



turf products

SINCE 1970

A photograph of a golf course during an irrigation cycle. Several large, conical water jets are spraying across a green fairway. In the foreground, a dark blue tarp is partially visible, and the water's surface is shimmering with sunlight.

**IRRIGATION DIVISION
PRODUCTS CATALOG**



turf products

Irrigation Division

For over 45 years, Turf Products has provided high quality irrigation supplies by delivering what you need, when you need it. Our Product Catalog features thousands of major brands parts and accessories. We will only provide materials that are designed for our industry and have been proven to provide years of service.

Great prices, convenient one-call shopping, and unmatched product knowledge from a company you have come to trust. Turf Products has served the industry since 1970 and is unsurpassed in its dedication to excellence in parts availability and customer service.

Use this catalog the next time you are looking for products for your irrigation or drainage project, need equipment for an emergency repair, or just stocking up on spare parts. Our knowledgeable staff will fulfill and expedite your order quickly.

CONTACT INFORMATION

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Toro offers a full line of swing joints that cover all Golf sprinkler thread types. Swing joints provide the flexibility to align the sprinkler to proper grade and level positioning to ensure optimum water use through maximum nozzle distribution uniformity.

FEATURES & BENEFITS

Minimize Friction Loss

1", 1¼" and 1½" models are available to cover flows exceeding 80 Gpm, and minimize friction loss to ensure optimum pressure is available at each sprinkler.

Standard 2X90 And Ultra 4X90 Outlet Configurations

The standard 2x90 models provide two 90's at the outlet for alignment in two directions and the Ultra 4x90 models provide four 90's at the outlet for maximum alignment flexibility in four directions.

Saddle And Glue Tee Models

Glue tees for PVC piping applications and saddle tees for HDPE and PVC piping applications. Both tee styles are available with 1", 1¼" and 1½" double o-ring sealing outlets.

Quick Coupler Models

All swing joint styles are available with a quick coupler outlet that includes both an anti-rotation and position stabilizing feature to ensure the quick coupling valve stays secure during key installation and removal.





1 1/4" Female ACME x 1" Male ACME Adapter
Allows you to upgrade existing Rain Bird® Eagle 700 1 1/4" sprinklers to any Toro 800S or DT Series Sprinkler. P/N TA36-132

Durability And Reliability
Constructed from schedule 80 PVC for durability and provide double o-ring seals on all swing fittings to ensure a lifetime of reliability and leak free performance.



Additional Features

- ✓ Schedule 80 PVC construction
- ✓ Double o-ring swivel joints
- ✓ Low friction loss characteristics
- ✓ 315 psi pressure rating
- ✓ 800 psi burst pressure safety rating
- ✓ Standard models with 2X90 outlet configuration
- ✓ Ultra models with 4X90 outlet for maximum alignment flexibility
- ✓ 3 inlet fittings styles: ACME, male thread and 4" spigot
- ✓ 2 outlet fitting styles: ACME and male thread
- ✓ 12" and 18" lay lengths
- ✓ Saddle Tee models: 2" tee w/ 1", 1 1/4" or 1 1/2" outlet
- ✓ Glue Tee models: 2" tee w/ 1", 1 1/4" or 1 1/2" outlet
- ✓ Glue 90° models: 2" 90° w/ 1", 1 1/4" or 1 1/2" outlet
- ✓ Quick coupler models w/ Dura-lock anti-rotation feature
- ✓ Compatible with all brands of service and saddle tees



1", 1 1/4" and 1 1/2"



Standard 2x90 and Ultra 4x90



Quick Coupler



Glue tees, Saddle tees

Warranty

- Five years
- Toro Golf sprinkler warranty extended to 5 years when purchased and installed with a Toro Swing Joint

Toro Tool Tip:

Use a 1 1/4" hole saw for the 1" Saddle Tee.

Use a 1 1/2" hole saw for the 1 1/4" and 1 1/2" Saddles.



Specifying Information—Toro Swing Joints

TSJ-XXXX-XX-XX-X-XXX*							
Description	Inlet Size	Inlet Type	Size	Length	Number of Elbows	Outlet Size	Outlet Type
TSJ	XX	XX	XX	XX	X	XX	X
TSJ—Toro Swing Joint	10—1" 12—1.25" 15—1.5"	M—MPT (male pipe thread) S—4" Spigot A—ACME thread GE—Glue elbow GT—Glue Tee ST—Saddle Tee	Blank—same as inlet size 10—1" 12—1.25" 15—1.5"	12—12" Lay Length 18—18" Lay Length	3—Standard Unibody 4—Standard Unibody for Saddle Tees 5—Ultra Unibody 6—Ultra Unibody for Saddle Tees	10—1" 15—1.5"	M—MPT (Male pipe thread) A—ACME thread QC—Quick Coupler
Example: A Toro 1 1/4" Swing Joint with an ACME inlet, 12" lay length, 3 elbows (standard uni-body) and 1 1/2" ACME outlet fitting would be specified as: TSJ-15A-12-3-15A							



LASCO SWING JOINTS

LASCO® Swing Joints Listed



Equivalents Available

Swing Joints are molded of rigid polyvinyl chloride (PVC). Type 1, Cell classification 12454-B per ASTM specification D 1784, with NPT threads and pipe sockets per ASTM D 2464 and D2466, respectively. Each rotating joint is sealed with a Buna rubber O-ring, installed pre-compressed in a sealing groove free of parting lines to prevent leakage. Modified stub ACME threads have special engineered (S.E.) diameters and clearances to allow full circle (360°) movement and to reduce stress concentrations and joint fracture at thread roots.

STANDARD UNITIZED SWING JOINTS



(12" Lay Length)

SIZE (IN.)	INLET (Fitting End) X OUTLET (Sprinkler End)	PART NO.
1	1" MPT x 1" MPT	LAS-G132-212
1	1" MPT x 1" ACME MPT	LAS-G130-212
1	1.5" ACME MPT x 1" ACME MPT	LAS-G1M0-212
1	1.5" ACME SADDLE x 1" ACME MPT	LAS-G1P0-212
1.25	1.25" MPT x 1" MPT	LAS-G237-212
1.25	1.25" MPT x 1.25" MPT	LAS-G232-212
1.25	1.25" MPT x 1" ACME MPT	LAS-G23C-212
1.25	1.25" MPT x 1.25" ACME MPT	LAS-G230-212
1.25	1.5" ACME MPT x 1" ACME MPT	LAS-G2MC-212
1.25	1.5" ACME MPT x 1.25" ACME MPT	LAS-G2M0-212
1.25	1.5" ACME SADDLE x 1" ACME MPT	LAS-G2PC-212
1.25	1.5" ACME SADDLE x 1.25" ACME MPT	LAS-G2P0-212
1.5	1.5" MPT x 1.5" MPT	LAS-G332-212
1.5	1.5" MPT x 1.5" ACME MPT	LAS-G330-212
1.5	1.5" ACME MPT x 1.5" ACME MPT	LAS-G3M0-212
1.5	1.5" ACME SADDLE x 1.5" ACME MPT	LAS-G3P0-212

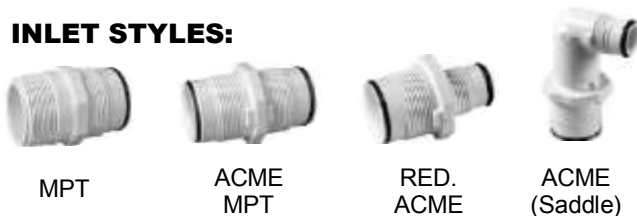
TRIPLE-TOP UNITIZED SWING JOINTS



(12" Lay Length)

SIZE (IN.)	INLET (Fitting End) X OUTLET (Sprinkler End)	PART NO.
1	1" MPT x 1" MPT	LAS-G132-412
1	1" MPT x 1" ACME MPT	LAS-G130-412
1	1.5" ACME MPT x 1" ACME MPT	LAS-G1M0-412
1	1.5" ACME SADDLE x 1" ACME MPT	LAS-G1P0-412
1.25	1.25" MPT x 1" MPT	LAS-G237-412
1.25	1.25" MPT x 1.25" MPT	LAS-G232-412
1.25	1.25" MPT x 1" ACME MPT	LAS-G23C-412
1.25	1.25" MPT x 1.25" ACME MPT	LAS-G230-412
1.25	1.5" ACME MPT x 1" ACME MPT	LAS-G2MC-412
1.25	1.5" ACME MPT x 1.25" ACME MPT	LAS-G2M0-412
1.25	1.5" ACME SADDLE x 1" ACME MPT	LAS-G2PC-412
1.25	1.5" ACME SADDLE x 1.25" ACME MPT	LAS-G2P0-412
1.5	1.5" MPT x 1.5" MPT	LAS-G332-412
1.5	1.5" MPT x 1.5" ACME MPT	LAS-G330-412
1.5	1.5" ACME MPT x 1.5" ACME MPT	LAS-G3M0-412
1.5	1.5" ACME SADDLE x 1.5" ACME MPT	LAS-G3P0-412

INLET STYLES:



OUTLET STYLES:



Lay lengths of 8" and 18" also available. Other Inlet and Outlet configurations can be ordered.

(800) 296-7442

Irrigation Division Products Catalog

SWING JOINTS & SERVICE FITTINGS



STANDARD SNAPLOCK

SWING JOINTS FOR QUICK COUPLER VALVES



(12" Lay Length)

SIZE (IN.)	INLET (Fitting End) X OUTLET (QCV End)	PART NO.
1	1" MPT x 1" MPT	LAS-G13S-212
1	1.5" ACME MPT x 1" MPT	LAS-G1MS-212
1	1.5" ACME SADDLE x 1" MPT	LAS-G1PS-212
1.5	1.5" MPT x 1.5" MPT	LAS-G33S-212
1.5	1.5" ACME MPT x 1.5" MPT	LAS-G3MS-212
1.5	1.5" ACME SADDLE x 1.5" MPT	LAS-G3PS-212

SNAPLOCK swing joints available in 8" and 18" lay lengths as well as "Triple-Top" configuration.

TURF SWIVEL SWING JOINTS



SIZE (IN.)	INLET (Fitting End) X OUTLET (Sprinkler End)	PART NO.
1/2"	1/2" MPT x 1/2" MPT (COMPACT)	LAS-T1205
1/2"	1/2" MPT x 1/2" MPT (12")	LAS-T532-212
1/2"	1.5" ACME MPT x 1/2" MPT (12")	LAS-T5M2-212
1/2"	1.5" ACME SADDLE x 1/2" MPT (12")	LAS-T5P2-212
3/4"	3/4" MPT x 3/4" MPT (COMPACT)	LAS-T1207
3/4"	3/4" MPT x 3/4" MPT (12")	LAS-T732-212
3/4"	1.5" ACME MPT x 3/4" MPT (12")	LAS-T7M2-212
3/4"	1.5" ACME SADDLE x 3/4" MPT (12")	LAS-T7P2-212

1/2" AND 3/4" swing joints are also available in 8", 15" and 19" lay lengths.

SERVICE ELBOW



(slip x ACME)

SIZE (IN.)	PART NO.	CARTON (QTY.)
2 x 1.5	LAS-307-251	10
2.5 x 1.5	LAS-307-291	5
3 x 1.5	LAS-307-337	5

SERVICE TEE



(slip x slip x ACME)

SIZE (IN.)	PART NO.	CARTON (QTY.)
2 x 2 x 1.5	LAS-302-251	10
2.5 x 2.5 x 1.5	LAS-302-291	5
3 x 3 x 1.5	LAS-302-337	5

TAP'T SADDLE



(1.5" ACME Outlet—2" and larger & 1" Socket Outlet—1.5" saddles)

SIZE (IN.)	PART NO.	CARTON (QTY.)
1.5 x 1	LAS361-211	5
2 x 1.5	LAS364-251	5
3 x 1.5	LAS364-337	5
4 x 1.5	LAS364-419	5

Tap'T Saddles are designed to be used on HDPE pipe and has a molded to seal to compensate for misaligned holes. Bolts are 304 Stainless Steel.

FPT—ACME OUTLET ADAPTER



SIZE (IN.)	PART NO.	CARTON (QTY.)
1 x 1	LAS-G102-010	50
1 x 1.25	LAS-G102-132	5
1.25 x 1.25	LAS-G202-012	25
1.5 x 1.25	LAS-G302-162	5
1.5 x 1.5	LAS-G302-015	25

Converts any brand of swing joint with FPT threads to ACME. Allows newer ACME sprinklers to be installed on older existing swing joints.

Replacement inlet and outlet fittings for all swing joint are available. Please call with specific needs.



GATE VALVES—CAST IRON

C509 RESILIENT WEDGE GATE VALVES



VALVES WITH PUSH-ON ENDS
(For SDR PVC Pipe)

SIZE (IN.)	PART NO.
2	CLOW2630-DD-2
2.5	CLOW2630-DD-2.5
3	CLOW2630-DD-3
4	CLOW2630-DD-4
6	CLOW2630-DD-6
8	CLOW2630-DD-8
10	CLOW2630-DD-10
12	CLOW2630-AA-12

12" valves are Mechanical Joint ends with included adapters for PVC pipe push-on connection.

- Valves are rated for 250 PSI for AWWA Service and 200 PSI for ULFM Service. Valves are hydrostatically tested to 500 PSI.
- Corrosion resistant fusion-bonded epoxy coating inside and outside of valve.
- Cast iron wedge 100% encapsulated with rubber.



VALVES WITH FLANGED ENDS

SIZE (IN.)	PART NO.
2.5	CLOW2630-20-2.5
3	CLOW2630-20-3
4	CLOW2630-20-4
6	CLOW2630-20-6
8	CLOW2630-20-8
10	CLOW2630-20-10
12	CLOW2630-20-12



VALVES WITH HDPE ENDS
(DR11 / PE 3408)

SIZE (IN.)	PART NO.
3	HAR74-315503
4	HAR74-315504
6	HAR74-315506
8	HAR74-315508
10	HAR74-315510
12	HAR74-315512

OTHER MANUFACTURERS OF CAST IRON GATE VALVES AVAILABLE:



Kennedy Valve





CLASS 125 BRONZE GATE VALVES

125 PSI/8.6 Bar Saturated Steam to 353° F/178° C
200 PSI/13.8 Bar Non-Shock Cold Working Pressure

NIBCO T113 THREADED BRONZE GATE VALVE

W/BRONZE HAND WHEEL



SIZE (IN.)	PART NO.
1	NIB-T113-010-BHW
1.25	NIB-T113-012-BHW
1.5	NIB-T113-015-BHW
2	NIB-T113-020-BHW
2.5	NIB-T113-025-BHW
3	NIB-T113-030-BHW

NIBCO T113 THREADED BRONZE GATE VALVE

WITH CROSS HANDLE



SIZE (IN.)	PART NO.
1	NIB-T113K-010
1.25	NIB-T113K-012
1.5	NIB-T113K-015
2	NIB-T113K-020
2.5	NIB-T113K-025
3	NIB-T113K-030

NIBCO T113 PUSH-ON BRONZE GATE VALVE

WITH CROSS HANDLE



SIZE (IN.)	PART NO.
2	NIB-PR-113K-020

BOSTON BRASS VALVES

BOSTON THREADED GATE VALVE

FULL PORT
WITH HAND WHEEL



SIZE (IN.)	PART NO.
1	GTV100-010C
1.25	GTV100-012C
1.5	GTV100-015C
2	GTV100-020C
2.5	GTV100-025C
3	GTV100-030C



70-100 BRONZE BALL VALVES

- Threaded, 600 psig WOG, Cold Non-Shock. 150 psig Saturated Steam
- Chromium plated ball • Blow-out-proof stem design
- RPTFE seats and stuffing box ring • Adjustable packing gland

APOLLO THREADED BRONZE BALL VALVE

WITH LEVER HANDLE



SIZE (IN.)	PART NO.
3/8	APOLLO-70-102-01
3/4	APOLLO-70-104-01
1	APOLLO-70-105-01
1.25	APOLLO-70-106-01
1.5	APOLLO-70-107-01
2	APOLLO-70-108-01
2.5	APOLLO-70-109A-01
3	APOLLO-70-100-01

Change last 2 digits of part number from "01" to "10" for stainless-steel lever and nut option.

APOLLO THREADED BRONZE BALL VALVE

WITH "TEE" HANDLE



SIZE (IN.)	PART NO.
1	APOLLO-70-105-07
1.25	APOLLO-70-106-07
1.5	APOLLO-70-107-07
2	APOLLO-70-108-07
2.5	APOLLO-70-109A-07
3	APOLLO-70-100-07

Change last 2 digits of part number from "07" to "32" for stainless-steel tee-handle and nut option.

NORDSTROM POLY-WATER HDPE BALL VALVE

WITH BUTT-FUSION ENDS



SIZE (IN.)	PART NO.
2	HAR74-5102
3	HAR74-5103
4	HAR74-5104
6	HAR74-5106



Valve boxes are used for practical, aesthetic and security reasons wherever valves or off-fairway GDC modules need to be installed below grade but remain accessible for monitoring or service. Toro offers a full line of valve boxes that will fit valves up to 4" and 1-, 2- and 4- station GDC modules.

Features & Benefits

T-lip Lid Design

The T-lip lid design keeps dirt out to prevent jamming and provides improved grip for lid removal and easy access to the equipment inside. The secure snap fit and bolt retention ensure that only authorized personnel will have access.

Wide Range Of Sizes

Toro offers a wide range of round and rectangular boxes to meet every need. 6", 7" and 10" round; and 12" x 17" and 15" x 21" rectangular in both 12" standard depth and 6" shallow depth. With the reverse stack capability and rectangular 6" extensions tackling deeper installations can be easily accomplished.

Variety of Colors

Toro valve boxes and covers come in a wide variety of colors to blend into the surrounding environment or to identify specific applications. Green for grass, tan for sand and purple for non-potable water applications. Black and brown to blend in with a variety of soils and mulches and gray for electrical applications.

Durable Construction

Valve boxes are constructed of H.D.P.E. (High-Density Polyethylene) with heavy-duty wall sections designed to provide a secure enclosure to protect your equipment investment.



Reverse Stack
Allows for deeper installations in an initial 12" then 24" increments.

Rectangular Extension Boxes
Rectangular extensions allow for deeper installation in 6" increments





Ordering Information—Round Valve Boxes

TVB-XXRND-XX		
Type	Size	Color Description
TVB	XXRND	XX
TVB—Toro Valve Box	6—6" Round 7—7" Round 10—10" Round	Blank—Green lid and black box G—Green lid and box GY—Gray lid and box (electrical) T—Tan lid and box E—Purple lid and box (effluent) BK—Black lid and box BR—Brown lid w/black box
Example - A Toro 7" round valve box for effluent water applications would be specified as: TVB-7RND-E		

Description	A Length	B Width	C Height	Weight (lbs)
6"	6.3"	8.1"	9.0"	1.15 lbs
7"	6.8"	9.3"	9.0"	1.80 lbs
10"	9.9"	13.0"	10.3"	3.39 lbs



Ordering Information—Rectangular Valve Boxes

TVB-XXXX-XX-XX			
Type	Size	Height	Color Description
TVB	XXXX	XX	XX
TVB—Toro Valve Box	1217—12"x17" 1521—15"x21"	6—6" High 12—12" High	Blank—Green lid and black box G—Green lid and box GY—Gray lid and box (elect.) T—Tan lid and box E—Purple lid and box (effluent) BK—Black lid and box BR—Brown lid w/black box
Example - A Toro 12x17x6 rectangular valve box for effluent water applications would be specified as: TVB-1217-6-E			

Description	A Length	B Width	C Height	Weight (lbs)
12x17x6	18.8"	13.8"	6.8"	6.56 lbs
12x17x12	21.0"	16.0"	12.3"	9.05 lbs
15x21x6	24.3"	18.8"	7.2"	8.75 lbs
15x21x12	25.7"	19.1"	12.3"	12.11 lbs



Ordering Information—Rectangular Extensions

TVB-XXXX-EXT6BOX-XX				
Type	Size	Height	Color Description	
TVB	XXXX	EXT6BOX	XX	
TVB—Toro Valve Box	1217—12"x17" 1521—15"x21"	EXT6BOX—6" High	Blank—Black box G—Green box GY—Gray box (elect.) T—Tan box E—Purple box (effluent)	
Example - A Toro 6" extension for a 12"x17" tan valve box would be specified as: TVB-1217-EXT6BOX-T				
Description	A Length	B Width	C Height	Weight (lbs)
12x17x6	18.8"	13.8"	6.8"	6.71 lbs
15x21x6	24.3"	17.8"	6.9"	8.89 lbs



Ordering Information—Round Valve Box Separates

TVB-XXXXXX-XX		
Type	Size Box or Lid	Color Description
TVB	XXXXXX	XX
TVB—Toro Valve Box	6LID—6" Round lid 7LID—7" Round lid 10LID—10" Round lid BOX6—6" Box (black only) BOX7—7" Box (black only) BOX10—10" Box (black only)	G—Green lid GY—Gray lid (electrical) T—Tan lid E—Purple lid (effluent) BK—Black lid BR—Brown lid
Example - A Toro 7" round valve box lid for effluent water applications would be specified as: TVB-7LID-E		

Description	A Length	B Width	C Height	Weight (lbs)
6" lid	6.3"	8.1"	1.2"	.31 lbs
7" lid	6.8"	9.3"	1.7"	.52 lbs
10" lid	9.9"	13.0"	2.1"	1.13 lbs



Description	A Length	B Width	C Height	Weight (lbs)
6" box	6.3"	8.1"	9.0"	.77 lbs
7" box	6.8"	9.3"	9.0"	1.19 lbs
10" box	9.9"	13.0"	10.3"	2.26 lbs



Ordering Information—Rectangular Valve Box Separates

TVB-XXXX-LID-XX			
Type	Size	Height	Color Description
TVB	XXXX	LID	XX
TVB—Toro Valve Box	1217—12"x17" 1521—15"x21"	LID—Lid	Blank—Green lid G—Green lid GY—Gray lid (elect.) T—Tan lid E—Purple lid (effluent) BK—Black lid BR—Brown lid
Example - A Toro 12x17 rectangular valve box lid for effluent water applications would be specified as: TVB-1217-LID-E			

TVB-XXXX-XXXXXX			
Type	Size	Height	Color Description
TVB	XXXX	XX	XX
TVB—Toro Valve Box	1217—12"x17" 1521—15"x21"	6BOX—6" High valve box 12BOX—12" High valve box	
Example - A Toro 12x17x6 rectangular valve box would be specified as: TVB-1217-6BOX-BK			

Description	A Length	B Width	C Height	Weight (lbs)
12"x17" lid	16.9"	11.8"	2.0"	2.73 lbs
15"x21" lid	21.3"	14.9"	1.9"	3.23 lbs
12"x17"x6" box	18.8"	13.8"	6.8"	3.83 lbs
12"x17"x12" box	21"	16"	12.3"	6.32 lbs
15"x21"x6" box	24.3"	17.8"	6.9"	5.66 lbs
15"x21"x12" box	25.7"	19.1"	12.3"	8.88 lbs





TORO DRY BOXES



TVB-1217-DB (Dry Box)
Dual bolt retention (with covers) to ensure proper sealing and vandal resistance.

Heavy duty lid construction molded from High Density Polyethylene (H.D.P.E), available in Green, Tan, Purple, Black, Gray and Brown.

TVB-1217-DBAP

Optional accessory plate attaches directly to the lid and allows attachments of various components like GDC modules, elec/hyd converters, battery operated controllers and more.

Dual seal lid design keeps water and critters from creeping in from the top.

Heavy duty 12" x 17" x 12" box construction molded from High Density Polyethylene (H.D.P.E), available in Green, Tan, Purple, Black, Gray and Brown.



TVB-1217-DBDS

Optional dirt skirt attaches directly to the bottom of the valve box and provides an outer seal to prevent intrusion from burrowing rodents, water and critters.

Specifications

Static Vertical Load Rating:
SCTE – Light Duty, Pedestrian

Properties of Base Material	ASTM Test Method	HDPE
Tensile Strength	D-638	2700-4,400 psi (Typical Range)
Flexural Modulus	D-790	Minimum 140,000 not to exceed 24,000 psi
Notched Izod Impact Strength	D-256	0.5 - 3.0 (Typical Range)
Deflection Temperature @ 66Psi	D-648	150-200 F (Typical Range)
Density	D-792	Minimum 0.95- not to exceed 0.965
Electrical Dielectric Strength	D-149	400-600 V/mil (Typical Range)
Chemical Resistance	D-543	Very Resistant
Water Absorption	D-570	Less than 1% weight change

Warranty
• Five years

Specifying Information—Dry Box Valve Boxes

TVB-1217-12DB-XX			
Type	Size	Height	Color Description
TVB	1217	12DB	XX
TVB—Toro Valve Box	1217—12"X17"	12DB—12" High Dry Box	Blank—Green lid and black box G—Green lid and box GY—Gray lid and box (elect) T—Tan lid and box E—Purple lid and box (effluent) BK—Black lid and box BR—Brown lid w/black box
Example: A Toro 12"x17"x12" valve box for electrical applications would be specified as: TVB-1217-12DB-GY			



Discription	A Length	B Width	C Height	Weight (lbs)
12DB	21.0"	16.0"	12.3"	9.8 lbs

Discription	A Length	B Width	C Height	Weight (lbs)
DBAP	11.5"	8.5"	2"	0.99 lbs
DBDS	19.8"	14.5"	1.3"	2.8 lbs

Accessories	
TVB-1217-DBAP	DRY BOX Accessory Plate
TVB-1217-DBDS	DRY BOX Dirt Skirt

CARSON VALVE BOXES



Valve Boxes Manufactured by:



- Valve boxes are made of HDPE structural foam, unless indicated otherwise.
- Most valve boxes are stocked with black bodies and green "ICV" covers. Alternate body colors are available by special order.
- All Carson valve boxes are Specification Grade—especially designed for heavy-duty use on golf courses, parks, and other non-residential areas.
- Armor boxes equivalent to Carson sizes and colors are also available.

CARSON #708 6" ROUND ECONO BOX

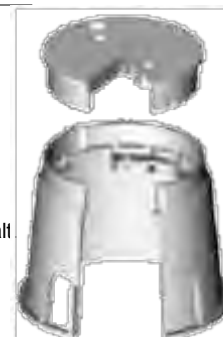
- All covers are T-Type.
- Bodies are black with 2 "Mouse Holes".
- Not for installation in concrete or asphalt.
- Dimensions:
 - Top opening—6-1/4"
 - Bottom opening—7-5/8"
 - Height—9-1/16"
 - Mouse Holes—2-1/2" x 2-1/2"



DESCRIPTION	PART NO.
ROUND BOX W/ GREEN T-COVER	BKS60-WC
ROUND BOX BODY ONLY (NO COV.)	BKS60-NC
GREEN T-COVER ONLY	BKS60-COV

CARSON #910 10" ROUND BOX

- All covers are T-Type.
- Bodies are black with 2 "Mouse Holes". Also available green, tan or purple.
- Not for installation in concrete or asphalt.
- Dimensions:
 - Top opening—9-7/8"
 - Bottom opening—11-1/2"
 - Height—10-1/4"



DESCRIPTION	PART NO.
ROUND BOX W/ GREEN T-COVER	BKS1100-WC
ROUND BOX BODY ONLY (NO COV.)	BKS1100-NC
GREEN T-COVER ONLY	BKS1100-COV

CARSON #1419 12" STANDARD RECTANGULAR BOX

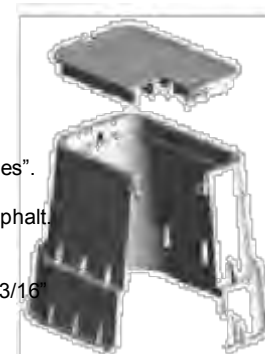
- All covers are T-Type. Also available with flush covers.
- Bodies are black with 2 "Mouse Holes". Also available green, tan or purple.
- Not for installation in concrete or asphalt.
- Dimensions:
 - Top opening—11-3/4" x 16-7/8"
 - Bottom opening—14-1/2" x 19-1/2"
 - Height—12-1/4"



DESCRIPTION	PART NO.
RECT. BOX W/ GREEN T-COVER	BKS1419-12WC
RECT. BOX BODY ONLY (NO COV.)	BKS1419-12NC
GREEN T-COVER ONLY	BKS1419-COV

CARSON #1520 18" DEEP RECTANGULAR BOX

- All covers are T-Type.
- Bodies are black with 2 "Mouse Holes". Also available green.
- Not for installation in concrete or asphalt.
- Dimensions:
 - Top opening—11-3/4" x 16-7/8"
 - Bottom opening—16-9/16" x 21-13/16"
 - Height—18-1/8"



DESCRIPTION	PART NO.
RECT. BOX W/ GREEN T-COVER	BKS1419-18WC
RECT. BOX BODY ONLY (NO COV.)	BKS1419-18NC
GREEN T-COVER ONLY	BKS1419-COV

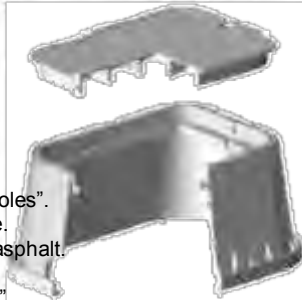
VALVE BOX COVERS ARE AVAILABLE IN OTHER COLORS.
PLEASE CALL WITH SPECIFIC REQUIREMENTS.



VALVE BOXES & COVERS

CARSON #1220 12" JUMBO RECTANGULAR BOX

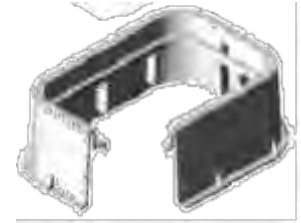
- All covers are T-Type.
- Also available with flush covers.
- Bodies are black with 2 "Mouse Holes".
- Also available green, tan or purple.
- Not for installation in concrete or asphalt.
- Dimensions:
 - Top opening—14-7/8" x 21-5/16"
 - Bottom opening—17-3/8" x 23-7/8"
 - Height—12"



DESCRIPTION	PART NO.
RECT. BOX W/ GREEN "ICV" T-COV.	BKS1220-12WC
RECT. BOX BODY ONLY (NO COV.)	BKS1220-12NC
GREEN "ICV" T-COVER ONLY	BKS1220-COV

CARSON 6" EXTENSIONS

- Bodies are black with no "Mouse Holes". Also available in green.
- Extensions are designed to fit on top of valve boxes and provide a 6" extension, accepting the valve box cover.
- Multiple extensions can be Stacked to provide required height.

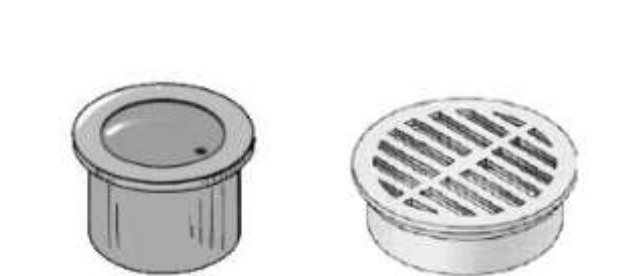
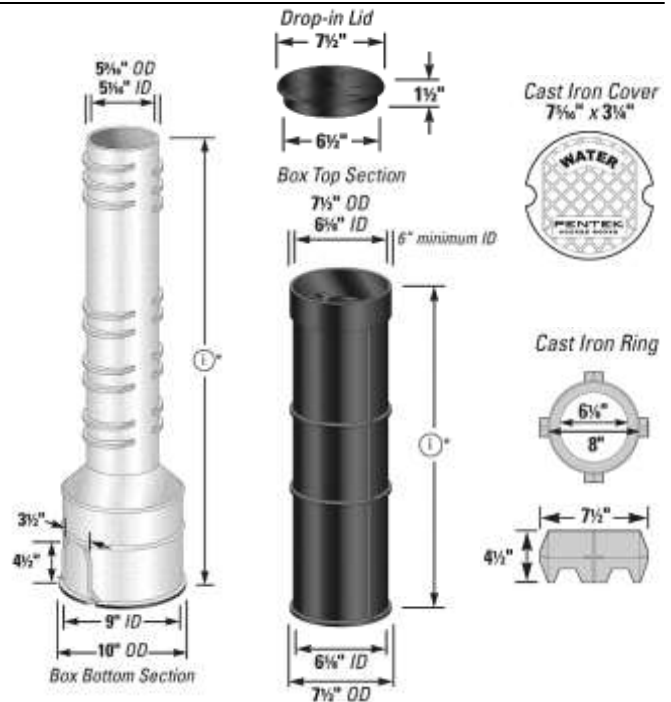


DESCRIPTION	PART NO.
EXTENSION FOR #1419 STANDARD	BKS1419-6NC
EXTENSION FOR #1520 DEEP BOX	BKS1419-6NC
EXTENSION FOR #1220 JUMBO BOX	BKS1220-6NC

HIGHLINE MAINLINE ISOLATION VALVE

- Box bottom is white for improved valve operating nut visibility.
- Constructed of Plymouth Superflexon plastic material.
- Available with drop-in plastic lids or cast iron adapter rings and covers.

DESCRIPTION	PART NO.
20" ADJUSTABLE WHITE BOTTOM	AMP10111048
24" ADJUSTABLE WHITE BOTTOM	AMP10111049
9-1/2" ADJUSTABLE TOP SECTION	AMP10111036
15-1/2" ADJUSTABLE TOP SECTION	AMP10111037
24-1/2" ADJUSTABLE TOP SECTION	AMP10111038
GREEN PLASTIC DROP-IN LID	AMP10111031
CAST IRON COVER ADAPTER RING	AMP111026
CAST IRON COVER	AMP111028



MISCELLANEOUS VALVE COVERS

- LISTED COVERS ARE DESIGNED TO FIT INSIDE 4" PIPE OR OUTSIDE 3" PIPE.
- GRATED COVERS IDEAL FOR GROUND RODS AND PLATES TO ALLOW WATER INFILTRATION.

DESCRIPTION	PART NO.
4" "TORO" BLACK VALVE COVER	850-00
4" BLACK VALVE COV. W/DETECTION	850-00A
4" BLACK GRATED VALVE COVER	NDS-11



PVC PIPE

- All PVC pipe is sold in 20 foot lengths only, unless indicated otherwise.
- SDR Series PVC pipe meets ASTM D2241 specification.
- PVC pipe is not recommended for compressed air or gas service.

160 PSI, SDR 26 SOLVENT WELD



SIZE (INCHES)	O.D. (INCHES)	I.D. (INCHES)	WALL THICKNESS	PART NO.
1	1.315	1.175	0.060	SW160-010
1.25	1.660	1.512	0.064	SW160-012
1.5	1.900	1.720	0.073	SW160-015
2	2.375	2.173	0.091	SW160-020
2.5	2.875	2.635	0.110	SW160-025
3	3.500	3.210	0.135	SW160-030
4	4.500	4.133	0.173	SW160-040

200 PSI, SDR 21 SOLVENT WELD

SIZE (INCHES)	O.D. (INCHES)	I.D. (INCHES)	WALL THICKNESS	PART NO.
1/2	0.840	0.660	0.080	SW200-005
3/4	1.050	0.870	0.060	SW200-007
1	1.315	1.135	0.080	SW200-010
1.25	1.660	1.480	0.080	SW200-012
1.5	1.900	1.700	0.090	SW200-015
2	2.375	2.129	0.113	SW200-020
2.5	2.875	2.581	0.137	SW200-025
3	3.500	3.146	0.167	SW200-030
4	4.500	4.046	0.214	SW200-040

160 PSI, SDR 26 GASKETED (RING-TITE)



SIZE (INCHES)	O.D. (INCHES)	I.D. (INCHES)	WALL THICKNESS	PART NO.
1.5	1.900	1.745	0.073	RTP160-015
2	2.375	2.182	0.091	RTP160-020
2.5	2.875	2.642	0.110	RTP160-025
3	3.500	3.214	0.135	RTP160-030
4	4.500	4.133	0.173	RTP160-040
6	6.625	6.084	0.255	RTP160-060
8	8.625	7.921	0.332	RTP160-080
10	10.750	9.874	0.413	RTP160-100
12	12.750	11.711	0.490	RTP160-120

200 PSI, SDR 21 GASKETED (RING-TITE)

SIZE (INCHES)	O.D. (INCHES)	I.D. (INCHES)	WALL THICKNESS	PART NO.
1.5	1.900	1.709	0.090	RTP200-015
2	2.375	2.135	0.113	RTP200-020
2.5	2.875	2.585	0.137	RTP200-025
3	3.500	3.146	0.167	RTP200-030
4	4.500	4.046	0.214	RTP200-040
6	6.625	5.955	0.316	RTP200-060
8	8.625	7.754	0.410	RTP200-080
10	10.750	9.667	0.511	RTP200-100
12	12.750	11.465	0.606	RTP200-120



235 PSI, DR 18 C905 GASKETED (RING-TITE)

SIZE (INCHES)	O.D. (INCHES)	I.D. (INCHES)	WALL THICKNESS	PART NO.
14	15.30	13.50	0.850	RTP18-140
16	17.40	15.35	0.967	RTP18-160
18	19.50	17.20	1.083	RTP18-180
20	21.60	19.06	1.200	RTP18-200
24	25.80	22.76	1.433	RTP18-240

Also available in DR 25 (165 PSI) & DR 41 (100 PSI).
Sizes available up to 48" diameter.



PVC PIPE FLOW CHART

VELOCITY OF FLOW AND HEAD LOSS FOR 200 PSI, SDR 21 PVC PIPE

Velocity is indicated as Feet per Second, Pressure Loss is indicated as PSI loss through 100 feet of pipe.

GPM	1"		1-1/2"		2"		2-1/2"		3"		4"		6"		8"		10"		12"	
	VEL (FPS)	LOSS (PSI)	VEL (FPS)	LOSS (PSI)	VEL (FPS)	LOSS (PSI)	VEL (FPS)	LOSS (PSI)	VEL (FPS)	LOSS (PSI)	VEL (FPS)	LOSS (PSI)	VEL (FPS)	LOSS (PSI)	VEL (FPS)	LOSS (PSI)	VEL (FPS)	LOSS (PSI)	VEL (FPS)	LOSS (PSI)
5	1.45	0.42																		
10	2.89	1.52	1.38	0.26																
15	4.34	3.26	2.07	0.30																
20	5.78	5.53	2.76	0.90	1.77	0.31														
25	7.23	8.36	3.45	1.39	2.21	0.48														
30	8.67	11.7	4.14	1.93	2.66	0.66	1.81	0.27												
35			4.83	2.56	3.10	0.89	2.11	0.36												
40			5.52	3.28	3.54	1.16	2.41	0.46												
50			6.90	5.08	4.43	1.77	3.02	0.71												
60			8.28	6.97	5.31	2.42	3.62	0.98												
70			9.66	9.28	6.20	3.22	4.22	1.28	2.86	0.50										
80					7.08	4.10	4.82	1.62	3.26	0.63										
90					7.97	5.10	5.43	2.00	3.67	0.80	2.21	0.24								
100					8.85	6.24	6.03	2.44	4.08	0.99	2.46	0.30								
120					10.6	8.68	7.24	3.43	4.90	1.36	2.95	0.40								
140							8.44	4.56	5.71	1.80	3.44	0.52								
170									6.94	2.59	4.18	0.76								
200									8.16	3.50	4.92	1.03								
220									8.98	4.25	5.41	1.25								
240									9.78	3.95	5.91	1.16								
280											6.89	1.95	3.18	0.23	1.87	0.06				
300											7.38	2.15	3.41	0.26	2.01	0.07				
350											8.61	2.89	3.98	0.35	2.34	0.10				
400											9.84	3.77	4.55	0.45	2.68	0.12				
450													5.12	0.57	3.02	0.16				
500													5.68	0.69	3.35	0.19	2.16	0.06		
550													6.25	0.82	3.68	0.22	2.37	0.08		
600													6.82	0.97	4.02	0.26	2.59	0.09		
650													7.39	1.12	4.36	0.31	2.81	.011		
700													7.96	1.29	4.69	0.35	3.02	0.12	2.15	0.05
750													8.53	1.46	5.03	0.40	3.24	0.14	2.30	0.06
800													9.10	1.65	5.36	0.45	3.45	0.16	2.46	0.07
850													9.67	1.84	5.70	0.51	3.67	0.17	2.61	0.08
900															6.03	0.56	3.89	0.19	2.76	0.08
950															6.37	0.62	4.10	0.21	2.92	0.09
1000																	4.32	0.23	3.07	0.10
1100																	4.75	0.28	3.38	0.12
1200																	5.18	0.33	3.68	0.14
1300																	5.61	0.38	3.99	0.17
1400																	6.05	0.44	4.30	0.19
1500																	6.49	0.50	4.60	0.22
1600																			4.91	0.24
1700																			5.22	0.27
1800																			5.52	0.30
1900																			5.83	0.34
2000																			6.14	0.37



100 PSI - NSF RATED POLY (POLYETHEYLENE) PIPE

(PE 3408)

- National Sanitation Foundation (NSF) Certified for use in potable water systems for the transport of drinking water.
- ASTM D2239 Iron Pipe Size (IPS - ID Controlled)



SIZE (INCHES)	COIL (FEET)	O.D. (INCHES)	I.D. (INCHES)	PART NO.
3/4	100	.954	0.824	PP-13310
	400			PP-13314
1	100	1.207	1.049	PP-13320
	300			PP-13323
1.25	100	1.572	1.380	PP-13330
	300			PP-13333
1.5	100	1.838	1.610	PP-13340
	250			PP-13342
2	100	2.353	2.067	PP-13350
	200			PP-13352

Also available in 1/2" and 3", other pressure ratings, and non-NSF rated.

DR11 - HDPE (HIGH DENSITY POLYETHEYLENE) PIPE

(PE 3408)

- 160 PSI working pressure rated..
- ASTM D3350-05 Iron Pipe Size (IPS - OD Controlled)

SIZE (INCHES)	WALL THICKNESS	O.D. (INCHES)	I.D. (INCHES)	PART NO.
2	0.216	2.375	1.926	PE410211
3	0.318	3.500	2.839	PE410311
4	0.409	4.500	3.649	PE410411
6	0.602	6.625	5.373	PE410611
8	0.784	8.625	6.994	PE410811
10	0.977	10.750	8.718	PE411011
12	1.159	12.75	10.339	PE411211



Available in 40' lengths or coils upon request. Many other sizes and DR ratings available.

**A COMPLETE LINE OF HDPE FUSING EQUIPMENT IS AVAILABLE.
PLEASE CALL FOR MORE INFORMATION.**





POLY & HDPE FLOW CHART

VELOCITY OF FLOW AND HEAD LOSS FOR POLY & HDPE PIPE

Velocity is indicated as Feet per Second, Pressure Loss is indicated as PSI loss through 100 feet of pipe.

GPM	100 PSI POLY PIPE						DR11 HDPE PIPE—PE3408													
	1"		1-1/4"		1-1/2"		2"		3"		4"		6"		8"		10"		12"	
	VEL. (FPS)	LOSS (PSI)	VEL. (FPS)	LOSS (PSI)	VEL. (FPS)	LOSS (PSI)	VEL. (FPS)	LOSS (PSI)	VEL. (FPS)	LOSS (PSI)	VEL. (FPS)	LOSS (PSI)	VEL. (FPS)	LOSS (PSI)	VEL. (FPS)	LOSS (PSI)	VEL. (FPS)	LOSS (PSI)	VEL. (FPS)	LOSS (PSI)
10	3.71	2.76	2.15	0.70	1.58	0.33														
15	5.57	5.76	3.22	1.56	2.36	0.76														
20	7.42	9.90	4.29	2.56	3.15	1.18	1.91	0.36												
25	9.28	14.9	5.36	3.87	3.94	1.85	2.39	0.55												
30			6.44	5.46	4.73	2.56	3.85	1.27												
40			8.58	9.40	6.30	4.38	4.41	1.63												
50					7.88	6.70	5.51	2.46												
60					9.46	9.40	6.61	3.45	3.04	0.52										
70							7.71	4.51	3.55	0.70										
80							8.81	5.88	4.06	0.89										
90							9.91	7.31	4.56	1.11										
100									5.07	1.35	3.07	0.40								
120									6.09	1.89	3.68	0.56								
140									7.10	2.51	4.29	0.74								
170									8.62	3.60	5.22	1.06	2.41	0.16						
200											6.14	1.43	2.83	0.22						
220											6.75	1.71	3.11	0.26						
240											7.36	2.01	3.40	0.31						
280											8.59	2.67	3.96	0.41						
300											9.20	3.03	4.25	0.46	2.51	0.13				
350													4.95	0.61	2.92	0.17				
400													4.55	0.45	3.34	0.22				
450													5.66	0.79	3.02	0.16				
500													7.08	1.19	4.18	0.33				
550													7.78	1.42	4.59	0.39	2.96	0.13		
600													8.49	1.67	5.01	0.46	3.23	0.16		
650													9.20	1.93	5.43	0.54	3.49	.018		
700															5.85	0.61	3.76	0.21		
750															6.26	0.70	4.03	0.24		
800															6.68	0.79	4.30	0.27	3.06	0.12
850															7.10	0.88	4.57	0.30	3.25	0.13
900															7.52	0.98	4.84	0.34	3.44	0.15
950															7.93	1.08	5.11	0.37	3.63	0.16
1000															8.35	1.19	5.38	0.41	3.82	0.18
1100															9.19	1.42	5.91	0.49	4.20	0.21
1200																	6.45	0.57	4.59	0.25
1300																	6.99	0.66	4.97	0.29
1400																	7.53	0.76	5.35	0.33
1500																	8.06	0.86	5.73	0.38
1600																	8.60	0.97	6.11	0.42
1700																	9.14	1.09	6.50	0.47
1800																			6.88	0.53
1900																			7.26	0.58
2000																			7.64	0.64

DUCTILE IRON FITTINGS



Fittings Manufactured by:



HARCO DI FITTINGS ARE AVAILABLE IN SIZES UP TO 18"

1-1/2" - 12" FITTINGS AND BELLS ARE FOR STANDARD (IPS) PVC, HDPE AND STEEL PIPE.

14", 16" AND 18" FITTINGS AND BELLS ARE FOR C905 PVC PIPE OR DUCTILE IRON PIPE.

REPAIR COUPLING (No Stop G x G)



SIZE (IN.)	PART NO.
1.5	HAR80040
2	HAR80140
2.5	HAR80240
3	HAR80340
4	HAR80440
6	HAR80640
8	HAR80840
10	HAR81040
12	HAR81240
14	HAR81440MJ

REDUCING TEE (G x G x G)



SIZE (IN.)	PART NO.
2 x 2 x 1.5	HAR8010100
2 x 2 x 2.5	HAR8010102
2 x 2 x 3	HAR8010103
2.5 x 2.5 x 1.5	HAR8020200
2.5 x 2.5 x 2	HAR8020201
2.5 x 2.5 x 3	HAR8020203
3 x 3 x 1.5	HAR8030300
3 x 3 x 2	HAR80302
3 x 3 x 2.5	HAR80301
3 x 3 x 4	HAR8030304
4 x 4 x 1.5	HAR8040400
4 x 4 x 2	HAR80403
4 x 4 x 2.5	HAR80402
4 x 4 x 3	HAR80401
4 x 4 x 6	HAR8040406
6 x 6 x 2	HAR80604
6 x 6 x 2.5	HAR80603
6 x 6 x 3	HAR80602
6 x 6 x 4	HAR80601
6 x 6 x 8	HAR8060608
8 x 8 x 2	HAR8080801
8 x 8 x 2.5	HAR8080802
8 x 8 x 3	HAR80803
8 x 8 x 4	HAR80802
8 x 8 x 6	HAR80801
8 x 8 x 10	HAR8080810
10 x 10 x 2	HAR8101001
10 x 10 x 2.5	HAR8101002
10 x 10 x 3	HAR8101003
10 x 10 x 4	HAR8101004
10 x 10 x 6	HAR81002
10 x 10 x 8	HAR81001
10 x 10 x 12	HAR8101012
12 x 12 x 2	HAR8121201
12 x 12 x 2.5	HAR8121202
12 x 12 x 3	HAR8121203
12 x 12 x 4	HAR8121204
12 x 12 x 6	HAR81203
12 x 12 x 8	HAR81202
12 x 12 x 10	HAR81201

REDUCER - SEB (Spigot x Bell)



SIZE (IN.)	PART NO.
2 x 1.5	HAR80130
2.5 x 1.5	HAR80232
2.5 x 2	HAR80230
3 x 2	HAR80332
3 x 2.5	HAR80330
4 x 2	HAR80434
4 x 2.5	HAR80432
4 x 3	HAR80430
6 x 2	HAR80638
6 x 2.5	HAR80636
6 x 3	HAR80634
6 x 4	HAR80632
8 x 2.5	HAR80838
8 x 3	HAR80836
8 x 4	HAR80834
8 x 6	HAR80832
10 x 3	HAR81036
10 x 4	HAR81034
10 x 6	HAR81032
10 x 8	HAR82030
12 x 4	HAR81236
12 x 6	HAR81234
12 x 8	HAR81232
12 x 10	HAR81230

2 links for each SEB Reducer are included and shipped automatically.

TEE (G x G x G)



SIZE (IN.)	PART NO.
1.5	HAR80000
2	HAR80100
2.5	HAR80200
3	HAR80300
4	HAR80400
6	HAR80600
8	HAR80800
10	HAR81000
12	HAR81200
14	HAR81400

MALE ADAPTER (Bell x MPT)



SIZE (IN.)	PART NO.
1.5 x 1.5	HAR80070
2 x 1.5	HAR80172
2 x 2	HAR80170
2.5 x 2	HAR80272
2.5 x 2.5	HAR80270
3 x 2.5	HAR80372
3 x 3	HAR80370

REDUCER - LEB (Bell x Spigot)



SIZE (IN.)	PART NO.
4 x 3	HAR80431

2 links for each LEB Reducer are included and shipped automatically.



DUCTILE IRON FITTINGS

REDUCER (Bell x Bell)



SIZE (IN.)	PART NO.
2 x 1.5	HAR80130BB
2.5 x 1.5	HAR80232BB
2.5 x 2	HAR80230BB
3 x 2	HAR80332BB
3 x 2.5	HAR80330BB
4 x 2	HAR80434BB
4 x 2.5	HAR80432BB
4 x 3	HAR80430BB
6 x 2	HAR80638BB
6 x 2.5	HAR80636BB
6 x 3	HAR80634BB
6 x 4	HAR80630
8 x 2.5	HAR80838BB
8 x 3	HAR80836BB
8 x 4	HAR80834BB
8 x 6	HAR80830
10 x 6	HAR81032BB
10 x 8	HAR82030BB
12 x 6	HAR81234BB
12 x 8	HAR81232BB
12 x 10	HAR81230BB

22-DEGREE ELBOW (G x G)



SIZE (IN.)	PART NO.
2.5	HAR80224
3	HAR80324
4	HAR80424
6	HAR80624
8	HAR80824
10	HAR81024
12	HAR81224

11-DEGREE ELBOW (G x G)



SIZE (IN.)	PART NO.
4	HAR80426
6	HAR80626
8	HAR80826
10	HAR81026
12	HAR81226

90-DEGREE ELBOW (G x G)



SIZE (IN.)	PART NO.
1.5	HAR80020
2	HAR80120
2.5	HAR80220
3	HAR80320
4	HAR80420
6	HAR80620
8	HAR80820
10	HAR81020
12	HAR81220

45-DEGREE ELBOW (G x G)



SIZE (IN.)	PART NO.
1.5	HAR80022
2	HAR80122
2.5	HAR80222
3	HAR80322
4	HAR80422
6	HAR80622
8	HAR80822
10	HAR81022
12	HAR81222

HDPE PIPE STIFFENER



SIZE (IN.)	PART NO.
2	HAR825-020
3	HAR825-030
4	HAR825-040
6	HAR825-060
8	HAR825-080
10	HAR825-100
12	HAR825-120
14	HAR825-140
16	HAR825-160
18	HAR825-180

Ordering instructions: Specify whether IPS or Ductile Iron size and SDR of pipe.

SPIGOT x FLANGE ADAPTER



SIZE (IN.)	PART NO.
3	HAR80360
4	HAR80460
6	HAR80660
8	HAR80860
10	HAR81060
12	HAR81260

2 links for each Spigot x Flange Adapter are included and shipped automatically.

BELL x FLANGE ADAPTER



SIZE (IN.)	PART NO.
3 x 3	HAR80360-FB
3 x 4	HAR80360-04
4 x 4	HAR80460FB
4 x 6	HAR80460-06
6 x 6	HAR80660FB
6 x 8	HAR80660-08
8 x 8	HAR80860FB
8 x 10	HAR80860-10
10 x 10	HAR81060FB
10 x 12	HAR81060-12
12 x 12	HAR81260FB

FLANGE ACCESSORIES



SIZE (IN.)	PART NO.
3	HAR856031
4	HAR856041
6	HAR856061
8	HAR856081
10	HAR856101
12	HAR856121

Each kit contains a 1/8" red rubber full-face gasket and zinc-plated bolts and nuts.

DUCTILE IRON FITTINGS



TAPPED TEE

(Service Tee)
(G x G x FPT)



SIZE (IN.)	PART NO.
1.5 x 1.5 x 1	HAR800502
1.5 x 1.5 x 1.5	HAR800503
2 x 2 x 1	HAR801502
2 x 2 x 1.25	HAR8015025
2 x 2 x 1.5	HAR801503
2 x 2 x 2	HAR801504
2.5 x 2.5 x 1	HAR802502
2.5 x 2.5 x 1.25	HAR8025025
2.5 x 2.5 x 1.5	HAR802503
2.5 x 2.5 x 2	HAR802504
2.5 x 2.5 x 2.5	HAR802505
3 x 3 x 1	HAR803502
3 x 3 x 1.25	HAR8035025
3 x 3 x 1.5	HAR803503
3 x 3 x 2	HAR803504
3 x 3 x 2.5	HAR803505
3 x 3 x 3	HAR803506
4 x 4 x 1	HAR804502
4 x 4 x 1.25	HAR8045025
4 x 4 x 1.5	HAR804503
4 x 4 x 2	HAR804504
4 x 4 x 2.5	HAR804505
4 x 4 x 3	HAR804506
6 x 6 x 1	HAR806502
6 x 6 x 1.25	HAR8065025
6 x 6 x 1.5	HAR806503
6 x 6 x 2	HAR806504
6 x 6 x 2.5	HAR806505
6 x 6 x 3	HAR806506
8 x 8 x 1	HAR808502
8 x 8 x 1.5	HAR808503
8 x 8 x 2	HAR808504
8 x 8 x 2.5	HAR808505
8 x 8 x 3	HAR808506
10 x 10 x 1	HAR810502
10 x 10 x 1.5	HAR810503
10 x 10 x 2	HAR810504
10 x 10 x 2.5	HAR810505
10 x 10 x 3	HAR810506
12 x 12 x 1	HAR812502
12 x 12 x 1.5	HAR812503
12 x 12 x 2	HAR812504
12 x 12 x 2.5	HAR812505
12 x 12 x 3	HAR812506

ACME SERVICE TEE

(G x G x ACME)



SIZE (IN.)	PART NO.
2 x 2 x 1	HAR8015302
2 x 2 x 1.25	HAR80153025
2 x 2 x 1.5	HAR8015305
2.5 x 2.5 x 1	HAR8025302
2.5 x 2.5 x 1.25	HAR80253025
2.5 x 2.5 x 1.5	HAR8025303
3 x 3 x 1	HAR8035302
3 x 3 x 1.25	HAR80353025
3 x 3 x 1.5	HAR8035303
4 x 4 x 1	HAR8045302
4 x 4 x 1.25	HAR80453025
4 x 4 x 1.5	HAR8045303
6 x 6 x 1	HAR8065302
6 x 6 x 1.25	HAR80653025
6 x 6 x 1.5	HAR8065303
8 x 8 x 1	HAR8085302
8 x 8 x 1.25	HAR80853025
8 x 8 x 1.5	HAR8085303

SIDE OUTLET TAPPED CAP



SIZE (IN.)	PART NO.
2 x 1.5 FPT	HAR80230
2 x 1.5 ACME	HAR80332
2.5 x 1.5 FPT	HAR80330
2.5 x 1.5 ACME	HAR80434

PLUG

(Solid x Spigot)



SIZE (IN.)	PART NO.
2	HAR80155
2.5	HAR80255
3	HAR80355
4	HAR80455
6	HAR80655
8	HAR80855
10	HAR81055
12	HAR81255

TAPPED PLUG

(FPT x Spigot)



SIZE (IN.)	PART NO.
2 x 1	HAR8015602
2 x 1.5	HAR8015603
2.5 x 1	HAR8025602
2.5 x 1.5	HAR8035603
2.5 x 2	HAR8025604
3 x 1	HAR8035602
3 x 1.5	HAR8035603
3 x 2	HAR8035604
3 x 2.5	HAR8035605
4 x 1.5	HAR8045603
4 x 2	HAR8045604
4 x 2.5	HAR8045605
4 x 3	HAR8045606
6 x 1.5	HAR8065603
6 x 2	HAR8065604
6 x 2.5	HAR8065605
6 x 3	HAR8065606
8 x 1.5	HAR8085603
8 x 2	HAR8085604
8 x 2.5	HAR8085605
8 x 3	HAR8085606
10 x 1.5	HAR8105603
10 x 2	HAR8105604
10 x 2.5	HAR8105605
10 x 3	HAR8105606
12 x 1.5	HAR8125603
12 x 2	HAR8125604
12 x 2.5	HAR8125605
12 x 3	HAR8125606

2 links for each Plug are included and shipped automatically.

ACME ADAPTER

(MPT x Female)



SIZE (IN.)	PART NO.
2 x 1	HAR872-204
2 x 1.25	HAR872-205
2 x 1.5	HAR872-206



DUCTILE IRON FITTINGS/SADDLES

SADDLE - FOR HDPE & PVC (FPT)



SIZE (IN.)	PART NO.
3 x 1	HAR803802
3 x 1.5	HAR803803
3 x 2	HAR803804
3 x 2.5	HAR803805
4 x 1	HAR804802
4 x 1.5	HAR804803
4 x 2	HAR804804
4 x 2.5	HAR804805
6 x 1	HAR806802
6 x 1.5	HAR806803
6 x 2	HAR806804
6 x 2.5	HAR806805
8 x 1	HAR808802
8 x 1.5	HAR808803
8 x 2	HAR808804
8 x 2.5	HAR808805
10 x 1.5	HAR810803
10 x 2	HAR810804
10 x 2.5	HAR810805
12 x 1.5	HAR812803
12 x 2	HAR812804
12 x 2.5	HAR812805

SADDLE FOR HDPE & PVC PIPE 2" GASKETED



SIZE (IN.)	PART NO.
3 x 2	HAR80382
4 x 2	HAR80482
6 x 2	HAR80682
8 x 2	HAR80882
10 x 2	HAR81082
12 x 2	HAR81282

Saddles supplied with standard powder coating.

SWIVEL TEE (G x G x Swivel)



SIZE (IN.)	PART NO.
2	HAR8015405
2.5	HAR8025405
3	HAR8035405
4	HAR8045405
6	HAR8065405
8	HAR8085405
10	HAR8105405
12	HAR8125405

LATERAL NIPPLE (MPT x Swivel)



SIZE x RISE (IN.)	PART NO.
STANDARD—NO SIDE OUTLET	
2 x 8	HAR8720808
2 x 12	HAR8721208
2 x 18	HAR8721808
2.5 x 8	HAR8720810
3 x 10	HAR8721012
WITH 1" SIDE OUTLET	
2 x 8	HAR87208082
2 x 12	HAR87212082
2 x 18	HAR87218082
2.5 x 8	HAR87208102
3 x 10	HAR87210122
WITH 1" PLUGGED SIDE OUTLET	
2 x 8	HAR87208082P
2 x 12	HAR87212082P
2 x 18	HAR87218082P
2.5 x 8	HAR87208102P
3 x 10	HAR87210122P

ADAPTER - FEMALE SWIVEL x MPT



SIZE (IN.)	PART NO.
2	HAR873-008

SWIVEL SADDLE FOR HDPE & PVC



SIZE (IN.)	PART NO.
3	HAR80381H
4	HAR80481H
6	HAR80681H
8	HAR80881H
10	HAR81081H
12	HAR81281H

LATERAL TEE - MALE SWIVEL x GASKET



SIZE x RISE (IN.)	PART NO.
2 x 6	HAR80191
2.5 x 6	HAR80291
3 x 7	HAR80391

ADAPTER - FPT x MALE SWIVEL



SIZE (IN.)	PART NO.
1.5	HAR875-025-06
2	HAR875-025-08
2.5	HAR875-025-10
3	HAR875-025-12

SWIVEL EXTENSION (MSwivel x FSwivel)



RISE (IN.)	PART NO.
6	HAR87106
12	HAR87112
24	HAR87124

LATERAL CONNECTIONS



LATERAL 90 ELL (MPT x Swivel)



SIZE x RISE (IN.)	PART NO.
STANDARD—NO SIDE OUTLET	
1.5 x 6	HAR80086
2 x 6	HAR80186
2.5 x 6	HAR80286
3 x 7	HAR80386
WITH 1" SIDE OUTLET	
1.5 x 6	HAR800862
2 x 6	HAR801862
2.5 x 6	HAR802862
3 x 7	HAR803862
WITH 1" PLUGGED SIDE OUTLET	
1.5 x 6	HAR800862P
2 x 6	HAR801862P
2.5 x 6	HAR802862P
3 x 7	HAR803862P

LATERAL 90 ELL (MPT x MPT)



SIZE x RISE (IN.)	PART NO.
STANDARD—NO SIDE OUTLET	
1.5 x 6	HAR80088
2 x 6	HAR80188
2.5 x 6	HAR80288
3 x 7	HAR80388
WITH 1" SIDE OUTLET	
1.5 x 6	HAR800882
2 x 6	HAR801882
2.5 x 6	HAR802882
3 x 7	HAR803882
WITH 1" PLUGGED SIDE OUTLET	
1.5 x 6	HAR800882P
2 x 6	HAR801882P
2.5 x 6	HAR802882P
3 x 7	HAR803882P
WITH 1-1/2" SIDE OUTLET	
2 x 6	HAR801883
2.5 x 6	HAR802883
3 x 7	HAR803883
WITH 1-1/2" PLUGGED SIDE OUTLET	
2 x 6	HAR801883P
2.5 x 6	HAR802883P
3 x 7	HAR803883P

LATERAL 90 ELL (FPT x Swivel)



SIZE x RISE (IN.)	PART NO.
STANDARD—NO SIDE OUTLET	
1.5 x 6	HAR80084
2 x 6	HAR80184
2.5 x 6	HAR80284
3 x 7	HAR80384
WITH 1" SIDE OUTLET	
1.5 x 6	HAR800842
2 x 6	HAR801842
2.5 x 6	HAR802842
3 x 7	HAR803842
WITH 1" PLUGGED SIDE OUTLET	
1.5 x 6	HAR800842P
2 x 6	HAR801842P
2.5 x 6	HAR802842P
3 x 7	HAR803842P

LATERAL 90 ELL (FPT x MPT)



SIZE x RISE (IN.)	PART NO.
STANDARD—NO SIDE OUTLET	
1.5 x 6	HAR80087
2 x 6	HAR80187
2.5 x 6	HAR80287
3 x 7	HAR80387
WITH 1" SIDE OUTLET	
1.5 x 6	HAR800872
2 x 6	HAR801872
2.5 x 6	HAR802872
3 x 7	HAR803872
WITH 1" PLUGGED SIDE OUTLET	
1.5 x 6	HAR800872P
2 x 6	HAR801872P
2.5 x 6	HAR802872P
3 x 7	HAR803872P
WITH 1-1/2" SIDE OUTLET	
2 x 6	HAR801873
2.5 x 6	HAR802873
3 x 7	HAR803873
WITH 1-1/2" PLUGGED SIDE OUTLET	
2 x 6	HAR801873P
2.5 x 6	HAR802873P
3 x 7	HAR803873P

LATERAL 90 ELL (Spigot x Swivel)



SIZE x RISE (IN.)	PART NO.
STANDARD—NO SIDE OUTLET	
2 x 6	HAR8018506
2.5 x 6	HAR8028506
3 x 7	HAR8038507
WITH 1" SIDE OUTLET	
2 x 6	HAR80185062
2.5 x 6	HAR80285062
3 x 7	HAR80385072
WITH 1" PLUGGED SIDE OUTLET	
2 x 6	HAR80185062P
2.5 x 6	HAR80285062P
3 x 7	HAR80385072P

SWIVEL LATERAL KIT FOR 2" PUSH-ON NIBCO T-113 VALVES



SIZE x RISE (IN.)	PART NO.
STANDARD—NO SIDE OUTLET	
2 x 6	HAR80185K
2 x 12	HAR8018512K
WITH 1" SIDE OUTLET	
2 X 6	HAR801852K
2 X 12	HAR80185122K
WITH 1" PLUGGED SIDE OUTLET	
2 x 6	HAR801852PK
2 x 12	HAR80185122PK

Includes Lateral 90 Ell, Wedge Links and 2" Pipe Knuckle Restraint



JOINT RESTRAINTS

KNUCKLE RESTRAINT



SIZE (IN.)	PART NO.
1.5	HAR60-100-01
2	HAR60-100-02
2.5	HAR60-100-25
3	HAR60-100-03
4	HAR60-100-04

FITTING TO PIPE RESTRAINT



SIZE (IN.)	PART NO.
2	HAR820110
2.5	HAR820210
3	HAR820310
4	HAR820410
6	HAR820610
8	HAR820810
10	HAR821010
12	HAR821210
14	HAR821410
16	HAR821610

PIPE TO PIPE RESTRAINT



SIZE (IN.)	PART NO.
2	HAR820115
2.5	HAR820215
3	HAR820315
4	HAR820415
6	HAR820615
8	HAR820815
10	HAR821015
12	HAR821215
14	HAR821415
16	HAR821615

MECHANICAL JOINT RESTRAINT



SIZE (IN.)	PART NO.
3	HAR820335
4	HAR820435
6	HAR820635
8	HAR820835
10	HAR821035
12	HAR821235
14	HAR821435
16	HAR821635

FITTING TO VALVE TO PIPE RESTRAINT



STYLE A STYLE B

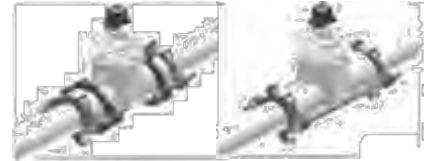
SIZE (IN.)	PART NO.
STYLE "A"	
2	HAR820121
2.5	HAR820221
3	HAR820322
4	HAR820422
6	HAR820622
8	HAR820822
10	HAR821021
12	HAR821221
STYLE "B"	
3	HAR820321
4	HAR820421
6	HAR820621
8	HAR820821

FITTING TO VALVE RESTRAINT



SIZE (IN.)	PART NO.
3	HAR820320
4	HAR820420
6	HAR820620
8	HAR820820

VALVE TO PIPE RESTRAINT



STYLE A STYLE B

SIZE (IN.)	PART NO.
STYLE "A"	
3	HAR820325
4	HAR820425
6	HAR820625
8	HAR820825
STYLE "B"	
2	HAR820125
2.5	HAR820225
3	HAR820326
4	HAR820426
6	HAR820626
8	HAR820826
10	HAR821025
12	HAR821225

QUICK COUPLER ANCHOR



QCV SIZE (IN.)	PART NO.
3/4 or 1	HAR82201
1.5	HAR82202

D.I. THREADED FITTINGS



TEE FPT x FPT x FPT



SIZE (IN.)	PART NO.
1.5	HAR88115
2	HAR88120
2.5	HAR88125
3	HAR88130

90 DEGREE FPT x FPT



SIZE (IN.)	PART NO.
1.5	HAR88215
2	HAR88220
2.5	HAR88225
3	HAR88230

NIPPLE THREAD x THREAD



SIZE (IN.)	PART NO.
1.5 x 4	HAR87015-04
1.5 x 6	HAR87015-06
1.5 x 8	HAR87015-08
1.5 x 10	HAR87015-10
1.5 x 12	HAR87015-12
1.5 x 14	HAR87015-14
1.5 x 16	HAR87015-16
1.5 x 18	HAR87015-18
1.5 x 20	HAR87015-20
2 x 3	HAR87020-03
2 x 4	HAR87020-04
2 x 6	HAR87020-06
2 x 8	HAR87020-08
2 x 10	HAR87020-10
2 x 12	HAR87020-12
2 x 14	HAR87020-14
2 x 16	HAR87020-16
2 x 18	HAR87020-18
2 x 20	HAR87020-20
2 x 24	HAR87020-24
2 x 30	HAR87020-24
2 x 36	HAR87020-36
2.5 x 4	HAR87025-04
2.5 x 6	HAR87025-06
2.5 x 8	HAR87025-08
2.5 x 10	HAR87025-10
2.5 x 12	HAR87025-12
2.5 x 14	HAR87025-14
2.5 x 16	HAR87025-16
2.5 x 18	HAR87025-18
2.5 x 20	HAR87025-20
3 x 4	HAR87030-04
3 x 6	HAR87030-06
3 x 8	HAR87030-08
3 x 10	HAR87030-10
3 x 12	HAR87030-12
3 x 14	HAR87030-14
3 x 16	HAR87030-16
3 x 18	HAR87030-18
3 x 20	HAR87030-20

BUSHING MPT x FPT



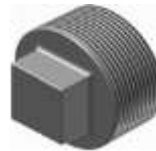
SIZE (IN.)	PART NO.
1.25 x 1	HAR8851210
1.5 x 1	HAR8851510
1.5 x 1.25	HAR8851512
2 x 1	HAR8852010
2 x 1.25	HAR8852012
2 x 1.5	HAR8852015
2.5 x 1.5	HAR8852515
2.5 x 2	HAR8852520
3 x 2	HAR8853020
3 x 2.5	HAR8853025

45 DEGREE FPT x FPT



SIZE (IN.)	PART NO.
1.5	HAR88315
2	HAR88320
2.5	HAR88325
3	HAR88330

PLUG MPT



SIZE (IN.)	PART NO.
1	HAR88102
1.5	HAR88103
2	HAR88104
2.5	HAR88105
3	HAR88106

CAP FPT



SIZE (IN.)	PART NO.
1.5	HAR88403
2	HAR88404
2.5	HAR88405
3	HAR88406

UNION FPT



SIZE (IN.)	PART NO.
1.5	HAR88615
2	HAR88620
2.5	HAR88625
3	HAR88630

COUPLING FPT x FPT



SIZE (IN.)	PART NO.
1.5	HAR88015
2	HAR88020
2.5	HAR88025
3	HAR88030



HARCO LATERAL VALVES

LATERAL ISOLATION VALVES



DESCRIPTION	PART NO.
2" GASKET x MALE SWIVEL—6" RISE	HAR841106L
2" GASKET x MALE SWIVEL—6" RISE (1" PLUGGED SIDE OUTLET)	HAR8411062PL
2" GASKET x MALE SWIVEL—12" RISE	HAR841112L
2" GASKET x MALE SWIVEL—12" RISE	HAR8411122PL
2" GASKET x GASKET—6" RISE	HAR8411GGL
2" GASKET x GASKET—6" RISE (1" PLUGGED SIDE OUTLET)	HAR8411GG2PL
2.5" GASKET x MALE SWIVEL—6" RISE (1" PLGGED SIDE OUTLET)	HAR8412062PL
3" GASKET x MALE SWIVEL—6" RISE (1" PLGGED SIDE OUTLET)	HAR8413062PN

- The "Rise" is the top of the mainline pipe to the top of the lateral.
- The 2" & 2.5" valve is equipped with a cross handle that will fit in a 3" sleeve and allow for operation by a valve key or "bare hand" shut-off at 200 psi.
- The 3" valve has a 2" square nut and will require shut-off by a valve key only.

Conditions of Sale:

GUARANTEE: The Harrington Corporation (HARCO) guarantees to furnish, but not to install, replacement parts of like kind, F.O.B. its plant, Lynchburg, Virginia, any item of its manufacture proved to be defective in material or workmanship within one (1) year from date of shipment provided Customer gives immediate written notice of such alleged defect and, if required, returns defective item to HARCO's plant freight prepaid. Items or components not of HARCO's manufacture are not included in the foregoing guarantee but are subject only to any warranty of their respective manufacturers. HARCO shall not be liable for the cost of any repairs or work done or materials used by the Customer because of defective or non-conforming items, unless authorized in writing by HARCO. IN NO EVENT SHALL HARCO BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES CAUSED BY BREACH OF THIS GUARANTEE unless applicable federal or state law forbids exclusion of incidental or consequential damages.

SUITABILITY: The presence of corrosive soils or aggressive carried water may require the use of protective measures such as polyethylene encasement and/or epoxy coating.

Other ductile iron fittings, lateral connections, valves and joint restraints are also available manufactured by:

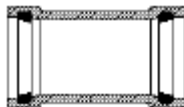


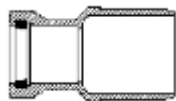
Please call for pricing and availability.

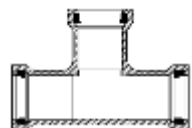
PVC GASKETED FITTINGS

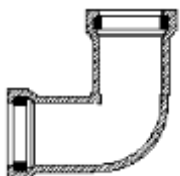



ALL FITTINGS MEET OR EXCEED: MATERIALS -ASTM D-1784, NSF APPROVED FOR POTABLE WATER, NSF 61
 JOINTS -ASTM D-3139 GASKETS - ASTM F-477
 WALL THICKNESS - SDR-21 PRESSURE RATING - 200 PSI


REPAIR COUPLING (No Stop G x G)	SIZE (IN.)	PART NO.	CARTON (QTY.)
	1.5	RTF109-015	24
	2	RTF9654-020	24
	2.5	RTF9654-025	24
	3	RTF109-030	24
	4	RTF9654-040	12
	6	RTF9654-060	6
	8	RTF9654-080	6


REDUCER - SEB (Spigot x Gasket)	SIZE (IN.)	PART NO.	CARTON (QTY.)
	2 x 1.5	RTF9665-251	12
	2.5 x 2	RTF9665-292	12
	3 x 2	RTF9665-338	12
	3 x 2.5	RTF9665-339	12
	4 x 2	RTF9665-420	12
	4 x 2.5	RTF9665-421	12
	4 x 3	RTF9665-422	12
	6 x 3	RTF9665-530	4
	6 x 4	RTF9665-532	12
8 x 6	RTF9665-585	4	

TEE (G x G x G)	SIZE (IN.)	PART NO.	CARTON (QTY.)
	1.5 x 1.5 x 1.5	RTF112-150	12
	2 x 2 x 1.5	RTF112-215	12
	2 x 2 x 2	RTF9658-020	12
	2.5 x 2.5 x 1.5	RTF112-251	1
	2.5 x 2.5 x 2	RTF9660-292	12
	2.5 x 2.5 x 2.5	RTF9658-025	12
	3 x 3 x 1.5	RTF9660-337	12
	3 x 3 x 2	RTF9660-338	12
	3 x 3 x 2.5	RTF9660-339	12
	3 x 3 x 3	RTF9658-030	12
	4 x 4 x 2	RTF9660-420	12
	4 x 4 x 2.5	RTF112-425	12
	4 x 4 x 3	RTF9660-422	12
	4 x 4 x 4	RTF9658-040	12
	6 x 6 x 2	RTF112-620	4
	6 x 6 x 2.5	RTF112-625	4
	6 x 6 x 3	RTF9660-530	4
	6 x 6 x 4	RTF9660-532	4
	6 x 6 x 6	RTF9658-060	4

90-DEGREE ELBOW (G x G)	SIZE (IN.)	PART NO.	CARTON (QTY.)
	1.5	RTF118-015	12
	2	RTF9661-020	12
	2.5	RTF9661-025	12
	3	RTF9661-030	12
	4	RTF9661-040	12
	6	RTF9661-060	4
	8	RTF9661-080	4

45-DEGREE ELBOW (G x G)	SIZE (IN.)	PART NO.	CARTON (QTY.)
	1.5	RTF122-015	12
	2	RTF9662-020	12
	2.5	RTF9662-025	12
	3	RTF9662-030	12
	4	RTF9662-040	12
	6	RTF9662-060	4
	8	RTF9662-080	4

22-DEGREE ELBOW (G x G)	SIZE (IN.)	PART NO.	CARTON (QTY.)
	2	RTF124-020	1
	3	RTF124-030	1
	4	RTF124-040	1
	6	RTF124-060	1

FEMALE ADAPTER (G x FPT)	SIZE (IN.)	PART NO.	CARTON (QTY.)
	1.5	RTF132-015	1
	2	RTF132-020	1
	2.5	RTF9657-025	1
	3	RTF9657-030	1
	4	RTF132-040	1

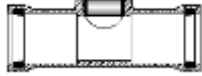
Warning: Pressure surges and water hammer can reduce the life of PVC fittings. Where such conditions may exist, HARCO DUCTILE IRON FITTINGS for IPS size PVC pipe should be considered and are available in sizes 1½" and up.



PVC GASKETED FITTINGS

SERVICE

TEE (G x G x FPT)

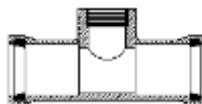


SIZE (IN.)	PART NO.	CARTON (QTY.)
1.5 x 1.5 x 3/4	RTF151-153	1
1.5 x 1.5 x 1	RTF9667-211	1
1.5 x 1.5 x 1.25	RTF151-155	1
2 x 2 x 3/4	RTF9667-248	12
2 x 2 x 1	RTF9667-249	12
2 x 2 x 1.25	RTF151-205	12
2 x 2 x 1.5	RTF9667-251	12
2.5 x 2.5 x 3/4	RTF151-253	12
2.5 x 2.5 x 1	RTF9667-289	12
2.5 x 2.5 x 1.25	RTF151-255	12
2.5 x 2.5 x 1.5	RTF9667-291	12
2.5 x 2.5 x 2	RTF9667-292	12
3 x 3 x 3/4	RTF151-303	12
3 x 3 x 1	RTF9667-335	12
3 x 3 x 1.25	RTF9667-336	12
3 x 3 x 1.5	RTF9667-337	12
3 x 3 x 2	RTF9667-338	8
4 x 4 x 3/4	RTF151-403	8
4 x 4 x 1	RTF9667-417	8
4 x 4 x 1.25	RTF151-405	8
4 x 4 x 1.5	RTF9667-419	8
4 x 4 x 2	RTF9667-420	8
6 x 6 x 3/4	RTF151-603	6
6 x 6 x 1	RTF9667-522	6
6 x 6 x 1.25	RTF151-605	6
6 x 6 x 1.5	RTF9667-526	6
6 x 6 x 2	RTF9667-528	6

ACME

SERVICE

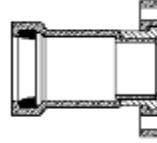
TEE (G x G x ACME) 315 psi PRESSURE RATED



SIZE (IN.)	PART NO.	CARTON (QTY.)
2 x 2 x 1	RTF153-204	16
2 x 2 x 1.25	RTF153-205	16
2 x 2 x 1.5	RTF153-206	16
2.5 x 2.5 x 1	RTF153-254	16
2.5 x 2.5 x 1.25	RTF153-255	16
2.5 x 2.5 x 1.5	RTF153-256	16
3 x 3 x 1	RTF153-304	16
3 x 3 x 1.25	RTF153-305	16
3 x 3 x 1.5	RTF153-306	16

FLANGE

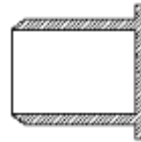
ADAPTER (G x Flange)



SIZE (IN.)	PART NO.	CARTON (QTY.)
1.5	RTF154-015	1
2	RTF154-020	1
2.5	RTF154-025	1
3	RTF154-030	1
4	RTF154-040	1
6	RTF154-060	1
8	RTF154-080	1

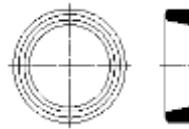
PLUG

(Spigot)



SIZE (IN.)	PART NO.	CARTON (QTY.)
1.5	RTF144-015	1
2	RTF144-020	12
2.5	RTF144-025	12
3	RTF144-030	12
4	RTF144-040	12
6	RTF144-060	12
8	RTF144-080	4

REPLACEMENT GASKETS



SIZE (IN.)	PART NO.	CARTON (QTY.)
1.5	RTF195-015	1
2	RTF195-020	1
2.5	RTF195-025	1
3	RTF195-030	1
4	RTF195-040	1
6	RTF195-060	1
8	RTF195-080	1

PVC SCHEDULE 40 FITTINGS



Standards and Specifications: ASTM D2464 - Threaded Poly (Vinyl Chloride)(PVC) Plastic Pipe Fittings, Schedule40.
 ASTM D2466 - Poly (Vinyl Chloride)(PVC) Plastic Pipe Fittings, Schedule 40.
 ASTM D2467 - Socket-Type Poly (Vinyl Chloride)(PVC) Plastic Pipe Fittings, Schedule 40.
 MATERIAL—PVC fittings are listed by NSF (National Sanitation Foundation).

TEE (slip x slip x slip)



SIZE (IN.)	PART NO.	CARTON (QTY.)
1	SF401-010	50
1.25	SF401-012	25
1.5	SF401-015	25
2	SF401-020	25
2.5	SF401-025	10
3	SF401-030	10
4	SF401-040	5

COMBINATION TEE (slip x slip x FPT)



SIZE (IN.)	PART NO.	CARTON (QTY.)
1	SF402-010	50
1.25	SF402-012	25
1.5	SF402-015	25
2	SF402-020	10
3	SF402-030	10
4	SF402-040	5

COMBINATION REDUCING TEE (slip x slip x FPT)



SIZE (IN.)	PART NO.	CARTON (QTY.)
1 x 1 x 1/2	SF402-130	50
1 x 1 x 3/4	SF402-131	50
1.25 x 1.25 x 1/2	SF402-166	25
1.25 x 1.25 x 3/4	SF402-167	25
1.25 x 1.25 x 1	SF402-168	25
1.5 x 1.5 x 1/2	SF402-208	25
1.5 x 1.5 x 3/4	SF402-209	25
1.5 x 1.5 x 1	SF402-211	25
1.5 x 1.5 x 1.25	SF402-212	25
2 x 2 x 1/2	SF402-247	10
2 x 2 x 3/5	SF402-248	10
2 x 2 x 1	SF402-249	10
2 x 2 x 1.25	SF402-250	10
2 x 2 x 1.5	SF402-251	10
2.5 x 2.5 x 1/2	SF402-287	10
2.5 x 2.5 x 3/4	SF402-288	10
2.5 x 2.5 x 1	SF402-289	10
2.5 x 2.5 x 1.25	SF402-290	10
2.5 x 2.5 x 1.5	SF402-291	10
2.5 x 2.5 x 2	SF402-292	10
3 x 3 x 1/2	SF402-333	10
3 x 3 x 3/4	SF402-334	10
3 x 3 x 1	SF402-335	10
3 x 3 x 1.25	SF402-336	10
3 x 3 x 1.5	SF402-337	10
3 x 3 x 2	SF402-338	10
4 x 4 x 3/4	SF402-416	4
4 x 4 x 1	SF402-417	5
4 x 4 x 1.25	SF402-418	5
4 x 4 x 1.5	SF402-419	5
4 x 4 x 2	SF402-420	5
4 x 4 x 3	SF402-422	5

REDUCING TEE (slip x slip x slip)



SIZE (IN.)	PART NO.	CARTON (QTY.)
1.25 x 1.25 x 1	SF401-168	25
1.5 x 1.5 x 1	SF401-211	25
1.5 x 1.5 x 1.25	SF401-210	25
2 x 2 x 1	SF401-249	10
2 x 2 x 1.25	SF401-250	10
2 x 2 x 1.5	SF401-251	10
2.5 x 2.5 x 1	SF401-289	10
2.5 x 2.5 x 1.25	SF401-290	10
2.5 x 2.5 x 1.5	SF401-291	10
2.5 x 2.5 x 2	SF401-292	10
3 x 3 x 1	SF401-335	10
3 x 3 x 1.25	SF401-336	10
3 x 3 x 1.5	SF401-337	10
3 x 3 x 2	SF401-338	10
4 x 4 x 1	SF401-417	4
4 x 4 x 1.25	SF401-418	5
4 x 4 x 1.5	SF401-419	5
4 x 4 x 2	SF401-420	5
4 x 4 x 3	SF401-422	5

THREADED TEE (FPT x FPT x FPT)



SIZE (IN.)	PART NO.	CARTON (QTY.)
1/2	SF405-005	50
3/4	SF405-007	50
1	SF405-010	50
1.25	SF405-012	25
1.5	SF405-015	25

CROSS (slip x slip x slip x slip)



SIZE (IN.)	PART NO.	CARTON (QTY.)
1	SF420-010	50
1.25	SF420-012	25
1.5	SF420-015	25
2	SF420-020	10
2.5	SF420-025	8
3	SF420-030	10
4	SF420-040	5

Many other sizes and reducing combinations of PVC fittings are available. Please call for more information on any particular fitting you may require.



PVC SCHEDULE 40 FITTINGS

90-DEG ELL

(slip x slip)



SIZE (IN.)	PART NO.	CARTON (QTY.)
1	SF406-010	50
1.25	SF406-012	25
1.5	SF406-015	25
2	SF406-020	25
2.5	SF406-025	10
3	SF406-030	10
4	SF406-040	5

THREADED ELL

(FPT x FPT)



SIZE (IN.)	PART NO.	CARTON (QTY.)
1/2	SF408-005	50
3/4	SF408-007	50
1	SF408-010	50
1.25	SF408-012	25
1.5	SF408-015	25
2	SF408-020	10

COUPLING

(slip x slip)



SIZE (IN.)	PART NO.	CARTON (QTY.)
1	SF429-010	50
1.25	SF429-012	25
1.5	SF429-015	25
2	SF429-020	25
2.5	SF429-025	10
3	SF429-030	10
4	SF429-040	5

COMBINATION ELL

(slip x FPT)



SIZE (IN.)	PART NO.	CARTON (QTY.)
1	SF407-010	50
1.25	SF407-012	25
1.5	SF407-015	25
2	SF407-020	10
2.5	SF407-025	10
3	SF407-030	10
4	SF407-040	5

45-DEG ELL

(slip x slip)



SIZE (IN.)	PART NO.	CARTON (QTY.)
1	SF417-010	50
1.25	SF417-012	25
1.5	SF417-015	25
2	SF417-020	25
2.5	SF417-025	10
3	SF417-030	10
4	SF417-040	5

DEEP SOCKET COUPLING

(slip x slip)



SIZE (IN.)	PART NO.	CARTON (QTY.)
1.5	SF482-015	25
2	SF482-020	25
2.5	SF482-025	10
3	SF482-030	10
4	SF482-040	5

COMBINATION REDUCING ELL

(slip x FPT)



SIZE (IN.)	PART NO.	CARTON (QTY.)
1 x 1/2	SF407-130	50
1 x 3/4	SF407-131	50
1.25 x 1	SF407-168	25
1.5 x 1	SF407-211	25
1.5 x 1.25	SF407-212	25
2 x 1	SF407-249	10
2 x 1.25	SF407-250	10
2 x 1.5	SF407-251	10

THREADED COUPLING

(FPT x FPT)



SIZE (IN.)	PART NO.	CARTON (QTY.)
1/2	SF430-005	100
3/4	SF430-007	50
1	SF430-010	50

FEMALE ADAPTER

(slip x FPT)



SIZE (IN.)	PART NO.	CARTON (QTY.)
1	SF435-010	50
1.25	SF435-012	25
1.5	SF435-015	25
2	SF435-020	25
2.5	SF435-025	10
3	SF435-030	10
4	SF435-040	5

Don't over-tighten joints by giving them "one more turn to be sure. Finger tighten plus one or two turns - No More. Don't wrap Teflon tape or Teflon paste to add bulk to or to lubricate the joint. Use only Schedule 40 threaded fittings with Schedule 40 pipe and fittings. Don't use Schedule 80 threaded fittings in a Schedule 40 System.

PVC SCHEDULE 40 FITTINGS



REDUCER BUSHING

(sp x slip)



SIZE (IN.)	PART NO.	CARTON (QTY.)
1.25 x 1	SF437-168	25
1.5 x 1	SF437-211	25
1.5 x 1.25	SF437-212	25
2 x 1	SF437-249	10
2 x 1.25	SF437-250	10
2 x 1.5	SF437-251	25
2.5 x 1	SF437-289	10
2.5 x 1.25	SF437-290	10
2.5 x 1.5	SF437-291	10 ³
2.5 x 2	SF437-292	10
3 x 1	SF437-335	10
3 x 1.25	SF437-336	10
3 x 1.5	SF437-337	10
3 x 2	SF437-338	10
3 x 2.5	SF437-339	10
4 x 2	SF437-420	5
4 x 2.5	SF437-421	5
4 x 3	SF437-422	5

REDUCER BUSHING

(sp x FPT)



SIZE (IN.)	PART NO.	CARTON (QTY.)
1 x 1/2	SF438-130	100
1 x 3/4	SF438-131	100
1.25 x 1/2	SF438-166	25
1.25 x 3/4	SF438-167	25
1.25 x 1	SF438-168	25
1.5 x 1/2	SF438-209	25
1.5 x 3/4	SF438-210	25
1.5 x 1	SF438-211	25
1.5 x 1.25	SF438-212	25
2 x 1/2	SF438-247	10
2 x 3/4	SF438-248	10
2 x 1	SF438-249	10
2 x 1.25	SF438-250	10
2 x 1.5	SF438-251	10
2.5 x 1	SF438-289	10
2.5 x 1.25	SF438-290	10
2.5 x 1.5	SF438-291	10
2.5 x 2	SF438-292	10
3 x 1	SF438-335	10
3 x 1.25	SF438-335	10
3 x 1.5	SF438-337	10
3 x 2	SF438-338	10
3 x 2.5	SF438-339	10
4 x 2	SF438-420	5
4 x 2.5	SF438-421	5
4 x 3	SF438-422	5

REDUCER BUSHING

(MPT x FPT)



SIZE (IN.)	PART NO.	CARTON (QTY.)
3/8 x 1/4	SF439-052	50
1/2 x 1/4	SF439-072	50
1/2 x 3/8	SF439-073	50
3/4 x 1/4	SF439-098	50
3/4 x 3/8	SF439-099	50
3/4 x 1/2	SF439-101	50
1 x 1/2	SF439-130	50
1 x 3/4	SF439-131	50
1.25 x 1/2	SF439-166	25
1.25 x 3/4	SF439-167	25
1.25 x 1	SF439-168	25
1.5 x 1/2	SF439-209	25
1.5 x 3/4	SF439-210	25
1.5 x 1	SF439-211	25
1.5 x 1.25	SF439-212	25
2 x 1	SF439-249	10
2 x 1.25	SF439-250	10
2 x 1.5	SF439-251	10
2.5 x 2	SF439-292	10
3 x 2	SF439-338	5

MALE ADAPTER

(slip x MPT)



SIZE (IN.)	PART NO.	CARTON (QTY.)
1	SF436-010	50
1.25	SF436-012	25
1.5	SF436-015	25
2	SF436-020	25
2.5	SF436-025	10
3	SF436-030	10
4	SF436-040	5

THREADED CAP



SIZE (IN.)	PART NO.	CARTON (QTY.)
1/2	SF448-005	100
3/4	SF448-007	100
1	SF448-010	50
1.25	SF448-012	25
1.5	SF448-015	25
2	SF448-020	25
2.5	SF448-025	10
3	SF448-030	10
4	SF448-040	5

SLIP CAP



SIZE (IN.)	PART NO.	CARTON (QTY.)
1/2	SF447-005	100
3/4	SF447-007	100
1	SF447-010	50
1.25	SF447-012	25
1.5	SF447-015	25
2	SF447-020	25
2.5	SF447-025	10
3	SF447-030	10
4	SF447-040	5
6	SF447-060	5

FPT = Female Pipe Thread
 MPT = Male Pipe Thread
 Slip = Solvent Cement Socket
 Sp = Spigot (size of pipe OD)



PVC SCHEDULE 40 FITTINGS

SPIGOT PLUG



SIZE (IN.)	PART NO.	CARTON (QTY.)
1/2	SF449-005	50
3/4	SF449-007	50
1	SF449-010	50
1.25	SF449-012	25
1.5	SF449-015	25
2	SF449-020	10
2.5	SF449-023	10
3	SF449-030	10
4	SF449-040	5

THREADED PLUG (MPT)



SIZE (IN.)	PART NO.	CARTON (QTY.)
1/2	SF450-005	50
3/4	SF450-007	50
1	SF450-010	50
1.25	SF450-012	25
1.5	SF450-015	25
2	SF450-020	10
2.5	SF450-025	10
3	SF450-030	10
4	SF450-040	5

UNION (slip x slip)



SIZE (IN.)	PART NO.	CARTON (QTY.)
1/2	SF457-005	10
3/4	SF457-007	10
1	SF457-010	10
1.25	SF457-012	5
1.5	SF457-015	5
2	SF457-020	5

UNION (FPT x FPT)



SIZE (IN.)	PART NO.	CARTON (QTY.)
1/2	SF458-005	10
3/4	SF458-007	10
1	SF458-010	10
1.25	SF458-012	5
1.5	SF458-015	5
2	SF458-020	5

Compressed Air & PVC

The Plastic Pipe and Fittings Association notes in their PPFA Bulletin # 4-80: *"Compressed air or inert gases should never be used for pressure testing plastic piping systems."*

The Plastic Piping Institute issued Recommendation B - Thermoplastic piping for the transport of compressed air or compressed gases: *"The plastic Pipe Institute recommends against the use of thermoplastic pipe to transport compressed air or other gases in exposed above ground locations, e.g. in exposed plant piping. It is recommended that all thermoplastic piping used to transport compressed air or other compressed gases be buried underground or encased in shatter-resistant materials."*

Although the use of PVC for compressed air transmission may appear easy, and inexpensive, the dangers are real and immense. Water, like most liquids, is not compressible, therefore it cannot store energy. When a hydrostatic failure occurs, water is projected, but the shrapnel is not projected very far. On the other hand, air and other gases are compressible. This can result in large amounts of stored energy. System failure could lead to a disastrous situation when this energy is released, sending shrapnel outward. Severe injury and damage can result.

SOLVENT WELDING PVC PIPE AND FITTINGS:

1. Cut the pipe square. One good way is to use a miter box and saw, or a wheel cutter designed for plastic.
2. Remove burrs, inside and out! Clean pipe with rag, to remove dirt and moisture.
3. Check dry fit. The pipe must enter at least 1/3 of the way into the socket without forcing it! If fit is too tight file or sand the pipe to the proper fit within the socket area. Take care not to make flats or gouges on it!
4. Apply primer on both fittings being assembled.
5. Work quickly, while applying cement - but, do not puddle the cement inside the fitting nor let cement run down inside the pipe.
6. Assembly immediately. Be sure to bottom the socket while both surfaces are still wet, then hold for about a minute.
7. Wipe off excess cement. Especially the bead - but don't disturb the joint.
8. Wait before disturbing, 30 minutes to 6 hours, depending on the temperature. Set period will depend on, type of cement, size of pipe, temperature and humidity.

PVC SCHEDULE 80 FITTINGS



Standards and Specifications

ASTM D2464 - Threaded Poly (Vinyl Chloride)(PVC) Plastic Pipe Fittings, Schedule 80.

ASTM D1784 - Poly (Vinyl Chloride)(PVC) Plastic Pipe Fittings, Schedule 80.

ASTM D2467 - Socket-Type Poly (Vinyl Chloride)(PVC) Plastic Pipe Fittings, Schedule 80.

MATERIAL—PVC fittings are listed by NSF (National Sanitation Foundation).

THREADED TEE



(FPT x FPT x FPT)

SIZE (IN.)	PART NO.	CARTON (QTY.)
1	SF805-010	25
1.25	SF805-012	10
1.5	SF805-015	10
2	SF805-020	10
2.5	SF805-025	5
3	SF805-030	5
4	SF805-040	5

THREADED ELL



(FPT x FPT)

SIZE (IN.)	PART NO.	CARTON (QTY.)
1	SF808-010	25
1.25	SF808-012	10
1.5	SF808-015	10
2	SF808-020	10
2.5	SF808-025	5
3	SF808-030	5
4	SF808-040	5

THREADED COUPLING



(FPT x FPT)

SIZE (IN.)	PART NO.	CARTON (QTY.)
1/2	SF830-005	25
3/4	SF830-007	25
1	SF830-010	25
1.25	SF830-012	10
1.5	SF830-015	10
2	SF830-020	10
2.5	SF830-025	5
3	SF830-030	5
4	SF830-040	5

FEMALE ADAPTER



(slip x FPT)

SIZE (IN.)	PART NO.	CARTON (QTY.)
1	SF835-010	25
1.25	SF835-012	10
1.5	SF835-015	10
2	SF835-020	10
2.5	SF835-025	5
3	SF835-030	5
4	SF835-040	5

REDUCER BUSHING



(MPT x FPT)

SIZE (IN.)	PART NO.	CARTON (QTY.)
3/8 x 1/4	SF839-052	25
1/2 x 1/4	SF839-072	25
1/2 x 3/8	SF839-073	25
3/4 x 1/4	SF839-098	25
3/4 x 3/8	SF839-099	25
3/4 x 1/2	SF839-101	25
1 x 1/4	SF839-128	25
1 x 3/8	SF839-129	25
1 x 1/2	SF839-130	50
1 x 3/4	SF839-131	25
1.25 x 1/2	SF839-166	10
1.25 x 3/4	SF839-167	10
1.25 x 1	SF839-168	10
1.5 x 1/2	SF839-209	10
1.5 x 3/4	SF839-210	10
1.5 x 1	SF839-211	10
1.5 x 1.25	SF839-212	10
2 x 1/2	SF839-247	10
2 x 3/4	SF839-248	10
2 x 1	SF839-249	10
2 x 1.25	SF839-250	10
2 x 1.5	SF839-251	10
2.5 x 2	SF839-292	5
3 x 1.5	SF839-337	5
3 x 2	SF839-338	5
3 x 2.5	SF839-339	5
4 x 3	SF839-422	5

THREADED PLUG



SIZE (IN.)	PART NO.	CARTON (QTY.)
1/4	SF850-002	25
3/8	SF850-003	25
1/2	SF850-005	25
3/4	SF850-007	25
1	SF850-010	25
1.25	SF850-012	10
1.5	SF850-015	10
2	SF850-020	10
2.5	SF850-025	5
3	SF850-030	5
4	SF850-040	5

Many other sizes and reducing combinations of PVC fittings are available.



PVC SCHEDULE 80 FITTINGS

FLANGE

Solid-Style



(slip)

SIZE (IN.)	PART NO.	CARTON (QTY.)
1.5	SF851-015	10
2	SF851-020	10
2.5	SF851-025	5
3	SF851-030	5
4	SF851-040	5
6	SF851-060	5

FLANGE

Solid-Style



(FPT)

SIZE (IN.)	PART NO.	CARTON (QTY.)
1.5	SF852-015	10
2	SF852-020	10
2.5	SF852-025	5
3	SF852-030	5
4	SF852-040	5

BLIND FLANGE



SIZE (IN.)	PART NO.	CARTON (QTY.)
1.5	SF853-015	10
2	SF853-020	10
2.5	SF853-025	5
3	SF853-030	5
4	SF853-040	5
6	SF853-060	5
8	SF853-080	5

FLANGE

Loose Ring



(slip)

SIZE (IN.)	PART NO.	CARTON (QTY.)
1.5	SF854-015	20
2	SF854-020	10
3	SF854-030FT	5
4	SF854-040FT	5
6	SF854-060FT	5
8	SF854-080FT	5
10	SF854-100FT	2
12	SF854-120FT	1

UNION



(slip x slip)

SIZE (IN.)	PART NO.	CARTON (QTY.)
1	SF897-010	10
1.25	SF897-012	5
1.5	SF897-015	5
2	SF897-020	5
3	SF897-030	5

UNION

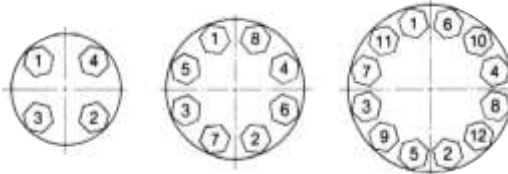


(FPT x FPT)

SIZE (IN.)	PART NO.	CARTON (QTY.)
1	SF898-010	10
1.25	SF898-012	5
1.5	SF898-015	5
2	SF898-020	5
3	SF898-030	5
4	SF498-040	4

FLANGE INSTALLATION DATA

Gaskets and Bolts



1. Recommend Gaskets: full face 1/8" thick, elastomeric, 50-70 Shore A hardness.
2. Bolt Threads should be well lubricated.
3. Nut and bolt threads should be free-running during assembly.
4. Follow illustrated bolt-tightening sequence.
5. Always use full size flat washers with bolts and nuts.

NOTE: Flanges conform to ANSI B16.5, Class 5 150. Socket diameters conform to ASTM 6 D-2467. Recommended working pressure: 150 psi @ 73.4°F. Flanges not NSF listed. Use primer and heavy bodied PVC cement.

Size	Bolt Circle Diameter	No. Of Bolts	Bolt Size (UNC x Length)	Recommended Torque (Ft/Lbs)
1.5"	3.87"	4	1/2" - 13 x 2-3/4	15 - 20
2"	4.75"	4	5/8" - 11 x 3	20 - 30
2.5"	5.50"	4	5/8" - 11 x 3-1/4	20 - 30
3"	6.00"	4	5/8" - 11 x 3-5/8	20 - 30
4"	7.50"	8	5/8" - 11 x 3-3/4	20 - 30
6"	9.50"	8	3/4" - 10 x 4-3/8	33 - 50
8"	11.75"	8	3/4" - 10 x 4-3/8	33 - 50
10"	14.25"	12	7/8" - 9 x 4-1/2	53 - 75
12"	17.00"	12	7/8" - 9 x 4-5/8	53 - 75

PVC (SCH 80) NIPPLES



Standards and Specifications

ASTM D2464 - Threaded Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 80.
Material—Schedule 80 Nipples produced from PVC Type 1, Cell Classification 12454-B.
NOT FOR USE WITH COMPRESSED AIR OR GAS.



1/2" DIAMETER

LENGTH (IN.)	PART NO.	CARTON (QTY.)
THREADED ONE END (TOE)		
CLOSE	PN105-011	50
3	PN105-030	50
4	PN105-040	50
6	PN105-060	50
12	PN105-120	50
THREADED BOTH ENDS (TBE)		
CLOSE	PN882-005	50
3	PN882-030	50
4	PN882-040	50
6	PN882-060	50
12	PN882-120	50

1-1/4" DIAMETER

LENGTH (IN.)	PART NO.	CARTON (QTY.)
THREADED ONE END (TOE)		
CLOSE	PN112-016	25
3	PN1885-030	25
4	PN1885-040	25
6	PN1885-060	25
12	PN1885-120	25
THREADED BOTH ENDS (TBE)		
CLOSE	PN885-005	25
3	PN885-030	25
4	PN885-040	25
6	PN885-060	25
12	PN885-120	25

2-1/2" DIAMETER

LENGTH (IN.)	PART NO.	CARTON (QTY.)
THREADED ONE END (TOE)		
CLOSE	PN125-016	5
3	PN1888-030	5
4	PN1888-040	5
6	PN1888-060	5
12	PN1888-120	10
THREADED BOTH ENDS (TBE)		
CLOSE	PN888-005	5
3	PN888-030	5
4	PN888-040	5
6	PN888-060	5
12	PN888-120	10

3/4" DIAMETER

LENGTH (IN.)	PART NO.	CARTON (QTY.)
THREADED ONE END (TOE)		
CLOSE	PN107-013	50
3	PN107-030	50
4	PN107-040	50
6	PN107-060	50
12	PN107-120	50
THREADED BOTH ENDS (TBE)		
CLOSE	PN883-005	50
3	PN883-030	50
4	PN883-040	50
6	PN883-060	50
12	PN883-120	50

1-1/2" DIAMETER

LENGTH (IN.)	PART NO.	CARTON (QTY.)
THREADED ONE END (TOE)		
CLOSE	PN115-016	25
3	PN1886-030	25
4	PN1886-040	25
6	PN1886-060	25
12	PN1886-120	25
18	PN1886-180	25
THREADED BOTH ENDS (TBE)		
CLOSE	PN886-005	25
3	PN886-030	25
4	PN886-040	25
6	PN886-060	25
12	PN886-120	25
18	PN886-180	25

3" DIAMETER

LENGTH (IN.)	PART NO.	CARTON (QTY.)
THREADED ONE END (TOE)		
CLOSE	PN130-016	5
3	PN1889-030	5
6	PN1889-060	5
12	PN1889-120	8
18	PN1889-180	10
THREADED BOTH ENDS (TBE)		
CLOSE	PN889-005	5
3	PN889-030	5
6	PN889-060	5
12	PN889-120	8
18	PN889-180	10

1" DIAMETER

LENGTH (IN.)	PART NO.	CARTON (QTY.)
THREADED ONE END (TOE)		
CLOSE	PN110-015	50
3	PN1884-030	50
4	PN1884-040	50
6	PN1884-060	50
12	PN1884-120	50
18	PN1884-180	50
THREADED BOTH ENDS (TBE)		
CLOSE	PN884-005	50
3	PN884-030	50
4	PN884-040	50
6	PN884-060	50
12	PN884-120	50
18	PN884-180	50

2" DIAMETER

LENGTH (IN.)	PART NO.	CARTON (QTY.)
THREADED ONE END (TOE)		
CLOSE	PN120-016	10
3	PN1887-030	10
4	PN1887-040	10
6	PN1887-060	10
12	PN1887-120	15
18	PN1887-180	10
THREADED BOTH ENDS (TBE)		
CLOSE	PN887-005	10
3	PN887-030	10
4	PN887-040	10
6	PN887-060	10
12	PN887-120	15
18	PN887-180	10

4" DIAMETER

LENGTH (IN.)	PART NO.	CARTON (QTY.)
THREADED ONE END (TOE)		
CLOSE	PN140-016	5
4	PN140-040	5
6	PN140-060	5
12	PN140-120	5
THREADED BOTH ENDS (TBE)		
CLOSE	PN240-016	5
4	PN240-040	5
6	PN240-060	5
12	PN240-120	5



COMPRESSION FITTINGS

Standards and Specifications

PVC Schedule 40 fittings ARE produced from PVC Type I cell classification 12454, conforming to ASTM D 1784.

Fittings are injection molded and are certified for potable water service by NSF International and manufactured in strict compliance to ASTM D 2466.

COMPRESSION COUPLING

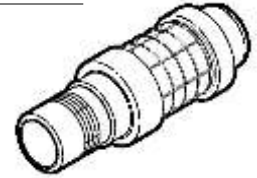
(Socket x Socket)



SIZE (IN.)	PART NO.	CARTON (QTY.)
1	FLC110-10	18
1.25	FLC110-12	12
1.5	FLC110-15	15
2	FLC110-20	12
2.5	FLC110-25	5
3	FLC110-30	4
4	FLC110-40	3
6	FLC110-60	1

QUICK-FIX TELESCOPIC COUPLING

(Socket x Socket x FPT)



SIZE (IN.)	PART NO.	CARTON (QTY.)
1	QF2-1000	18
1.25	QF2-1250	12
1.5	QF2-1500	12
2	QF2-2000	8
2.5	QF2-2500	4
3	QF2-3000	3
4	QF2-4000	2
6	QF2-6000	1

COMPRESSION TEE

(Socket x Socket x FPT)



SIZE (IN.)	PART NO.	CARTON (QTY.)
1	FLC120-10	18
1.25	FLC120-12	10
1.5	FLC120-15	8
2	FLC120-20	5

SPANNER WRENCH



SIZE (IN.)	PART NO.
2.5	WOO-25
3	WOO-30
4	WOO-40
6	WOO-60

NOT FOR USE WITH COMPRESSED AIR OR GAS

NOT RECOMMEND for the use of these thermoplastic piping products for systems to transport or store compressed air or gases, or the testing of thermoplastic piping systems with compressed air or gases in aboveground locations. The use of this product in compressed air or gas systems automatically voids any warranty for such products, and its use against our recommendation is entirely the responsibility and liability of the installer.

STRAP WRENCH



SIZE (IN.)	PART NO.
1/2 TO 4	BOA-104
6	BOA-106

HOW TO DETERMINE OUTSIDE DIAMETER (OD) OF A PIPE:

1. FIND THE CIRCUMFERENCE BY WRAPPING A THIN STRING AROUND THE PIPE AND MEASURE THE TOTAL LENGTH OF THE STRING.
2. MULTIPLY THE STRING'S LENGTH (CIRCUMFERENCE) X .3183 TO GET THE OUTSIDE DIAMETER.

EXAMPLE: 3" PVC PIPE = 11" CIRCUMFERENCE, 11" X .3183 = 3.50" OD

TYPE OF PIPE	NOMINAL PIPE SIZE & OUTSIDE DIAMETER (INCHES)											
	1-1/2	2	2-1/2	3	4	6	8	10	12	14	16	18
ASBESTOS CEMENT (CLASS 100)				3.95	4.92	7.19	9.39	11.47	13.74	15.51	17.65	20.44
ASBESTOS CEMENT (CLASS 150)				4.13	5.07	7.17	9.37	11.92	14.18	16.48	18.72	21.30
ASBESTOS CEMENT (CLASS 200)				4.17	5.33	7.32	9.50	11.92	14.18	16.59	18.90	22.54
COPPER	1.63	2.13	2.63	3.13	4.13	6.13						
DUCTILE IRON (CLASS 100-250)				3.96	4.80	6.90	9.05	11.10	13.20	15.30	17.40	19.50
HDPE (IPS SIZE)	1.90	2.38		3.50	4.50	6.63	8.63	10.75	12.75	14.00	16.00	18.00
PVC (SDR 21, 26, SCHEDULE)	1.90	2.38	2.88	3.50	4.50	6.63	8.63	10.75	12.75			
PVC (C-900, C-905)					4.80	6.90	9.05	11.10	13.20	15.30	17.40	19.50
PLASTIC SEWER (SDR 35)					4.22	6.28	8.40	10.50	12.50			18.70
STEEL (BLACK, GALVANIZED)	1.90	2.38	2.88	3.50	4.50	6.63	8.63	10.75	12.75	14.00	16.00	18.00

101 UNIVERSAL CLAMP COUPLING (12" Wide)

Provides a full circumferential seal for permanent repair.



Some sizes are available up to 30" wide - call for pricing.

NOMINAL SIZE (IN.)	OD RANGE (IN.)	PART NO.
2 - 2.5	2.35 - 2.63	JCM101-0238-12
2 - 2.5	2.70 - 3.13	JCM101-0275-12
3	3.46 - 3.70	JCM101-0350-12
3	3.73 - 4.13	JCM101-0400-12
4	4.45 - 4.75	JCM101-0450-12
4	4.74 - 5.14	JCM101-0480-12
4	4.95 - 5.35	JCM101-0500-12
4	5.22 - 5.62	JCM101-0525-12
6	5.95 - 6.35	JCM101-0600-12
6	6.56 - 6.96	JCM101-0663-12
6	6.85 - 7.25	JCM101-0690-12
6	7.05 - 7.45	JCM101-0710-12
6	7.45 - 7.85	JCM101-0745-12
8	7.95 - 8.35	JCM101-0800-12
8	8.54 - 8.94	JCM101-0863-12
8	8.99 - 9.39	JCM101-0905-12
8	9.27 - 9.67	JCM101-0940-12
8	9.90 - 10.30	JCM101-1000-12
10	10.60 - 11.00	JCM101-1075-12
10	11.04 - 11.44	JCM101-1110-12
10	11.34 - 11.74	JCM101-1140-12
10	11.75 - 12.15	JCM101-1175-12
10	12.00 - 12.40	JCM101-1200-12
12	12.60 - 13.02	JCM101-1275-12
12	13.10 - 13.50	JCM101-1320-12
12	13.40 - 13.80	JCM101-1340-12
12	13.70 - 14.10	JCM101-1370-12
12	14.00 - 14.40	JCM101-1400-12

Items in bold are for Class 160 & 200 PVC pipe.

105 COLLAR LEAK CLAMP (6" Wide)



Provides a quick solution to troublesome leaks in PVC solvent weld pipe without having to cut out fittings.

SIZE OF PVC PIPE (IN.)	PART NO.
2	JCM105-0238-6
2.5	JCM105-0288-6
3	JCM105-0350-6
4	JCM105-0450-6
6	JCM105-0663-6
8	JCM105-0863-6

106 BELL JOINT LEAK CLAMP



For quick repair of leaking PVC gasketed joints eliminating need to cut out the pipe.

SIZE OF PVC PIPE (IN.)	PART NO.
4	JCM106-0450
6	JCM106-0663
8	JCM106-0863



JCM REPAIR COUPLINGS

210 & 211 DUCTILE IRON COUPLING

Provides an easy means of joining plain end pipe.



NOMI. SIZE (IN.)	OD RANGE (IN.)	PART NO.
2 - 2.5	2.33 - 2.63	JCM210-0250
2.5	2.62 - 2.92	JCM210-0288
3	3.50	JCM211-0350
3	3.80 - 4.17	JCM210-0380
4	4.50	JCM211-0450
4	4.80 - 5.10	JCM210-0488
4	5.10 - 5.40	JCM210-0535
6	6.63	JCM211-0663
6	6.90 - 7.20	JCM210-0690
6	7.20 - 7.55	JCM210-0740
8	8.63	JCM211-0863
8	9.05 - 9.40	JCM210-0905
8	9.40 - 9.75	JCM210-0960
10	10.75	JCM211-1075
10	11.10 - 11.40	JCM210-1110
10	11.60 - 12.05	JCM210-1200
12	12.75	JCM211-1275
12	13.20 - 13.50	JCM210-1320
12	13.92 - 14.40	JCM210-1420

Items in bold are for Class 160 & 200 PVC pipe. Available with epoxy coating and stainless steel hardware. Call for special pricing.

212 DUCTILE IRON TRANSITION COUPLING



A simple coupling system to provide means of joining plain end pipe of the same nominal size, but having different outside diameters. Ex: join 6" PVC to 6" Ductile Iron pipe.

NOMI. SIZE (IN.)	FROM: OD RANGE (IN.)	TO: OD RANGE (IN.)	PART NO.
2 - 2.5	2.62 - 2.92	2.38 - 2.50	JCM212-0288-0238
3	3.80 - 4.17	2.62 - 2.92	JCM212-0396-0350
4	4.80 - 5.10	4.50	JCM212-0480-0450
4	5.10 - 5.40	4.50	JCM212-0535-0450
4	5.10 - 5.40	4.80	JCM212-0535-0480
6	6.90 - 7.20	6.63	JCM212-0690-0663
6	7.20 - 7.55	6.63	JCM212-0740-0663
6	7.20 - 7.55	6.90	JCM212-0740-0690
8	9.05 - 9.40	8.63	JCM212-0905-0863
8	9.40 - 9.75	8.63	JCM212-0960-0863
8	9.40 - 9.75	9.05	JCM212-0960-0905
10	11.10 - 11.40	10.75	JCM212-1110-1075
10	11.60 - 12.05	10.75	JCM212-1200-1075
10	11.60 - 12.05	11.10	JCM212-1200-1110
12	13.20 - 13.50	12.75	JCM212-1320-1275
12	13.92 - 14.40	12.75	JCM212-1420-1275
12	13.92 - 14.40	13.20	JCM212-1420-1320

230 & 231 HDPE PIPE STIFFENER



JCM HDPE Pipe Stiffeners are designed to support the interior wall of HDPE for critical pipe joining applications. Recommended for all pipe end connections utilizing mechanical bolt-on fittings, the JCM Pipe Stiffeners support the pipe's end and controls the "necking down" reaction to the pressure applied during normal installation of fittings used in pipe joining applications.

The JCM HDPE Pipe Stiffeners are formed of stainless steel, to the **actual inside pipe diameter provided by the customer**. This accurate formation provides for ease of installation and maintains the proper outside diameter for a successful, trouble free application that provides long-term service.

NOMI. SIZE (IN.)	ID / PIPE DR (IN.)	PART NO.
------------------	--------------------	----------

MODEL 230—6" WIDTH

4	3.440" / DR 9	JCM230-04-0344
4	3.633" / DR 11	JCM230-04-0363
6	5.064" / DR 9	JCM230-06-0506
6	5.348" / DR 11	JCM230-06-0535
8	6.593" / DR 9	JCM230-08-0659
8	6.963" / DR 11	JCM230-08-0696
10	8.218" / DR 9	JCM230-10-0822
10	8.678" / DR 11	JCM230-10-0868
12	9.747" / DR 11	JCM230-12-0975
12	10.293" / DR 11	JCM230-12-1029

NOMI. SIZE (IN.)	ID / PIPE DR (IN.)	PART NO.
------------------	--------------------	----------

MODEL 231—12" WIDTH

4	3.440" / DR 9	JCM231-04-0344
4	3.633" / DR 11	JCM231-04-0363
6	5.064" / DR 9	JCM231-06-0506
6	5.348" / DR 11	JCM231-06-0535
8	6.593" / DR 9	JCM231-08-0659
8	6.963" / DR 11	JCM231-08-0696
10	8.218" / DR 9	JCM231-10-0822
10	8.678" / DR 11	JCM231-10-0868
12	9.747" / DR 11	JCM231-12-0975
12	10.293" / DR 11	JCM231-12-1029

Stiffeners are available for pipe sizes up to 36" and other pipe DR ratings. Specify actual I.D. of pipe when ordering.

JCM SADDLES & FLANGE ADAPTERS



301 FLANGED COUPLING ADAPTER



Provides a simple means of joining flanged fittings to plain end pipe. Available with optional set screws for added restraint.

NOMI. SIZE (IN.)	OD RANGE (IN.)	PART NO.
WITHOUT SET SCREWS		
3	3.50	JCM301-0350
3	3.80 - 4.17	JCM301-0396
4	4.50	JCM301-0450
4	4.80 - 5.10	JCM301-0480
6	6.63	JCM301-0663
6	6.90 - 7.20	JCM301-0690
8	8.63	JCM301-0863
8	9.05 - 9.40	JCM301-0905
10	10.75	JCM301-1075
10	11.10 - 11.40	JCM301-1110
12	12.75	JCM301-1275
12	13.20 - 13.50	JCM301-1320

NOMI. SIZE (IN.)	OD RANGE (IN.)	PART NO.
WITH SET SCREWS		
3	3.50	JCM301-0350R
3	3.80 - 4.17	JCM301-0396R
4	4.50	JCM301-0450R
4	4.80 - 5.10	JCM301-0480R
6	6.63	JCM301-0663R
6	6.90 - 7.20	JCM301-0690R
8	8.63	JCM301-0863R
8	9.05 - 9.40	JCM301-0905R
10	10.75	JCM301-1075R
10	11.10 - 11.40	JCM301-1110R
12	12.75	JCM301-1275R
12	13.20 - 13.50	JCM301-1320R

Items in bold are for Class 160 & 200 PVC, HDPE & steel (not ductile iron) pipe. Set Screws are not for use on Asbestos Cement, HDPE or PVC pipe.

402 DUCTILE IRON SERVICE SADDLE



The JCM 402 saddle utilizes the heavy duty double strap saddle body with corrosion resistant shop coat primer. The 402 is furnished with two electro galvanized straps and is designed for use on PVC, steel and ductile iron pipe.

NOMI. SIZE (IN.)	OD RANGE (IN.)	TAP SIZE (IN.)	PART NO.
2	2.35 - 2.63	1	JCM402-0238X08IP
2.5	2.70 - 3.13	1	JCM402-0288X08IP
3	3.25 - 3.50	1	JCM402-0350X08IP
3	3.25 - 3.50	1.5	JCM402-0350X12IP
3	3.25 - 3.50	2	JCM402-0350X14IP
3	3.80 - 4.13	1.5	JCM402-0413X12IP
3	3.80 - 4.13	2	JCM402-0413X14IP
4	4.25 - 4.50	1	JCM402-0450X08IP
4	4.25 - 4.50	1.5	JCM402-0450X12IP
4	4.25 - 4.50	2	JCM402-0450X14IP
4	4.25 - 4.50	2.5	JCM402-0450X16IP
4	4.50 - 4.80	2	JCM402-0480X08IP
6	6.50 - 6.63	1	JCM402-0663X08IP
6	6.50 - 6.63	1.5	JCM402-0663X12IP
6	6.50 - 6.63	2	JCM402-0663X14IP
6	6.50 - 6.63	2.5	JCM402-0663X16IP
6	6.63 - 6.90	2	JCM402-0690X14IP
6	6.84 - 7.60	2	JCM402-0745X14IP
8	8.50 - 8.63	1	JCM402-0863X08IP
8	8.50 - 8.63	1.5	JCM402-0863X12IP
8	8.50 - 8.63	2	JCM402-0863X14IP
8	8.50 - 8.63	2.5	JCM402-0863X16IP
8	8.63 - 9.05	2	JCM402-0905X14IP
8	8.99 - 9.79	2	JCM402-0963X14IP
10	10.60 - 10.75	1	JCM402-1075X08IP
10	10.60 - 10.75	1.5	JCM402-1075X12IP
10	10.60 - 10.75	2	JCM402-1075X14IP
10	10.60 - 10.75	2.5	JCM402-1075X16IP
10	11.10 - 11.40	2	JCM402-1140X14IP
10	11.00 - 12.25	2	JCM402-1225X14IP
12	12.75 - 13.20	1	JCM402-1320X08IP
12	12.75 - 13.20	1.5	JCM402-1320X12IP
12	12.75 - 13.20	2	JCM402-1320X14IP
12	12.75 - 13.20	2.5	JCM402-1320X16IP
12	12.75 - 13.50	2	JCM402-1350X14IP
12	13.10 - 14.38	2	JCM402-1426X14IP

Many other configurations of tap sizes and O.D. ranges are available. Standard saddles sizes are available for up to 24" pipe.



JCM SERVICE SADDLES

404 DUCTILE IRON SERVICE SADDLE



The JCM 404 saddle utilizes the heavy duty double strap saddle body with corrosion resistant shop coat primer. The 404 is furnished with two stainless steel straps and is designed for use on HDPE pipe.

NOMI. SIZE (IN.)	OD RANGE (IN.)	TAP SIZE (IN.)	PART NO.
2	2.35 - 2.63	1	JCM404-0238X08IP
2.5	2.70 - 3.13	1	JCM404-0288X08IP
3	3.25 - 3.50	1	JCM404-0350X08IP
3	3.25 - 3.50	1.25	JCM404-0350X10IP
3	3.25 - 3.50	1.5	JCM404-0350X12IP
3	3.25 - 3.50	2	JCM404-0350X14IP
4	4.25 - 4.50	1	JCM404-0450X08IP
4	4.25 - 4.50	1.25	JCM404-0450X10IP
4	4.25 - 4.50	1.5	JCM404-0450X12IP
4	4.25 - 4.50	2	JCM404-0450X14IP
4	4.25 - 4.50	2.5	JCM404-0450X16IP
6	6.50 - 6.63	1	JCM404-0663X08IP
6	6.50 - 6.63	1.25	JCM404-0663X10IP
6	6.50 - 6.63	1.5	JCM404-0663X12IP
6	6.50 - 6.63	2	JCM404-0663X14IP
6	6.50 - 6.63	2.5	JCM404-0663X16IP
8	8.50 - 8.63	1	JCM404-0863X08IP
8	8.50 - 8.63	1.5	JCM404-0863X12IP
8	8.50 - 8.63	2	JCM404-0863X14IP
8	8.50 - 8.63	2.5	JCM404-0863X16IP
10	10.60 - 10.75	1	JCM404-1075X08IP
10	10.60 - 10.75	1.5	JCM404-1075X12IP
10	10.60 - 10.75	2	JCM404-1075X14IP
10	10.60 - 10.75	2.5	JCM404-1075X16IP
12	12.75 - 13.20	1	JCM404-1320X08IP
12	12.75 - 13.20	1.5	JCM404-1320X12IP
12	12.75 - 13.20	2	JCM404-1320X14IP
12	12.75 - 13.20	2.5	JCM404-1320X16IP

406 DUCTILE IRON COATED SERVICE SADDLE



The JCM 406 saddle utilizes the heavy duty double strap saddle body with a fusion applied, heavy resilient plastic coating. The 406 is furnished with two stainless steel straps and is designed for use on HDPE pipe.

NOMI. SIZE (IN.)	OD RANGE (IN.)	TAP SIZE (IN.)	PART NO.
2	2.35 - 2.63	1	JCM406-0238X08IP
2.5	2.70 - 3.13	1	JCM406-0288X08IP
3	3.25 - 3.50	1	JCM406-0350X08IP
3	3.25 - 3.50	1.25	JCM406-0350X10IP
3	3.25 - 3.50	1.5	JCM406-0350X12IP
3	3.25 - 3.50	2	JCM406-0350X14IP
4	4.25 - 4.50	1	JCM406-0450X08IP
4	4.25 - 4.50	1.25	JCM406-0450X10IP
4	4.25 - 4.50	1.5	JCM406-0450X12IP
4	4.25 - 4.50	2	JCM406-0450X14IP
4	4.25 - 4.50	2.5	JCM406-0450X16IP
6	6.50 - 6.63	1	JCM406-0663X08IP
6	6.50 - 6.63	1.25	JCM406-0663X10IP
6	6.50 - 6.63	1.5	JCM406-0663X12IP
6	6.50 - 6.63	2	JCM406-0663X14IP
6	6.50 - 6.63	2.5	JCM406-0663X16IP
8	8.50 - 8.63	1	JCM406-0863X08IP
8	8.50 - 8.63	1.5	JCM406-0863X12IP
8	8.50 - 8.63	2	JCM406-0863X14IP
8	8.50 - 8.63	2.5	JCM406-0863X16IP
10	10.60 - 10.75	1	JCM406-1075X08IP
10	10.60 - 10.75	1.5	JCM406-1075X12IP
10	10.60 - 10.75	2	JCM406-1075X14IP
10	10.60 - 10.75	2.5	JCM406-1075X16IP
12	12.75 - 13.20	1	JCM406-1320X08IP
12	12.75 - 13.20	1.5	JCM406-1320X12IP
12	12.75 - 13.20	2	JCM406-1320X14IP
12	12.75 - 13.20	2.5	JCM406-1320X16IP

Many other configurations of tap sizes and O.D. ranges are available. Standard saddles sizes are available for up to 24" pipe.

Also available from JCM:



Joint Restraints



Fabricated Expansion Joints



Flanged Coupling Adapters



Tapping Sleeves

BRASS FITTINGS



Standards and Specifications

CLASS 125 FITTINGS

DIMENSIONS—ANSI / ASME - B16.5 and WW-P-460.
 THREADS—ANSI / ASME - B16.20.1
 MATERIAL—ASTM B32-93

THREADED TEE



SIZE (IN.)	PART NO.
1	BF234-010
1.25	BF234-012
1.5	BF234-015
2	BF234-020
2.5	BF234-025
3	BF234-030

THREADED 90-DEG. ELL



SIZE (IN.)	PART NO.
1	BF121-010
1.25	BF121-012
1.5	BF121-015
2	BF121-020
2.5	BF121-025
3	BF121-030

THREADED STREET ELL



SIZE (IN.)	PART NO.
1	BF123-010
1.25	BF123-012
1.5	BF123-015
2	BF123-020

THREADED COUPLING



SIZE (IN.)	PART NO.
1	BF135-010
1.25	BF135-012
1.5	BF135-015
2	BF135-020
2.5	BF135-025
3	BF135-030

THREADED UNION



SIZE (IN.)	PART NO.
1	BF414-010
1.25	BF414-012
1.5	BF414-015
2	BF414-020
2.5	BF414-025
3	BF414-030

REDUCER BUSHING



SIZE (IN.)	PART NO.
1 x 1/2	BF120-130
1 x 3/4	BF120-131
1.25 x 1	BF120-168
1.5 x 1	BF120-211
1.5 x 1.25	BF120-212
2 x 1	BF120-249
2 x 1.25	BF120-250
2 x 1.5	BF120-251
2.5 x 1.5	BF120-291
2.5 x 2	BF120-292
3 x 1	BF120-335
3 x 1.5	BF120-337
3 x 2	BF120-338
3 X 2.5	BF120-339

THREADED PLUG



SIZE (IN.)	PART NO.
1	BF450-010
1.25	BF450-012
1.5	BF450-015
2	BF450-020

THREADED CAP



SIZE (IN.)	PART NO.
1	BF448-010
1.25	BF448-012
1.5	BF448-015
2	BF448-020
2.5	BF448-025
3	BF448-030

Many other sizes and reducing combinations of brass fittings are available.



BRASS NIPPLES



CLASS 125 BRASS NIPPLES

Standards and Specifications—ASTM B687-88

Nipples are threaded with American Standard taper pipe threads (NPT)

1" DIA.— Thread both ends

LENGTH (IN.)	PART NO.
CLOSE	BN884-005
2	BN884-020
3	BN884-030
4	BN884-040
6	BN884-060
8	BN884-080
12	BN884-120
18	BN884-180

1-1/4" DIA.— Thread both ends

LENGTH (IN.)	PART NO.
CLOSE	BN885-005
2	BN885-020
3	BN885-030
4	BN885-040
6	BN885-060
8	BN885-080
12	BN885-120
18	BN885-180

1-1/2" DIA.— Thread both ends

LENGTH (IN.)	PART NO.
CLOSE	BN886-005
2.5	BN886-025
3	BN886-030
4	BN886-040
6	BN886-060
8	BN886-080
12	BN886-120
18	BN886-180

2" DIA.— Thread both ends

LENGTH (IN.)	PART NO.
CLOSE	BN887-005
3	BN887-030
4	BN887-040
6	BN887-060
8	BN887-080
12	BN887-120
18	BN887-180

2-1/2" DIA.— Thread both ends

LENGTH (IN.)	PART NO.
CLOSE	BN888-005
3	BN888-030
4	BN888-040
6	BN888-060
8	BN888-080
12	BN888-120
18	BN888-180

3" DIA.— Thread both ends

LENGTH (IN.)	PART NO.
CLOSE	BN889-005
3	BN889-030
4	BN889-040
6	BN889-060
8	BN889-080
12	BN889-120
18	BN889-180

Other diameters of brass nipples are available from 1/8" to 6". Nipple lengths are available in many other lengths. Please call with specific requirements.

HDPE FITTINGS



FITTINGS: MATERIALS -PE3408 WALL THICKNESS - DR11 PRESSURE RATING - 160 PSI

MOLDED 90-DEG ELL

(Butt-Fused)



SIZE (IN.)	PART NO.
2	HAR66-311902
3	HAR66-311903
4	HAR66-311904
6	HAR66-311906
8	HAR66-311908
10	HAR66-311910
12	HAR66-311911

CONCENTRIC REDUCER

(Butt-Fused)



SIZE (IN.)	PART NO.
3 x 2	HAR66-31150302
4 x 2	HAR66-31150402
4 x 3	HAR66-31150403
6 x 4	HAR66-31150604
8 x 6	HAR66-31150806
10 x 8	HAR66-31151008
12 x 10	HAR66-31151210

MOLDED TEE

(Butt-Fused)



SIZE (IN.)	PART NO.
2	HAR66-31100202
3	HAR66-31100303
4	HAR66-31100404
6	HAR66-31100606
8	HAR66-31100808
10	HAR66-31101010
12	HAR66-31101212

MOLDED 45-DEG ELL

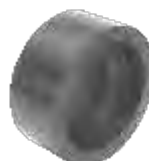
(Butt-Fused)



SIZE (IN.)	PART NO.
2	HAR66-312202
3	HAR66-312203
4	HAR66-312204
6	HAR66-312206
8	HAR66-312208
10	HAR66-312210
12	HAR66-312211

END CAP

(Butt-Fused)



SIZE (IN.)	PART NO.
2	HAR66-314902
3	HAR66-314903
4	HAR66-314904
6	HAR66-314906
8	HAR66-314908
10	HAR66-314910
12	HAR66-314911

THREADED TRANSITION FITTING

(Butt-Fuse x Brass MPT)



SIZE (IN.)	PART NO.
1.5	HAR65-3135E
2	HAR65-313502
3	HAR65-313503

FLANGE ACCESSORY KIT

(For HDPE Flange x HARCO Flange)

SIZE (IN.)	PART NO.
2	HAR65-077102
3	HAR65-077103
4	HAR65-077104
6	HAR65-077106
8	HAR65-077108
10	HAR65-077110
12	HAR65-077112

FLANGE ADAPTER

(Butt-Fused)



SIZE (IN.)	PART NO.
2	HAR65-316002
3	HAR65-316003
4	HAR65-316004
6	HAR65-316006
8	HAR65-316008
10	HAR65-316010
12	HAR65-316012

BACKUP RING

(Ductile Iron)



SIZE (IN.)	PART NO.
2	HAR65-077702
3	HAR65-077703
4	HAR65-077704
6	HAR65-077706
8	HAR65-077708
10	HAR65-077710
12	HAR65-077712

FLANGE ACCESSORY KIT

(For HDPE Flange x Iron/Steel Flange)

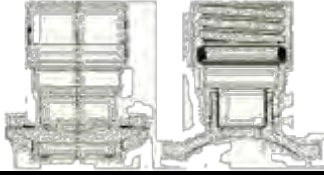
SIZE (IN.)	PART NO.
2	HAR65-077202
3	HAR65-077203
4	HAR65-077204
6	HAR65-077206
8	HAR65-077208
10	HAR65-077210
12	HAR65-077212



ELECTROFUSION FITTINGS

IPS SWIVEL SADDLE ELECTROFUSION

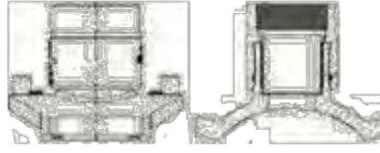
(Nupi Based)



SIZE (IN.)	PART NO.
3	HAR70-5303
4	HAR70-5304
6	HAR70-5306
8	HAR70-5308
10	HAR70-5310
12	HAR70-5312

IPS SERVICE SADDLE ELECTROFUSION

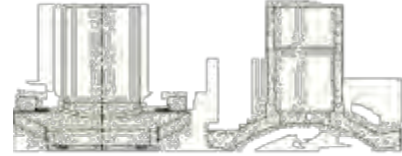
(FNPT, Nupi Based)



SIZE (IN.)	PART NO.
3 x 1	HAR70-540304
3 x 1.5	HAR70-540306
3 x 2	HAR70-540308
4 x 1	HAR70-540404
4 x 1.5	HAR70-540406
4 x 2	HAR70-540408
6 x 1	HAR70-540604
6 x 1.5	HAR70-540606
6 x 2	HAR70-540608
8 x 1	HAR70-540804
8 x 1.5	HAR70-540806
8 x 2	HAR70-540808
10 x 1	HAR70-541004
10 x 1.5	HAR70-541006
10 x 2	HAR70-541008
12 x 1	HAR70-541204
12 x 1.5	HAR70-541206
12 x 2	HAR70-541208

IPS BRANCH SADDLE ELECTROFUSION

(Nupi Based)



SIZE (IN.)	PART NO.
3 x 2	HAR70-560302
4 x 2	HAR70-560402
4 x 3	HAR70-560403
6 x 2	HAR70-560602
6 x 3	HAR70-560603
6 x 4	HAR70-560604
8 x 2	HAR70-560802
8 x 3	HAR70-560803
8 x 4	HAR70-560804
10 x 2	HAR70-561002
10 x 3	HAR70-561003
10 x 4	HAR70-561004
12 x 2	HAR70-561202
12 x 3	HAR70-561203
12 x 4	HAR70-561204
12 x 6	HAR70-561206

IPS COUPLING ELECTROFUSION

(Molded)

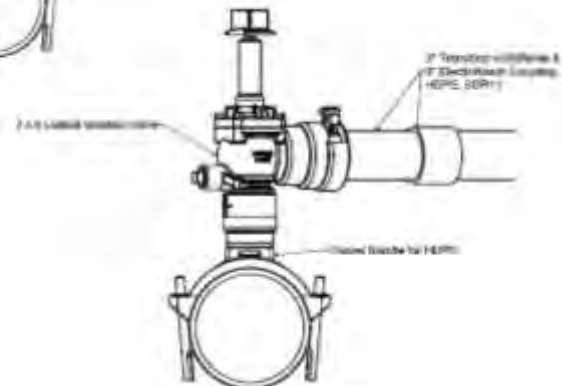
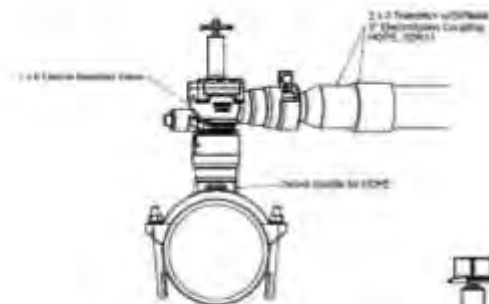
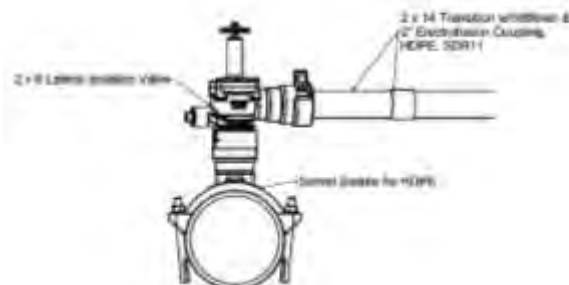


SIZE (IN.)	PART NO.
2	HAR700902
3	HAR700903
4	HAR700904
6	HAR700906
8	HAR700908
10	HAR700910
12	HAR700912

IPS TRANSITION BUTT FUSION x SPIGOT

(With Stiffener & Electrofusion Coupling)

SIZE (IN.)	PART NO.
2 x 14	HAR65-31390214
2 x 3 x 14	HAR65-3139020314
3 x 14	HAR65-31390314



HDPE COMPRESSION FITTINGS



COMPRESSION FITTINGS IPS O.D. for HDPE Pipe

REPAIR COUPLING

Comp x Comp
(No Stop)



SIZE (IN.)	PART NO.
1	HAR75-30944
1.5	HAR75-30966
2	HAR75-30988

REDUCER COUPLING

Comp x Comp



SIZE (IN.)	PART NO.
2 x 1	HAR75-31784
2 x 1.5	HAR75-31786

MALE ADAPTER

Comp x MIPT



SIZE (IN.)	PART NO.
1	HAR75-33044
1.5	HAR75-33066
2	HAR75-33088

END CAP

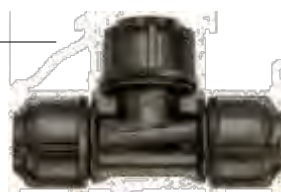
Compression



SIZE (IN.)	PART NO.
1	HAR75-3494
1.5	HAR75-3496
2	HAR75-3498

TEE

Comp x
Comp x
Comp



SIZE (IN.)	PART NO.
1	HAR75-312444
1.5	HAR75-312666
2	HAR75-312888
2 X 1.5	HAR75-313886

90-DEG. ELBOW

Comp x Comp



SIZE (IN.)	PART NO.
1	HAR75-31844
1.5	HAR75-31866
2	HAR75-31888

FEMALE ADAPTER

Comp x FIPT



SIZE (IN.)	PART NO.
1	HAR75-33244
1.5	HAR75-33266
2	HAR75-33288

SERVICE TEE

Comp x Comp x
FIPT



SIZE (IN.)	PART NO.
1 x 1	HAR75-351444
1.5 x 1.5	HAR75-351666
2 x 2	HAR75-351888

90-DEG. ELBOW

Comp x FIPT



SIZE (IN.)	PART NO.
2 x 2	HAR75-32088

ACME SERVICE ADAPTER

Comp x ACME



SIZE (IN.)	PART NO.
2 x 1.5	HAR841106L

ACME SERVICE TEE

Comp x ACME



SIZE (IN.)	PART NO.
2 x 1.5	HAR75-353886

ACME SERVICE ELL

Comp x ACME



SIZE (IN.)	PART NO.
2 x 1.5	HAR75-32386



INSERT FITTINGS

Standards and Specifications: ASTM D2609 - Plastic Insert Fittings for Polyethylene (PE) Plastic Pipe.
 Material—Produced from PVC Type 1, Cell Classification 12454-B.
 NSF Certified for use with potable water.
 NOT FOR USE WITH COMPRESSED AIR OR GAS.

TEE

(ins. x ins. x ins.)



SIZE (IN.)	PART NO.	CARTON (QTY.)
1/2	IF1401-005	40
3/4	IF1401-007	25
1	IF1401-010	20
1.25	IF1401-012	10
1.5	IF1401-015	10
2	IF1401-020	10

COMBINATION TEE

(ins. x ins. x FPT)



SIZE (IN.)	PART NO.	CARTON (QTY.)
1/2	IF1402-005	50
3/4	IF1402-007	25
1	IF1402-010	15
1.25	IF1402-015	10
1.5	IF1402-020	5
2	IF1402-020	5

COMBINATION REDUCING TEE

(ins. x ins. x FPT)



SIZE (IN.)	PART NO.	CARTON (QTY.)
3/4 x 3/4 x 1/2	IF1402-101	25
1 x 1 x 1/2	IF1402-130	20
1 x 1 x 3/4	IF1402-131	20
1.25 x 1.25 x 1/2	IF1402-166	10
1.25 x 1.25 x 3/4	IF1402-167	10
1.25 x 1.25 x 1	IF1402-168	10
1.5 x 1.5 x 1/2	IF1402-209	5
1.5 x 1.5 x 3/4	IF1402-210	5
1.5 x 1.5 x 1	IF1402-211	5
1.5 x 1.5 x 1.25	IF1402-212	5
2 x 2 x 1/2	IF1402-247	5
2 x 2 x 3/4	IF1402-248	5
2 x 2 x 1	IF1402-249	5
2 x 2 x 1.5	IF1402-252	5

REDUCING TEE

(insert x insert x reducing ins.)



SIZE (IN.)	PART NO.	CARTON (QTY.)
3/4 x 3/4 x 1/2	IF1401-101	25
1 x 1 x 1/2	IF1401-130	20
1 x 1 x 3/4	IF1401-131	20
1.25 x 1.25 x 1/2	IF1401-166	10
1.25 x 1.25 x 3/4	IF1401-167	10
1.25 x 1.25 x 1	IF1401-168	10
1.5 x 1.5 x 1/2	IF1401-209	5
1.5 x 1.5 x 3/4	IF1401-210	5
1.5 x 1.5 x 1	IF1401-211	5
1.5 x 1.5 x 1.25	IF1401-212	5
2 x 2 x 1/2	IF1401-247	5
2 x 2 x 3/4	IF1401-248	5
2 x 2 x 1	IF1401-249	5
2 x 2 x 1.25	IF1401-250	5
2 x 2 x 1.5	IF1401-251	5

90-DEG ELBOW

(insert x insert)



SIZE (IN.)	PART NO.	CARTON (QTY.)
1/2	IF1406-005	50
3/4	IF1406-007	50
1	IF1406-010	25
1.25	IF1406-012	10
1.5	IF1406-015	10
2	IF1406-020	10

COMBINATION ELL

(insert x FPT)



SIZE (IN.)	PART NO.	CARTON (QTY.)
1/2	IF1407-005	50
3/4	IF1407-007	25
1	IF1407-010	25
1.25	IF1407-012	10
1.5	IF1407-015	10
2	IF1407-020	5

BULL HEAD TEE

(insert. x insert x larger ins.)



SIZE (IN.)	PART NO.	CARTON (QTY.)
1/2 x 1/2 x 3/4	IF1401-074	10
3/4 x 3/4 x 1	IF1401-102	10
1 x 1 x 1.25	IF1401-132	5

COMBINATION TEE

(ins. x ins. x MPT)



SIZE (IN.)	PART NO.	CARTON (QTY.)
1/2	IF1403-005	25
3/4	IF1403-007	20
1	IF1403-010	10
1.25	IF1403-015	10
1.5	IF1403-020	5

COMBINATION REDUCING ELL

(insert x FPT)



SIZE (IN.)	PART NO.	CARTON (QTY.)
3/4 x 1/2	IF1407-101	50
1 x 1/2	IF1407-130	25
1 x 3/4	IF1407-131	25
1.25 x 1/2	IF1407-166	25
1.25 x 3/4	IF1407-167	10
1.25 x 1	IF1407-168	10
1.5 x 1	IF1407-211	10
1.5 x 1.25	IF1407-212	10
2 x 1.5	IF1407-251	5

COMBINATION ELL

(insert x MPT)



SIZE (IN.)	PART NO.	CARTON (QTY.)
1/2	IF1413-005	25
3/4	IF1413-007	25
1	IF1413-010	10
1.25	IF1413-012	10
1.5	IF1413-015	10
2	IF1413-020	10



INSERT FITTINGS

COUPLING (insert x insert)



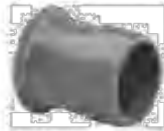
SIZE (IN.)	PART NO.	CARTON (QTY.)
1/2	IF1429-005	50
3/4	IF1429-007	50
1	IF1429-010	40
1.25	IF1429-012	20
1.5	IF1429-015	20
2	IF1429-020	10

REDUCING MALE ADAPTER (insert x MPT)



SIZE (IN.)	PART NO.	CARTON (QTY.)
3/4 x 1/2	IF1436-101	50
1 x 3/4	IF1436-131	30
1.25 x 3/4	IF1436-167	25
1.25 x 1	IF1436-168	25
1.5 x 1	IF1436-211	25
1.5 x 1.25	IF1436-212	20
2 x 1.5	IF1436-251	10

PLUG (insert)



SIZE (IN.)	PART NO.	CARTON (QTY.)
1/2	IF1449-005	100
3/4	IF1449-007	100
1	IF1449-010	40
1.25	IF1449-012	30
1.5	IF1449-015	20
2	IF1449-020	10

REDUCER COUPLING (ins. x Red. Ins.)



SIZE (IN.)	PART NO.	CARTON (QTY.)
3/4 x 1/2	IF1429-101	50
1 x 1/2	IF1429-130	40
1 x 3/4	IF1429-131	40
1.25 x 3/4	IF1429-167	20
1.25 x 1	IF1429-168	20
1.5 x 3/4	IF1429-210	20
1.5 x 1	IF1429-211	20
1.5 x 1.25	IF1429-212	10
2 x 1	IF1429-249	10
2 x 1.25	IF1429-250	10
2 x 1.5	IF1429-250	10

REDUCING MALE ADAPTER (insert x MPT)



SIZE (IN.)	PART NO.	CARTON (QTY.)
1/2 x 3/4	IF1436-074	50
1/2 x 1	IF1436-075	50
3/4 x 1	IF1436-102	50
1 x 1.25	IF1436-132	15
1 x 1.5	IF1436-133	15
1.25 x 1.5	IF1436-169	10
1.5 x 2	IF1436-213	10

CROSS (insert)



SIZE (IN.)	PART NO.	CARTON (QTY.)
3/4	IF1420-007	10
1	IF1420-010	10

FEMALE ADAPTER (ins. x FPT)



SIZE (IN.)	PART NO.	CARTON (QTY.)
1/2	IF1435-005	30
3/4	IF1435-007	30
1	IF1435-010	30
1.25	IF1435-012	25
1.5	IF1435-015	15
2	IF1435-020	10

MALE ADAPTER (ins. x MPT)



SIZE (IN.)	PART NO.	CARTON (QTY.)
1/2	IF1436-005	50
3/4	IF1436-007	50
1	IF1436-010	40
1.25	IF1436-012	20
1.5	IF1436-015	20
2	IF1436-020	10

RISER EXTENDER (MPT x FPT)



SIZE (IN.)	PART NO.	CARTON (QTY.)
1/2 x 1-3/8 lg.	SF439-005	50
1/2 x 2-1/16 lg.	SF434-005	50
3/4 x 1-5/8 lg.	SF434-007	50
3/4 x 2-5/16 lg.	SF434-008	50

PVC ADAPTER (slip x insert)



SIZE (IN.)	PART NO.	CARTON (QTY.)
3/4	SF474-007	50
1	SF474-010	50
1.5	SF474-015	25

FPT= Female Pipe Thread
MPT = Male Pipe Thread
Slip = Solvent Cement Socket
Ins = Insert (Barbed)



PIPE CLAMPS & TOOLS

PINCER CLAMPS

ONE EAR
S.S.



POLY PIPE SIZE	PART NO.
1/2"	OE-226SS
3/4"	OE-271SS
1"	OE-331SS
1.25"	OE-425SS
1.5"	OE-485SS
2"	OE-62-2

PINCER TOOLS



DESCRIPTION	PART NO.
STANDARD JAW PINCERS	OE-1098
SIDE JAW PINCERS	OE-1099

WORM DRIVE CLAMPS

S.S.



POLY PIPE SIZE	PART NO.
3/4"	B12HS
1"	B16HS
1.25"	B20HS
1.5"	B28HS
2"	B32HS

RECOMMENDED INSTALLATION PROCEDURES FOR INSERT (BARBED) CONNECTIONS:

Sizes: 1/2", 3/4" & 1" - 1 clamp directly over barbs

Sizes: 1.25", 1.5" & 2" - 1 clamp directly over barbs and 1 clamp behind barbs

KWIKCUT PIPE CUTTERS

- UP TO 2" RUBBER HOSE
- UP TO 1.5" POLY PIPE
- UP TO 1.25" PVC PIPE



DESCRIPTION	PART NO.
KWIKCUT POLY PIPE CUTTER	TPC-1-718D
REPLACEMENT BLADE	TPC-1-718E



PIPE CUTTERS & TOOLS

FOR PVC PIPE



DESCRIPTION	PART NO.
1/8" TO 1-5/16" PIPE CUTTER	RE-TC1QPPC
1/4" TO 2-5/8" PIPE CUTTER	RE-TC2QPVC
3/8" TO 3-1/2" PIPE CUTTER	RE-TC3QPVC
1-7/8" TO 4-1/2" PIPE CUTTER	RE-TC4QPVC
4" TO 6-5/8" PIPE CUTTER	RE-TC6QPVC
REPLACEMENT BLADE TC1-TC2	RE-1-2PVC
REPLACEMENT BLADE TC3-TC6	RE-3-6PVC
1-1/2" TO 8" PIPE BEVELER	RE-BT1
1-1/2" TO 12" PIPE BEVELER	RE-BT2
3" PIPE SAW	RE-PPS12
4" PIPE SAW	RE-PPS18
6" PIPE SAW	RE-PPS20
8" PIPE SAW	RE-PPS24



#721 BLUE— PVC CEMENT

Medium bodied, fast setting, blue PVC cement for all classes and schedules through 6" diameter.



SIZE	PART NO.	CASE (QTY.)
GALLON	TPC-1-CEMGAL	6
QUART	TPC-1-CEMQT	12
PINT	TPC-1-CEMPT	12



#P-68 CLEAR— PVC PRIMER

For surface preparation of PVC pipe and fittings prior to cement application.



SIZE	PART NO.	CASE (QTY.)
GALLON	TPC-1-PRIMGAL	6
QUART	TPC-1-PRIMQT	12
PINT	TPC-1-PRIMPT	12



SEAL LUBE— PVC LUBRICANT

Primes and lubricates slip-on or "O" Ring type joints with rubber or synthetic rubber gaskets.



SIZE	PART NO.	CASE (QTY.)
GALLON	TPC-1-603B	4
QUART	TPC-1-603A	12
PINT	TPC-1-603	24



#725 AQUA BLUE— WET 'R DRY PVC CEMENT

Medium bodied, extremely fast setting, PVC cement for all classes and schedules through 6" diameter. Specially formulated for rigid and flexible applications where conditions are wet and/or when quick pressurization is desired.



SIZE	PART NO.	CASE (QTY.)
QUART	TPC-1-601A	12
PINT	TPC-1-601	12



#P-68 PURPLE— PVC PRIMER

For surface preparation of PVC pipe and fittings prior to cement application. Purple colored.



SIZE	PART NO.	CASE (QTY.)
QUART	TPC-1-605A	12
PINT	TPC-1-605	12



WHITE SEAL— PIPE JOINT COMPOUND

White grit-free, extreme duty joint compound with blend of Teflon® particles and non-toxic oils; for sealing and lubricating metal and plastic threads.



SIZE	PART NO.	CASE (QTY.)
QUART	TPC-1-607A	12
PINT	TPC-1-607	12

Teflon tape, Teflon paste and pipe dope is intended for metal pipe and fittings. When Teflon tape is wrapped around plastic male threads it adds to the strain and tensile stress. The tendency of most installers is to incorrectly wrap several thickness of tape around the male threads, increasing strain and stress further. When working with threaded plastic fittings use a non-hardening sealant compatible with plastic.

TAPES & MARKING FLAGS



DESCRIPTION	PART NO.
2" x 60 YARD GREY DUCT TAPE	TPC-1-200
3/4" x 520' TEFLON TAPE	TPC-1-202B
1/2" x 520' TEFLON TAPE	TPC-1-202
3/4" x 60' ELECT. TAPE	TPC-1-201
3" x 1000' WATER LINE MARKING TAPE	TPC-1-611
3" x 1000' ELECT. LINE MARKING TAPE	TPC-1-612
RED MARKING FLAGS / 100	FLAGS-RED
WHITE MARKING FLAGS / 100	FLAGS-WHITE
BLUE MARKING FLAGS / 100	FLAGS-BLUE
YELLOW MARKING FLAGS / 100	FLAGS-YELLOW
ORANGE MARKING FLAGS / 100	FLAGS-TORO
PINK MARKING FLAGS / 100	FLAGS-FLPINK



UNDERGROUND HAND WATERING SYSTEM

Reelcraft's exclusive Series DGM underground hand watering retractable hose reel system is specifically designed to make syringing golf course greens, maintenance facilities and landscaping easier, more efficient and economical. The DGM System is installed completely underground and enclosed in a high density polyethylene (HDPE) vault, with only the 6" diameter cover plate visible. When hand watering is required, remove the cover and pull out the hose. Give a tug when you are finished; the hose will automatically be returned underground for storage. Hose is out-of-sight and out-of-the-way.



HOSE SIZE	HOSE LENGTH	PART NO.
1"	50'	DGM84050-OLP
3/4"	75'	DGM83075-OLP
5/8"	100'	DGM85100-OLP

OPTIONAL INSTALLATION KIT DGM600719

Installation kit includes compression tee, 1-1/2" gate valve, ball valve, hose end quick disconnect, and miscellaneous fittings.



PORTABLE HOSE REEL AND CART

Reelcraft's cart mounted reels are easy-to-use and convenient for club house areas, maintenance areas and flower beds.

HOSE SIZE CAPACITY & TYPE	HOSE CAPACITY	PART NO.
1/2" INDUSTRIAL WATER HOSE <u>or</u> 5/8" GARDEN HOSE	200'	DGM600966
3/4" INDUSTRIAL WATER HOSE <u>or</u> 5/8" GARDEN HOSE	100'	DGM600967
1" GARDEN HOSE	100'	DGM600968

Includes hose reel, hand cart with pneumatic tires, and 10' inlet hose with female garden hose inlet fitting and male garden hose fittings for the outlet of the reel. HOSE NOT INCLUDED.

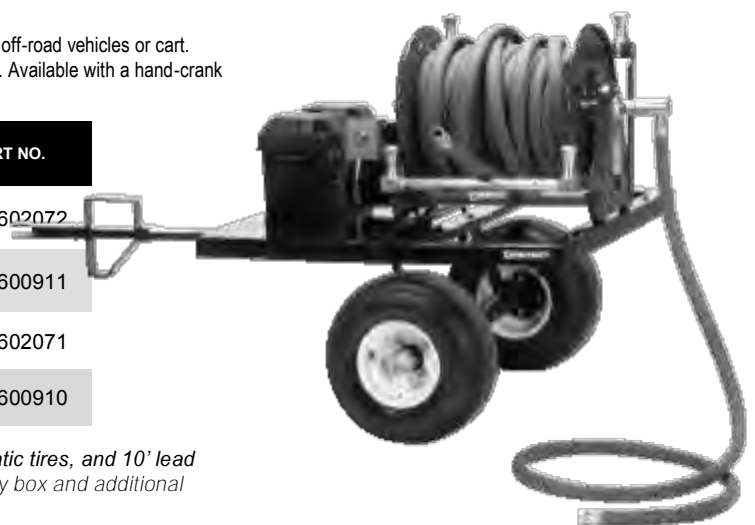


HOSE REEL AND TRAILER PACKAGE

Reelcraft's rugged, self-contained hose reel trailer easily attaches to most off-road vehicles or cart. Makes spot watering on golf courses easier, quicker and more convenient. Available with a hand-crank hose reel or battery-operated motor driven reel.

HOSE SIZE & TYPE	HOSE CAPACITY	PART NO.
HAND CRANK HOSE REEL 3/4" INDUSTRIAL WATER HOSE	150'	DGM602072
HAND CRANK HOSE REEL 1" INDUSTRIAL WATER HOSE	100'	DGM600911
MOTOR DRIVEN HOSE REEL 3/4" INDUSTRIAL WATER HOSE	150'	DGM602071
MOTOR DRIVEN HOSE REEL 1" INDUSTRIAL WATER HOSE	100'	DGM600910

Includes hose reel, top wind roller bracket, trailer with pneumatic tires, and 10' lead hose. Motor driven units include 12V DC motor, switch, battery box and additional bottom wind roller bracket. HOSE NOT INCLUDED.

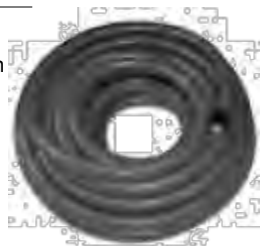


HOSES, NOZZLES & BASES



HOSES

High working and burst pressures with abrasion-resistant cover. Good resistance weather aging.



DESCRIPTION	PART NO.
3/4" x 50' HOSE	DGM-GH075-001
3/4" x 75' HOSE	DGM-GH075-002
3/4" x 100' HOSE	DGM-GH075-003
1" x 50' HOSE	DGM-GH100-001
1" x 75' HOSE	DGM-GH100-002
1" x 100' HOSE	DGM-GH100-003
1" x 50' ULTRALIGHT, HIGH PRESSURE HOSE - RED	DGM-IRKBH10P-50
1" x 100' ULTRALIGHT, HIGH PRESSURE HOSE - RED	DGM-IRKBH10P-100

SPRINKLER BASES

Used for temporary placement of sprinklers. Each base has inlet attachment for hose



DESCRIPTION	PART NO.
3/4" FHT x 1/2" FPT FIXED BASE	490-00
3/4" FHT x 3/4" FPT FIXED BASE	490-01
3/4" FHT x 3/4" FPT ROLLER BASE	RAT-RB1507
1" HOSE x 1" FPT ROLLER BASE	RAT-RB2210

HOSE SWIVELS

For attachment to quick coupler keys providing hose thread connection and allowing 360-degree swivel.



DESCRIPTION	PART NO.
3/4" MHT x 3/4" FPT	477-00
3/4" MHT x 1" FPT	477-01
1" MHT x 1" FPT	477-02

MHT = MALE HOSE THREAD FPT = FEMALE PIPE THREAD

NOZZLES

Nozzles are precision engineered and machined to meet all your water distribution needs. Manufactured from the highest quality aluminum and stainless steel components. From a Straight Stream to a Wide Fog to Unique Dual Gallonage and Shutoff features. Includes Bumper Guard.



DESCRIPTION	PART NO.
3/4" CONSTANT FLOW, 35 GPM	DGM-NZ017
3/4" DUAL RANGE, 10-24 GPM	DGM-NZ016
3/4" SHOWER HEAD NOZZLE	DGM-NZ023
1" CONSTANT FLOW, 35 GPM	DGM-NZ010
1" DUAL RANGE, 10-24 GPM	DGM-NZ009
1" DUAL RANGE, 20-60 GPM	DGM-NZ015
1" FLAT SPRAY NOZZLE	DGM-022
1.5" DUAL RANGE, 20-60 GPM	DGM-NZ012

3/4" nozzles have Garden Hose Thread (GHT) and 1" nozzles are National Pipe Straight Hose (NPSH) thread.

ADAPTERS

Fittings manufactured from 6061-T6 lightweight aluminum. STORZ: Quarter-turn quick-connect.



DESCRIPTION	PART NO.
3/4" FEMALE GHT x 1" MALE NPSH	DGM-37SG1P
1" FEM. NPHS x 1.5" MALE NPSH	DGM-37R1P15P
1" STORZ x 1" MALE NPSH	DGM-S36S11P
1" STORZ x 1" FEMALE NPSH	DGM-S37S11P
3/4" FEM. GHT x 3/4" MALE GHT FULL TIME SWIVEL	DGM-IR54RGTG
1" FEM. NPSH x 1" MALE NPSH FULL TIME SWIVEL	DGM-IR54R1PT1P

SPRINKLER ADAPTERS

Inserts into Toro sprinkler body and provides a 1" Female Pipe Thread outlet for attachment of hose.



Pipe nipple and swivel not included.

DESCRIPTION	PART NO.
FITS TORO 1" BODY ASSEMBLIES	KL-630
FITS TORO 1.5" BODY ASSEMBLIES	KL-650



Advanced Drainage Systems, Inc.
The Most Advanced Name in Drainage Systems

SINGLE WALL CORRUGATED PIPE
 (ASTM F 405)



ADS single wall corrugated HDPE pipe is ideal for drainage projects where flexibility, light weight and low cost are important.

For subsurface water collection or leaching action, ADS corrugated HDPE pipe is offered with uniform slots. Non-perforated pipe is available when water must be moved by gravity flow from one point to another.

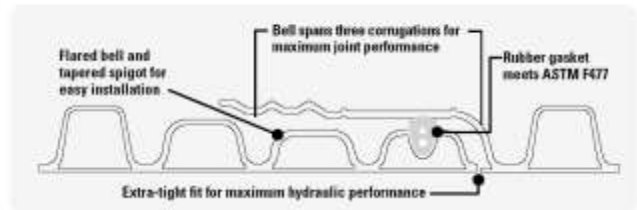
SIZE (IN.)	LENGTH (FT.)	TYPE	PART NO.
3	100	SOLID	ADS351-100
3	300	SOLID	ADS351
3	100	PERFORATED	ADS301-100
3	300	PERFORATED	ADS301-300
3	100	PERFORATED W/SOCK	ADS373-0100
3	300	PERFORATED W/SOCK	ADS373-0300
4	100	SOLID	ADS451-100
4	250	SOLID	ADS451
4	100	PERFORATED	ADS401-100
4	250	PERFORATED	ADS401
4	100	PERFORATED W/SOCK	ADS472-0100
4	250	PERFORATED W/SOCK	ADS472
6	20	SOLID	ADS0651-0020
6	100	SOLID	ADS651
6	20	PERFORATED	ADS0601-0020
6	100	PERFORATED	ADS601
6	20	PERFORATED W/SOCK	ADS0673-0020
6	100	PERFORATED W/SOCK	ADS672
8	20	SOLID	ADS851-20
8	20	PERFORATED	ADS801-20
8	20	PERFORATED W/SOCK	ADS0873-0020

Other lengths and coil sizes available with sizes to 24".

DUAL WALL N-12 CORRUGATED PIPE
 (SMOOTH INNER SURFACE)



N-12 IB ST Soil-tight joint



N-12 dual wall pipe has smooth interior wall and corrugated exterior wall, offering exceptional hydraulics and strength. N-12 corrugated pipe also provides superior corrosion and abrasion resistance.

STANDARD = Original plain end pipe
 ST, IB = Soil-Tight with Integral Bell & Spigot
 WT, IB = Water-Tight with Integral Bell & Spigot

SIZE (IN.)	LENGTH (FT.)	TYPE	PART NO.
4	20	SOLID - STANDARD	ADS415-20
4	20	PERFORATED - STAND	ADS0411-20
4	20	PERF W/SOCK - STAND	ADS0423-0020
4	20	SOLID - ST, IB	ADS0415-20IB
4	20	PERFORATED - ST, IB	ADS0411-20IB
4	20	SOLID - WT, IB	ADS0465-0020IB
6	20	SOLID - STANDARD	ADS0615-20
6	20	PERFORATED - STAND	ADS611-20
6	20	PERF W/SOCK - STAND	ADS0623-0020
6	20	SOLID - ST, IB	ADS0615-0020IB
6	20	PERFORATED - ST, IB	ADS0611-0020IB
6	20	SOLID - WT, IB	ADS0665-0020IB
8	20	SOLID - STANDARD	ADS815
8	20	PERFORATED - STAND	ADS0811-20
8	20	PERF W/SOCK - STAND	ADS0823-0020
8	20	SOLID - ST, IB	ADS0815-0020IB
8	20	PERFORATED - ST, IB	ADS0811-0020IB
8	20	SOLID - WT, IB	ADS0865-0020IB
10	20	SOLID - STANDARD	ADS10150020
12	20	SOLID - STANDARD	ADS1295
15	20	SOLID - STANDARD	ADS1595-20

Other lengths available with sizes to 60".

STANDARD DRAINAGE FITTINGS



INTERNAL COUPLER



SIZE (IN.)	PART NO.
3	ADS0315AA
4	ADS415
6	ADS615
8	ADS815
10	ADS1015AA

SPLIT COUPLER



SIZE (IN.)	PART NO.
3	ADS0311AA
4	ADS411
6	ADS611
8	ADS811
10	ADS1011AA

EXTERNAL COUPLER



SIZE (IN.)	PART NO.
3	ADS312
4	ADS412
6	ADS612
8	ADS812
10	ADS1012

N-12 BELL COUP.



SIZE (IN.)	PART NO.
6	ADS0613AA
8	ADS0813AA
10	ADS1013AA

REDUCING COUPLER



SIZE (IN.)	PART NO.
4 x 3	ADS314
6 x 4	ADS614
8 x 6	ADS816AA
10 x 8	ADS1018AA

SNAP END CAP



SIZE (IN.)	PART NO.
3	ADS0332AA
4	ADS432
8	ADS832
10	ADS1032AA

SPLIT END CAP



SIZE (IN.)	PART NO.
3	ADS0331AA
4	ADS0431AA
6	ADS631
8	ADS0831AA

N-12 SNAP END CAP



SIZE (IN.)	PART NO.
6	ADS0667AA
8	ADS0877AA
10	ADS1077AA

SNAP TEE



SIZE (IN.)	PART NO.
3	ADS321
4	ADS421
6	ADS621

MULTIPLE TEE



SIZE (IN.)	PART NO.
6 x 3, 4, or 6	ADS644
8 x 4, 6 or 8	ADS844
10 x 6, 8 or 10	ADS1044AA

BLIND TEE (ONE END)



SIZE (IN.)	PART NO.
3	ADS0341AA
4	ADS0441AA
6	ADS641
8	ADS0845AA
10	ADS1041AA

WYE



SIZE (IN.)	PART NO.
3	ADS322
4	ADS422
6	ADS622
8	ADS822

ELBOWS



SIZE (IN.)	PART NO.
3" - 90 DEG	ADS390
4" - 45 DEG	ADS445
4" - 90 DEG	ADS490

DOWN-SPOUT ADAPT.



SIZE (IN.)	PART NO.
3	ADS0364AA
4	ADS464
6	ADS0664AA

END PLUG



SIZE (IN.)	PART NO.
3	ADS0333AA
4	ADS433
4 - PERF.	ADS0434AA
6	ADS633AA

TAYLOR END PLUG



SIZE (IN.)	PART NO.
8	ADS0833AA
10	ADS1033AA
12	ADS1233AA
15	ADS1533AA
18	ADS1833AA
24	ADS2433AA

OTHER SIZES AND FITTINGS CONFIGURATIONS ARE AVAILABLE. CALL FOR SPECIFIC NEEDS.

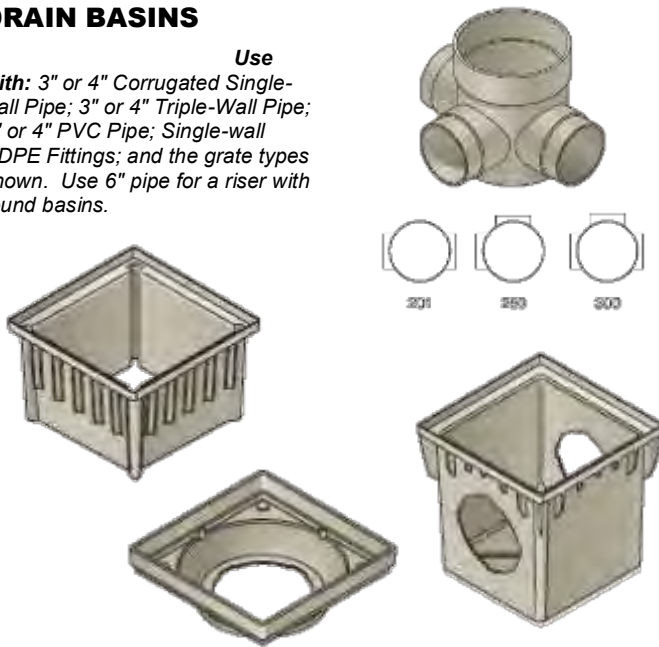


DRAIN BASINS & GRATES

DRAIN BASINS

Use

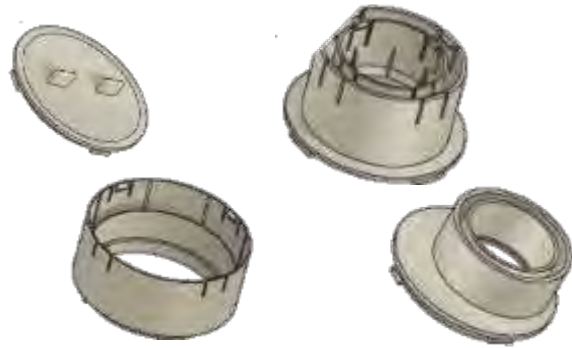
with: 3" or 4" Corrugated Single-wall Pipe; 3" or 4" Triple-Wall Pipe; 3" or 4" PVC Pipe; Single-wall HDPE Fittings; and the grate types shown. Use 6" pipe for a riser with round basins.



DESCRIPTION	PART NO.
6" ROUND, 1-HOLE BASIN	NDS-101
6" ROUND, 2-HOLE BASIN	NDS-201
6" ROUND, 2-HOLE BASIN	NDS-250
6" ROUND, 3-HOLE BASIN	NDS-300
9" SQUARE, 2-HOLE BASIN	NDS-900
9" SQUARE, 4- HOLE BASIN	NDS-900-4
9" SQUARE, EXTENSION	NDS-916
9" SQUARE, LOW PROFILE	NDS-930
12" SQUARE, 2-HOLE BASIN	NDS-1200
12" SQUARE, 4-HOLE BASIN	NDS-1204
12" SQUARE, EXTENSION	NDS-1216
12" SQUARE, LOW PROFILE	NDS-1230
18" SQUARE, 2-HOLE BASIN	NDS-1882
18" SQUARE, 4-HOLE BASIN	NDS-1884
18" SQUARE, EXTENSION	NDS-1816
18" SQUARE, LOW PROFILE	NDS-1830
24" SQUARE, 2HOLE BASIN	NDS-2400
24" SQUARE, 4-HOLE BASIN	NDS-2404
24" SQUARE, EXTENSION	NDS-2418

DRAIN BASIN PIPE ADAPTERS & PLUGS

DESCRIPTION	PART NO.
UNIVERSAL PLUG FOR BASINS	NDS-1206
3" & 4" LOCKING ADAPTER FOR BASINS	NDS-1243
3" & 4" OFFSET LOCKING ADAPTER	NDS-1245
6" LOCKING ADAPTER FOR BASINS	NDS-1266
8" LOCKING ADAPTER FOR BASINS	NDS-1888
8" OFFSET PIPE ADAPTER	NDS-1889



ROUND GRATES



SIZE (IN.)	COLOR	PART NO.
3	GREEN	NDS-16
4	BLACK	NDS-11
4	GREEN	NDS-13
6	GREEN	NDS-50
8	GREEN	NDS-20
12	GREEN	NDS-1250

GRATES FOR BASINS



SIZE (IN.)	COLOR	PART NO.
9	GREEN	NDS-990
12	GREEN	NDS-1212
18	GREEN	NDS-1812
24	GREEN	NDS-2412

SQUARE GRATES FOR PIPE



SIZE (IN.)	COLOR	PART NO.
4	GREEN	NDS-01
5	GREEN	NDS-07
6	GREEN	NDS-05
7	GREEN	NDS-772
8	GREEN	NDS-882
9	GREEN	NDS-950

ATRIUM GRATES



DESCRIPTION	PART NO.
4" ROUND	NDS-75
6" ROUND	NDS-80
9" SQUARE	NDS-991
12" SQUARE	NDS-1280
18" SQUARE	NDS-1891

MOST GRATES ARE AVAILABLE IN BLACK, GREEN, GRAY OR SAND COLOR.

COPPER GROUND PLATES & G.E.M.

- Made to National Electrical Code Requirements.
- Ground Enhancement Material (GEM) improves effectiveness of ground plates.
- 50lb GEM hardens when wetted and permanently reduces resistance-to-ground.



DESCRIPTION	PART NO.
4" X 96" W/25' #6 INSULATED WIRE	PAIGE-182199L
4" X 36" W/10' #10 INSULATED WIRE	PAIGE-182201
50 POUND BAG OF POWERSET GEM	PAIGE-1820058

COPPER-CLAD GROUND RODS

- 8' Rod includes 15' of #6 insulated wire pre-attached
- 10' Rod includes 25' of #6 insulated wire pre-attached
- UL listed

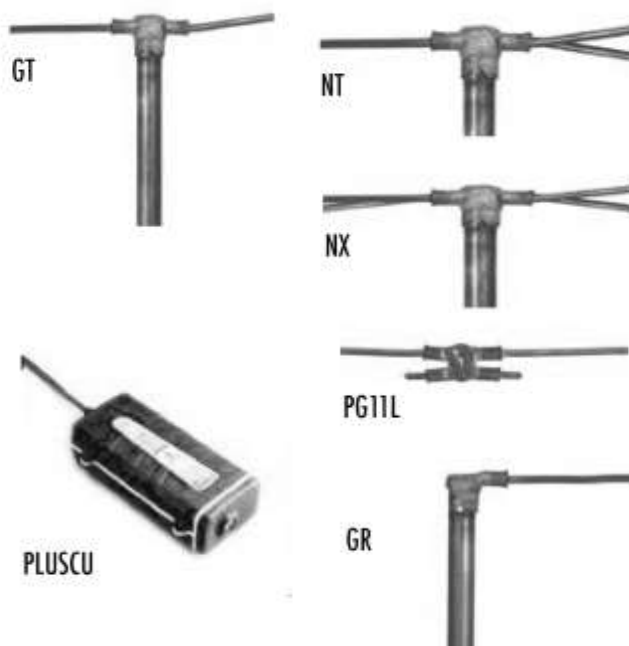


DESCRIPTION	PART NO.
5/8" DIAMETER X 8' LONG	TPC-1-219
5/8" DIAMETER X 10' LONG	TPC-1-219A
5/8" BRONZE GROUND ROD CLAMP	TPC-1-213

CADWELD PLUS "ONE-SHOT" CONNECTORS

- Permanently welds multiple bare copper wires together or bare copper wire to 5/8" diameter ground rods, so the connection doesn't loosen or corrode.
- UL listed. Exothermic reaction welding process meets National Electrical Code requirements.

WIRE SIZES (AWG)	NO. OF CONNECTIONS	PART NO.
6 & 8	1	CAD-GR1-161G
6 & 8	2	CAD-GT1-161G
6 & 8	3	CAD-NT1-161G
6 & 8	4	CAD-NX1-161G
6 & 8	4	CAD-PG11LP
4	1	CAD-GR1-161L
4	2	CAD-GT1-161L
4	3	CAD-NT1-161L
4	4	CAD-NX1-161L
BATTERY CONTROL UNIT		CAD-182PLUSCU





**DIRECT DURAL, SINGLE CONDUCTOR
SPRINKLER/VALVE WIRE**
POLYETHYLENE (PE) INSULATION

SIZE (IAWG)	COLOR	CONDUCTOR	PART NO.
14	RED	SOLID	WIRE601401
14	WHITE	SOLID	WIRE601402
14	BLACK	SOLID	WIRE601403
14	PUPRLE	SOLID	WIRE601404
14	BLUE	SOLID	WIRE601405
14	YELLOW	SOLID	WIRE601406
14	ORANGE	SOLID	WIRE601407
14	GREEN	SOLID	WIRE601412
14	BROWN	SOLID	WIRE601413
14	TAN	SOLID	WIRE601416
14	PINK	SOLID	WIRE601411
12	RED	SOLID	WIRE601201
12	WHITE	SOLID	WIRE601202
12	BLACK	SOLID	WIRE601203
12	PUPRLE	SOLID	WIRE601204
12	BLUE	SOLID	WIRE601205
12	YELLOW	SOLID	WIRE601206
12	ORANGE	SOLID	WIRE601207
12	GREEN	SOLID	WIRE601212
12	BROWN	SOLID	WIRE601213
10	RED	SOLID	WIRE601001
10	WHITE	SOLID	WIRE601002
10	BLACK	SOLID	WIRE601003
10	BLUE	SOLID	WIRE601005
10	YELLOW	SOLID	WIRE601006
10	ORANGE	SOLID	WIRE601007
10	GREEN	SOLID	WIRE601012

Other colors and striping available as special order.



**2-CONDUCTOR WITH GROUND,
UF POWER CABLE—600V MAX.**

SIZE (IAWG)	GROUND WIRE SIZE	CONDUCTOR	PART NO.
14	14 AWG	SOLID	WIRE62142G
12	12 AWG	SOLID	WIRE62122G
10	10 AWG	SOLID	WIRE62102G
8	10 AWG	STRANDED	WIRE62082G
6	10 AWG	STRANDED	WIRE62062G



**DIRECT DURAL, SINGLE CONDUCTOR
FEEDER WIRE**
POLYVINYL CHLORIDE (PVC) INSULATION

SIZE (IAWG)	COLOR	CONDUCTOR	PART NO.
8	RED	STRANDED	WIRE601401
8	WHITE	STRANDED	WIRE601402
8	BLACK	STRANDED	WIRE601403
8	GREEN	STRANDED	WIRE601404
6	RED	STRANDED	WIRE601406
6	WHITE	STRANDED	WIRE601407
6	BLACK	STRANDED	WIRE601412
6	GREEN	STRANDED	WIRE601413
4	RED	STRANDED	WIRE601406
4	WHITE	STRANDED	WIRE601407
4	BLACK	STRANDED	WIRE601412
4	GREEN	STRANDED	WIRE601413
2	RED	STRANDED	WIRE601406
2	WHITE	STRANDED	WIRE601407
2	BLACK	STRANDED	WIRE601412
2	GREEN	STRANDED	WIRE601413
1/0	RED	STRANDED	WIRE601406
1/0	WHITE	STRANDED	WIRE601407
1/0	BLACK	STRANDED	WIRE601412
1/0	GREEN	STRANDED	WIRE601413

Other sizes and colors available.



**3-CONDUCTOR ROUND TRAY CABLE
POWER CABLE—600V MAX.**
POLYVINYL CHLORIDE (PVC) INSULATION

SIZE (IAWG)	CONDUCTOR	APPROX. OD (INCHES)	PART NO.
12	STRANDED	.39	WIRE182148
10	STRANDED	.47	WIRE180608
8	STRANDED	.62	WIRE180607
6	STRANDED	.70	WIRE180600
4	STRANDED	.90	WIRE180700
2	STRANDED	1.03	WIRE180605
1/0	STRANDED	1.25	WIRE180610

Other sizes and number of conductors available.

BARE COPPER WIRE SOLID CONDUCTOR



SIZE (AWG)	PART NO.
10	WIRE160465
8	WIRE160629
6	WIRE160635



3-CONDUCTOR DECODER WIRE (For Toro 3-Wire Decoder Systems) POLYETHYLENE (PE) INSULATION

SIZE (BLACK / RED / GREEN)	CONDUCTOR	PART NO.
14 / 14 / 14	SOLID	WIRE150531
12 / 12 / 14	SOLID	WIRE150532
10 / 10 / 14	SOLID	WIRE150353



2-CONDUCTOR DECODER CABLE (For 2-Wire Decoder Systems) POLYETHYLENE (PE) INSULATION

SIZE (AWG)	STRIPE COLOR	CONDUCTOR	PART NO.
14	NONE	SOLID	WIRE170800
14	BLACK	SOLID	WIRE170800BK
14	YELLOW	SOLID	WIRE170800YL
14	GREEN	SOLID	WIRE170800GR



DECODER TO SOLENOID CABLE (For 2-Wire Decoder Systems) POLYETHYLENE (PE) INSULATION

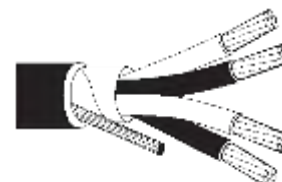
SIZE (AWG)	COLOR	CONDUCTOR	PART NO.
14	RED	SOLID	WIRE170801RD
14	BLUE	SOLID	WIRE170801BL
14	GREEN	SOLID	WIRE170801GN
14	ORANGE	SOLID	WIRE170801OR



TORO COMMUNICATION CABLE—P7162D (2-Conductor, Non-Armored, 1-Drain) POLYETHYLENE (PE) INSULATION

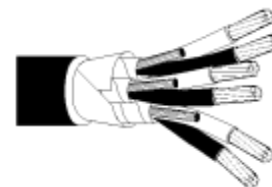
SIZE (AWG)	CONDUCTOR	PART NO.
16	STRANDED	TPC-1-220NA

COMMUNICATION CABLE—P7171D (2-Pair, 1-Drain) POLYETHYLENE (PE) INSULATION



SIZE (AWG)	CONDUCTOR	PART NO.
18	STRANDED	WIRE-7171D

COMMUNICATION CABLE—P7195D (3-Pair, 3-Drains) POLYETHYLENE (PE) INSULATION



SIZE (AWG)	CONDUCTOR	PART NO.
20	STRANDED	WIRE-7195D



COMMUNICATION CABLE—P7315D (6-Pair, Shielded) POLYETHYLENE (PE) INSULATION

SIZE (AWG)	CONDUCTOR	PART NO.
19	SOLID	WIRE-PUMP



SPLICES & ELECTRICAL



DBY / DBR SPLICE KITS



DESCRIPTION	PART NO.
DBY 2-PACK SPLICE KIT	TPC-1-206A
DBY 100-PACK SPLICE KIT	TPC-1-2061A
DBR 2-PACK SPLICE KIT	TPC-1-206B
DBR 100-PACK SPLICE KIT	TPC-1-2061B
DBY-6 2-PACK SPLICE KIT	TPC-1-DBY6
DBY-6 100-PACK SPLICE KIT	TPC-1-DBY-6B
DBR-6 2-PACK SPLICE KIT	TPC-1-DBR
DBR-6 100-PACK SPLICE KIT	TPC-1-DBR-6B
DBR/Y 100-PACK SPLICE KIT	PAIGE-270670

DBY and DBR are rated for 30 volts. DBY-6 and DBR-6 are UL Listed for 600V direct bury and submersion applications. DBR/Y kits are rated for 600V.

ELECTRICAL SWEEP ELBOWS



DESCRIPTION	PART NO.
1" PVC SWEEP ELBOW	TPC-1-228C
1.5" PVC SWEEP ELBOW	TPC-1-228
2" PVC SWEEP ELBOW	TPC-1-228A
3" PVC SWEEP ELBOW	TPC-1-228B

POWER LINE CONDITIONERS



CAPACITY (VOLT- AMPS)	PART NUMBER
120	SOLA250000
250	SOLA250010
500	SOLA250020
750	SOLA250030
1000	SOLA250040
1500	SOLA250050
2000	SOLA250060
3000	SOLA250070



82A SERIES SPLICE KITS



DESCRIPTION	CONDUCTOR SIZE	PART NO.
82-A SCOTCHCAST	10 - 2 AWG	TPC-1-207A
82-A1 SCOTCHCAST	UP TO 2 AWG	TPC-1-207B
82-A2 SCOTCHCAST	2 - 3/0 AWG	TPC-1-207C
82-B1 WYE SPLICE	10 - 2 AWG	PAIGE-270375

MISCELLANEOUS SPLICING MATERIALS



DESCRIPTION	PART NO.
DBM CONNECTOR KIT	TPC-1-DBM
#3570 SCOTCHCAST SEALING PACK	TPC-1-206
#4 SCOTCHCAST LARGE SEAL PACK	TPC-1-4A
RED WIRE NUT	TPC-1-203
YELLOW WIRE NUT	TPC-1-204
GREY WIRE NUT	TPC-1-214
PINT OF SCOTCHKOTE	TPC-1-216
ELECTRICAL TAPE, 3/4" x 60' ROLL	TPC-1-201
RUBBER SPLICE TAPE, 3/4" x 30'	PAIGE-270001
2-WAY DECODER CABLE SWITCH	PAIGE-270DCSD
3-WAY DECODER CABLE SWITCH	PAIGE-270DCSD3
3M SCLIC COMM CABLE SPLICE KIT	PAIGE-273211



GT-11 VOLTAGE DETECTOR

Fast, easy, non-contact voltage detection. Bright LED and audible alarm if voltage is present at outlets, circuit breakers, wires and cables. Pen size fits into pocket.



77HP TONE GENERATOR

Permits technicians to identify the conductor within a bundle, at a cross-connect point or at the remote end. Can be used on twisted pair wiring, single conductors, coaxial cables, de-energized AC wiring and most other wiring.



24B STATION MASTER PRO

Chatter mode for audible locating of valves. Activate any 24V AC valve solenoid. Test solenoids for continuity. Send tone to identify wires. Check clock AC voltage. Tracing valve wiring. Locates underground solenoids.



200EP INDUCTIVE AMPLIFIER

Used in conjunction with any tone generator, Inductive Amplifiers permit wire and cable identification without having to make direct metallic contact with the conductor. Features powerful speaker for noisy environments, recessed on/off button control and high gain for accurate wire identification in congested cable bundles. Also includes adjustable volume control for precise identification and an LED for visual signal strength indication.



DM-200 DIGITAL MULTIMETER

Auto-ranging for convenient operation, non-contact voltage detection, and to save you time. Data hold to capture measurements. Auto power off and low battery indicator.

501 TRACKER II

Traces the path and determines the depth of wires and metallic pipes on active or dead systems without having to deactivate the system. Lightweight receiver provides audible and visual indications of signal strength. Transmitter output and receiver sensitivity are fully adjustable for maximum accuracy. Transmitter offers three methods of connection: direct, inductive coupler, and inductive antenna. Includes transmitter assembly, receiver assembly, inductive coupler (clamp), built-in inductive antenna, two 8 ft. test leads with heavy-duty alligator clips and durable



521A WIRE & VALVE LOCATOR

Adjustable transmit power allows you to select the best signal for maximum performance. Transmitter's high power output offers extended range and use on higher resistance wire paths that other locators can't touch. Receiver provides both audible and visual indications of signal strength. Lightweight receiver wand makes it easy for you to move along quickly to locate even the longest wire path. Rugged headphones block ambient noise and improve 'feel' for the signal. Includes transmitter, receiver, headset, ground stake, and case.



PE2003 PULSE FAULT LOCATOR

Identifies the exact location of even the smallest breaks in insulation by 'pulsing' a high-voltage signal that radiates into the earth at the location of the faults. With the A-frame mounted receiver, a visual analog meter points the way to the source of the voltage. Multiple faults on a single wire can be identified, indicating the need to replace instead of repair.

Extra-long test leads feature heavy-duty alligator clips for use on multiple cable types. Includes a rechargeable transmitter, receiver, A-frame, ground stake, 120 V charger and a 12V DC adapter.



DESCRIPTION	PART NO.
GT-11 VOLTAGE DETECTOR	PE-1010
77HP TONE GENERATOR	PE-77HP
24B STATION MASTER PRO	PE-24B
200EP INDUCTIVE AMPLIFIER	PE-200EP
200 SERIES LEATHER CASE	PE-200C
DM-200 DIGITAL MULTIMETER	PE-DM200A
VOLTAGE DETECTOR, NON CONTACT	PE-GT-12
501 TRACKER II	PE-501
521A WIRE & VALVE LOCATOR	PE-521A
PE2003 PULSE FAULT LOCATOR	PE-203



SHOVELS, RAKES, ETC.



ROUND POINT SHOVEL

Front turn step, head size 2, 48" yellow fiberglass handle or 29" D-handle, square socket, PermaGrip™ collar, cushion grip.



SQUARE POINT SHOVEL

Front turn step, head size 2, 48" yellow fiberglass handle or 26" D-handle, square socket, PermaGrip™ collar, cushion grip.



BOW RAKE

16 tines, 16.5" head size, 60" yellow fiberglass handle, cushion grip.



TAMPER

8" x 8" cast iron head, 44" fiberglass handle.



PUSH BROOM

Rough or Smooth surfaces, poly bristles, 24" head, 60" yellow fiberglass, cushion grip.



TRENCHING/CLEANOUT SHOVEL

5" x 12" blade size, 48" yellow fiberglass handle, PermaGrip™ collar, cushion grip.



DRAIN SPADE

5.5" x 16" blade size, clear blade color, front turn step, 48" yellow fiberglass handle or 26" D-handle, PermaGrip™ collar, cushion grip.



LEAF RAKE, POLY HEAD

26 tines, 24" head size, 51" yellow fiberglass handle.



LANDSCAPE RAKE

24" or 36" aluminum with brace head, 66" yellow fiberglass, cushion grip handle.



SOIL PROBE

Cast metal tip head, 0.5" x 48" yellow fiberglass shaft handle.

DESCRIPTION	PART NO.
TRENCHING/CLEANOUT SHOVEL, 4" x 12" BLADE	STRU-S703
TRENCHING/CLEANOUT SHOVEL, 5" x 12" BLADE	STRU-S702
ROUND POINT SHOVEL, 48" LONG HANDLE	STRU-S600
SQUARE POINT SHOVEL, 48" LONG HANDLE	STRU-S601
DRAIN SPADE, 29" D-HANDLE	STRU-S604D
DRAIN SPDE, 48" LONG HANDLE	STRU-S604
BOW RAKE, 60" HANDLE	STRU-BR16
LEAF RAKE, POLY HEAD, 51" HANDLE	STRU-PR24
LANDSCAPE RAKE, 24" HEAD, 66" HANDLE	STRU-LR24
LANDSCAPE RAKE, 36" HEAD, 66" HANDLE	STRU-LR36
TAMPER, 8 x 8 HEAD	STRU-TP8
PUSH BROOM, ROUGH SURFACE, 3-1/4" BRISTLES	STRU-PB24R
PUSH BROOM, SMOOTH SURFACE, 3" BRISTLES	STRU-PB24
SOIL PROBE, 48" HANDLE	STRU-SP48
24" BYPASS LOPPER	STRU-BL24
24-36" ANVIL LOPPER	STRU-EXA36

MANY OTHER PRODUCTS AVAILABLE . . .

SOD LIFTERS - AUGERS - LEVEL RAKES - EDGERS - CUTTERS - HOES - CULTIVATORS - PRUNING TOOLS - SCAPERS - SQUEEGES - ETC.



Call with your specific needs.



Considered the industry leader, Otterbine aerating fountains and industrial aerators help to give nature a boost by treating the causes of poor water quality. These systems, known for their ability to keep water clean, are unlike other fountain systems. Otterbine has adopted disciplines from wastewater engineering and lake management experts to produce systems that offer beautiful spray patterns.

AERATING FOUNTAINS



GEMINI

The plume of the Gemini model offers incredible aeration strength and tremendous beauty to any property. Add lights to this unit and take the dramatic spray from day into evening to create a spectacular nightscape.

	1 HP	2 HP	3 HP	5 HP
SPRAY HEIGHT (FT)	5	9	12	15
SPRAY DIA. (FT)	10	16	24	34
GPM	555	665	800	1125
VOLT/PHASE/AMP	115/1/14 230/1/7.9	230/1/13.2	230/1/14.8 230/3/9.2 460/3/4.3	230/1/23 230/3/14.3 460/3/7.2



SUNBURST

The Sunburst model has been a favorite on golf courses for over twenty years. This unit offers effective aeration and circulation with a beautiful umbrella like spray and let's golfers know the location of an upcoming water hazard!

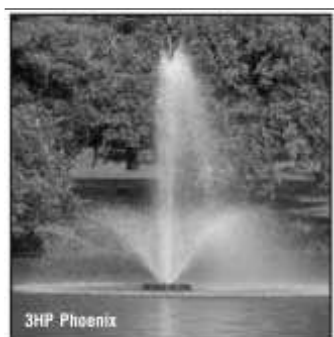
	1 HP	2 HP	3 HP	5 HP
SPRAY HEIGHT (FT)	4	7	10	11
SPRAY DIA. (FT)	15	24	30	40
GPM	530	640	775	1100
VOLT/PHASE/AMP	115/1/14 230/1/7.9	230/1/13.2	230/1/14.8 230/3/9.2 460/3/4.3	230/1/23 230/3/14.3 460/3/7.2



SATURN

The Saturn could be considered a compact version of the signature pattern the Sunburst. Smaller in diameter and shorter in height than the Sunburst, the Saturn produces a more condensed and fluid pattern.

	1 HP	2 HP	3 HP	5 HP
SPRAY HEIGHT (FT)	1.5	3	4.5	5
SPRAY DIA. (FT)	7	11	20	24
GPM	400	480	580	825
VOLT/PHASE/AMP	115/1/14 230/1/7.9	230/1/13.2	230/1/14.8 230/3/9.2 460/3/4.3	230/1/23 230/3/14.3 460/3/7.2



PHOENIX

The Phoenix combines aesthetics with aeration. Lights will allow you to enjoy this product day or night! Otterbine suggests increasing horsepower when placing this unit in water environments that have excessive aquatic weed and algae present.

	1 HP		2 HP		3 HP		5 HP	
	In	Out	In	Out	In	Out	In	Out
SPRAY HEIGHT (FT)	8	4	11	6	15	9	18	10
SPRAY DIA. (FT)	2	14	2	20	3	28	3	34
GPM	150		210		275		400	
VOLT/PHASE/AMP	115/1/14 230/1/7.9		230/1/13.2		230/1/14.8 230/3/9.2 460/3/4.3		230/1/23 230/3/14.3 460/3/7.2	



AERATING FOUNTAINS



TRI-STAR

The Tri-star model is a winner among many associations. Lights truly enhance the elegant beauty of this product! Otterbine suggests increasing horsepower when placing this unit in water environments that have excessive aquatic weed and algae present.

	1 HP			2 HP			3 HP			5 HP		
	In	Mid	Out	In	Mid	Out	In	Mid	Out	In	Mid	Out
SPRAY HEIGHT (FT)	8	5	3	12	7	4	16	11	7	19	13	8
SPRAY DIA. (FT)	2	9	13	2	10	17	3	13	23	3	15	27
GPM	150			210			275			400		
VOLT/PHASE/AMP	115/1/14			230/1/13.2			230/1/14.8			230/1/23		
	230/1/7.9						230/3/9.2			230/3/14.3		
							460/3/4.3			460/3/7.2		



ROCKET

Otterbine's geyser fountain effect looks beautiful by itself or clustered with other aerating fountains to create a large fountain effect. Otterbine does not suggest placing this unit in difficult water environments. Consider grouping this unit with a Sunburst or Gemini.

	1 HP			2 HP			3 HP			5 HP		
SPRAY HEIGHT (FT)	11-13			17-19			20-22			23-25		
SPRAY DIA. (FT)	5			5			8			8		
GPM	110			155			200			290		
VOLT/PHASE/AMP	115/1/14			230/1/13.2			230/1/14.8			230/1/23		
	230/1/7.9						230/3/9.2			230/3/14.3		
							460/3/4.3			460/3/7.2		



COMET

Maintaining symmetry and splendor, this Pattern creates a thick, lavish column of water that will fascinate even the most discriminating onlooker. Otterbine suggests increasing horsepower when placing this unit in water environments that have excessive aquatic weed and algae.

	1 HP			2 HP			3 HP			5 HP		
SPRAY HEIGHT (FT)	9-11			16-18			19-21			21-23		
SPRAY DIA. (FT)	5			5			8			8		
GPM	130			185			240			325		
VOLT/PHASE/AMP	115/1/14			230/1/13.2			230/1/14.8			230/1/23		
	230/1/7.9						230/3/9.2			230/3/14.3		
							460/3/4.3			460/3/7.2		



EQUINOX

The Equinox offers beautiful symmetry from all angles and creates an intricate pattern that's typically associated with architectural fountains. increasing horsepower when placing this unit in water environments that have excessive aquatic weed and algae present.

	1 HP			2 HP			3 HP			5 HP		
SPRAY HEIGHT (FT)	10			13			15			20		
SPRAY DIA. (FT)	35			40			58			72		
GPM	150			210			275			400		
VOLT/PHASE/AMP	115/1/15			230/1/11.4			230/1/12			230/1/20		
	230/1/7.5						230/3/7.6			230/3/11.4		
							460/3/4.1			460/3/6		

AERATING FOUNTAINS



CONSTELLATION

Designed to minimize clogging and hold its pattern in the wind, this two-tiered pattern captures its audiences attention with its awe-inspiring beauty. Otterbine suggests increasing horsepower when placing this unit in environments that have excessive aquatic weed

	1 HP		2 HP		3 HP		5 HP	
	In	Out	In	Out	In	Out	In	Out
SPRAY HEIGHT (FT)	4	2	6	2	9	3	10	3
SPRAY DIA. (FT)	9	18	14	28	17	35	18	36
GPM	150		210		275		400	
VOLT/PHASE/AMP	115/1/14 230/1/7.9		230/1/13.2		230/1/14.8 230/3/9.2		230/1/23 230/3/14.3 460/3/4.3 460/3/7.2	



GENESIS

The Genesis has 2 tiers and 16 silhouetted streams that cascade into the waterscape resembling that of an architectural fountain, acting as a dramatic focal point that captivates onlookers. Otterbine suggests increasing horsepower when using in harsh water environments.

	1 HP		2 HP		3 HP		5 HP	
	In	Out	In	Out	In	Out	In	Out
SPRAY HEIGHT (FT)	6	3	10	5	15	6	18	7
SPRAY DIA. (FT)	8	24	11	32	20	50	24	62
GPM	150		210		275		400	
VOLT/PHASE/AMP	115/1/14 230/1/7.9		230/1/13.2		230/1/14.8 230/3/9.2		230/1/23 230/3/14.3 460/3/4.3 460/3/7.2	

AERATING FOUNTAIN ORDERING:

STEP 2—PICK FOUNTAIN PATTERN

PATTERN	PART NO.
GEMINI (1-3HP)	OTT18-0039
GEMINI (5HP ONLY)	OTT18-0082
SUNBURST (1-3HP)	OTT18-0038
SUNBURST (5HP ONLY)	OTT18-0081
SATURN (1-3HP)	OTT18-0040
SATURN (5HP ONLY)	OTT18-0083
PHOENIX	OTT18-0041
TRI-STAR	OTT18-0043
ROCKET	OTT18-0042
COMET	OTT18-0044
EQUINOX	OTT18-0077
CONSTELLATION	OTT18-0046
GENESIS	OTT18-0045

- Use 3 steps for ordering and Aerating Fountain will come assembled including float, Power Control Center with timer, surge arrestor & GFCI (460/575V do not include GFCI).

- Cable must be ordered with a minimum of 50 feet and in 25-foot increments. Use cable charts to determine proper sizing.

STEP 1—PICK HORSEPOWER & VOLTAGE

AERATOR MOTOR UNIT (HP / VOLTAGE / PHASE)	PART NO.
1 HP / 115V / 1 PH	OTT01-0011-116
1 HP / 230V / 1 PH	OTT01-0011-216
2 HP / 230V / 1 PH	OTT01-0012-216
3 HP / 230V / 1 PH	OTT01-0013-216
3 HP / 230V / 3 PH	OTT01-0013-236
3 HP / 460V / 3 PH	OTT01-0013-436
5 HP / 230V / 1 PH	OTT01-0015-216
5 HP / 230V / 3 PH	OTT01-0015-236
5 HP / 460V / 3 PH	OTT01-0015-436
5 HP / 575V / 3 PH	OTT01-0015-536

STEP 3—PICK CABLE SIZE & LENGTH

CABLE SIZE	PART NO.
#6/3 (1-PHASE)	OTT34-0004
#8/3 (1-PHASE)	OTT34-0002
#8/4 (3-PHASE)	OTT34-0003
#10/3 (1-PHASE)	OTT957-009
#10/4 (3-PHASE)	OTT957-010
#12/3 (1-PHASE)	OTT957-001
#12/3 (1-PHASE)	OTT957-002



INDUSTRIAL AERATORS

INDUSTRIAL AERATING UNITS



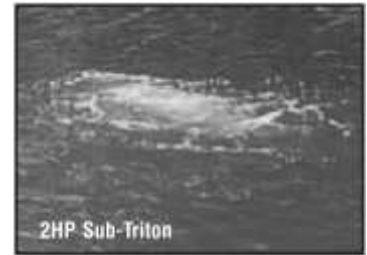
2HP High Volume

HIGH VOLUME

Surface aeration when you need it, the High Volume is used on golf courses, fish farms and other environments that may experience nutrient run-off. This unit is effective in as much as 15' of water and only needs 40" of water to operate in.

	1 HP	2 HP	3 HP	5 HP
SPRAY HEIGHT (FT)	1.5	2	3	4.5
SPRAY DIA. (FT)	4	7	9	11
GPM	920	1525	2100	3000
VOLT/PHASE/AMP	115/1/13.4 230/1/6.8	230/1/11.9	230/1/13.5 230/3/8.5 460/3/4.2	230/3/14.4 460/3/7.5 575/3/6

TRITON & SUB-TRITON MIXER OR ASPIRATOR



Triton units float on the pond surface and are used when no surface spray is desired. The mixer is specified when mass circulation is required and is a superb de-icing unit. The aspirator incorporates a venturi tube that allows for surface oxygen to be transferred to the pond bottom. The Triton is an excellent choice in water that ranges in depth from 8' - 15'. The Sub-Triton is almost identical to the Triton, with the only exception being that the Sub-Triton model sits on the pond bottom allowing for shallower water applications that ranges in depth from 3' - 8'.
2HP Sub-Triton

	1 HP	2 HP	3 HP	5 HP
MIXER POND VOLUME INFLUENCED (CUBIC FEET OF WATER)	490,000	980,000	1,470,000	N/A
ASPIRATOR POND VOLUME INFLUENCED (CUBIC FEET OF WATER)	210,000	420,000	630,000	1,050,000
VOLT/PHASE/AMP	115/1/12.6 230/1/5.5	230/1/11.5	230/1/12.5 230/3/8.7 460/3/4.1	230/3/13.5 400/3/7.5 460/3/7.0

INDUSTRIAL AERATOR ORDERING:

STEP 1—PICK HORSEPOWER & VOLTAGE

AERATOR MOTOR UNIT (HP / VOLTAGE / PHASE)	PART NO.
1 HP / 115V / 1 PH	OTT01-0091-116
1 HP / 230V / 1 PH	OTT01-0091-216
2 HP / 230V / 1 PH	OTT01-0092-216
3 HP / 230V / 1 PH	OTT01-0093-216
3 HP / 230V / 3 PH	OTT01-0093-236
3 HP / 460V / 3 PH	OTT01-0093-436
5 HP / 230V / 3 PH	OTT01-0095-236
5 HP / 460V / 3 PH	OTT01-0095-436

- Use 3 steps for ordering and Aerator will come assembled including float or bottom barrier, air tubing, Power Control Center with timer, surge arrestor & GFCI (460/575V do not include GFCI).

- Cable must be ordered with a minimum of 50 feet and in 25-foot increments. Use cable charts to determine proper sizing.

STEP 2—PICK AERATOR TYPE

PATTERN	PART NO.
HIGH VOLUME	OTT18-0061
SUB-TRITON ASPRTR	OTT18-0062
TRITON ASPIRATOR	OTT18-0063
SUB-TRITON MIXER	OTT18-0064
TRITON MIXER	OTT18-0065

STEP 3—PICK CABLE SIZE & LENGTH

CABLE SIZE	PART NO.
#6/3 (1-PHASE)	OTT34-0004
#8/3 (1-PHASE)	OTT34-0002
#8/4 (3-PHASE)	OTT34-0003
#10/3 (1-PHASE)	OTT957-009
#10/4 (3-PHASE)	OTT957-010
#12/3 (1-PHASE)	OTT957-001
#12/3 (1-PHASE)	OTT957-002



AERATING UNIT OPTIONS

CONTROL PANEL OPTIONS

DESCRIPTION	PART NO.
1-5 HP LARGE PCC <i>(For use with lights)</i>	OTT18-0003
1-5 HP LARGE PCC w/PHASE MONITOR	OTT18-0005
1-5 HP LARGE PCC w/PHASE MONITOR & GFI FOR 460V	OTT18-0009
1-5 HP 2-IN-1 LARGE PCC <i>(To operate 2 units from 1 PCC)</i>	OTT11-0700
7.5-10 HP XLARGE PCC <i>(For use with lights)</i>	OTT18-0070
7.5-10 HP XLARGE PCC w/PH MONITOR & GFI FOR 460V	OTT18-0074

UNIT OPTIONS

DESCRIPTION	PART NO.
1/4" DEBRIS SCREEN (1-5 HP)	OTT12-0075
1/2" DEBRIS SCREEN (1-5 HP)	OTT12-0076
PIGTAIL PROTECTOR (1-5 HP)	OTT178-017
GRANITE FLOAT COVER	OTT18-0014
INSTALLATION KIT <i>(Includes 2 duckbills)</i>	OTT-F-W-KIT

AIR FLOW 2 SYSTEMS

Otterbine's Air Flo 2 diffused aeration system complements the Otterbine product line with an energy efficient, quiet, sub-surface option to water quality management. By incorporating 3/4HP piston compressors the Air Flo 2 can operate at depths exceeding 40ft, and is available with your choice of self cleaning dome diffuser manifolds, or stone diffuser manifolds. Enhanced cabinet construction provides quieter operation and simplified servicing, while the clean air intake system improves performance through the new air filter system. Combined with a shore mounted valve box, the Air Flo 2 allows for shorter tubing requirements, and comes with a 2 year warranty. The Air Flo 2 aeration system is the perfect solution in deep (minimum depth 6.5 feet) and large lakes. It is inexpensive in terms of both capital and operational costs. And, it satisfies the lake management needs of the conservative manager who wishes to use aeration without disturbing the natural appearance of the lake with surface sprays or floats and motors.



SYSTEM	COMPRES-SORS	DIFFUSER PADS	VALVE MANIFOLDS	AFFECTED ACRES	OPERATING DEPTH	GPM INFLUENCED
1	1	2	(1) 2-VALVE	1/2	4'-7'	2,250
				1	8'-14'	3,250
				3	14'-19'	3,750
				3	20'-40'	4,000+
2	1	1	(1) 1-VALVE	1/2	8'-26'	4,000+
				1	14'-26'	
				3	20'-40'	
3	2	4	(2) 2-VALVE	1	4'-7'	2,250
				5	8'-18'	3,750
4	2	6	(2) 3-VALVE	3	4'-7'	2,250
				8	8'-18'	3,250
				12	14'-19'	3,750
5	1	3	(1) 3-VALVE	3	8'-14'	3,250'
6	1	2	(1) 1-VALVE	5	19'-26'	4,000+
					26'-40'	



SYSTEM ORDERING

DESCRIPTION	PART NO.
SYSTEM 1	OTT03-0201
SYSTEM 2	OTT03-0202
SYSTEM 3	OTT03-0203
SYSTEM 4	OTT03-0204
SYSTEM 5	OTT03-0205
SYSTEM 6	OTT03-0206

AIR TUBING

TUBING IS ORDERED SEPARATELY IN 100' INCREMENTS.

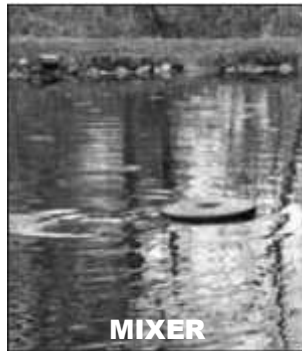
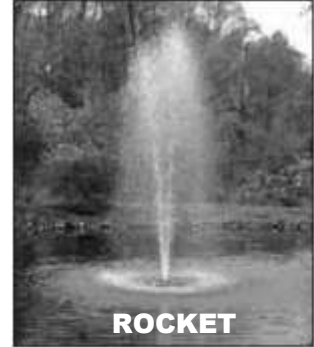
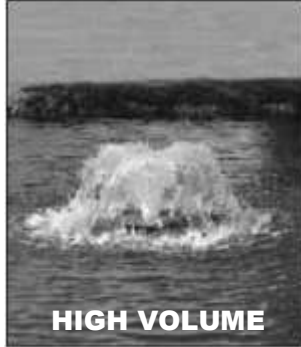
DESCRIPTION	PART NO.
WEIGHTED TUBING	OTT12-0093-100
UN-WEIGHTED TUBING	OTT12-0093-100



SMALL FOUNTAINS

FRACTIONAL SERIES

The 1/2 HP Fractional Aerating Fountain & Mixer Series comes complete with 5 systems in 1: four interchangeable patterns and a horizontal mixer. Ready to install out of the box and designed for small ponds, the Fractional Series provides both aesthetic appeal and aeration.



	Gemini	High Volume	Phoenix	Rocket	Mixer
			In Out		
SPRAY HEIGHT (FT)	4	2	10.6 3.8	10.6	n/a
SPRAY DIA. (FT)	4.5	2.5	4 10.6	3	n/a
GPM	506	435	195	179	n/a*
VOLT/PHASE/AMP	115/1/5.6 230/1/2.8	115/1/5.2 230/1/2.6	115/1/6.4 230/1/3.2	115/1/6.4 230/1/3.2	115/1/6 230/1/3

* 1/2 HP Mixer volume influenced is 245,000 ft³ and effectively moves water 115 linear feet.

FRACTIONAL ORDERING:

STEP 1—PICK HORSEPOWER & VOLTAGE

FRACTIONAL SERIES FOUNTAIN (HP / VOLTAGE)	PART NO.
1/2HP/115V	OTT04-0010-115
1/2HP/230V	OTT04-0010-230

FRACTIONAL SERIES DELUXE (HP / VOLTAGE)	PART NO.
1/2HP/115V	OTT04-0011-115
1/2HP/230V	OTT04-0011-230

Fractional Series are shipped complete with 5 interchangeable spray patterns and mini power control center. .

Fractional Deluxe units are shipped complete and also includes a low voltage 2-light LED set with quick disconnect cable on both unit and lights..

STEP 2—PICK CABLE SIZE & LENGTH

DESCRIPTION	PART NO.
#12/3 POWER CABLE	OTT-GP3999
#16/3 LIGHT CABLE (DELUXE UNITS)	OTT34-0011

FRACTIONAL OPTIONS

DESCRIPTION	PART NO.
2-LIGHT LED SET, 6.5W	OTT02-0048-002
QUICK DISCONNECT	OTT18-0085
COLOR LENS KIT—RED/BLUE/YELLOW/GREEN	OTT12-0085
COLOR LENS—SINGLE LENS (SPECIFY COLOR)	OTT12-0091



GIANT FOUNTAINS



AQUA STAR

Otterbine's Aqua Star impresses many with its dramatic two-tiered spray effect. This unit is frequently specified into resorts and hotels and is chosen by golf course club facilities to adorn ponds and provide the perfect back drop for weddings and other social occasions. Optional accessories for Otterbine's giant fountain include wind-controls and subtrol motor controls. Subtrol motor controls will extend your warranty from two years to three.

	10 HP		15 HP		25 HP	
	In	Out	In	Out	In	Out
SPRAY HEIGHT (FT)	36	8	40	10	50	12
SPRAY DIA. (FT)	1	33	1	37	1	42
GPM	225		350		400	
VOLT/PHASE/AMP	230/1/47		230/1/67		230/3/70	
	230/3/30		230/3/44		230/3/70	
	460/3/15		460/3/22		460/3/35	



TRIAD

The Triad giant fountain was created per customer request. This three-tiered system offers exceptional elegance and beauty. And, this giant fountain will continue to impress when an Otterbine high voltage lighting package is added to take the fountains beauty from day into night. Optional accessories for Otterbine's giant fountain include wind-controls and subtrol motor controls. Subtrol motor controls will extend your warranty from two years to three.

	10 HP			15 HP			25 HP		
	In	Mid	Out	In	Mid	Out	In	Mid	Out
SPRAY HEIGHT (FT)	36	18	8	40	20	10	50	26	12
SPRAY DIA. (FT)	.5	33	33	.5	37	37	.5	42	42
GPM	300			390			500		
VOLT/PHASE/AMP	230/1/47			230/1/67			230/3/70		
	230/3/30			230/3/44			230/3/70		
	460/3/15			460/3/22			460/3/35		



MYSTIC

The Mystic is Otterbine's best selling giant fountain spray pattern. This pattern offers impressive heights shooting a stream of water as high as 65' or 18.9m. This system is often specified by landscape architects to provide impressive aesthetic enhancement at large corporate office and commercial developments. Optional accessories for Otterbine's giant fountain include wind-controls and Subtrol motor controls. Subtrol motor controls will extend your warranty from two years to three.

	10 HP	15 HP	25 HP
SPRAY HEIGHT (FT)	40	50	65
SPRAY DIA. (FT)	6	6	6
GPM	450	500	800
VOLT/PHASE/AMP	230/1/47		230/1/67
	230/3/30		230/3/44
	460/3/15		460/3/22
			460/3/35



GIANT FOUNTAINS



25HP Polaris

POLARIS

The Polaris offers a heavy geyser-type water flow that is often specified when trying to achieve an impressive, water feature. This giant fountain is extraordinary when high voltage Fountain Glo lights are added and its thick, powerful column of water is illuminated for nighttime viewing pleasure. Optional accessories for include wind-controls and Subtrol motor controls. Subtrol motor controls will extend your warranty from two years to three.

	10 HP	15 HP	25 HP
SPRAY HEIGHT (FT)	24	30	35
SPRAY DIA. (FT)	8	8	8
GPM	675	750	1200
VOLT/PHASE/AMP	230/1/47 230/3/30 460/3/15	230/1/67 230/3/44 460/3/22	230/3/70 460/3/35



25HP Super Nova

SUPER NOVA

When a dramatic fountain pattern is needed, look no further than Otterbine's giant fountain Super Nova. This pattern will shoot a column of water 95'. This unit is often chosen for sites that need to have attention drawn to them. Optional accessories for Otterbine's giant fountain include wind controls and subtrol motor controls. Subtrol motor controls will extend your warranty from two years to three.

	10 HP	15 HP	25 HP
SPRAY HEIGHT (FT)	50	70	95
SPRAY DIA. (FT)	1	1	1
GPM	225	350	400
VOLT/PHASE/AMP	230/1/47 230/3/30 460/3/15	230/1/67 230/3/44 460/3/22	230/3/70 460/3/35

GIANT FOUNTAIN ORDERING:

STEP 1—PICK HORSEPOWER & VOLTAGE

AERATOR MOTOR UNIT (HP / VOLTAGE / PHASE)	PART NO.
10 HP / 230V / 1 PH	OTT01-0602-216
10 HP / 230V / 3 PH	OTT01-0602-236
10 HP / 460V / 3 PH	OTT01-0602-436
15 HP / 230V / 1 PH	OTT01-0603-216
15 HP / 230V / 3 PH	OTT01-0603-236
15 HP / 460V / 3 PH	OTT01-0603-436
25 HP / 230V / 3 PH	OTT01-0604-236
25 HP / 460V / 3 PH	OTT01-0604-436

STEP 2—PICK FOUNTAIN PATTERN

PATTERN	PART NO.
AQUA STAR	OTT18-0058
TRIAD	OTT18-0059
MYSTIC	OTT18-0055
POLARIS	OTT18-0056
SUPER NOVA	OTT18-0057

STEP 3—PICK CABLE SIZE & LENGTH

CABLE SIZE	PART NO.
#4/4 (3-PHASE)	OTT34-0007
#6/4 (3-PHASE)	OTT34-0005
#8/4 (3-PHASE)	OTT34-0003
#10/4 (3-PHASE)	OTT957-010

GIANT FOUNTAIN OPTIONS

DESCRIPTION	PART NO.
SUB-MONITOR OPTION	OTT18-0037
AUTO WIND CONTROL	OTT01-0004-001
GFI FOR 460V UNITS	OTT18-0021
POWER PHASE MONITOR	OTT18-0024

- Use 3 steps for ordering and Giant Fountain will come complete including float, Power Control Center with timer, surge arrestor & GFCI (460/575V do not include GFCI).

- Cable must be ordered with a minimum of 50 feet and in 25-foot increments. Use cable charts to determine proper sizing.



FOUNTAIN GLO LOW LIGHTING



MR16 LED LIGHT SYSTEMS

LED low voltage systems come with an energy efficient 6.5W bulb available in bright white (5700K) or warm white (3000K). Manufactured of corrosion resistant thermoplastics, LED systems operate off 115V and include a shore-mounted transformer. Recommended for 1HP to 10HP.

DESCRIPTION	PART NO.
2-LIGHT, MR16 SET, LED 6.5W	OTT02-0050-002
4-LIGHT, MR16 SET, LED 6.5W	OTT02-0050-004
6-LIGHT, MR16 SET, LED 6.5W	OTT02-0050-006
8-LIGHT, MR16 SET, LED 6.5W (2 Cable Runs Required)	OTT02-0050-008



HIGH VOLTAGE LIGHT SYSTEMS

Select from either 250 or 500 watt systems to achieve the lighting effect desired. Lights operate off of 115V and are manufactured from stainless steel and brass components. Recommended for Giant Fountains.

DESCRIPTION	PART NO.
2-LIGHT, HV SET, 250W	OTT02-0001-002
4-LIGHT, HV SET, 250W	OTT02-0001-004
4-LIGHT, HV SET, 500W	OTT02-0005-004
6-LIGHT, HV SET, 500W (2 Cable Runs Required)	OTT02-0005-006
8-LIGHT, HV SET, 500W (2 Cable Runs Required)	OTT02-0005-008
12-LIGHT, HV SET, 500W (2 Cable Runs Required)	OTT02-0005-012



PAR 64 HIGH VOLTAGE LIGHT SYSTEMS

Includes two lights and features 1000 watt bulbs that are capable of illuminating the most impressive patterns. Manufactured of stainless steel and brass and operate on 115V. Recommended for Giant Fountains.

DESCRIPTION	PART NO.
2-LIGHT, PAR 64 SET, 1000W	OTT02-1000-002

LIGHT CABLE & OPTIONS

DESCRIPTION	PART NO.
CABLE, 16/2	OTT34-0011
CABLE, 12/3	OTT957-001
CABLE, 10/3	OTT957-000
CABLE, 8/3	OTT34-0002
CABLE, 6/3	OTT34-0004
4-COLOR LENS KIT (RED,BLUE,GRN, YLLW)	OTT12-0085
SINGLE COLOR LENS (SPECIFY COLOR)	OTT12-0091
AUTOMATIC PHOTOCELL, MR16 LED LIGHTS	OTT17-0005
AUTOMATIC PHOTOCELL, HV / PAR 64	OTT17-0005-002
FACTORY INTALLED MR16 LED PANEL WIRING	OTT17-0018
TRANSFORMER, HV 750W-1500W (FOR 460V)	OTT17-0033-002
TRANSFORMER, HV 2000W (FOR 460V)	OTT17-0033-003
TRANSFORMER, HV 3000W-4000W (FOR 460V)	OTT17-0033-005
TRANSFORMER, HV 6000W (FOR 460V)	OTT17-0033-007

LIGHTS PER SET	WATT	POWER CABLES	MAXIMUM CABLE RUN				
			16/2	12/3	10/3	8/3	6/3
2	6.5	1	650'	1000'			
4	6.5	1	325'	700'			
6	6.5	1	225'	525'			
8	6.5	2	325'	700'			
2	250	1		325'	525'	825'	
4	250	1		150'	250'	425'	675'
4	500	1			125'	200'	325'
6	500	2		100'	175'	275'	450'
8	500	2			125'	200'	325'
12	500	2			125'	200'	325'
2	1000	1			125'	200'	325'



MAXIMUM WIRE RUNS

UNIT SIZE	AMPS	VOLTAGE / PAHSE	#12 WIRE	#10 WIRE	#8 WIRE	#6 WIRE	#4 WIRE
1/4 HP	3.1	115V / 1PH	450'	N/A	N/A	N/A	N/A
	1.8	230V / 1PH	1600'	N/A	N/A	N/A	N/A
1/2 HP	5.5	115V / 1PH	250'	N/A	N/A	N/A	N/A
	12.0	115V / 1PH	125'	N/A	N/A	N/A	N/A
	3.2	230V / 1PH	875'	N/A	N/A	N/A	N/A
	6.0	230V / 1PH	475'	N/A	N/A	N/A	N/A
3/4 HP	8.0	230V / 1PH	350'	N/A	N/A	N/A	N/A
1 HP	14	115V / 1 PH	100'	175'	250'	425'	N/A
	7.9	230V / 1PH	350'	600'	925'	1500'	N/A
2 HP	13.2	230V / 1 PH	200'	350'	550'	875'	N/A
3 HP	14.8	230V / 1 PH	200'	325'	500'	800'	N/A
	9.2	230V / 3 PH	350'	600'	900'	1450'	N/A
	4.3	460V / 3 PH	1500'	2500'	4000'	6200'	N/A
5 HP	23.0	230V / 1 PH	150'	250'	350'	575'	N/A
	14.3	230V / 3 PH	225'	400'	575'	950'	N/A
	7.2	460V / 3 PH	900'	1500'	2300'	3800'	N/A
7.5 HP	38.0	230V / 1 PH	N/A	125'	200'	300'	475'
	21.0	230V / 3 PH	N/A	250'	400'	650'	1000'
	10.5	460V / 3 PH	N/A	1050'	1600'	2600'	4000'
10 HP	48.0	230V / 1 PH	N/A	100'	150'	250'	375'
	30.0	230V / 3 PH	N/A	175'	275'	450'	700'
	15.0	460V / 3 PH	N/A	725'	1125'	1800'	2800'
15 HP	67.0	230V / 1 PH	N/A	50'	100'	175'	275'
	44.0	230V / 3 PH	N/A	125'	175'	300'	475'
	22.0	460V / 3 PH	N/A	500'	775'	1225'	1900'
25 HP	70.0	230V / 3 PH	N/A	75'	125'	175'	300'
	35.0	460V / 3 PH	N/A	325'	475'	775'	1200'

TERMS AND CONDITIONS

PRICES

Price quotes and terms are subject to change without notice. Prices are those in effect on the date of shipment. Price quotations will be honored for 30 days from date which appears on the quote, except for pipe and wire that are subject to market conditions. All agreements are contingent upon strikes, accidents or other causes beyond our control.

Turf Products is not responsible for any misprints or typographical errors

ADDITIONS, CHANGES AND CANCELLATIONS

Since each order is immediately entered for processing, instructions to add items or to change quantities on orders already accepted will be at the discretion of TPC. Cancellation of any order after acceptance by TPC may result in a penalty charge, the amount of which will be determined by the status of that order at that particular time.

RETURNED GOODS

Goods may not be returned without a Returned Goods Authorization and accompanied by the original invoice. There will be a minimum of 15% restocking charge on all returns except for defective items. Only merchandise credits will be issued. No refunds will be made. Goods more than 90 days old will not be accepted unless prior approval with shipping instructions has been obtained from TPC. If permission to return this material is granted, the amount of credit to be allowed will be governed by the circumstance involved. Returned items must be in new and resellable condition. Any catalog part may be returned, except for special orders, PVC cement, PVC primer, Cadweld connectors, Ground Enhancement Material, and partial spools of wire. Customers will be charged all shipping expenses involved in the return of materials, including UPS Call Tags, except when TPC is in error.

PAYMENT POLICY

MasterCard, Visa, American Express and Discover are accepted. Checks will be deposited upon receipt. There will be a \$25.00 service charge for all returned checks. Open accounts are available upon approval. CHAX (CheckFax) payment is also accepted.

ERRORS AND CLAIMS

TPC will make good its errors but cannot assume the responsibility for the errors of others. All claims for shortages must be made within 10 calendar days from the date of shipment. All claims for damages or shortages resulting from shipment handling must be made direct to the carrier.

TAXES

Turf Products reserves the right to add any tax imposed by law to the sale price of all products affected.

FINANCE CHARGE

Invoices are due and payable upon receipt. The purchaser agrees as a condition of the sale that the invoice will be subject to a finance charge of 1.5% per month with an annual percentage rate of 18% (or the maximum rate permitted by law, whichever is higher), if unpaid for 30 days. If the invoice is placed with an attorney for collection, the purchaser further agrees as a condition of the sale to pay all costs of collection, including reasonable attorney's fees (to the extent permitted by law).

FORCE MAJURE

Turf Products shall be excused from failure to perform its contract in the event of fire, strike, labor dispute, war, embargo, transportation delay, material shortage, failure of carrier, contractor or supplier to perform, act of God, requirement or request of any Federal or State Government, or any cause beyond the control of TPC.

LIMITED WARRANTY

The limited warranty on all products covers defective materials and faulty workmanship under normal use. Liability is limited to either replacement parts or refund, at our option. This warranty shall not apply to any product determined to have been misused or installed incorrectly.

TURF PRODUCTS LLC PROVIDES THE GOODS, INCLUDING BUT NOT LIMITED TO ANY SPARE PART (S), MANUAL(S) AND/OR INSTRUCTIONAL MATERIAL (S) PURSUANT TO THE SALES ORDER AGREEMENT "AS IS" AND MAKES NO IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR USE. ANY WARRANTY OR WARRANTIES PROVIDED BY THE MANUFACTURER(S) OF THE GOODS IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING WITHOUT LIMITATION, IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, SATISFACTORY QUALITY, NON-INFRINGEMENT, OR THOSE ARISING FROM ANY COURSE OF DEALING, USAGE, OR TRADE PRACTICE.