60   | 94   | 136  | 185  | 212    | 241 | 272     | 305    | 340     | 377    | 456    | 543    | 637    | 739    | 848    | 965  | 1221   | 1508   | 2172 |
| 68                      | 15                        | 34   | 47    | 61   | 96   | 138  | 188  | 215    | 245 | 276     | 310    | 345     | 383    | 463    | 551    | 647    | 750    | 861    | 980  | 1240   | 1531   | 2204 |
| 70                      | 16                        | 35   | 48    | 62   | 97   | 140  | 190  | 218    | 248 | 281     | 314    | 350     | 388    | 470    | 559    | 656    | 761    | 874    | 994  | 1258   | 1553   | 2236 |
| 72                      | 16                        | 35   | 48    | 63   | 98   | 142  | 193  | 221    | 252 | 284     | 319    | 355     | 394    | 476    | 567    | 665    | 772    | 886    | 1008 | 1276   | 1575   | 2268 |
| 74                      | 16                        | 36   | 49    | 64   | 100  | 144  | 196  | 225    | 255 | 288     | 323    | 360     | 399    | 483    | 575    | 675    | 782    | 898    | 1022 | 1293   | 1597   | 2299 |
| 76                      | 16                        | 36   | 50    | 65   | 101  | 146  | 198  | 228    | 259 | 292     | 328    | 365     | 405    | 490    | 583    | 684    | 793    | 910    | 1036 | 1311   | 1618   | 2330 |
| 78                      | 16                        | 37   | 50    | 66   | 102  | 148  | 201  | 231    | 262 | 296     | 332    | 370     | 410    | 496    | 590    | 693    | 803    | 922    | 1049 | 1328   | 1639   | 2361 |
| 80                      | 17                        | 37   | 51    | 66   | 104  | 149  | 203  | 233    | 266 | 300     | 336    | 375     | 415    | 502    | 598    | 701    | 814    | 934    | 1063 | 1345   | 1660   | 2391 |
| 82                      | 17                        | 38   | 51    | 67   | 105  | 151  | 206  | 236    | 269 | 304     | 340    | 379     | 420    | 508    | 605    | 710    | 824    | 946    | 1076 | 1362   | 1681   | 2421 |
| 84                      | 17                        | 38   | 52    | 68   | 106  | 153  | 208  | 239    | 272 | 307     | 345    | 384     | 425    | 515    | 612    | 719    | 834    | 957    | 1089 | 1378   | 1701   | 2450 |
| 86                      | 17                        | 39   | 53    | 69   | 108  | 155  | 211  | 242    | 275 | 311     | 349    | 388     | 430    | 521    | 620    | 727    | 843    | 968    | 1102 | 1394   | 1721   | 2479 |
| 88                      | 17                        | 39   | 53    | 70   | 109  | 157  | 213  | 245    | 279 | 315     | 353    | 393     | 435    | 527    | 627    | 736    | 853    | 979    | 1114 | 1410   | 1741   | 2507 |
| 90                      | 18                        | 40   | 54    | 70   | 110  | 158  | 216  | 248    | 282 | 318     | 357    | 397     | 440    | 533    | 634    | 744    | 863    | 991    | 1127 | 1426   | 1761   | 2536 |
| 92                      | 18                        | 40   | 55    | 71   | 111  | 160  | 218  | 250    | 285 | 322     | 361    | 402     | 445    | 539    | 641    | 752    | 872    | 1002   | 1139 | 1442   | 1780   | 2564 |
| 94                      | 18                        | 40   | 55    | 72   | 112  | 162  | 220  | 253    | 288 | 325     | 364    | 406     | 450    | 544    | 648    | 760    | 882    | 1012   | 1152 | 1458   | 1800   | 2592 |
| 96                      | 18                        | 41   | 56    | 73   | 114  | 164  | 223  | 256    | 291 | 329     | 368    | 410     | 455    | 550    | 655    | 768    | 891    | 1023   | 1164 | 1473   | 1819   | 2619 |
| 98                      | 18                        | 41   | 56    | 74   | 115  | 165  | 225  | 258    | 294 | 332     | 372    | 415     | 459    | 556    | 662    | 776    | 900    | 1034   | 1176 | 1488   | 1838   | 2646 |
| 100                     | 19                        | 42   | 57    | 74   | 116  | 167  | 227  | 261    | 297 | 335     | 376    | 419     | 464    | 562    | 668    | 784    | 910    | 1044   | 1188 | 1504   | 1856   | 2673 |
| 105                     | 19                        | 43   | 58    | 76   | 119  | 171  | 233  | 267    | 304 | 344     | 385    | 429     | 476    | 575    | 685    | 804    | 932    | 1070   | 1217 | 1541   | 1902   | 2739 |
| 110                     | 19                        | 44   | 60    | 78   | 122  | 175  | 238  | 274    | 311 | 352     | 394    | 439     | 487    | 589    | 701    | 823    | 954    | 1095   | 1246 | 1577   | 1947   | 2803 |
| 115                     | 20                        | 45   | 61    | 80   | 124  | 179  | 244  | 280    | 318 | 360     | 403    | 449     | 498    | 602    | 717    | 841    | 975    | 1120   | 1274 | 1612   | 1991   | 2866 |
| 120                     | 20                        | 46   | 62    | 81   | 127  | 183  | 249  | 286    | 325 | 367     | 412    | 459     | 508    | 615    | 732    | 859    | 996    | 1144   | 1301 | 1647   | 2033   | 2928 |
| 125                     | 21                        | 47   | 64    | 83   | 130  | 187  | 254  | 292    | 332 | 375     | 420    | 468     | 519    | 628    | 747    | 877    | 1017   | 1167   | 1328 | 1681   | 2075   | 2989 |
| 130                     | 21                        | 48   | 65    | 85   | 132  | 190  | 259  | 298    | 339 | 382     | 429    | 478     | 529    | 640    | 762    | 894    | 1037   | 1191   | 1355 | 1714   | 2116   | 3048 |
| 135                     | 22                        | 49   | 66    | 86   | 135  | 194  | 264  | 303    | 345 | 390     | 437    | 487     | 539    | 652    | 776    | 911    | 1057   | 1213   | 1380 | 1747   | 2157   | 3106 |
| 140                     | 22                        | 49   | 67    | 88   | 137  | 198  | 269  | 309    | 351 | 397     | 445    | 496     | 549    | 664    | 791    | 928    | 1076   | 1235   | 1406 | 1779   | 2196   | 3163 |
| 145                     | 22                        | 50   | 68    | 89   | 140  | 201  | 274  | 314    | 358 | 404     | 453    | 504     | 559    | 676    | 805    | 944    | 1095   | 1257   | 1431 | 1811   | 2235   | 3219 |
| 150                     | 23                        | 51   | 70    | 91   | 142  | 205  | 278  | 320    | 364 | 411     | 460    | 513     | 568    | 688    | 818    | 961    | 1114   | 1279   | 1455 | 1841   | 2273   | 3274 |
| 175                     | 25                        | 55   | 75    | 98   | 153  | 221  | 301  | 345    | 393 | 444     | 497    | 554     | 614    | 743    | 884    | 1037   | 1203   | 1381   | 1572 | 1989   | 2456   | 3536 |
| 200                     | 26                        | 59   | 80    | 105  | 164  | 236  | 322  | 369    | 420 | 474     | 532    | 592     | 656    | 794    | 945    | 1109   | 1286   | 1477   | 1680 | 2126   | 2625   | 3780 |

\* Nozzle pressure measured by pitot tube and gauge.

### FORMULA FOR DISCHARGE OF SMOOTH BORE NOZZLES:

$$GPM = 29.71 d^2 \sqrt{NP}$$

GPM = Gallons per minute

29.71 = Constant

d = Diameter of nozzle orifice (inches)

NP = Nozzle pressure (psi) measured by pitot tube and gauge

### FRICTION LOSS IN RUBBER OR VINYL LINED FIRE HOSE

| Flow In<br>U.S.<br>GPM | Pressure Loss in PSI per 100' Hose |      |      |       |      |      |      |      |      |      |      | Equal Length<br>Siamesed Lines |        |        |
|------------------------|------------------------------------|------|------|-------|------|------|------|------|------|------|------|--------------------------------|--------|--------|
|                        | .75"                               | 1.0" | 1.5" | 1.75" | 2.0" | 2.5" | 3.0" | 3.5" | 4.0" | 5.0" | 6.0" | 2-2.5"                         | 3-2.5" | 2-3.0" |
| 10                     | 13.5                               | 3.5  |      |       |      |      |      |      |      |      |      |                                |        |        |
| 20                     | 50                                 | 12.5 |      |       |      |      |      |      |      |      |      |                                |        |        |
| 30                     | 105                                | 26   |      |       |      |      |      |      |      |      |      |                                |        |        |
| 40                     |                                    | 44   | 4.5  | 3     | 1    |      |      |      |      |      |      |                                |        |        |
| 60                     |                                    | 92   | 10   | 5     | 2.5  |      |      |      |      |      |      |                                |        |        |
| 95                     |                                    |      | 22   | 11    | 5    |      |      |      |      |      |      |                                |        |        |
| 100                    |                                    |      | 25   | 12    | 6    | 3    | 1    |      |      |      |      |                                |        |        |
| 125                    |                                    |      | 37   | 21    | 10   | 4    | 1    |      |      |      |      |                                |        |        |
| 150                    |                                    |      | 54   | 26    | 13.5 | 6    | 2    |      |      |      |      |                                |        |        |
| 175                    |                                    |      |      | 34    | 18   | 8    | 3    |      |      |      |      |                                |        |        |
| 200                    |                                    |      |      | 45    | 24   | 10   | 4    | 2    |      |      |      |                                |        |        |
| 225                    |                                    |      |      | 57    | 30   | 12   | 4.5  | 2    |      |      |      |                                |        |        |
| 250                    |                                    |      |      | 70    | 37.5 | 15   | 6    | 2.5  |      |      |      |                                |        |        |
| 275                    |                                    |      |      | 82    | 45   | 17.5 | 7    | 3    |      |      |      |                                |        |        |
| 300                    |                                    |      |      | 95    | 54   | 21   | 8    | 3.5  | 2    |      |      | 6                              | 3      | 2      |
| 325                    |                                    |      |      |       | 65   | 24.5 | 9.5  | 4    | 2.5  |      |      | 6.5                            | 3      | 2.5    |
| 350                    |                                    |      |      |       | 78   | 28   | 11   | 5    | 2.5  |      |      | 8                              | 3.5    | 3      |
| 400                    |                                    |      |      |       | 96   | 36   | 14   | 6    | 3    | 1    |      | 10                             | 4.5    | 4      |
| 450                    |                                    |      |      |       |      | 45   | 17.5 | 8    | 4    | 1.5  |      | 12.5                           | 6      | 5      |
| 500                    |                                    |      |      |       |      | 55   | 21   | 9.5  | 5    | 2    |      | 15.5                           | 7      | 6      |
| 550                    |                                    |      |      |       |      |      | 25.5 | 11.5 | 6    | 2    |      | 18.5                           | 8.5    | 7      |
| 600                    |                                    |      |      |       |      |      | 30   | 13.5 | 7    | 2.5  |      | 23                             | 10     | 8.5    |
| 650                    |                                    |      |      |       |      |      | 35   | 15.5 | 8.5  | 3    |      | 25.5                           | 12     | 10     |
| 700                    |                                    |      |      |       |      |      | 40.5 | 18   | 9.5  | 3.5  | 1    | 29.5                           | 13.5   | 11.5   |
| 750                    |                                    |      |      |       |      |      | 46   | 20   | 11.5 | 4    | 1    | 33.5                           | 15.5   | 13     |
| 800                    |                                    |      |      |       |      |      | 53   | 23   | 12.5 | 4.5  | 1.5  | 38                             | 17.5   | 14.5   |
| 850                    |                                    |      |      |       |      |      |      | 25.5 | 14.5 | 5    | 1.5  | 43                             | 20     | 16.5   |
| 900                    |                                    |      |      |       |      |      |      | 28   | 16   | 5.5  | 2    | 48                             | 22.5   | 18.5   |
| 950                    |                                    |      |      |       |      |      |      | 31   | 17.5 | 6    | 2    |                                | 25     | 20.5   |
| 1000                   |                                    |      |      |       |      |      |      | 34   | 19   | 6.5  | 2.5  |                                | 28     | 22.5   |
| 1100                   |                                    |      |      |       |      |      |      | 41   | 23   | 8    | 3    |                                | 33     | 27     |
| 1200                   |                                    |      |      |       |      |      |      | 49   | 27.5 | 9.5  | 4    |                                | 39     | 32     |
| 1300                   |                                    |      |      |       |      |      |      | 57   | 32.5 | 11   | 4.5  |                                | 45     | 38     |
| 1400                   |                                    |      |      |       |      |      |      | 66.5 | 38   | 13   | 5    |                                | 52     | 44     |
| 1500                   |                                    |      |      |       |      |      |      | 76.5 | 43   | 15   | 6    |                                | 60     | 50     |
| 1750                   |                                    |      |      |       |      |      |      |      | 59   | 20   | 8    |                                |        |        |
| 2000                   |                                    |      |      |       |      |      |      |      | 77   | 26.5 | 10.5 |                                |        |        |
| 2500                   |                                    |      |      |       |      |      |      |      |      | 41.5 | 16.5 |                                |        |        |

NOTE: These friction loss figures will vary accordingly with age and manufacturer of hose.



## MONITOR PRESSURE DROP

### PRESSURE DROP (PV) DUE TO CHANGE IN VELOCITY OF WATER FLOWING THROUGH CONDUIT WITH REDUCED AREA

| Inlet Dia (in) =>  | 2.0  | 2.5  | 3.0  | 4.0  | 4.0  | 4.5  | 6.0   | 6.0  | 2 x 2.5 | 3 x 2.5 |
|--------------------|------|------|------|------|------|------|-------|------|---------|---------|
| Outlet Dia (in) => | 1.5  | 1.5  | 2.5  | 2.5  | 3.5  | 2.5  | 2.5   | 3.5  | 2.5     | 3.5     |
| 100                | 1.5  | 1.9  | 0.1  | 0.2  | 0.0  | 0.3  | 0.3   | 0.1  | 0.2     | 0.0     |
| 200                | 6.1  | 7.8  | 0.6  | 1.0  | 0.1  | 1.0  | 1.1   | 0.3  | 0.9     | 0.2     |
| 300                | 13.7 | 17.5 | 1.3  | 2.2  | 0.3  | 2.4  | 2.5   | 0.6  | 2.0     | 0.4     |
| 400                | 24.4 | 31.1 | 2.4  | 3.9  | 0.5  | 4.2  | 4.5   | 1.1  | 3.5     | 0.7     |
| 500                | 38.1 | 48.6 | 3.7  | 6.1  | 0.8  | 6.5  | 7.0   | 1.7  | 5.4     | 1.1     |
| 600                |      |      | 5.4  | 8.8  | 1.1  | 9.4  | 10.1  | 2.4  | 7.8     | 1.6     |
| 700                |      |      | 7.3  | 12.0 | 1.5  | 12.8 | 13.7  | 3.3  | 10.6    | 2.1     |
| 800                |      |      | 9.6  | 15.7 | 2.0  | 16.8 | 18.0  | 4.3  | 13.9    | 2.8     |
| 900                |      |      | 12.1 | 19.9 | 2.5  | 21.2 | 22.7  | 5.4  | 17.6    | 3.5     |
| 1000               |      |      | 15.0 | 24.5 | 3.1  | 26.2 | 28.1  | 6.7  | 21.7    | 4.3     |
| 1100               |      |      | 18.1 | 29.7 | 3.8  | 31.7 | 33.9  | 8.1  | 26.3    | 5.2     |
| 1200               |      |      | 21.6 | 35.3 | 4.5  | 37.7 | 40.4  | 9.6  | 31.3    | 6.2     |
| 1300               |      |      | 25.3 | 41.4 | 5.3  | 44.2 | 47.4  | 11.3 | 36.7    | 7.3     |
| 1400               |      |      | 29.4 | 48.0 | 6.1  | 51.3 | 55.0  | 13.1 | 42.6    | 8.5     |
| 1500               |      |      | 33.7 | 55.2 | 7.0  | 58.9 | 63.1  | 15.0 | 48.9    | 9.7     |
| 1600               |      |      |      |      | 8.0  |      | 71.8  | 17.0 |         |         |
| 1700               |      |      |      |      | 9.0  |      | 81.1  | 19.2 |         |         |
| 1800               |      |      |      |      | 10.1 |      | 90.9  | 21.6 |         |         |
| 1900               |      |      |      |      | 11.2 |      | 101.3 | 24.0 |         |         |
| 2000               |      |      |      |      | 12.5 |      | 112.2 | 26.6 |         |         |

### Bernoulli's Equation = > Total Static Pressure Drop (TSPD) = Pressure Drop due to change in water velocity (Pv) + Friction Loss (F.L.)

When the Total Static Pressure Drop of a system is known (line pressure at inlet less line pressure at outlet), the associated Friction Loss of the system can be calculated by subtracting the appropriate value in the table above from the measured Total Static Pressure Drop.

NOTE: For all systems which have an outlet area smaller than the inlet area, the reported Friction Loss will always be less than the measured total static pressure drop due to the effect of the change in velocity related pressure drop.

$$F.L. = TSPD - P_v$$

### HYDRANT DISCHARGE FORMULA

To obtain the flow from hydrant outlets use the same formula as given for smooth bore nozzles but use the factor "C" equal to 0.90. Every Fire Department should check the flow from their hydrants. This can be done simply and easily using only a cap with a pressure gauge attached. Merely place the gauge on one outlet, open the hydrant and read the gauge. Remove another cap, open the hydrant and read the gauge again and obtain the gallons per minute using the above method or from the discharge table for hydrant outlets. Obtain the maximum amount of water available from the discharge table for hydrant outlets. Then to obtain the maximum amount of water available from the hydrant in gallons per minute with a residual of 10 lbs. (which is the lowest you should draw down the pressure on the hydrant) use the following formula.

$$A = \frac{Bx \sqrt{P1-10}}{\sqrt{P1-P2}}$$

Where A = Gallons per minute available at 10 lbs. residual.

B = Gallons per minute obtained.

P1 = Static pressure on hydrant with no water flowing.

P2 = Residual pressure on hydrant with water flowing.

### DEFINITIONS

**Static Pressure** – The word "static" means at rest or without motion. Pressure on water may be produced by an elevated water supply, by atmospheric pressure, or by a force pump. If the water is not moving, the pressure exerted is static. In water distribution systems there is always some flow in the pipes because of normal domestic or industrial needs. A true static pressure is, therefore, seldom found in municipal water systems. From a practical viewpoint, however, the pressure normally found in a water system before water flows from a hydrant, is considered to be static pressure. A water flow definition of static pressure could be as follows: "Static pressure is stored potential energy that is available to force water through pipe, fittings, fire hose, and adapters."

**Residual Pressure** – The word "residual" means a remainder, or that which is left. As an example, during a fire flow test, the term residual represents the pressure which is left in a distribution system within the vicinity of one or more flowing hydrants. Residual pressure in a water distribution system will vary depending upon the amount of water that may be flowing from one or more hydrants and upon water consumption demands. One point that must be remembered is that residual pressure must be identified at the location where the reading is taken. A water flow definition of residual pressure could be as follows: "Residual pressure is that part of the total available pressure that is not used to overcome friction or gravity while forcing water through pipe, fittings, fire hose, and adapters."

**Flow Pressure** – The rate of flow or velocity of the water coming from a discharge opening produces a force which is called flow pressure or velocity pressure. Since a stream of water emerging from a discharge opening is not encased within a tube, it exerts pressure in a forward direction but does not exert a sideways pressure. The forward velocity or flow pressure can be measured by using a Pitot tube and gauge. If the size of opening is known, the flow pressure can be used to calculate the quantity of water flowing in gallons per minute (gpm). A water definition of flow

### DISCHARGE TABLE FOR HYDRANT OUTLETS

| Outlet Pressure (lbs.) | Outlet Diameter (inches) |     |      |      | Outlet Pressure (lbs.) | Outlet Diameter (inches) |      |      |      |
|------------------------|--------------------------|-----|------|------|------------------------|--------------------------|------|------|------|
|                        | 2.5                      | 3   | 4    | 4.5  |                        | 2.5                      | 3    | 4    | 4.5  |
|                        | U.S. Gallons per Minute  |     |      |      |                        | U.S. Gallons per Minute  |      |      |      |
| 1                      | 170                      | 240 | 430  | 540  | 16                     | 670                      | 970  | 1720 | 2180 |
| 2                      | 240                      | 340 | 610  | 770  | 17                     | 690                      | 1000 | 1770 | 2240 |
| 3                      | 290                      | 420 | 740  | 940  | 18                     | 710                      | 1030 | 1820 | 2310 |
| 4                      | 340                      | 480 | 860  | 1090 | 19                     | 730                      | 1050 | 1870 | 2370 |
| 5                      | 380                      | 540 | 960  | 1220 | 20                     | 750                      | 1080 | 1920 | 2430 |
| 6                      | 410                      | 590 | 1050 | 1340 | 22                     | 790                      | 1130 | 2020 | 2550 |
| 7                      | 440                      | 640 | 1140 | 1440 | 24                     | 820                      | 1180 | 2110 | 2660 |
| 8                      | 480                      | 680 | 1220 | 1540 | 26                     | 860                      | 1230 | 2190 | 2770 |
| 9                      | 500                      | 730 | 1290 | 1640 | 28                     | 890                      | 1280 | 2280 | 2880 |
| 10                     | 530                      | 760 | 1360 | 1730 | 30                     | 920                      | 1320 | 2350 | 2980 |
| 11                     | 560                      | 800 | 1430 | 1810 | 32                     | 950                      | 1370 | 2430 | 3080 |
| 12                     | 580                      | 840 | 1490 | 1890 | 34                     | 980                      | 1410 | 2510 | 3170 |
| 13                     | 610                      | 870 | 1550 | 1960 | 36                     | 1010                     | 1450 | 2580 | 3260 |
| 14                     | 630                      | 900 | 1610 | 2040 | 38                     | 1040                     | 1490 | 2650 | 3350 |
| 15                     | 650                      | 940 | 1660 | 2110 | 40                     | 1060                     | 1530 | 2720 | 3440 |

pressure can be as follows: "Flow pressure is the forward velocity pressure at a discharge opening while water is flowing." An example of flow pressure is one in which the forward velocity of a water stream exerts a pressure that can be read on a gauge.

**Normal Operating Pressure** – Normal operating pressure is that pressure which flowing water exerts against the wall of a conduit; i.e. pipe, fire hose, appliances, valves, fittings, etc. The difference between static and normal operating pressure is the friction loss caused by the water flowing through these conduits. As soon as water starts to flow, static pressure no longer exists. The demands for water sometimes change during fireground operations, so therefore, normal operating pressures will change also. A piezometer gauge is used to determine this type of pressure. A water flow definition of it would be as follows: "Normal operating pressure is that pressure which flowing water exerts against the wall of the conduit through which it flows in a distribution system."

**Friction Loss** – If an opening is made in a closed system of piping or fire hose, a difference in pressure will exist between the internal pressure and the atmospheric pressure outside the pipe or hose. This difference in pressure causes the water to flow toward the lesser pressure. Water flowing through pipe or fire hose meets certain resistances or friction which must be overcome by pressure. This loss of pressure is usually called friction loss or loss because of friction. The only pressure available to overcome this resistance is the total pressure. A fire stream definition of friction loss could be as follows: "Friction loss is that part of total pressure that is lost while forcing water through pipe, fittings, fire hose, and appliances." The differences in pressure on a hose line between a nozzle and a pumper is a good example of friction loss.



## THREAD INFORMATION

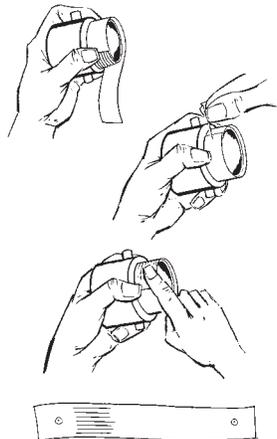
### STANDARD FIRE HOSE THREADS

| Size                                    | ODM    | TPI  | Size                 | ODM    | TPI  | Size                                  | ODM    | TPI  | Size                                    | ODM    | TPI |
|---|--------|------|----------------------|--------|------|---------------------------------------|--------|------|---|--------|-----|
| Nat'l. Hose Thread (NHT)                |        |      | Eastern Hose Thread  |        |      | Underwriter Tip Thread                |        |      | Quebec Standard Thread (QST)            |        |     |
| .75                                     | 1.3750 | 8    | .75                  | 1.0781 | 11   | 1.5                                   | 2.1875 | 12   | 2.5                                     | 3.031  | 7   |
| 1                                       | 1.3750 | 8    | 1                    | 1.4219 | 11   |                                       |        |      |   |        |     |
| 1.25                                    | 1.6718 | 9    | 1.25                 | 1.6875 | 11.5 |                                       |        |      | Alberta Mutual Aid Thread (AMA)         |        |     |
| 1.5                                     | 1.9900 | 9    | 1.5                  | 2.1250 | 11   | Chicago FD Thread                     |        |      | 2.5                                     | 2.990  | 8   |
| 2                                       | 2.5156 | 8    | 2                    | 2.6719 | 7.5  | 1                                     | 1.375  | 8    | British Columbia (BCT)                  |        |     |
| 2.5                                     | 3.0686 | 7.5  | 2.5                  | 3.0000 | 8    | 1.5                                   | 1.933  | 11.5 | Mack Thread                             |        |     |
| .3                                      | 3.6239 | 6    | Pacific Coast Thread |        |      | 2.5                                   | 2.990  | 7.5  | 2.5                                     | 3.000  | 8   |
| 3.5                                     | 4.2439 | 6    | .75                  | 1.0625 | 11   | 3.5                                   | 4.052  | 8    | Western Canada Fire Underwriters Thread |        |     |
| 4                                       | 5.000  | 4    | 1                    | 1.3125 | 11.5 | 4                                     | 5.000  | 4    | 2.5                                     | 3.250  | 6   |
| 4.5                                     | 5.7609 | 4    | 1.25                 | 1.8600 | 11   | 4.5                                   | 5.7609 | 4    | Buffalo, NY Thread                      |        |     |
| 5                                       | 6.260  | 4    | 1.5                  | 2.1000 | 11   | 5                                     | 6.260  | 4    | Chicago Hose Thread                     |        |     |
| 6                                       | 7.025  | 4    | 2                    | 2.5500 | 10   | Chicago Pipe Thread                   |        |      | 2.5                                     | 3.065  | 8   |
| Nat'l. Pipe Straight Hose Thread (NPSH) |        |      | 2.5                  | 3.0350 | 7.5  | .75                                   | 1.0810 | 11.5 | Cincinnati, OH Thread                   |        |     |
|   |        |      | NYCFD Thread         |        |      | 1                                     | 1.2951 | 11.5 | 2.5                                     | 3.058  | 6   |
| .75                                     | 1.0353 | 14   | 1                    | 1.660  | 8    | 1.25                                  | 1.7050 | 11.5 | Cleveland, OH & Omaha, NE Thread        |        |     |
| 1                                       | 1.2951 | 11.5 | 1.5                  | 2.100  | 8    | 1.5                                   | 1.9460 | 11.5 | Detroit, MI Thread                      |        |     |
| 1.25                                    | 1.6399 | 11.5 | 2                    | 2.530  | 8    | 2                                     | 2.5220 | 8    | 2.5                                     | 3.0781 | 8   |
| 1.5                                     | 1.8788 | 11.5 | 2.5                  | 3.030  | 8    | 2.5                                   | 3.0430 | 7    | Standard Chemical Thread                |        |     |
| 2                                       | 2.3528 | 11.5 | 3                    | 3.630  | 8    | Canadian Standard Assoc. Thread (CSA) |        |      | 2.5                                     | 3.125  | 7.5 |
| 2.5                                     | 2.843  | 8    | 3.5                  | 4.070  | 8    | .75                                   | 1.375  | 8    | Pittsburgh, PA Thread                   |        |     |
| 3                                       | 3.4700 | 8    | 4                    | 4.610  | 8    | Toledo, OH Thread                     |        |      | 2.5                                     | 3.0625 | 6   |
| 3.5                                     | 3.9700 | 8    | 4.5                  | 5.800  | 4    | 1.5                                   | 1.8788 | 11.5 | 2.5                                     | 3.000  | 8   |
| 4                                       | 4.4700 | 8    | 5                    | 6.300  | 4    | 2.5                                   | 3.1250 | 5    |   |        |     |
| 4.5                                     | 4.9700 | 8    |                      |        |      |                                       |        |      |   |        |     |

### FLANGE SPECIFICATIONS

| ANSI Flange Size  | 2.5"-150# | 3.0"-150# | 3.0"-300# | 4.0"-150# | 4.00"-300# | 6.0"-150# | 6.0"-300# |
|-------------------|-----------|-----------|-----------|-----------|------------|-----------|-----------|
| Diam. of flange   | 7.00"     | 7.50"     | 8.25"     | 9.00"     | 10.00"     | 11.00"    | 12.50"    |
| Bolt circle diam. | 5.50"     | 6.00"     | 6.625"    | 7.50"     | 7.875"     | 9.50"     | 10.625"   |
| Bolt hole diam.   | .750"     | .750"     | .875"     | .750"     | .875"      | .875"     | .875"     |
| No. bolt holes    | 4         | 4         | 8         | 8         | 8          | 8         | 12        |
| Bolt diameter     | .625"     | .625"     | .750"     | .625"     | .750"      | .750"     | .750"     |

### METHODS FOR DETERMINING THREAD DIMENSIONS



If Leaf Thread Gauge and Thread Caliper are not available; or sample cannot be sent, the following method may be used to obtain the needed information about threads.

1. Cut a strip of paper about 1" wide and long enough to completely encircle the male thread.
2. Wrap this paper snugly around the male thread making sure it is against the shoulder all the way around.
3. Pierce the paper with a pin at some point where the paper overlaps.
4. Press firmly against the threads with finger. This impression in the paper is used to determine the threads per inch.
5. Remove strip and circle pin holes with pencil.
6. The distance between the pin holes divided by 3.1416 equals the ODM (outside diameter of the male).

Both the ODM and the threads per inch are needed for ordering purposes. Sharp "V" thread form supplied unless otherwise specified.

### SUCTION HOSE THREADS

| Size                     | ODM    | TPI                       | Size | ODM    | TPI |
|--------------------------|--------|---------------------------|------|--------|-----|
| American LaFrance Thread |        | Seagrave Thread           |      |        |     |
| 4.0                      | 5.085  | 4                         | 4.0  | 5.000  | 4   |
| 4.5                      | 5.750  | 4                         | 4.5  | 5.750  | 4   |
| 5                        | 6.150  | 4                         | 5    | 6.250  | 4   |
| 6                        | 7.000  | 4                         | 6    | 7.000  | 4   |
| Mack Thread              |        | Hale Fire Pump Thread     |      |        |     |
| 4.0                      | 4.999  | 4                         | 4.0  | 5.000  | 4   |
| 4.5                      | 5.7609 | 4                         | 4.5  | 5.7609 | 4   |
| 5                        | 6.230  | 4                         | 5    | 6.250  | 4   |
| 6                        | 6.955  | 4                         | 6    | 7.250  | 4   |
| Maxim Thread             |        | Ward LaFrance Thread      |      |        |     |
| 4.0                      | 5.000  | 4                         | 4.0  | 5.000  | 4   |
| 4.5                      | 5.750  | 4                         | 4.5  | 5.750  | 4   |
| 5                        | 6.250  | 4                         | 5    | 6.250  | 4   |
| 6                        | 7.000  | 4                         | 6    | 7.000  | 4   |
| Pirsch Thread            |        | Waterous Fire Pump Thread |      |        |     |
| 4.0                      | 5.000  | 4                         | 4.0  | 5.0109 | 4   |
| 4.5                      | 5.750  | 4                         | 4.5  | 5.7609 | 4   |
| 5                        | 6.250  | 4                         | 5    | 6.260  | 4   |
| 6                        | 7.000  | 4                         | 6    | 7.261  | 4   |

### ABBREVIATION DEFINITIONS

- ODM – outside diameter of male
- TPI – threads per inch

### THREAD DESIGNATIONS

- National Hose – NH or NHT; also called National Standard Thread (NST)
  - National Pipe Straight Hose – NPSH; also called Straight Iron Pipe Thread (SIPT)
  - National Pipe Thread – NPT; also called Tapered Iron Pipe Thread (TIPT)
  - British Standard Parallel Pipe – BSPP
  - British Standard Pipe Taper – BSPT
- Please inquire with our sales staff as to availability of a specific thread on your product.

| Model  | Size   | Size                            | Length                          | Model  | Size          | Size                             | Length                          |
|--------|--------|---------------------------------|---------------------------------|--------|---------------|----------------------------------|---------------------------------|
| 318    | 2.5" F | 4.0" M                          | 3                               | A-327A | 1.5" F        | 1.5" M                           | 1 <sup>1</sup> / <sub>5</sub>   |
|        | 3.0" F | 3.5" M                          | 2 <sup>7</sup> / <sub>16</sub>  |        | 2.5" F        | 1.5" M                           | 1 <sup>7</sup> / <sub>8</sub>   |
|        | 3.0" F | 4.0" M                          | 3                               |        | 2.5" F        | 2.5" M                           | 2 <sup>7</sup> / <sub>16</sub>  |
|        | 3.0" F | 5.0" M                          | 4                               | A-327  | 1.5" F        | 1.0" M                           | 1 <sup>7</sup> / <sub>8</sub>   |
|        | 3.5" F | 2.5" M                          | 2 <sup>7</sup> / <sub>16</sub>  |        | 1.5" F        | 1.5" M                           | 1 <sup>7</sup> / <sub>8</sub>   |
|        | 3.5" F | 3.0" M                          | 2 <sup>7</sup> / <sub>16</sub>  |        | 1.5" F        | 2.5" M                           | 1 <sup>11</sup> / <sub>16</sub> |
|        | 3.5" F | 3.5" M                          | 2 <sup>7</sup> / <sub>16</sub>  |        | 2.0" F        | 1.5" M                           | 1 <sup>7</sup> / <sub>8</sub>   |
|        | 3.5" F | 4.0" M                          | 2 <sup>7</sup> / <sub>8</sub>   |        | 2.0" F        | 2.0" M                           | 1 <sup>23</sup> / <sub>32</sub> |
|        | 4.0" F | 1.5" M                          | 3 <sup>3</sup> / <sub>4</sub>   |        | 2.0" F        | 2.5" M                           | 2 <sup>7</sup> / <sub>16</sub>  |
|        | 4.0" F | 2.5" M                          | 2 <sup>7</sup> / <sub>8</sub>   |        | 2.5" F        | <sup>3</sup> / <sub>4</sub> G.H. | 1 <sup>3</sup> / <sub>4</sub>   |
|        | 4.0" F | 3.0" M                          | 3 <sup>3</sup> / <sub>4</sub>   |        | 2.5" F        | 1.5" M                           | 1 <sup>7</sup> / <sub>8</sub>   |
|        | 4.0" F | 3.5" F                          | 2 <sup>7</sup> / <sub>16</sub>  |        | 2.5" F        | 2.0" M                           | 1 <sup>15</sup> / <sub>16</sub> |
|        | 4.0" F | 4.0" M                          | 2 <sup>7</sup> / <sub>8</sub>   |        | 2.5" F        | 2.5" M                           | 2 <sup>7</sup> / <sub>16</sub>  |
|        | 4.0" F | 4.5" M                          | 2 <sup>7</sup> / <sub>8</sub>   |        | 2.5" F        | 3.0" M                           | 2 <sup>7</sup> / <sub>16</sub>  |
|        | 4.0" F | 4.5" M                          | 2 <sup>7</sup> / <sub>8</sub>   |        | 3.0" F        | 2.0" M                           | 2 <sup>7</sup> / <sub>16</sub>  |
|        | 4.0" F | 5.0" M                          | 2 <sup>3</sup> / <sub>4</sub>   |        | 3.0" F        | 2.5" M                           | 2 <sup>7</sup> / <sub>16</sub>  |
|        | 4.0" F | 6.0" M                          | 3                               | 3.0" F | 3.0" M        | 2 <sup>7</sup> / <sub>8</sub>    |                                 |
|        | 4.5" F | 2.5" M                          | 3 <sup>9</sup> / <sub>16</sub>  | F-327A | 1.5" F        | 1.5" F                           | 2 <sup>7</sup> / <sub>16</sub>  |
|        | 4.5" F | 4.0" M                          | 2 <sup>23</sup> / <sub>32</sub> |        | 1.5" F        | 2.5" F                           | 2 <sup>7</sup> / <sub>8</sub>   |
|        | 4.5" F | 4.5" M                          | 2 <sup>11</sup> / <sub>16</sub> |        | 1.5" F        | 2.5" M                           | 2 <sup>1</sup> / <sub>4</sub>   |
|        | 5.0" F | 2.5" M                          | 4 <sup>13</sup> / <sub>16</sub> |        | 2.5" F        | 2.5" F                           | 3 <sup>3</sup> / <sub>16</sub>  |
|        | 5.0" F | 4.0" M                          | 2 <sup>13</sup> / <sub>16</sub> | 3.0" F | 2.5" F        | 3 <sup>3</sup> / <sub>8</sub>    |                                 |
|        | 5.0" F | 6.0" M                          | 3                               | F-327  | 1.5" F        | 1.5" F                           | 2 <sup>7</sup> / <sub>16</sub>  |
|        | 6.0" F | 2.5" M                          | 3 <sup>13</sup> / <sub>16</sub> |        | 2.5" F        | 2.5" F                           | 3 <sup>3</sup> / <sub>16</sub>  |
|        | 6.0" F | 3.5" M                          | 4                               |        | 3.0" F        | 3.0" F                           | 3 <sup>3</sup> / <sub>16</sub>  |
|        | 6.0" F | 4.0" M                          | 3 <sup>7</sup> / <sub>8</sub>   | M-327A | 1.5" M        | 1.5" M                           | 2 <sup>7</sup> / <sub>8</sub>   |
| 6.0" F | 4.5" M | 3 <sup>7</sup> / <sub>8</sub>   | 2.5" M                          |        | 2.5" M        | 2 <sup>7</sup> / <sub>8</sub>    |                                 |
| 6.0" F | 5.0" M | 3 <sup>11</sup> / <sub>16</sub> | M-327ABI                        | 2.5" M | 2.5" M        | 2 <sup>7</sup> / <sub>8</sub>    |                                 |
| 6.0" F | 6.0" M | 6 <sup>11</sup> / <sub>16</sub> | M-327                           | 1.5" M | 1.5" M        | 2 <sup>7</sup> / <sub>8</sub>    |                                 |
|        |        |                                 |                                 | 2.5" M | 2.5" M        | 2 <sup>7</sup> / <sub>8</sub>    |                                 |
| S-319  | 3.0" F | 3.0" F                          | 4 <sup>7</sup> / <sub>8</sub>   | S-327  | 1.5" F        | 1.5" M                           | 2 <sup>1</sup> / <sub>2</sub>   |
|        | 3.5" F | 2.5" F                          | 4 <sup>7</sup> / <sub>16</sub>  |        | 2.0" F        | 2.0" F                           | 2 <sup>7</sup> / <sub>8</sub>   |
|        | 4.0" F | 4.0" F                          | 4 <sup>9</sup> / <sub>16</sub>  |        | 2.5" F        | 1.5" M                           | 2 <sup>13</sup> / <sub>16</sub> |
|        | 4.5" F | 2.5" F                          | 4 <sup>1</sup> / <sub>2</sub>   |        | 2.5" F        | 2.0" M                           | 2 <sup>15</sup> / <sub>16</sub> |
|        | 4.5" F | 3.0" F                          | 5 <sup>1</sup> / <sub>16</sub>  |        | 2.5" F        | 2.5" M                           | 3                               |
|        | 4.5" F | 3.5" F                          | 5 <sup>1</sup> / <sub>16</sub>  |        | 2.5" F        | 3.0" M                           | 3 <sup>3</sup> / <sub>16</sub>  |
|        | 4.5" F | 4.0" F                          | 5 <sup>1</sup> / <sub>2</sub>   |        | 3.0" F        | 2.5" M                           | 3 <sup>3</sup> / <sub>16</sub>  |
|        | 4.5" F | 4.5" F                          | 4 <sup>3</sup> / <sub>4</sub>   |        | 4.0" F        | 4.0" M                           | 3 <sup>7</sup> / <sub>8</sub>   |
|        | 5.0" F | 2.5" F                          | 5 <sup>1</sup> / <sub>16</sub>  | 435    | 2.5" Hose Thd | 2.5" NHT                         | 2 <sup>1</sup> / <sub>4</sub>   |
|        | 5.0" F | 3.0" F                          | 5 <sup>9</sup> / <sub>16</sub>  |        |               |                                  |                                 |
|        | 5.0" F | 3.5" F                          | 5 <sup>1</sup> / <sub>2</sub>   |        |               |                                  |                                 |
|        | 5.0" F | 4.0" F                          | 5 <sup>7</sup> / <sub>8</sub>   |        |               |                                  |                                 |
|        | 5.0" F | 4.5" F                          | 5 <sup>9</sup> / <sub>16</sub>  |        |               |                                  |                                 |
|        | 6.0" F | 2.5" F                          | 4 <sup>1</sup> / <sub>2</sub>   |        |               |                                  |                                 |
|        | 6.0" F | 4.5" F                          | 4 <sup>9</sup> / <sub>16</sub>  |        |               |                                  |                                 |



## METRIC CONVERSION

| LIQUID VOLUME                         |                                       |             |
|---------------------------------------|---------------------------------------|-------------|
| To Convert                            | Into                                  | Multiply by |
| Ounces (oz)                           | Milliliters (ml)                      | 29.57       |
| Pints (pt)                            | Liters (l)                            | .4732       |
| Quarts (qt)                           | Liters (l)                            | .9464       |
| Gallons (gal)                         | Liters (l)                            | 3.785       |
| Milliliters (ml)                      | Ounces (oz)                           | .0338       |
| Liters (l)                            | Pints (pt)                            | 2.113       |
| Liters (l)                            | Quarts (qt)                           | 1.057       |
| Liters (l)                            | Gallons (gal)                         | .2642       |
| PRESSURE                              |                                       |             |
| To Convert                            | Into                                  | Multiply by |
| Pounds per square inch (psi)          | Kilopascals (kPa)                     | 6.895       |
| Pounds per square inch (psi)          | bar                                   | .06895      |
| Kilopascals (kPa)                     | Lbs per square inch (psi)             | .145        |
| Kilopascals (kPa)                     | bar                                   | .01         |
| bar                                   | Lbs per square inch (psi)             | 14.503      |
| bar                                   | Kilopascals (kPa)                     | 100.00      |
| LENGTH                                |                                       |             |
| To Convert                            | Into                                  | Multiply by |
| Inches (in)                           | Millimeters (mm)                      | 25.4        |
| Inches (in)                           | Centimeters (cm)                      | 2.54        |
| Feet (ft)                             | Centimeters (cm)                      | 30.48       |
| Feet (ft)                             | Meters (m)                            | .3048       |
| Yards (yd)                            | Meters (m)                            | .914        |
| Miles (mi)                            | Kilometers (km)                       | 1.609       |
| Millimeters (mm)                      | Inches (in)                           | .039        |
| Centimeters (cm)                      | Inches (in)                           | .394        |
| Meters (m)                            | Feet (ft)                             | 3.282       |
| Kilometers (km)                       | Miles (mi)                            | .6214       |
| AREA                                  |                                       |             |
| To Convert                            | Into                                  | Multiply by |
| Square Inches (in <sup>2</sup> )      | Square Centimeters (cm <sup>2</sup> ) | 6.452       |
| Square Feet (ft <sup>2</sup> )        | Square Meters (m <sup>2</sup> )       | .093        |
| Square Yards (yds <sup>2</sup> )      | Square Meters (m <sup>2</sup> )       | .836        |
| Square Miles (mi <sup>2</sup> )       | Square Kilometers (km <sup>2</sup> )  | 2.59        |
| Square Centimeters (cm <sup>2</sup> ) | Square Inches (in <sup>2</sup> )      | .155        |
| Square Meters (m <sup>2</sup> )       | Square Yards (yds <sup>2</sup> )      | 1.196       |
| Square Kilometers (km <sup>2</sup> )  | Square Miles (mi <sup>2</sup> )       | .386        |
| HOSE SIZES                            |                                       |             |
| 1" Hose = 25.4 mm                     | 4" Storz = 100.00 mm                  |             |
| 1½" Hose = 38.1 mm                    | 4" Hose = 101.60 mm                   |             |
| 1¾" Hose = 44.5 mm                    | 4½" Hose = 114.30 mm                  |             |
| 2" Hose = 50.8 mm                     | 5" Storz = 125.00 mm                  |             |
| 2½" Hose = 63.5 mm                    | 5" Hose = 127.00 mm                   |             |
| 3" Hose = 76.2 mm                     | 6" Hose = 152.40 mm                   |             |
| 3½" Hose = 88.9 mm                    |                                       |             |
| TIP SIZES                             |                                       |             |
| ¾" Tip = 19.1 mm                      | 1 ½" Tip = 38.1 mm                    |             |
| ⅞" Tip = 22.2 mm                      | 1 ¾" Tip = 44.5 mm                    |             |
| 1" Tip = 25.4 mm                      | 2" Tip = 50.8 mm                      |             |
| 1⅛" Tip = 28.6 mm                     | 2 ¼" Tip = 57.2 mm                    |             |
| 1¼" Tip = 31.8 mm                     | 2 ½" Tip = 63.5 mm                    |             |
| 1⅜" Tip = 34.9 mm                     | 3" Tip = 76.2 mm                      |             |

\* The above are general guidelines. Elkhart Brass provides more precise figures as applicable.

| SOLID VOLUME          |                |             |
|-----------------------|----------------|-------------|
| To Convert            | Into           | Multiply by |
| Ounces (oz)           | Grams (g)      | 28.3495     |
| Pounds (lb)           | Kilograms (kg) | .4536       |
| Grams (g)             | Ounces (oz)    | .035        |
| Kilograms (kg)        | Pounds (lb)    | 2.205       |
| PRESSURES GUIDELINES* |                |             |
| 50 psi =              | 345 kPa =      | 3.45 bar    |
| 60 psi =              | 414 kPa =      | 4.14 bar    |
| 70 psi =              | 488 kPa =      | 4.88 bar    |
| 75 psi =              | 517 kPa =      | 5.17 bar    |
| 80 psi =              | 552 kPa =      | 5.52 bar    |
| 90 psi =              | 621 kPa =      | 6.21 bar    |
| 100 psi =             | 690 kPa =      | 6.89 bar    |
| 150 psi =             | 1034 kPa =     | 10.34 bar   |
| 200 psi =             | 1379 kPa =     | 13.79 bar   |
| 250 psi =             | 1723 kPa =     | 17.23 bar   |
| 300 psi =             | 2069 kPa =     | 20.69 bar   |
| 350 psi =             | 2413 kPa =     | 24.13 bar   |
| 580 psi =             | 3999 kPa =     | 39.99 bar   |
| 700 psi =             | 4827 kPa =     | 48.27 bar   |
| FLOW                  |                |             |
| FLOW RATE             | EXACT LPM      |             |
| 12 gpm =              | 45.42 lpm      |             |
| 13 gpm =              | 49.20 lpm      |             |
| 15 gpm =              | 56.78 lpm      |             |
| 20 gpm =              | 75.70 lpm      |             |
| 23 gpm =              | 87.06 lpm      |             |
| 25 gpm =              | 94.62 lpm      |             |
| 30 gpm =              | 113.55 lpm     |             |
| 40 gpm =              | 151.40 lpm     |             |
| 50 gpm =              | 189.25 lpm     |             |
| 60 gpm =              | 227.10 lpm     |             |
| 70 gpm =              | 264.95 lpm     |             |
| 75 gpm =              | 283.88 lpm     |             |
| 85 gpm =              | 321.73 lpm     |             |
| 95 gpm =              | 359.58 lpm     |             |
| 100 gpm =             | 378.50 lpm     |             |
| 120 gpm =             | 454.20 lpm     |             |
| 125 gpm =             | 473.13 lpm     |             |
| 150 gpm =             | 567.75 lpm     |             |
| 175 gpm =             | 662.38 lpm     |             |
| 200 gpm =             | 757.00 lpm     |             |
| 250 gpm =             | 946.25 lpm     |             |
| 300 gpm =             | 1135.50 lpm    |             |
| 350 gpm =             | 1324.75 lpm    |             |
| 375 gpm =             | 1419.38 lpm    |             |
| 400 gpm =             | 1514.00 lpm    |             |
| 450 gpm =             | 1703.25 lpm    |             |
| 500 gpm =             | 1892.50 lpm    |             |
| 550 gpm =             | 2081.75 lpm    |             |
| 700 gpm =             | 2649.50 lpm    |             |
| 750 gpm =             | 2838.75 lpm    |             |
| 800 gpm =             | 3028.00 lpm    |             |
| 1000 gpm =            | 3785.00 lpm    |             |
| 1200 gpm =            | 4542.00 lpm    |             |
| 1250 gpm =            | 4731.25 lpm    |             |
| 1500 gpm =            | 5677.50 lpm    |             |
| 2000 gpm =            | 7570.00 lpm    |             |

### HANDLINE NOZZLES

#### CHIEF XD™ HANDLINE NOZZLE TIPS

Nozzle shall be constructed of durable, hard anodized black, lightweight Elk-O-Lite®; shall be single gallonage and constant flow; shall have infinite pattern selection from straight stream to full fog; shall be capable of flushing without shutting down; shall have stainless steel teeth or molded rubber teeth (specify); shall have highly visible, protective urethane bumper; shall have laser etched markings and serial number; shall flow \_\_\_\_\_ gpm at \_\_\_\_\_ psi and have rated flow stamped on stem head; shall comply with NFPA 1964.

#### CHIEF XD™ HANDLINE NOZZLES

Nozzle shall be constructed of durable, hard anodized black, lightweight Elk-O-Lite®; shall be single gallonage and constant flow; shall have infinite pattern selection from straight stream to full fog; shall be capable of flushing without shutting down; shall have stainless steel teeth or molded rubber teeth (specify); shall have highly visible, protective urethane bumper; shall have laser etched markings and serial number; shall have full round aluminum shutoff ball with self-adjusting UHMWPE seats; shall have rugged, forged aluminum bale handle with double stops and color-coded insert; shall have Elk-O-Lite® pistol grip mounted to bottom of shut-off body with color-coded insert (optional); shall flow \_\_\_\_\_ gpm at \_\_\_\_\_ psi and have rated flow stamped on stem head; shall comply with NFPA 1964.

#### 1.5" XD SHUTOFF

1.5" double drive ball shut-off with 1.375" waterway; shall be constructed of durable, hard anodized black, lightweight, Elk-O-Lite®; shall have full round aluminum shutoff ball with self-adjusting UHMWPE seats; shall have rugged, forged aluminum bale handle with double stops and color-coded insert; shall have Elk-O-Lite® pistol grip mounted to bottom of shut-off body with color-coded insert (optional); shall have laser etched markings and serial number; shall have a 1.5" NHT female swivel base with a 1.5" NHT male outlet.

#### 1.5" XD SHUTOFF WITH INTEGRATED SMOOTH BORE

1.5" double drive ball shut-off with 1.375" waterway; shall be constructed of durable, hard anodized black, lightweight, Elk-O-Lite®; shall have full round aluminum ball with self-adjusting UHMWPE seats; the shutoff shall have a \_\_\_\_\_ size integral smooth bore tip machined into the outlet of the body; shall have rugged, forged aluminum bale handle with double stops and color-coded insert; shall have Elk-O-Lite® pistol grip mounted to bottom of shut-off body with color-coded insert (optional); shall have laser etched markings and serial number; shall have a 1.5" NHT female swivel base with a 1.5" NHT male outlet.

#### 2.5" XD SHUTOFF

2.5" double drive ball shut-off with 1.375" waterway; shall be constructed of durable, hard anodized black, lightweight, Elk-O-Lite®; shall have full round aluminum shutoff ball with self-adjusting UHMWPE seats; shall have rugged, forged aluminum bale handle with double stops and color-coded insert; shall have Elk-O-Lite® pistol grip mounted to bottom of shut-off body with color-coded insert (optional); shall have laser etched markings and serial number; shall have a 2.5" NHT female swivel base with a 1.5" NHT male outlet.

#### 2.5" XD SHUTOFF WITH INTEGRATED SMOOTH BORE

2.5" double drive ball shut-off with 1.375" waterway; shall be constructed of durable, hard anodized black, lightweight, Elk-O-Lite®; shall have full round aluminum ball with self-adjusting UHMWPE seats; the shutoff shall have a \_\_\_\_\_ size integral smooth bore tip machined into the outlet of the body; shall have rugged, forged aluminum bale handle with double stops and color-coded insert; shall have Elk-O-Lite® pistol grip mounted to bottom of shut-off body with color-coded insert (optional); shall have laser etched markings and serial number; shall have a 2.5" NHT female swivel base with a 1.5" NHT male outlet.

#### 2.5" XD PLAYPIPE

2.5" double drive ball shut-off with 1.375" waterway; shall be constructed of durable, hard anodized black, lightweight, Elk-O-Lite®; shall have full round aluminum shutoff ball with self-adjusting UHMWPE seats; shall have rugged, forged aluminum bale handle with double stops and color-coded insert; shall have two large "U" shaped handles; shall have Elk-O-Lite® ladder hook mounted underneath shut-off (optional); shall have laser etched markings and serial number; shall have a 2.5" NHT female swivel base with a 1.5" NHT male outlet.

#### SHORT BARREL XD SMOOTH BORE

Smooth bore tip shall be constructed of durable, hard anodized black, lightweight Elk-O-Lite®; shall have 1.5" NHT inlet and gradual taper to an outlet size of \_\_\_\_\_ with an overall tip length of 4.5"; tip shall be protected with a robust EPDM rubber bumper; shall have the rated discharge flow at 50 psi laser etched onto tip barrel;

tip barrel shall have knurling for ease of grip and handling.

#### LONG BARREL XD SMOOTH BORE

Smooth bore tip shall be constructed of durable, hard anodized black, lightweight Elk-O-Lite®; shall have 1.5" NHT inlet and gradual taper to an outlet size of \_\_\_\_\_ with an overall tip length of 7"; tip shall be protected with a robust EPDM rubber bumper; shall have the rated discharge flow at 50 psi laser etched onto tip barrel; tip barrel shall have knurling for ease of grip and handling.

#### SELECT-O-MATIC® HANDLINE NOZZLES (SM SERIES AND TSM SERIES)

Nozzle shall be constructed of durable, hard anodized, lightweight Elk-O-Lite®; shall have heat-tempered, stainless steel spring mechanism shall have an outside unobstructed waterway, which reacts automatically to water flow and delivers that water flow efficiently throughout the flow range; shall have infinite pattern selection from straight stream to full fog; shall be capable of flushing without shutting down; shall have replaceable spinning teeth; shall have highly visible, protective, urethane bumper; shall have ball with adjustable neoprene seat; shall have rugged aluminum bronze shut-off handle with double stops; and shall have a flow range of 75 to 325 gpm (SM -30F series), 60 to 200 gpm (SM-20F series), 60 to 125 gpm (SM-10F series) or 10 to 75 (SM-3F series); shall comply with NFPA 1964.

#### CHIEF™ HANDLINE NOZZLES (4000 SERIES – INCLUDING TIPS)

Nozzle shall be constructed of durable, hard anodized, lightweight Elk-O-Lite®; shall be single gallonage and constant flow; shall have infinite pattern selection from straight stream to full fog; shall be capable of flushing without shutting down; shall have replaceable spinning teeth; shall have highly visible, protective urethane bumper shall have hydraulically balanced acetal ball with adjustable neoprene seat; shall have rugged, aluminum bronze shut-off handle with double stops; shall flow \_\_\_\_\_ gpm at \_\_\_\_\_ psi and have rated flow stamped on stem head; shall comply with NFPA 1964.

#### CHIEF™ HANDLINE NOZZLE TIP (4000-14HR)

Handline nozzle tip shall be constructed of durable, hard anodized, light-weight Elk-O-Lite®; tip shall be single gallonage with a constant flow of 175 gpm operating at 50 psi, with the gallonage shown on the stem head; shall have an infinite pattern selection from straight stream to a full fog with rigid metal fog teeth; nozzle tip shall have no twist shut-off and shall be capable of flushing without shutting down; shall have a luminescent "glow" bumper as standard and 1.5" NHT rigid base.

#### CHIEF™ HANDLINE NOZZLE (4000-31)

Handline Nozzle shall be constructed of durable, hard anodized, light-weight Elk-O-Lite®. The 1.5" break-apart nozzle (4000-22) shall have a ball shut-off (B-275 GAT) with a pistol grip, a built-in smooth bore tip, and horseshoe-shaped shut-off handle. The nozzle shall have an infinite pattern selection from straight stream to a full fog with the replaceable spinning teeth; and shall be capable of flushing without shutting down the nozzle. The nozzle shall be single gallonage with a constant flow of 250 gpm operating at 100 psi, with the gallonage stamped on the stem head. The unit will have a 1.375" waterway for greater flows, and a 1.5" NHT free swivel base. (Please specify size of smooth bore: 7/8" – 1 5/16" – 1" – 1 1/8" – 1 1/4").

#### PHANTOM® HANDLINE NOZZLES (PSFS-HP)

1" Select-O-Flow® nozzle shall be constructed of durable, hard anodized, lightweight Elk-O-Lite®; shall have a constant flow in each of the four detented gallonage positions of 15, 30, 45, and 60 gpm while operating at 100 psi. The nozzle will have a discharge pattern selection from a straight stream to a wide fog pattern and will be capable of flushing without shutting down. The nozzle shall be equipped with an unbreakable, double stop, metal tab handled shut-off with a double actuator driven aluminum ball and double self-adjusting UHMWPE seats. The unit shall have a 1" NHT free swivel base with 1" waterway through the shut-off.

#### PHANTOM® MID-RANGE NOZZLE (SFM SERIES)

Shall be constructed of durable, hard anodized, lightweight Elk-O-Lite®; shall have internal, ball detent gallonage selector; shall have infinite pattern selection from straight stream to full fog; shall be constant flow; shall be capable of flushing without shutting down; shall have replaceable teeth; shall have heavy-duty urethane protective bumper; shall have rugged aluminum bronze shut-off handle with double stops; shall have adjustable gallonage settings of 30-95-125-150 gpm; shall operate at 75 psi (LP) or 100 psi (HP); shall comply with NFPA 1964.

#### 1.5" FOAM NOZZLE – COAST GUARD APPROVED (SFL-CG AND SFL-GCG)

Nozzle shall be constructed of rugged, corrosion resistant brass and bronze alloys; shall have adjustable stream from straight stream to full wide fog with slotted,



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locking pattern selector; shall be constant flow; shall be capable of flushing without shutting down; shall have molded urethane protective bumper; shall have hydraulically balanced acetal ball with self-adjusting UHMWPE seat; shall have heavy-duty manganese/bronze shut-off handle with single stop; shall flow 95 gpm at 100 psi; shall have 1.5" NHT free swivel base; shall have durable, cast pistol grip (SFL-GCG only); for SFL-CG, shall have USCG approval number 162.027/14/0, CFR46-162.027/14; for SFL-GCG shall have USCG approval number 162.027/12/0, CFR46-162.02; and shall have cast finish.

### ELK-O-LITE® MYSTERY® NOZZLE TIP (L-205-BA)

Handline nozzle tip shall be constructed of durable, hard anodized, lightweight Elk-O-Lite®; shall have fixed tooth design with heavy-duty, protective, urethane bumper; shall be fully adjustable from wide fog to straight stream to shut-off; shall flow \_\_\_\_gpm at \_\_\_\_psi; shall be single gallonage design with rated flow stamped on stem head; shall have two-piece, floating stem; and shall have 1.5" female threaded base.

### ELK-O-LITE® MYSTERY® NOZZLE TIP (205-BA AND D-205-BA)

Handline nozzle tip shall be constructed of durable, hard anodized, lightweight Elk-O-Lite®; shall have fixed tooth design with heavy-duty, protective, urethane bumper; shall be fully adjustable from wide fog to straight stream to shut-off; shall flow \_\_\_\_gpm at \_\_\_\_psi; shall be single gallonage design with rated flow stamped on stem head; shall have two-piece, floating stem; and shall have 1.5" female threaded base (205-B) or 2.5" female threaded base (D-205-BA).

## BALL SHUT-OFFS

### ELK-O-LITE® BALL SHUT-OFF

#### (LB-275A, LB-275-GA, B-275A AND B-275-GA)

Quarter-turn, ball-valved, handline shut-off with 1" waterway (LB-275A or LB-275-GA only) or 1.375" waterway (B-275A or B-275-GA only); shall be constructed of durable, hard anodized, lightweight Elk-O-Lite®; shall have rugged aluminum/bronze horseshoe handle with double stops; shall have hydraulically balanced acetal valve ball with an adjustable neoprene/nylon seat; shall have Elk-O-Lite® pistol grip mounted to bottom of shut-off body (LB-275-GA or B-275-GA only); and shall have a 1.5" female threaded swivel inlet and a 1.5" male threaded outlet.

### ELK-O-LITE® BALL SHUT-OFF (DB-275-A)

Quarter-turn, ball-valved, handline shut-off with 1.375" waterway; shall be constructed of durable, hard anodized, lightweight Elk-O-Lite®; shall have rugged aluminum/bronze horseshoe handle with double stops; shall have hydraulically balanced acetal valve ball with an adjustable neoprene/nylon seat; shall have \_\_\_\_" integral smooth bore tip machined into outlet of shut-off body; shall have pistol grip handle mounted to bottom of shut-off body; and shall have a 2.5" threaded swivel inlet and a 1.5" threaded male outlet.

### ELK-O-LITE® BALL SHUT-OFF (B-375A)

1.5" double drive ball shut-off with 1.375" waterway; shall be constructed of durable, hard anodized, lightweight, Elk-O-Lite®; shall have a horseshoe-shaped handle with double stops, non-adjustable dual seats with a single cut metal ball. The shut-off shall have a 1.5" NHT female swivel base with a 1.5" NHT male outlet.

### ELK-O-LITE® BALL SHUT-OFF (B-375-AT, B-375-GAT, DB-375-A)

Double drive ball shut-off with 1.375" waterway; shall be constructed of durable, hard anodized, lightweight Elk-O-Lite®; shall have a horseshoe-shaped handle with double stops that shall control a dual-drive, single cut, metal ball and an UHMWPE seat; shall have Elk-O-Lite® pistol grip mounted to bottom of shut-off body (B-375-GAT only). The shut-off shall have a 1.5" integral smooth bore tip machined into the outlet of the body. The shut-off shall have a 1.5" NHT female swivel base (B-375-AT or B-375-GAT) or 2.5" NHT swivel base (DB-375-A) with a 1.5" NHT male outlet.

### ELK-O-LITE® BALL SHUT-OFF (DB-375-A)

2.5" double drive ball shut-off with a 1.375" waterway; shall be constructed of durable, hard anodized, lightweight Elk-O-Lite®; shall have a horseshoe-shaped handle with double non-adjustable seats, and a single cut, metal ball. The shut-off shall have a 2.5" NHT swivel base with a 1.5" NHT male outlet.

### ELK-O-LITE® BALL SHUT-OFF (DB-375-AT AND DB-375-GAT)

2.5" ball shut-off with 1.375" waterway; shall be constructed of durable, hard anodized, lightweight Elk-O-Lite®; shall have a horseshoe-shaped handle with double stops that shall control a dual-drive, single cut, metal ball and an UHMWPE seat; shall have Elk-O-Lite® pistol grip mounted to bottom of shut-off body (DB-375-GAT only). The shut-off shall have a 1.25" integral smooth bore tip machined into the outlet of the body. The shut-off shall have a 2.5" NHT female swivel base with a 1.5" NHT male outlet.

## MASTER STREAM NOZZLES

### SELECT-O-MATIC® X-STREAM® NOZZLE (SM-1000, SM-1250, SM-1000B, AND SM-1250B)

Nozzle shall be constructed of durable, hard anodized, lightweight Elk-O-Lite® (SM-1000 and SM-1250) or rugged corrosion resistant brass alloys (SM-1000B and SM-1250B); shall have heat-treated, stainless steel spring mechanism, outside unobstructed waterway which reacts automatically to water flow and delivers that flow efficiently throughout the specified flow range; shall have large control handles to easily change pattern; shall be constant flow with infinite pattern selection from straight stream to full fog; shall have highly visible, protective urethane bumper; shall have a flow range of 350 to 1000 gpm (SM-1000 or SM-1000B), 350 to 1250 gpm (SM-1250 or SM-1250B). (Please specify 2.5" or 3.5" swivel base.)

### SELECT-O-MATIC® X-STREAM® NOZZLE (SM-2000 AND SM-2000B)

Nozzle shall be constructed of durable, hard anodized, lightweight Elk-O-Lite® (SM-2000) or rugged corrosion resistant brass alloys (SM-2000B); shall have heat-treated, stainless steel spring mechanism, outside unobstructed waterway which reacts automatically to water flow and delivers that flow efficiently throughout the specified flow range; shall have large control handles to easily change pattern; shall be constant flow with infinite pattern selection from straight stream to full fog; shall have highly visible, protective urethane bumper; shall have a flow range of 500 to 2000 gpm at 50 to 80 psi; shall have a 3.5" swivel base.

### SELECT-O-MATIC® X-STREAM® NOZZLE (SM-500E, SM-1000E, SM-1000BE, SM-1250E, SM-1250BE, SM-1500E, SM-2000E)

Same specification as SM-1000/SM-1000B, SM-1250/SM-1250B or SM-2000 except: shall have encased 12 volt DC electric motor with manual override to change stream pattern.

### SELECT-O-MATIC® X-STREAM® NOZZLE (SM-1000H, SM-1000HB, SM-1250H, SM-1000HB, SM-2000H)

Same specifications as SM-1000/SM-1000B, SM-1250/SM-1250B, or SM-2000 except: shall have hydraulic piston with built-in flow control to change stream pattern; and brass versions shall have no twist shut-off capabilities.

### SELECT-O-MATIC® X-STREAM® NOZZLE (SM-2000BE)

Same specification as SM-2000B except: shall operate at a lower pressure of 80 psi and shall be encased 12 volt DC electric motor with manual override to change stream pattern.

### SELECT-O-MATIC® X-STREAM® NOZZLE (SM-2000HB)

Same specifications as SM-2000B except: shall operate at a lower pressure of 80 psi; shall have hydraulic piston with built-in flow control to change stream pattern; shall have no twist shut-off capabilities.

### HYDRO-FOAM MASTER STREAM NOZZLE (HF-350 AND HF-500)

Nozzle shall be constructed of rugged, corrosion resistant brass alloys; shall be single gallonage (350 or 500 gpm) and constant flow; shall have infinite pattern positioning from straight stream to full fog; shall have built-in foam eductor which will proportion at 1/2%, 1%, 3% or 6% rate (HF-350 only for 6%); shall be U.L. listed; shall be able to accept optional 1/3% or 3/6% valve (HF-350 only), shut-off valve, and/or quick-connect coupling; shall have grease fitting for easy lubrication of tip cam; and shall have 2.5" swivel base. (Please specify chrome-plated or cast brass finish).

### FOAM MASTER STREAM NOZZLE (CSW-C-HF)

Composite nozzle shall have selectable gallonages of 350/500/750 with a built-in foam eductor that shall be capable of 1% or 3% proportioning capacity, but achieves this rate only when the nozzle is flowed at the specific gpm selections listed; shall be provided with an 8' pick-up hose and shall have a 2.5" NHT female swivel inlet.

### FOAM MASTER STREAM NOZZLE (SM-1000-HF AND SM-2000-HF)

Composite automatic nozzle shall flow from 250 to 1000 gpm (SM-1000-HF) or 500 to 2000 gpm (SM-2000-HF); shall have a selectable automatic foam metering; nozzle can be selected to educt at 1% or 3% proportioning capacity (SM-1000-HF) or 1% proportioning capacity (SM-2000-HF), and will achieve close to this rate across a broad flow range; shall be provided with an 8' pick-up hose; and shall have a 2.5" NHT female swivel inlet (SM-1000-HF) or a 3.5" NHT female swivel inlet (SM-2000-HF).

### SELECT-O-FLOW® MASTER STREAM NOZZLE (CSW AND CSW-L)

Nozzle shall be constructed of durable, hard anodized, lightweight Elk-O-Lite®; shall have multiple gallonage settings (CSW, 300-550-750 gpm; CSW-L, 500-750-1000-1250 gpm); shall be constant flow; shall have infinite pattern setting from straight stream to wide fog; shall be capable of shutting off; shall be capable of changing gallonage settings while flowing under normal operating pressure; shall have protective rubber bumper; shall have a 2.5" swivel base.

### SELECT-O-FLOW® MASTER STREAM NOZZLE (CSW-LB)

Nozzle shall be constructed of rugged, corrosion-resistant brass alloys; shall have multiple gallonage settings of 500-750-1000-1250 gpm; shall be constant flow; shall have infinite pattern setting from straight stream to wide fog; shall be capable of shutting off completely; shall be capable of changing gallonage settings while flowing under normal operating pressure; shall have protective rubber bumper; shall have a 2.5" swivel base.

### SELECT-O-STREAM® MASTER STREAM NOZZLE (CJ, CJN, CJB AND CJN-B)

2.5" nozzle shall be constructed of durable, hard anodized, lightweight Elk-O-Lite® (CJ and CJN) or rugged brass alloys (CJB and CJN-B); shall be single gallonage and constant flow of 500 gpm (1000 gpm for the CJN and CJN-B) while operating at a pressure of 100 psi; shall have an easily adjustable stream pattern (with the large control handles) from straight stream to a wide, full fog pattern; shall have a 2.5" NHT swivel base, with chrome-plated trim (CJ and CJN) or satin brass trim (CJB and CJN-B); and shall have no twist shut-off capabilities.

### SELECT-O-STREAM® MASTER STREAM NOZZLE (CJ-RC, CJN-RC, CJB-RC AND CJN-B-RC)

2.5" nozzle shall be constructed of durable, hard anodized, lightweight Elk-O-Lite® (CJ-RC and CJN-RC) or rugged brass alloys (CJB-RC and CJN-B-RC); shall be single gallonage and constant flow of 500 gpm (1000 gpm for the CJN-RC and CJN-B-RC) while operating at a pressure of 100 psi; shall have an easily adjustable stream pattern (using cables for remote operation) from straight stream to a wide, full fog pattern; shall have a 2.5" NHT swivel base, with chrome-plated trim (CJ-RC and CJN-RC) or satin brass trim (CJB-RC and CJN-B-RC); and shall have no twist shut-off capabilities.

### RAPID ATTACK NOZZLE (R.A.N.®)

Constant gallonage nozzle shall have a flow rate of 500 gpm while operating at 75 psi nozzle pressure and 400 gpm while operating at 50 psi; durable, lightweight Elk-O-Lite® alloy nozzle with hard anodized finish shall have a built-in stream shaper and adjustable stream patterns from straight stream to a full fog pattern; and shall be used in conjunction with an Elkhart R.A.M.® (Rapid Attack Monitor).

### 6000-200E

Nozzle shall be constructed of durable, hard anodized, lightweight Elk-O-Lite® Material; shall have multiple gallonage settings of 15-30-45-60-95-125-150-200 GPM (60-120-170-250-360-500-550-700 LPM) when operated at a nozzle inlet pressure of 100 psi (6.9 Bar) and shall be constant gallonage at each of those settings; shall be capable of manually changing gallonage settings while flowing under normal operating pressures; shall have a manual flush feature that can be operated without shutting down the flow; shall have infinite pattern setting from straight stream to wide fog that is electrically controlled with a 12VDC signal with manual override; shall have a 2.5 inch FNHT swivel inlet connection; shall have an elastomer bumper allowing for installation of an appropriately sized foam expansion tube.

### 6000-700E

Nozzle shall be constructed of durable, hard anodized, lightweight Elk-O-Lite® Material; shall have multiple gallonage settings of 250-350-500-750 GPM (1000-1350-2000-2700 LPM) when operated at a nozzle inlet pressure of 100 psi (6.9 Bar) and shall be constant gallonage at each of those settings; shall be capable of manually changing gallonage settings while flowing under normal operating pressures; shall have a manual flush feature that can be operated without shutting down the flow; shall have infinite pattern setting from straight stream to wide fog that is electrically controlled with a 12VDC signal with manual override; shall have a 2.5 inch FNHT swivel inlet connection; shall have an integrated stream shaper; shall have an elastomer bumper allowing for installation of an appropriately sized foam expansion tube.

### CM-3000E for Magnum

Nozzle shall be constructed from durable, hard anodized, lightweight Elk-O-Lite® material; shall have outside unobstructed waterway; Shall have integrated stream-shaper; shall be constant flow with infinite pattern selection from straight stream to full fog; shall have encased 12VDC electric motor (with manual override) to adjust stream pattern; shall have a 6" swivel base inlet. 80 psi required at nozzle inlet to produce 3000 gpm.

### CM-5000E for Magnum

Nozzle shall be constructed from durable, hard anodized, lightweight Elk-O-Lite® material; shall have outside unobstructed waterway; Shall have integrated stream-shaper; shall be constant flow with infinite pattern selection from straight stream to full fog; shall have encased 12VDC electric motor (with manual override) to adjust stream pattern; shall have a 6" swivel base inlet. 145 psi required at monitor inlet to produce 5000 gpm.

## MONITORS

### SIDEWINDER EXM MONITOR (7100 SD)

Monitor shall be constructed from durable, hard anodized, lightweight Elk-O-Lite® material with a variable cross-sectional and vaned waterway for flows up to 700 GPM at 250 PSI for continuous duty; shall be constructed with thrust rods and thrust bearings on both horizontal and vertical rotational joints for improved product longevity; shall be configured with female 2.5" NPT or 2.5" BSPT style inlet connection; shall be configured with male 2.5" NHT or 2.5" BSPP style outlet connection; shall have two (2) gear motors that allow for simultaneous vertical and horizontal adjustment, one motor shall control up to 350 degree horizontal rotation while the other motor shall control up to 135 degrees vertical travel (-45 degree to +90 degree vertical rotation from horizontal); horizontal and vertical motors shall have a manual override device for use in the event of power failure; electric controls shall be NEMA 4 rated and allow for programmable horizontal center position, vertical and horizontal stops, stow position, keep out zones, and motor speeds fast or slow; electric control shall allow for horizontal and vertical oscillation, electric control shall be CAN and/or radio frequency compatible; electric control shall be compatible with both 12VDC and 24VDC power supply.

### SIDEWINDER EXM MONITOR (7100 HD)

Monitor shall be constructed from durable, hard anodized, lightweight Elk-O-Lite® material with a variable cross-sectional and vaned waterway for flows up to 700 GPM at 500 PSI for continuous duty; shall be constructed with thrust rods and thrust bearings on both horizontal and vertical rotational joints for improved product longevity; shall be configured with female 2.5" NPT or 2.5" BSPT style inlet connection; shall be configured with male 2.5" NHT or 2.5" BSPP style outlet connection; shall have two (2) gear motors that allow for simultaneous vertical and horizontal adjustment, one motor shall control up to 350 degree horizontal rotation while the other motor shall control up to 135 degrees vertical travel (-45 degree to +90 degree vertical rotation from horizontal); horizontal and vertical motors shall have a manual override device for use in the event of power failure; electric controls shall be NEMA 4 rated and allow for programmable horizontal center position, vertical and horizontal stops, stow position, keep out zones, and motor speeds fast or slow; electric control shall allow for horizontal and vertical oscillation, electric control shall be CAN and/or radio frequency compatible; electric control shall be compatible with both 12VDC and 24VDC power supply.

### QUICK CONNECT FOR SIDEWINDER EXM (7150)

Quick Connect shall be compatible with the 7100 Sidewinder EXM providing a reliable means to remove the monitor from plumbing without the use of any tools; shall incorporate a safety mechanism that prevents removal of the monitor when in a pressurized state.

### LIGHT KIT FOR SIDEWINDER EXM (7080)

Light Kit shall be compatible with the 7100 Sidewinder EXM providing a 10-LED light with 14,000 lumens output; shall provide full brightness at power on with no warm-up; over 50 parabolic surfaces to redirect all of the light produced and focus it evenly into the action area; runs on 12VDC or 24 VDC with approximately 14 amps current draw for 12VDC and 7 amps current draw for 24 VDC.



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### SIDEWINDER EXM UHP MONITOR (7161)

Monitor shall be constructed from durable, hard anodized, lightweight Elk-O-Lite® material with a variable cross-sectional and vaned waterway for flows up to 300 GPM @ 1500psi; shall be constructed with thrust rods and thrust bearings on both horizontal and vertical rotational joints for improved product longevity; shall be configured with female 2.5" NPT style inlet connection; shall be configured with male 1.5" NHT style outlet connection; shall have two (2) gear motors that allow for simultaneous vertical and horizontal adjustment, one motor shall control up to 180 degree horizontal rotation while the other motor shall control up to 135 degrees vertical travel (-45 degree to +90 degree vertical rotation from horizontal); horizontal and vertical motors shall have a manual override device for use in the event of power failure; electric controls shall be NEMA 4 rated and allow for programmable horizontal center position, vertical and horizontal stops, stow position, keep out zones, and motor speeds fast or slow; electric control shall allow for horizontal and vertical oscillation, electric control shall be CAN and/or radio frequency compatible; electric control shall be compatible with both 12VDC and 24VDC power supply.

### COBRA EXM MONITOR (7200)

Monitor shall be constructed from durable, hard anodized, lightweight Elk-O-Lite® material with a variable cross-sectional and vaned waterway for flows up to 1250 GPM; shall be constructed with thrust rods and thrust bearings on both horizontal and vertical rotational joints for improved product longevity; shall be configured with 3" or 4" 150# Flange, 3" female NPT, 3" female BSPT, or DN80 Flange style inlet connection; shall be configured with male 2.5" NHT or 2.5" BSPP style outlet connection; shall have two (2) gear motors that allow for simultaneous vertical and horizontal adjustment, one motor shall control up to 350 degree horizontal rotation while the other motor shall control up to 135 degrees vertical travel (-45 degree to +120 degree vertical rotation from horizontal); shall provide an input for a sensor/switch to enable/disable the +90 degree to +120 degree vertical travel; horizontal and vertical motors shall have a manual override device for use in the event of power failure; electric controls shall be NEMA 4 rated and allow for programmable horizontal center position, vertical and horizontal stops, stow position, keep out zones, and motor speeds fast or slow; electric control shall allow for horizontal and vertical oscillation, electric control shall be CAN and/or radio frequency compatible; electric control shall be compatible with both 12VDC and 24VDC power supply.

### COBRA EXM MONITOR (7250)

Monitor shall be constructed from durable, hard anodized, lightweight Elk-O-Lite® material with a variable cross-sectional and vaned waterway for flows up to 1500 GPM; shall be constructed with thrust rods and thrust bearings on both horizontal and vertical rotational joints for improved product longevity; shall be configured with 3" or 4" 150# Flange, 3" female NPT, 3" female BSPT, or DN80 Flange style inlet connection; shall be configured with male 3.5" NHT or 3.5" BSPP style outlet connection; shall have two (2) gear motors that allow for simultaneous vertical and horizontal adjustment, one motor shall control up to 350 degree horizontal rotation while the other motor shall control up to 135 degrees vertical travel (-45 degree to +120 degree vertical rotation from horizontal position); shall provide an input for a sensor/switch to enable/disable the +90 degree to +120 degree vertical travel; horizontal and vertical motors shall have a manual override device for use in the event of power failure; electric controls shall be NEMA 4 rated and allow for programmable horizontal center position, vertical and horizontal stops, stow position, keep out zones, and motor speeds fast or slow; electric control shall allow for horizontal and vertical oscillation, electric control shall be CAN and/or radio frequency compatible; electric control shall be compatible with both 12VDC and 24VDC power supply.

### LIGHT KIT FOR COBRA EXM (7083)

Light Kit shall be compatible with the 7200 or 7250 Cobra EXM providing a 10-LED light with 14,000 lumens output; shall provide full brightness at power on with no warm-up; over 50 parabolic surfaces to redirect all of the light produced and focus it evenly into the action area; runs on 12VDC or 24 VDC with approximately 14 amps current draw for 12VDC and 7 amps current draw for 24 VDC.

### SCORPION EXM MONITOR (7400)

Monitor shall be constructed from durable, hard anodized, lightweight Elk-O-Lite® material with a variable cross-sectional and vaned waterway for flows up to 2500 GPM; shall be constructed with thrust rods and thrust bearings on both horizontal and vertical rotational joints for improved product longevity; shall be configured with 4" 150# Flange or DN100 Flange style inlet connection; shall be configured with male 3.5" NHT or 3.5" BSPP style outlet connection; shall have two (2) gear motors that allow for simultaneous vertical and horizontal adjustment, one motor shall control up to 350 degree horizontal rotation while the other motor shall control up to 180 degrees of total vertical travel within a range from -80 degrees to +120 degrees from horizontal; horizontal and vertical motors shall have a manual override device for use in the event of power failure; electric controls shall be NEMA 4 rated and allow for programmable horizontal center position, vertical and horizontal stops, stow position, keep out zones, and motor speeds fast or slow; electric control shall allow for horizontal and vertical automatic oscillation, electric control shall be CAN and/or radio frequency compatible; electric control shall be compatible with both 12VDC and 24VDC power supply.

### LIGHT KIT FOR SCORPION EXM (7085)

Light Kit shall be compatible with the 7400 Scorpion EXM providing a 10-LED light with 14,000 lumens output; shall provide full brightness at power on with no warm-up; over 50 parabolic surfaces to redirect all of the light produced and focus it evenly into the action area; runs on 12VDC or 24 VDC with approximately 14 amps current draw for 12VDC and 7 amps current draw for 24 VDC.

### SKYSTREAM EXM MONITOR (7500)

Monitor shall be constructed from durable, hard anodized, lightweight Elk-O-Lite® material with a variable cross-sectional and vaned waterway for flows up to 3000 GPM; shall be constructed with thrust rods and thrust bearings on both horizontal and vertical rotational joints for improved product longevity; shall be configured with 4" 150# Flange or DN100 Flange style inlet connection; shall be configured with male 5" NHT style outlet connection; shall have two (2) gear motors that allow for simultaneous vertical and horizontal adjustment, one motor shall control up to 350 degree horizontal rotation while the other motor shall control up to 135 degrees total vertical travel within a range from -45 degrees to +90 degrees from horizontal; horizontal and vertical motors shall have a manual override device for use in the event of power failure; electric controls shall be NEMA 4 rated and allow for programmable horizontal center position, vertical and horizontal stops, stow position, keep out zones, and motor speeds fast or slow; electric control shall allow for horizontal and vertical automatic oscillation, electric control shall be CAN and/or radio frequency compatible; electric control shall be compatible with both 12VDC and 24VDC power supply.

### MAGNUM EXM MONITOR (7600)

Monitor shall be constructed from durable, hard anodized, lightweight Elk-O-Lite® material with a variable cross-sectional and vaned waterway for flows up to 5000 GPM; shall be constructed with thrust rod and thrust bearings for improved product longevity; shall be configured with a 6" 150# inlet flange and 6" NHT male outlet; shall have a stow height of not more than 19.0" and a swing radius of not more than 14.5"; shall have two (2) gear motors that allow for simultaneous vertical and horizontal adjustment; one motor shall control up to 350 degree horizontal rotation; one motor shall control vertical movement up to 150 degrees (-60 degrees to +90 degrees); horizontal and vertical motors shall have an override device for use in the event of a power failure; electric controls shall be NEMA 4 rated and allow for programmable horizontal center position, vertical and horizontal stops, stow position, keep out zones and motors speeds (fast/slow); electric control shall allow for horizontal and vertical oscillation; electric control shall be CAN and/or radio frequency compatible; electric control shall be compatible with both 12VDC and 24VDC power supply.

### EXM PANEL MOUNT CONTROLLER (7010)

Controller shall have a NEMA 4 rating with reverse polarity and circuit board moisture protection; control circuitry shall use programmable integrated circuit technology for monitor up/down, left/right rotation, stow, horizontal and vertical automatic oscillation, nozzle control functions, and, valve control functions; shall provide the user feedback for power on, valve open position, valve closed position, and valve

preset position; shall provide programming capability for horizontal center position, horizontal stops, stow position, block-out zones, and motor speeds fast or slow; shall be USB compatible allowing for system uploading of firmware or configuration files and downloading of diagnostic files; shall be CAN and/or radio frequency compatible; shall be compatible with both 12VDC and 24VDC power supply.

### EXM HANDHELD REMOTE CONTROLLER PACKAGE (7015)

Controller shall have a NEMA 4 rating with reverse polarity and circuit board moisture protection; control circuitry shall use programmable integrated circuit technology for monitor up/down, left/right rotation, stow, horizontal and vertical automatic oscillation, nozzle control functions, and valve control functions; shall provide the user feedback for power on, valve open position, valve closed position, and valve preset position; shall provide programming capability for horizontal center position, horizontal stops, stow position, block-out zones, and motor speeds fast or slow; shall be USB compatible allowing for system uploading of firmware or configuration files and downloading of diagnostic files; shall be radio frequency compatible; shall include the 7061 RF transceiver module to accomplish RF communication; 7061 shall provide encoded radio frequency links to ensure multiple frequency availability in the event multiple monitors are utilized at the same incident; shall allow for electrical control and feedback without the use of tethered remote at a distance of 1300 feet and shall not require the operator to gain access to the location of the monitor to initiate and change the functions of the monitor or receive feedback from the monitor; 7010 controller shall have a NEMA 4 rated rechargeable lithium-ion battery pack that allows for more than 4 hours of use between charges; shall include a NEMA 4 rated docking station compatible both 12VDC and 24VDC power supply and capable of maintaining a charged battery pack when Handheld controller is installed; all components shall be assembled and configured together.

### EXM JOYSTICK CONTROLLER (7030)

Panel Mount Joystick shall provide user interface for proportional monitor up/down, left/right rotation, stow, horizontal and vertical automatic oscillation, nozzle control functions, and, valve control functions; shall provide the user feedback for power on, valve open position, valve closed position, and valve preset position; shall provide programming capability for horizontal center position, horizontal stops, stow position, block-out zones, and motor speeds fast or slow.

### EXM JOYSTICK CONTROLLER PACKAGE FOR RF & RF+CAN (7036)

Shall include (1) 7030 panel mount joystick and (1) 7072 OEM Interface Module (Please see individual specs); shall include two ten (10) foot in length, extension harnesses compatible with the 7072 OEM Interface Module and 7030 Panel Mount Joystick.

### EXM JOYSTICK CONTROLLER PACKAGE FOR CAN (7038)

Shall include (1) 7030 panel mount joystick and (1) 7073 OEM Interface Module (Please see individual specs); shall include two ten (10) foot in length, extension harnesses compatible with the 7073 OEM Interface Module and 7030 Panel Mount Joystick.

### EXM POSITION DISPLAY MODULE (7051)

Position Feedback Display shall provide user feedback for horizontal and vertical monitor positioning based on absolute position sensors, shall provide available range of motion through back-light feature; shall be CAN compatible; shall be compatible with both 12VDC and 24VDC; shall compatible with 7100, 7200, 7250, or 7400 EXM monitors.

### EXM RF TRANSCEIVER MODULE (7061)

Radio Frequency Transceiver module shall be compatible with 7010 Panel Mount Controller to accomplish RF communication; shall provide encoded radio frequency links to ensure multiple frequency availability in the event multiple monitors are utilized at the same incident; shall allow for electrical control and feedback without the use of tethered remote at a distance of 1300 feet and shall not require the operator to gain access to the location of the monitor to initiate and change the functions of the monitor or receive feedback from the monitor.

### EXM RF EXTERNAL ANTENNA (7062)

RF External Antenna shall be compatible with the 7072 OEM Interface Module with 7061 Radio Frequency Transceiver Module to allow for reliable RF communication when components are enclosed around metallic objects that may interfere with radio frequency.

### EXM OEM INTERFACE MODULE FOR RF & RF+CAN (7072)

OEM Interface Module shall have a NEMA 4 rating with reverse polarity and circuit board moisture protection; shall be compatible with user supplied switches and lights or with the 7030 Panel Mount Joystick; control circuitry shall use programmable integrated circuit technology for monitor up/down, left/right rotation, stow, horizontal and vertical automatic oscillation, nozzle control functions, and, valve control functions; shall provide the user feedback for valve open position, valve closed position, and valve preset position; shall provide programming capability for horizontal center position, horizontal stops, stow position, keep out zones, and motor speeds fast or slow; shall be USB compatible allowing for system uploading of firmware or configuration files and downloading of diagnostic files; shall be RF and radio frequency and CAN compatible; shall be compatible with both 12VDC and 24VDC power supply.

### EXM OEM INTERFACE MODULE FOR CAN (7073)

OEM Interface Module shall have a NEMA 4 rating with reverse polarity and circuit board moisture protection; shall be compatible with user supplied switches and lights or with the 7030 Panel Mount Joystick; control circuitry shall use programmable integrated circuit technology for monitor up/down, left/right rotation, stow, horizontal and vertical automatic oscillation, nozzle control functions, and, valve control functions; shall provide the user feedback for valve open position, valve closed position, and valve preset position; shall provide programming capability for horizontal center position, horizontal stops, stow position, keep out zones, and motor speeds fast or slow; shall be USB compatible allowing for system uploading of firmware or configuration files and downloading of diagnostic files; shall be CAN compatible; shall be compatible with both 12VDC and 24VDC power supply.

### EXM CAN STOW MODULE (7095)

The Stow Module shall be a Controller Area Network (CAN) Electronic Control Unit (ECU). It shall be connected to the same Controller Area Network as the EXM monitor and read CAN messages to set stow output signals. The CAN Stow Module shall provide a minimum of two (2) stow output signals. Each stow output shall switch to ground (no greater than 150  $\Omega$  resistance) when the EXM monitor is not stowed. Each stow output shall switch to open circuit within 5 seconds when the EXM monitor is stowed. Each stow output shall switch to open circuit within 5 seconds if CAN communications to the EXM monitor are lost. CAN Stow Module shall have a NEMA 4 rating with a relay switched output to maintain state when power is disconnected; shall operate from a supply voltage of 10-30 VDC. At least one stow output shall have overcurrent protection to at least 9 A and 28 VDC. The CAN Stow Module power supply shall have reverse polarity protection and shall incorporate circuit board moisture protection.

### PORTABLE ATTACK MONITOR (R.A.M.® XD)

Lightweight Elk-O-Lite® Rapid Attack Monitor shall have a 2.5" vaned waterway for flows up to 500 gpm; monitor shall be equipped with a U-shaped handle that shall serve as a carrying handle and control the ball shut-off valve; valve control handle shall have a locking pin with pull to release function designed to hold the valve in the closed position during deployment with a charged hose line; monitor shall have a unique safety system incorporated into its design that harnesses nozzle reaction force to stabilize the monitor, automatically activates when the reaction force becomes substantial (approximately 350 gpm) and is independent of system operation without the ability be overridden; monitor shall have a double ball joint configuration at the outlet for controlled positioning of the nozzle; unit shall have counterbalance mechanisms capable of maintaining desired nozzle position unless overridden by the safety system; shall have an integral portable base that includes four (4) forged aluminum fold out legs that when deployed provide a wide footprint for stability; rear legs shall have 35° rearward angled spikes for maximum stability; attached retention strap with storage bag shall be provided; shall have a red urethane enamel finish with Elk-O-Lite® hard anodized trim and reflective instruction labels; dimensions for the monitor shall not exceed 16.5" long, 8.5" wide and 8.75" high when in the folded position; total weight shall not exceed 19.25



## SPEC DEFINITIONS

pounds; monitor shall have one (1) 2.5" NHT female swivel inlet and one (1) 2.5" NHT male outlet; and a storage bracket designed for horizontal or vertical mounting and that allows for rapid deployment shall be provided.

### STINGER® PORTABLE MONITOR (8297 2.0 SERIES)

Monitor shall be constructed of durable, lightweight Elk-O-Lite®; shall have two (2) 2.5" clappered inlets (one [1] 3.5", 4.0" or 4.5" swivel inlet or one [1] 4.0" or 5.0" Storz inlet); shall have a 3.0" waterway; shall have folding legs on a portable base; shall be easily detached from portable base; shall have hand-wheel driven worm gear (fully enclosed) for vertical movement; shall have vertical safety stop at 35° above horizontal; shall have positive twist-lock mechanism for horizontal travel; shall have convenient carrying handle; shall be capable of flowing up to 1000 gpm with (2) 2.5" base (1250 gpm with [1] 3.5", 4.0", 4.5" swivel or 4.0" and 5.0" Storz base); shall have 200 psi liquid-filled gauge; shall have 10' safety chain; shall have red urethane enamel finish; shall not exceed 17" in height; shall not exceed 31 lbs., excluding stream shaper and tips.

### STINGER® DECK GUN (8297-98 AND 8297-99)

Monitor shall be constructed of durable, lightweight Elk-O-Lite®; shall have a 3.0" waterway; shall be easily detached from (top mount adapter, 8297-98) (topmount fixture, 8297-99); shall have hand-wheel driven worm gear (fully enclosed) for vertical movement from 75° above to 15° below horizontal; shall have full 360° horizontal movement with positive twist-lock mechanism; shall be capable of flowing up to 1250 gpm; shall have 200 psi liquid-filled gauge; shall have (3" – 150# ANSI flange base, 8297-98) (2-2.5" clappered swivel inlet base, 8297-99); shall have red urethane enamel finish; shall not exceed (19.5", 8297-98) (22.5", 8297-99) in height; shall not exceed 14 lbs., excluding stream shaper, tips and top mount adapter/fixture.

### SCORPION® DECK GUN (8294-02)

Deck gun shall be constructed of durable, lightweight Elk-O-Lite®; shall have 4.0" vanned waterway; shall be capable of flowing up to 2000 gpm; shall have hand-wheel driven worm gear (fully enclosed) for vertical travel of 90° above to 45° below horizontal with optional stop at 45° above horizontal; shall have hand-wheel driven worm gear (fully enclosed) for 360° horizontal travel; shall have grease fittings for easy lubrication of gears and ball races; shall have 300 psi liquid-filled gauge; shall have 4.0" – 150# ANSI flange base; shall have red urethane enamel finish.

### SCORPION® ELECTRIC REMOTE CONTROLLED DECK GUN (8294-04)

Deck gun shall be constructed of durable, lightweight Elk-O-Lite®; shall have 4.0" vanned waterway; shall have fully enclosed motor driven worm gear for vertical travel of 90° above to 45° below horizontal with optional stop at 45° above horizontal; shall have motor driven worm gear for 347° horizontal travel with 37 safety stop positions to comply with NFPA 1901; shall have totally sealed planetary gear type 12V DC electric motors with manual override; shall include 12V DC control package of one (1) relay box with solid state circuitry, one (1) primary control box with function switches and override capability, and one (1) secondary control box with function switches and override capability; shall have grease fittings for easy lubrication of gears and ball races; shall have 300 psi liquid-filled gauge; shall have 4.0" – 150# ANSI flange base; shall have red urethane enamel finish.

### OPTIONAL FOR 8294-04:

- Shall have hand-held remote control box with 50' of cable
- Shall have 12V DC battery housed in weatherproof case
- Shall include electrically controlled (with manual override), automatic, combination fog nozzle capable of flowing from 500 to 2000 gpm (SM-2000E)

### STINGRAY® INDUSTRIAL MONITOR (8393 OR 8393P)

Monitor shall be constructed of rugged, corrosion resistant brass alloys; shall have full 3.0" single waterway; shall have hand-wheel driven worm gear (fully enclosed) for vertical travel of 90° above to 60° below horizontal; shall have full 360° horizontal travel with positive twist-lock mechanism; shall be capable of flowing up to 1250 gpm; shall have grease fittings for easy lubrication of gear and ball races; shall have 200 psi liquid-filled gauge (8393P only); shall be furnished with 3" 150# ANSI flange base (3.0" NPT and 4.0" 150# ANSI flange bases optional); shall be FM approved and CE certified; shall have red urethane enamel finish.

### STINGRAY® IV (8393IV [2.0])

Monitor shall be constructed of rugged, corrosion resistant brass alloys; monitor shall have a single waterway with a 3" interior diameter brass tubing; full waterway shall allow for constant flows up to 1250 gpm; monitor shall have a hand-wheel driven worm gear that shall be fully enclosed; stainless steel worm gear shall control the full 360° rotation with 140° of vertical travel with 70° above to 70° below the horizontal plane that shall hold position wherever it is stopped; shall be equipped with a

positive twist-lock mechanism when full rotation is used; shall be equipped with an integral 3" quarter-turn, full flow ball valve with an "F" handle (Elkhart model #2893); monitor shall have four ball races with bronze balls and greased zerks for easy lubrication; shall be equipped with 3" 150# ANSI mounting flange and a 2.5" NH male outlet; and shall have a red urethane enamel finish.

### COPPERHEAD (8593)

Monitor shall be constructed of rugged, corrosion resistant brass alloys; shall have a 3" waterway with cast-in vane that shall allow for constant flows up to 1250 gpm; shall have a 24" stainless steel rod to control the full 360° rotation; vertical movement shall be 90° above to 45° below the horizontal plane that shall hold position wherever it is stopped; shall be equipped with stainless steel lock hardware for positioning; shall have brass balls in all swivel joints with greased fittings for easy lubrication; shall be equipped with a 3" 150# ANSI mounting flange and a 2.5" NHT male outlet; and shall be painted red urethane enamel. (Optional — pressure gauge, part number 39130000, available. The pressure gauge shall be liquid-filled with calibration readings from 0 to 200 psi.)

### PYTHON® INDUSTRIAL MONITOR (299-11)

Monitor of single waterway design shall be constructed of rugged, corrosion resistant brass; shall have waterway of 2.5" I.D. brass tubing; shall have cast swivel brass joints with bronze balls and grease zerks for easy lubrication; shall have full 360° rotation with brass and stainless steel twist-lock mechanism; shall have 150° vertical travel (90° above to 60° below horizontal) controlled with stainless steel handle rod and brass and stainless steel twist-lock mechanism; shall be capable of flowing up to 1250 gpm with minimal friction loss; shall be FM approved; and shall have red urethane enamel finish.

### GIANT PYTHON® INDUSTRIAL MONITOR (299-20)

Monitor of single waterway design shall be constructed of rugged, corrosion resistant stainless steel, shall have waterway of 3.5" I.D. stainless steel tubing; shall have cast stainless steel swivel joints with stainless steel balls and grease zerks for easy lubrication; shall have full 360° rotation controlled by hand-wheel driven worm gear; shall have 150° vertical travel controlled by hand-wheel driven worm gear; shall have worms and gears of chrome-plated brass; shall have built in 300lb pressure gauge; shall be capable of flowing up to 2500 gpm with minimal friction loss; shall be FM approved; and shall be red urethane enamel finish.

### MONITOR EXTENDER (8598)

Extender is designed to provide better clearance for the monitor to allow for a wider coverage range and address firefighter safety concerns; 18" Extender shall be compatible with the a range of compact monitors; shall be designed for use with monitor and nozzle flow ratings of 1250 gpm maximum with 100 psi nozzle pressure with a maximum inlet pressure rating of 200 psi; shall be electrically actuated through a pump panel pushbutton control pad and designed for a static load of up to 2500 pounds in any position; shall allow deployment of the monitor in 10 seconds; installation kit shall have an in-cab warning light that shall alert the driver when unit is not retracted; pressure switch shall be provided to limit movement when internal pressure exceeds 10 psi to avoid injury to personnel and damage to equipment; automatic drain system shall be provided on the vertical piping to drain all water from the monitor and piping upon closing of the water valve; shall have a 3" Victaulic base by a 3" Flange outlet for attachment to apparatus piping; Extender package shall include all items required for installation; wiring harnesses shall be available in lengths from 5 to 40 feet; and system shall be powered from the chassis electrical system and shall be in compliance with applicable 2003 NFPA #1901 standards.

## VALVES

### FIELD ADJUSTABLE PRESSURE REDUCING VALVE (URFA-20, URFA-20S, AND URFA-25)

2.5" right angle field adjustable pressure reducing valve (URFA-20) or 2.5" in-line field adjustable pressure reducing valve (URFA-20S) or 2.5" right angle field adjustable pressure reducing hose valve (URFA-25) shall have a nested spring design utilizing two custom springs allowing a low torque field adjustment of the pressure reducing functions; shall have a 5" hand-wheel requiring less than 15.5 ft-lbs. of torque to open or close the valve; shall utilize a hydraulic piston and cylinder assembly within the lower bonnet to self-throttle in response to pressure change on the downstream side of the valve; shall self-close to maintain a reduced pressure under no-flow conditions; shall self throttle maintaining reduced pressure conditions when flowing and have a built in check valve; shall have five (5) field adjustable valve settings (A-E) on a color coded indication label; pin in hex security screws shall be installed to secure the hand-wheel and a high impact plastic shield covering the pressure reducing adjustment mechanism; one (1) pin in hex bit shall be supplied with each valve; pressure adjustment mechanism shall be utilized using an aluminum

adjustment rod provided with each valve and actuated by rotating in either a clockwise or a counter clockwise direction; pressure gauge taps shall be provided on the inlet and the discharge side of the valve; two (2) capped threaded taps on each side of the upper bonnet shall be provided for the installation of an optional tamper proof supervisory switch; and shall be UL and NY City MEA approved.

### **OPTIONAL SUPERVISORY SWITCH FOR USE WITH URFA VALVES**

UL Approved integral tamper resistant supervisory alarm switch contained within a UL approved enclosure with pin in hex security screws providing enhanced security for installation on either side of the valve by threading it into the upper bonnet

### **UNIBODY VALVE FOR APPARATUS (EB15, EB20, EB25, EB30, AND EB35)**

Valve shall be constructed of an all brass body, stainless steel ball with dual polymer seats; shall be capable of accepting any actuator without breaking the waterway; shall be capable of bi-directional flow and incorporating a self-locking ball; shall be capable of swinging out of the waterway for maintenance; shall not require lubrication of seats or any other internal waterway components; shall be manufactured and assembled in the United States and carry a 10 year manufacturer's warranty.

### **UNIBODY VALVE FOR APPARATUS (EB40)**

Valve shall be constructed of an all brass body with a 4" full flow waterway; shall utilize a bronze flat ball design with a single urethane seat; shall not require lubrication of seats or any other internal waterway components; shall be capable of swinging out of the waterway for maintenance; shall be manufactured and assembled in the United States and carry a 10 year manufacturer's warranty.

### **UNIBODY ELECTRIC CONTROLLER (UBEC 1)**

The electric valve controller shall have an all aluminum housing sealed to NEMA 4 rating. The controller shall operate the electric valve from a supply voltage of 12-24VDC and require no more than 10 amps. The controller shall display the actual position of the valve from open to close in 10% increments and include a user programmable preset position button. The controller shall control valve travel via a sealed position sensor and employ current limiting only as a fail-safe means of stopping travel.

### **UNIBODY ELECTRIC CONTROLLER (UBEC 2)**

The electric valve controller shall have an all aluminum housing sealed to NEMA 4 rating. The controller shall operate the electric valve from a supply voltage of 12-24VDC and require no more than 10 amps. The controller shall display the actual position of the valve from open to close in 10% increments, display pressure digitally, and include a user programmable preset position button. The controller shall control valve travel via a sealed position sensor and employ current limiting only as a fail-safe means of stopping travel.

### **UNIBODY ELECTRIC CONTROLLER (UBEC 3)**

The electric valve controller shall have an all aluminum housing sealed to NEMA 4 rating. The controller shall operate the electric valve from a supply voltage of 12-24VDC and require no more than 10 amps. The controller shall display the actual position of the valve from open to close in 10% increments, display pressure digitally, display flow digitally, and include a user programmable preset position button. The controller shall control valve travel via a sealed position sensor and employ current limiting only as a fail-safe means of stopping travel.

### **UNIBODY ELECTRIC CONTROLLER (UBEC 1S)**

The electric valve controller shall have compact surface mount housing sealed to NEMA 6 rating (full submersion) with large, positive tactile feedback snap buttons. The controller shall operate the electric valve from a supply voltage of 11-30VDC. The controller shall have direct hard wire connection to the electric valve with an open, close, and user programmable preset buttons. The controller shall have full open and full close direct feedback valve position LED indicators. A color coding kit should be available with the controller for color coding per NFPA.

### **UNIBODY ELECTRIC CONTROLLER (UBEC 1C)**

The electric valve controller shall have compact surface mount housing sealed to NEMA 6 rating (full submersion) with large, positive tactile feedback snap buttons. The controller shall operate the electric valve from a supply voltage of 11-30VDC. The controller shall have a J1939 CAN communication link to the electric valve with an open, close, and user programmable preset buttons. The controller shall have 10 segment, full open and full close direct feedback valve position LED indicators. LED indicators should auto-dim and have user programmable LED intensity. The controller shall be compatible with any EXM enabled device. A color coding kit

should be available with the controller for color coding per NFPA. handheld control shall be powered by two (2) readily available AA batteries with a life cycle of 20 hours of continuous operation; automatic power down feature shall be incorporated to place the handheld remote into "sleep mode" after five minutes of inactivity; On/Off button shall also be provided to manually control the power usage of the remote; low battery LED indicator light shall illuminate two hours prior to depletion of the batteries; panel mounted control shall override function of the handheld device if used simultaneously; wireless devices shall be FCC Part 15 compliant and not require a license; and system electrical components shall be completely shock, vibration, drop and environmentally tested and certified to meet all requirements of the fire service.



### Legacy to XD Handline Nozzle Cross Reference Guide

| Legacy Model        | XD Model  |
|---------------------|---|
| 4000-14 / 4000-14HR | Mid Range Chief XD Tip                                      |
| 4000-24             | High Range Chief XD Tip                                     |
| 4000-16             | Mid Range Chief XD Nozzle                                   |
| 4000-17             | Mid Range Chief XD Nozzle with Pistol Grip                  |
| 4000-20             | High Range Chief XD Nozzle (1.5")                           |
| 4000-23             | High Range Chief XD Nozzle (1.5") with Pistol Grip          |
| 4000-26             | High Range Chief XD Nozzle (2.5")                           |
| 4000-28             | High Range Chief XD Nozzle (2.5") with Pistol Grip          |
| B-375-A             | 1.5" XD Shutoff   |
| B-375-GA            | 1.5" XD Shutoff with Pistol Grip                            |
| B-375-AT            | 1.5" Shutoff with Integrated Smooth Bore                    |
| B-375-GAT           | 1.5" XD Shutoff with Pistol Grip and Integrated Smooth Bore |
| DB-375-A            | 2.5" XD Shutoff   |
| DB-375-GA           | 2.5" XD Shutoff with Pistol Grip                            |
| DB-375-AT           | 2.5" Shutoff with Integrated Smooth Bore                    |
| DB-375-GAT          | 2.5" XD Shutoff with Pistol Grip                            |
| B-278               | 2.5" XD Playpipe  |
| B-278-L             | 2.5" XD Playpipe with Ladder Hook                           |
| 185-A               | 185-XD Smooth Bore Tip                                      |
| 187-A               | 187-XD Smooth Bore Tip                                      |
| 188-A               | 188-XD Smooth Bore Tip                                      |
| ST-185-A            | ST-185-XD "FDNY Stack"                                      |
| ST-185-AIFD         | ST-185-XD-IFD "Indy Stack"                                  |
| ST-190-BA           | ST-190-XD "Triple Stack"                                    |



# TECHNICAL DATA



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TECHNICAL DATA

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## UNIBODY WARRANTY

### UNIBODY VALVE LIMITED WARRANTY

Elkhart Brass Manufacturing Company, Inc., 1302 West Beardsley Avenue, Elkhart, Indiana 46514

("Warrantor"), warrants to the original purchaser of the new Unibody Valve series equipment manufactured by Warrantor and to any person to whom such equipment is transferred, that such equipment shall be free from defects in materials and workmanship during the ten (10) year period commencing upon the receipt of such equipment by the original purchaser thereof ("warranty period"). This Limited Warranty does not cover the Unibody valve ball and seat (wear items).

Warrantor's obligation under this warranty is specifically limited to replacing or repairing its equipment or parts thereof which are shown by Warrantor's examination to be in a defective condition attributable hereunder to Warrantor. To qualify for this warranty, alleged defective equipment MUST be returned to Warrantor at its above address, transportation charges prepaid, within a reasonable time after discovery of an alleged defect, and in no event later than thirty (30) days beyond the expiration of the warranty period. In no case will labor associated with removal and replacement/repair of defective components be reimbursed without prior written approval, from a Director or Officer representative, of Elkhart Brass. If, as a result of Warrantor's examination of the returned equipment, Warrantor concludes that a product defect attributable hereunder to Warrantor exists, Warrantor shall cure such defect within a reasonable time, not to exceed forty-five (45) days after such examination. Workmanship related to non-warranty repairs shall be warranted for a ninety day period.

In the event that a defect in such equipment is found to be attributable hereunder to Warrantor and Warrantor is unable to provide replacement and repair is not commercially practicable or cannot be timely made, Warrantor may elect to refund to claimant the purchase price of such equipment actually received by warrantor, less reasonable depreciation, in complete discharge of its obligations hereunder. If Warrantor elects to comply with this warranty by means of such refund, as a condition precedent to such compliance, the claimant shall return such equipment to Warrantor free and clear of liens and other encumbrances.

THE ORIGINAL PURCHASER OF SUCH EQUIPMENT, ANY PERSON TO WHOM SUCH EQUIPMENT IS TRANSFERRED, AND ANY PERSON WHO IS AN INTENDED OR UNINTENDED BENEFICIARY OF SUCH EQUIPMENT, SHALL NOT BE ENTITLED TO RECOVER FROM WARRANTOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES FOR INJURY TO PERSON AND/OR PROPERTY RESULTING FROM ANY DEFECTIVE EQUIPMENT MANUFACTURED BY WARRANTOR.

Misuse or neglect (including failure to provide reasonable maintenance) of, or accident or unauthorized repairs or alterations to, such equipment, shall release and discharge Warrantor from any obligation under this warranty or otherwise.

WARRANTOR EXPRESSLY LIMITS WITH RESPECT TO SUCH EQUIPMENT ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND ALL IMPLIED WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE TO THE WARRANTY PERIOD. AFTER EXPIRATION OF THE WARRANTY PERIOD, WARRANTOR EXPRESSLY DISCLAIMS WITH RESPECT TO SUCH EQUIPMENT ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND ALL IMPLIED WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE. THERE IS NO WARRANTY OF ANY NATURE MADE BY WARRANTOR BEYOND THAT WHICH IS CONTAINED HEREIN.

Should Warrantor fail to meet its obligations under this warranty, a claimant may sue Warrantor to secure its compliance with this warranty. No action to enforce this warranty or to otherwise secure recovery from Warrantor for any damages arising out of the equipment manufactured by Warrantor shall be commenced later than eleven (11) years from and after the date of the receipt of such equipment by the original purchaser thereof.

NO PERSON HAS AUTHORITY TO ENLARGE, AMEND, OR MODIFY THIS WARRANTY.

Warrantor reserves the right to change the parts or design of its products from time to time without notice, and with no obligation to maintain spare parts or to make corresponding changes in the products previously manufactured.

**LIMITED WARRANTY**

Elkhart Brass Manufacturing Company, Inc., 1302 West Beardsley Avenue, Elkhart, Indiana 46514 ("Warrantor"), warrants to the original purchaser of the new equipment manufactured by Warrantor and to any person to whom such equipment is transferred, that such equipment shall be free from defects in materials and workmanship during five (5) year period (electrical components two [2] years) commencing upon receipt of such equipment by the original purchaser thereof ("warranty period"). This Limited Warranty does not cover wear items (such as):

- Nozzles: Ball and seat, bumper, teeth
- Valves: Ball and seat

Warrantor's obligation under this warranty is specifically limited to replacing or repairing its equipment or parts thereof which are shown by Warrantor's examination to be in a defective condition attributable hereunder to Warrantor. To qualify for this warranty, alleged defective equipment MUST be returned to Warrantor at its above address, transportation charges prepaid, within a reasonable time after discovery of alleged defect, and in no event later than thirty days beyond the expiration of the warranty period. In no case will labor associated with removal and replacement/repair of defective components be reimbursed without prior written approval, from a Director or Officer level representative, of Elkhart Brass. If, as a result of Warrantor's examination of the returned equipment, Warrantor concludes that a product defect attributable hereunder to Warrantor exists, Warrantor shall cure such defect within a reasonable time, not to exceed forty-five (45) days after such examination. Workmanship related to non-warranty repairs shall be warranted for a ninety day period.

In the event that a defect in such equipment is found to be attributable hereunder to Warrantor and Warrantor is unable to provide replacement and repair is not commercially practicable or cannot be timely made, Warrantor may elect to refund to claimant the purchase price of such equipment actually received by warrantor, less reasonable depreciation, in complete discharge of its obligations hereunder. If Warrantor elects to comply with this warranty by means of such refund, as a condition precedent to such compliance, the claimant shall return such equipment to Warrantor free and clear of liens and other encumbrances.

THE ORIGINAL PURCHASER OF SUCH EQUIPMENT, ANY PERSON TO WHOM SUCH EQUIPMENT IS TRANSFERRED, AND ANY PERSON WHO IS AN INTENDED OR UNINTENDED BENEFICIARY OF SUCH EQUIPMENT, SHALL NOT BE ENTITLED TO RECOVER FROM WARRANTOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES FOR INJURY TO PERSON AND/OR PROPERTY RESULTING FROM ANY DEFECTIVE EQUIPMENT MANUFACTURED BY WARRANTOR.

Misuse or neglect (including failure to provide reasonable maintenance) of, or accident or unauthorized repairs or alterations to, such equipment, shall release and discharge Warrantor from any obligation under this warranty or otherwise.

WARRANTOR EXPRESSLY LIMITS WITH RESPECT TO SUCH EQUIPMENT ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND ALL IMPLIED WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE TO THE WARRANTY PERIOD. AFTER EXPIRATION OF THE WARRANTY PERIOD, WARRANTOR EXPRESSLY DISCLAIMS WITH RESEPECT TO SUCH EQUIPMENT ALL IMPLIED WARRANTIES OF MERCHANGABILITY AND ALL IMPLIED WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE. THERE IS NO WARRANTY OF ANY NATURE MADE BY WARRANTOR BEYOND THAT WHICH IS CONTAINED HEREIN.

Should warrantor fail to meet its obligation under this warranty, a claimant may sue Warrantor to secure its compliance with this warranty. No action to enforce this warranty or to otherwise secure recovery from Warrantor for any damages arising out of the equipment manufactured by Warrantor shall be commenced later than six (6) years (electrical components three [3] years) from and after the date of the receipt of such equipment by the original purchaser thereof.

NO PERSON HAS AUTHORITY TO ENLARGE, AMEND, OR MODIFY THIS WARRANTY.

Warrantor reserves the right to change the parts or design of its products from time to time without notice, and with no obligation to maintain spare parts or to make corresponding changes in the products previously manufactured.



Elkhart Brass is proud to be ISO 9001 registered with internationally recognized NDQ Certification. Our registration refers to certificate #12063 which is on file in our office. This certification is just one way of showing our commitment to excellence.





**The Most Experienced Manufacturer of  
Fire Fighting Equipment**

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