

# The Kennedy Guardian

Fire hydrants have been used in fire protection for over 100 years. A.W.W.A. C502 was developed in 1913 as a standard for the manufacture and use of dry barrel hydrants. Kennedy has established itself as a leader in the industry with manufacturing experience dating back to 1905. Many of the early hydrants are in use today.

Kennedy's most recent design is the Guardian. Based on a simple design, it is easy to install, maintain and repair. The Guardian sets a standard for quality in the industry and meets or exceeds all requirements for A.W.W.A. C502 latest revision, and is UL listed and FM approved.

K81D Meets or exceeds requirements of A.W.W.A. C-502 and is UL listed and FM approved.

K-81A Meets or exceeds requirements of A.W.W.A. C-502.

## Guardian Features

**Fig. K81D**

**Weather Shield**  
To protect exposed operating area from freezing rain and dirt.

**Thrust Washer**  
For easy turning operation.

**Two O-Rings**  
To protect operating threads from corrosion.

**O-Ring**  
To seal between brass ferrule and stem.

**Nozzle**  
Tamper resistant.

**Breakable Coupling**  
Minimizes damage from traffic accident. New design makes repairs more efficient.

**O-Ring**  
For ease of repair and nozzle facing.

**One Piece Bonnet**  
Newly designed for easier maintenance.

**Sealed Grease Cavity**  
For easier operation and maintenance.

**Traffic Flange**  
Full 360° adjustment. New Breaking Ring on top for easy replacement and interchangeability on all K-81 models.

**Corrosion Resistant**  
Bronze Drain Valve.

**Bronze to Bronze Seating**  
This standard feature assures easy seat removal.

**Full Cover Bottom Plate**  
Prevents corrosion to the lower stem threads and prevents main valve distortion. Provides a positive stop against the elbow.

**AWWA**  
500 psi test pressure  
250 psi working pressure

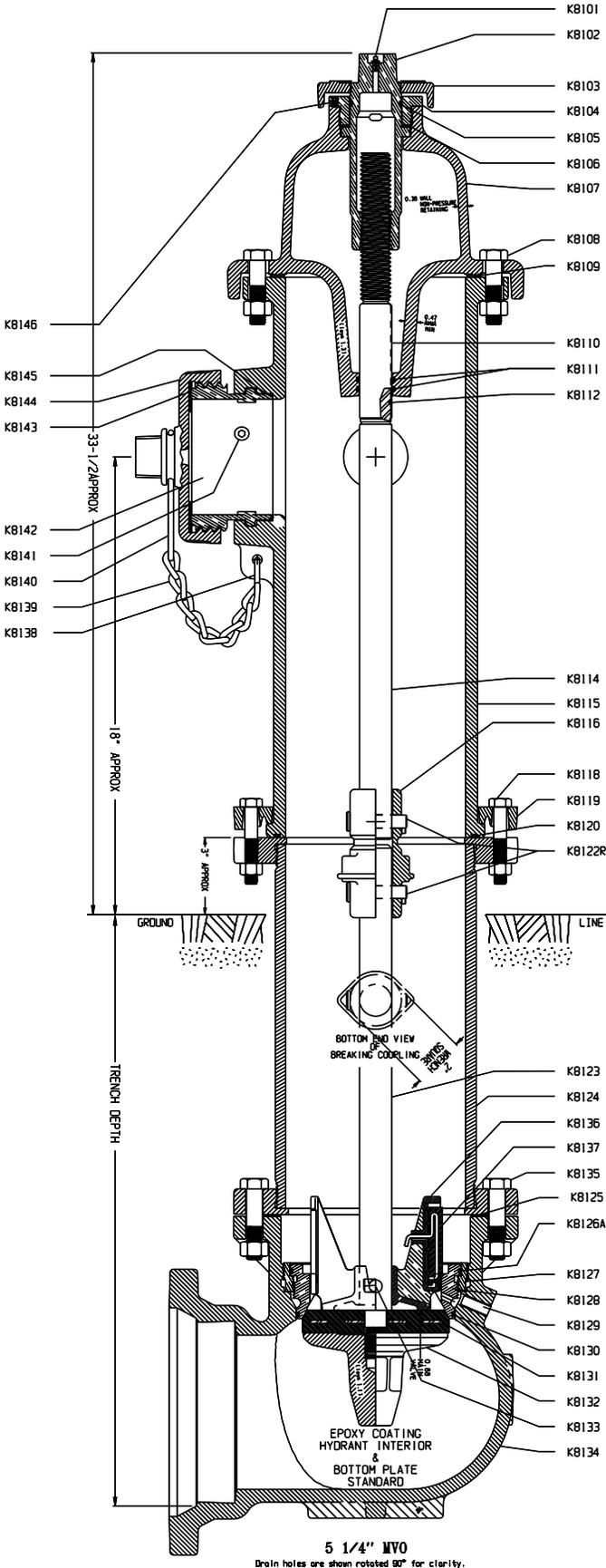
**ULFM**  
500 psi test pressure  
\*250 psi working pressure  
\* As of 01-01-2011

**Easy to install—Even easier to maintain**

- **Tamper resistant** quarter turn hose and steamer nozzles. For those who know how, replacement is easy.
- **Easy to use**, short, simple, inexpensive and lightweight seat removal wrench.
- **Unique pressure-activated** drain valve assures positive shut off. The higher the pressure, the tighter the seal. Automatically compensates for wear due to usage. Does not rely on interference fit.
- **Two sizes available**, 5<sup>1</sup>/<sub>4</sub>" valve opening and 4<sup>1</sup>/<sub>2</sub>" valve opening to best meet your needs.
- **Fully and easily lubricated** operating threads for corrosion protection and ease of operation.
- **The Guardian K-81D Hydrant** meets or exceeds all the latest provisions of AWWA C 502, UL 246 and FM 1510 specifications (options may be limited on UL/FM models)

# Guardian K81D Technical/Dimensional Data (AWWA-UL/FM)

URNS TO OPEN = 15 1/2



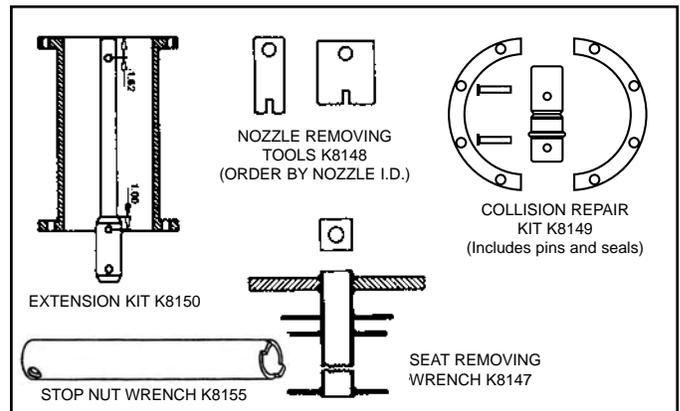
**Figure K81D**

## PARTS LIST

DETAIL	PART	MATERIAL	ASTM SPEC (or as stated)
K8101	ALEMITE FITTING	STAINLESS STEEL	A276 (304)
† K8102	OPERATING STEM NUT	BRONZE	B584 CB4400/AWWA GR A
K8103	DIRT SHIELD	CAST IRON	A126 CLASS B
K8104	STEM LOCK NUT	BRONZE	B584 CB4400/AWWA GR A
† K8105	O-RING	VITON	D2000
† K8106	THRUST WASHER	NYLATRON GS	MIL LP-410
K8107	HYDRANT CAP	CAST IRON	A126 CLASS B
K8108	CAP BOLTS & NUTS	STEEL (ZINC PLATED)	A 307/SAE GR 2
† K8109	CAP GASKET	CLOTH INSERTED RUBBER	D2000
* K8110	STEM FERRULE	NAVAL BRASS	B21-CDA 464
† K8111	O-RING	BUNA-N (SYN. RUBBER)	D2000
* K8112	O-RING	BUNA-N (SYN. RUBBER)	D2000
K8114	UPPER STEM	C.R. STEEL	A108
K8115	UPPER BARREL	CAST IRON	A126 CLASS B
K8116	STEM BREAKING COUPLING	CAST IRON	A126 CLASS B
K8118	BOLTS & NUTS	STEEL (ZINC PLATED)	A 307/SAE GR 2
K8119	BREAKING RING	CAST IRON	A126 CLASS B
K8120	O-RING	BUNA-N (SYN. RUBBER)	D2000
K8122R	COUPLING PINS	STAINLESS STEEL	18-8
K8123	LOWER STEM	C.R. STEEL	A108
K8124	LOWER BARREL	DUCTILE IRON (C.I on request)	ANSI 21.50, 21.51
† K8125	ELBOW GASKET	CELLULOSE FIBER	FED F339477M4
† K8126A	O-RING	BUNA-N (SYN. RUBBER)	D2000
* K8127	SEAT RING INSERT	BRONZE	B584 CB4400/AWWA GR A
† K8128	SEAT RING	BRONZE	B584 CB4400/AWWA GR A
K8129	DRAIN TUBE	NAVAL BRASS	B21-CDA 464
† K8130	O-RING	BUNA-N (SYN. RUBBER)	D2000
† K8131	MAIN VALVE	EPDM W/STEEL INSERT	D2000
K8132	BOTTOM PLATE	CAST IRON	A126 CLASS B
K8133	DRAIN VALVE PIN	STEEL-302/304 STAINLESS	A276 (304)
K8134	ELBOW	DUTILE IRON	A536 GRADE 70-50-5
K8135	ELBOW BOLTS AND NUTS	STEEL-302/304 STAINLESS	ASTM F593-304
K8136	DRAIN VALVE	BRONZE	B584 CB4400/AWWA GR A
† K8137	DRAIN VALVE FACING W/INSERT	BUNA-N W/STAINLESS STEEL	D2000/A276 (304)
K8138	NOZZLE CHAIN 'S' HOOK	STEEL	A108
K8139	NOZZLE CAP CHAIN	STEEL	A108
K8140	NOZZLE CHAIN BAND	STEEL	A108
† K8141	NOZZLE RETAINING SCREW	STAINLESS STEEL	A276 (304)
# K8142	NOZZLE	BRONZE	B584 C83600
†# K8143	NOZZLE CAP GASKET	RUBBER	D2000 TYPE AA
# K8144	NOZZLE CAP	CAST IRON	A126 CLASS B
†# K8145	O-RING	BUNA-N (SYN. RUBBER)	D2000
K8146	ALLEN HEAD SET SCREW	STAINLESS STEEL	A276 (410)
K8147	SEAT REMOVAL WRENCH		
K8148	NOZZLE REMOVAL TOOLS		
† K8149	COLLISION REPAIR KIT		
K8150	GRADE EXTENSION KIT		

\* Denotes that part is available only as part of an assembly.  
 # Must specify type of Nozzle, Hose or Steamer.  
 † Recommended spare parts.

## Accessories



Style	Shoe Size	A
M.J.	4	7 3/4
M.J.	6	8
Flange	4	7 7/8
Flange	6	8 1/8
Tyton	6	9

MARKINGS	
FRONT	BACK
YEAR	SIZE
KENNEDY	K.V. MONOGRAM
U.S.A.	KENNEDY
UL / FM	ELMIRA, NY
TYPE	AWWA
	250 CWP

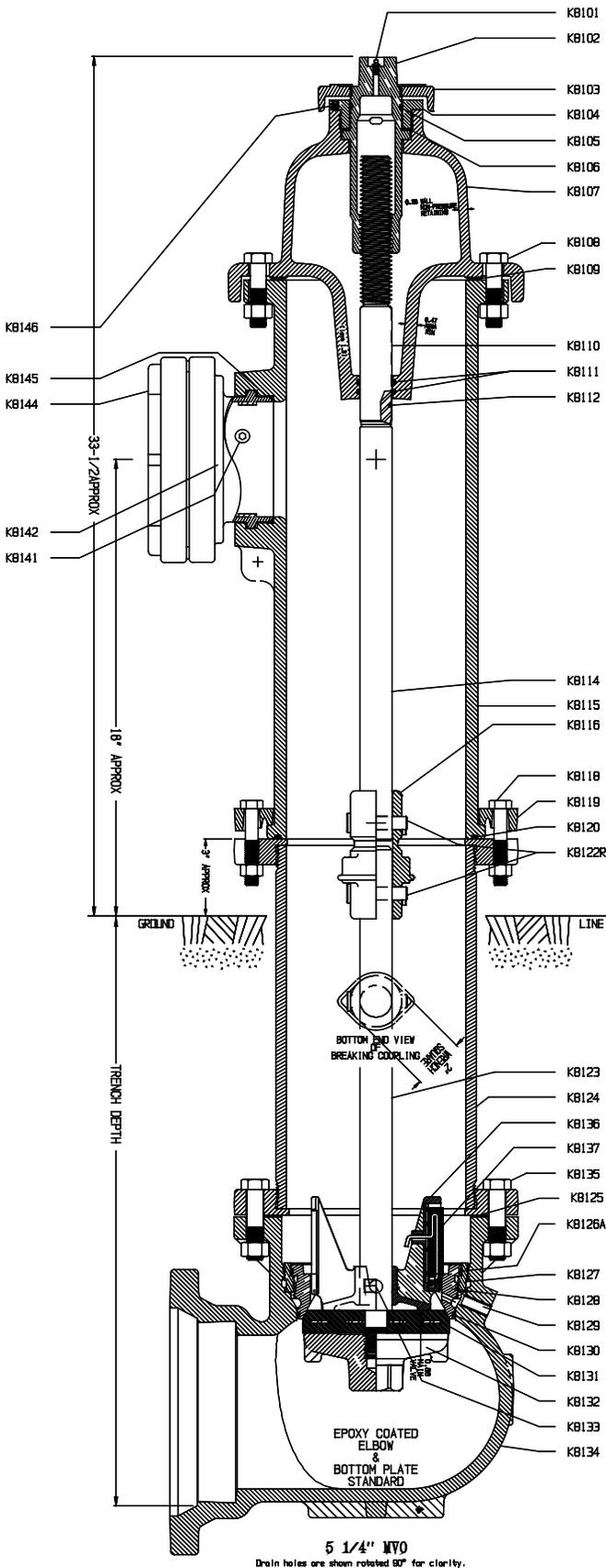
Tyton ends available only in 5 1/4" Main Valve Hydrants.  
 4" shoe dimensions apply to 4 1/2" Main Valve Hydrants only.

Contact Factory for UL/FM Limitations

# Guardian K-81A with "Storz" Outlet

## Technical/Dimensional Data (AWWA)

URNS TO OPEN = 15 1/2



### PARTS LIST

DETAIL	PART	MATERIAL	ASTM SPEC (or as stated)
	KB101	ALEMITE FITTING	STAINLESS STEEL
†	KB102	OPERATING STEM NUT	BRONZE
	KB103	DIRT SHIELD	CAST IRON
	KB104	STEM LOCK NUT	BRONZE
†	KB105	O-RING	VITON
†	KB106	THRUST WASHER	NYLATRON GS
	KB107	HYDRANT CAP	CAST IRON
	KB108	CAP BOLTS & NUTS	STEEL (ZINC PLATED)
†	KB109	CAP GASKET	CLOTH INSERTED RUBBER
*	KB110	STEM FERRULE	NAVAL BRASS
†	KB111	O-RING	BUNA-N (SYN. RUBBER)
*	KB112	O-RING	BUNA-N (SYN. RUBBER)
	KB114	UPPER STEM	C.R. STEEL
	KB115	UPPER BARREL	CAST IRON
	KB116	STEM BREAKING COUPLING	CAST IRON
	KB118	BOLTS & NUTS	STEEL (ZINC PLATED)
	KB119	BREAKING RING	CAST IRON
	KB120	O-RING	BUNA-N (SYN. RUBBER)
	KB122R	COUPLING PINS	STAINLESS STEEL
	KB123	LOWER STEM	C.R. STEEL
	KB124	LOWER BARREL	DUCTILE IRON (or C.I.)
†	KB125	ELBOW GASKET	CELLULOSE FIBER
†	KB126A	O-RING	BUNA-N (SYN. RUBBER)
*	KB127	SEAT RING INSERT	BRONZE
†	KB128	SEAT RING	BRONZE
	KB129	DRAIN TUBE	NAVAL BRASS
†	KB130	O-RING	BUNA-N (SYN. RUBBER)
†	KB131	MAIN VALVE	EPDM W/STEEL INSERT
	KB132	BOTTOM PLATE	CAST IRON
	KB133	DRAIN VALVE PIN	STEEL-302/304 STAINLESS
	KB134	ELBOW	DUCTILE IRON
	KB135	ELBOW BOLTS AND NUTS	STEEL-302/304 STAINLESS
	KB136	DRAIN VALVE	BRONZE
†	KB137	DRAIN VALVE FACING W/INSERT	BUNA-N W/STAINLESS STEEL
	KB138	NOZZLE CHAIN 'S' HOOK	STEEL
	KB139	NOZZLE CAP CHAIN	STEEL
	KB140	NOZZLE CHAIN BAND	STEEL
†	KB141	NOZZLE RETAINING SCREW	STAINLESS STEEL
~#	KB142	NOZZLEW/STORZ DEVICE	BRONZE & AIRCRAFT ALUM
~*#	KB143	NOZZLE CAP GASKET (INTEGRAL)	RUBBER
~*#	KB144	NOZZLE CAP	AIRCRAFT ALUMINUM
†#	KB145	O-RING	BUNA-N (SYN. RUBBER)
	KB146	ALLEN HEAD SET SCREW	STAINLESS STEEL
	KB147	SEAT REMOVAL WRENCH	
	KB148	NOZZLE REMOVAL TOOLS	
†	KB149	COLLISION REPAIR KIT	
	KB150	GRADE EXTENSION KIT	

\*Denotes that part is available only as part of an assembly.  
 #Must specify type of Nozzle, Hose or Steamer.  
 †Recommended spare parts.  
 ~#Special for this Customer Only.

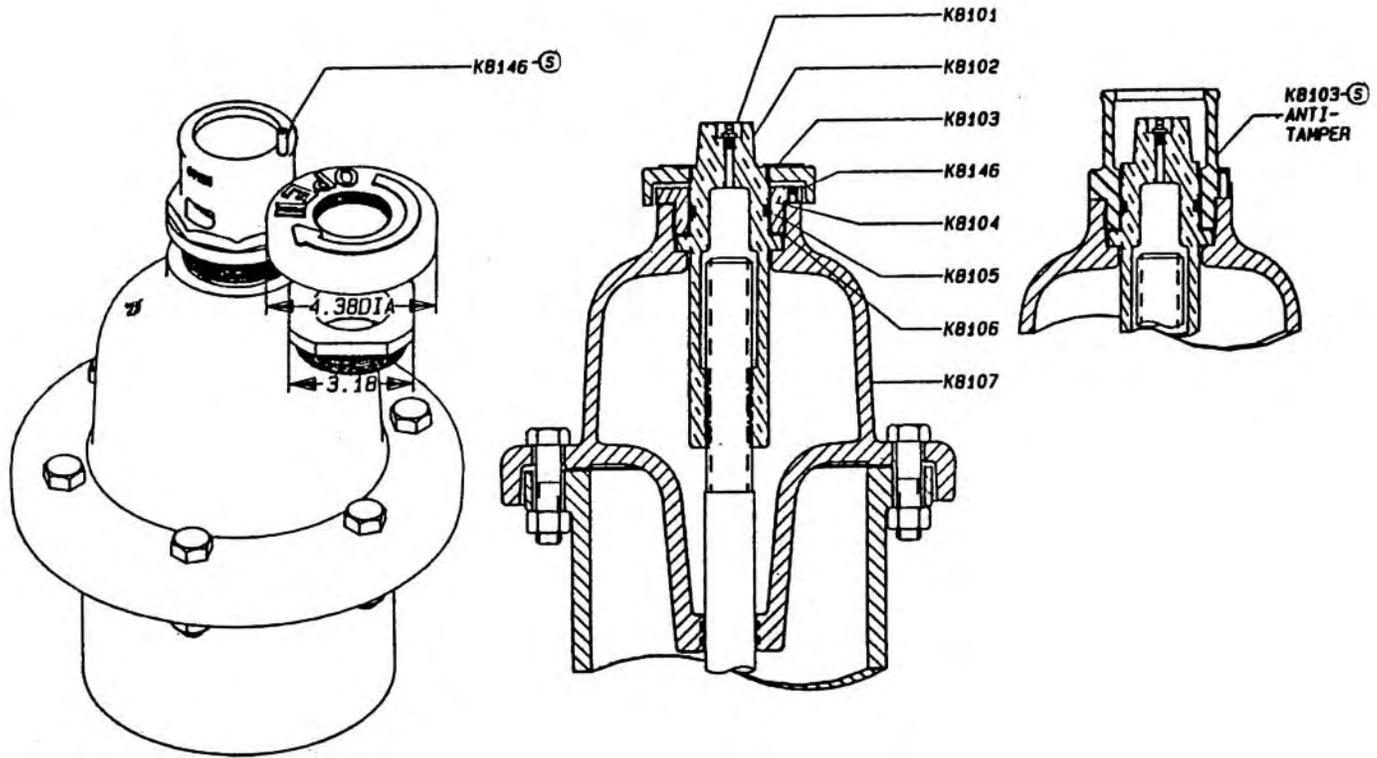
### "Storz" Features

- No more time consuming threading and tightening
- Only 1/4 turn connects hose to hydrant
- Alleviates confusion if multiple steamer threads are used in your area
- Available in 4" and 5" connections

Style	Shoe Size	A
M.J.	4	7 3/4
M.J.	6	8
Flange	4	7 7/8
Flange	6	8 1/8
Tyton	6	9

Tyton ends available only in 5 1/4" Main Valve Hydrants.  
 4" shoe dimensions apply to 4 1/2" Main Valve Hydrants only.

# Tamper-Resistant Guardian Shield Lock Nut



## Parts List

DETAIL	PART	MATERIAL	ASTM SPEC		PART CODE
K8101	ALEMITE FITTING	STAINLESS STEEL	A276 (304)	-	4-41670P
K8102	OPERATING STEM NUT	BRONZE	B 62 (CDA 836)	-	-VARIES
K8103	DIRT SHIELD	CAST IRON	A 126 CLASS B	OPEN LEFT	3212132
				OPEN RIGHT	3212133
K8104	STEM LOCK NUT	BRONZE	B 62 (CDA 836)	-	3-185944
K8103	ANTI TAMPER LOCK NUT	DUCTILE IRON	A536	OPEN LEFT	3212114
				OPEN RIGHT	3212112
K8105	O-RING	BUNA-N	D 735	-	442905P
K8106	THRUST WASHER	NYLATRON GS	(TO MIL LP-410)	-	445843P
K8107	HYDRANT CAP OR DOME	CAST IRON	A 126 CLASS B	- 5 1/4"	-3185962
K8146	ALLEN HEAD SET SCREW	STAINLESS STEEL	A 276	-	4-44438P
K8146	ALLEN HEAD SET SCREW	STAINLESS STEEL	A 276	-	4-44449P

## Instructions

1. Remove the cast iron shield, K8103. Use a large (6") pipe wrench to remove the dirt shield & a hydrant wrench to prevent the hydrant from being opened.
2. Remove the allen head, cone point set screw K8146. Use a 1/8" allen wrench.
3. Remove the stem hold down or lock nut K8104. Use a large (4") monkey or crescent wrench. Note that the hold down nut has a left hand thread & is turned clockwise to remove it.
4. Inspect the thrust bearing, K8106. If necessary replace it.
5. Inspect the anti tamper combination. Hold down nut/dirt shield K8103 to be certain that the arrow points in the correct direction.
6. Start the anti tamper combination hold down nut/dirt shield into the dome by hand. (It may be difficult to force it over the 'O'-ring.) And then tighten it firmly. (i.e. 200 lb-ft).
7. Replace the set screw and tighten the screw tight (i.e. 80 lb-ft).
8. If possible operate the hydrant to check the installation.

# Ordering Information

## Guardian Hydrant

When ordering, indicate the following:

1. Size of main valve opening.
2. Quantity and threading details of hose nozzles.
3. Threading details of steamer nozzle.
4. Size and type of inlet connection (mechanical joint, flanged, asbestos-cement, bell, or tyton).
5. Depth of bury (from bottom of pipe to ground line).

## Parts

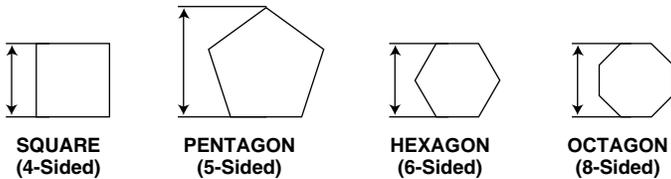
When ordering parts, indicate the following:

1. Part number
2. Part description
3. Type of hydrant
4. Size of main valve opening

**ELBOW** – We must have the size and type of connection to main.

**OPERATING STEM NUT** – Give direction to open (cast on cap) and size and shape of operating nut. 4-sided nut, give flat to flat dimension. 5-sided nut, give point to opposite flat dimension. 6-sided nut, give flat to flat dimension to eliminate any doubt as to where the measurement was taken.\*

Note: Dual rated hydrants are UL/FM approved for 1½P and 1¼" sq. nut sizes.



**CAP** – Give direction the hydrant opens. This is indicated by an arrow cast on the cap. Indicate the direction the arrow points.

**NOZZLE CAP GASKET** – Indicate size of nozzle and whether hose or steamer.

**NOZZLE** – Give exact threading details, outside (major) diameter, pitch diameter, root (minor) diameter and exact number of threads per inch (TPI) or send in a gauge or sample in good condition.

6. Color (National standard yellow will be furnished unless otherwise indicated).
7. Size and shape of operating nut.
8. Direction to open.
9. Regular or Bronze Lined (for Mathews-Guardian Insert only).

## Estimated Weights

Main Valve Opening	K-81A	Depth of Trench										
		2'6"	3'0"	3'6"	4'0"	4'6"	5'0"	5'6"	6'0"	6'6"	7'0"	
	K-81A	4½"	336	351	366	381	396	411	426	441	456	534
		5¼"	380	409	427	444	460	480	502	523	542	560
	K-81AW	3-way configuration with M.J. shoe less accessories										
		4"	281	297	316	333	350	365	381	396	414	429
	K-81AW	4½"	278	295	313	330	347	362	378	393	411	426
		5¼"	328	335	355	375	395	415	430	445	468	489
3-way configuration												

**NOZZLE CAP CHAIN** – Tell us the nozzle type, hose or steamer.

**NOZZLE CAP** – Exact threading and nut size and shape.

**UPPER BARREL** – Furnish all information cast on the barrel and the number of hose and steamer connections.

**STEM** – Furnish the direction the hydrant opens as cast on the cap and furnish the depth of trench (distance from groundline to bottom of connecting pipe). If the stem can be measured, complete overall dimensions including diameter will help. The diameter should always be measured on the smooth (unthreaded) portion.\*

**LOWER BARREL** – Furnish depth of trench (distance from groundline to bottom of connecting pipe) or dimension from flange face to flange face (overall). The outside and inside diameters are also a help.

**SEAT RING** – As with all parts you order we must have size of main valve opening and type of hydrant. This is cast on the upper barrel.

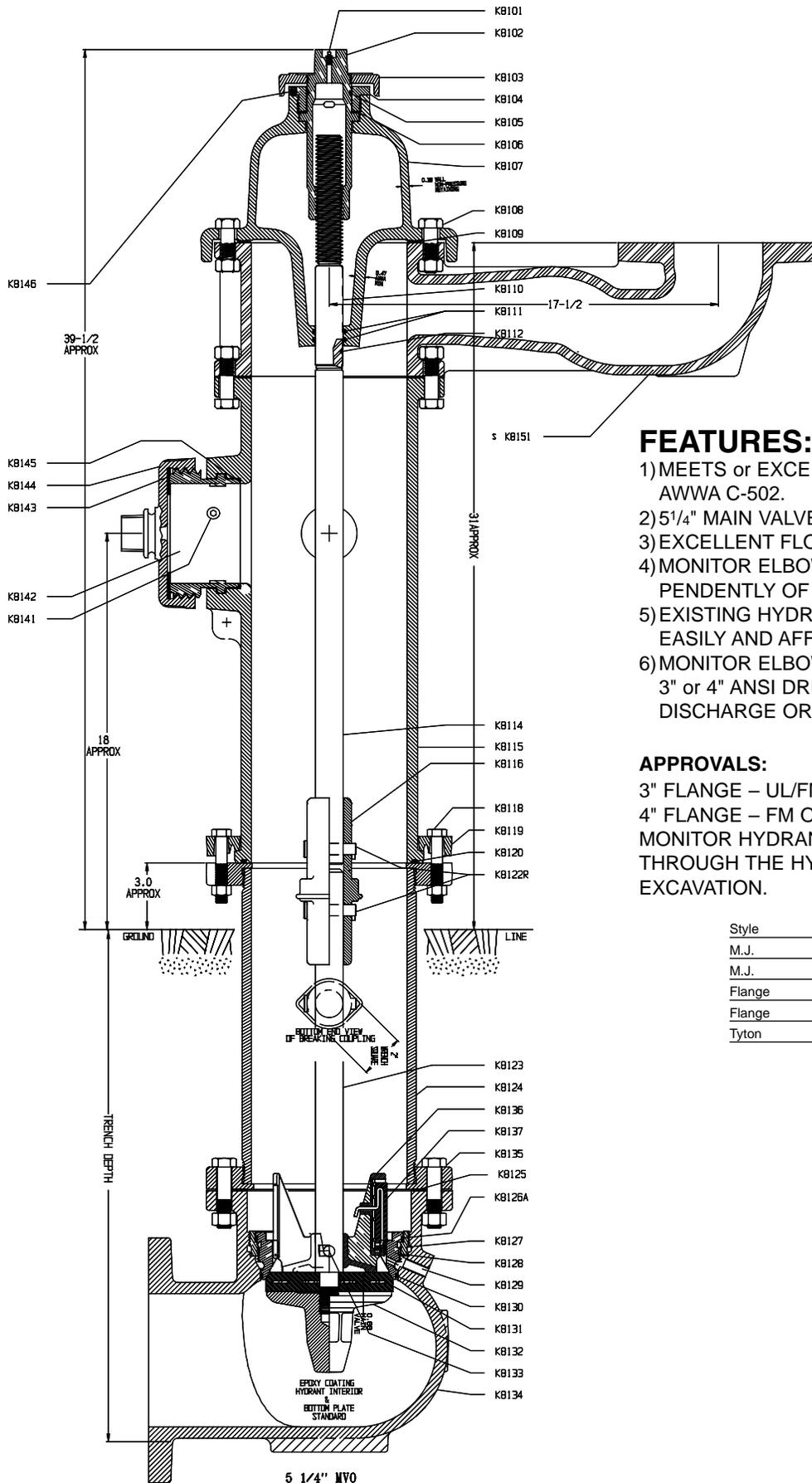
## National Standard Hose Coupling Thread Specifications (NST)

A. Nominal inside diameter		2½"	3"	3½"	4"	4½"
Number of threads per inch		7½	6	6	4	4
B. Major diameter nozzle thread	Max.	3.0686	3.6239	4.2439	5.0109	5.7609
	Min.	3.0366	3.5879	4.2079	4.9609	5.7109
C. Pitch diameter nozzle thread	Max.	2.9820	3.5156	4.1356	4.8485	5.5985
	Min.	2.9660	3.4976	4.1176	4.8235	5.5735
D. Minor diameter nozzle thread	Max.	2.8954	3.4073	4.0273	4.6861	5.4361
E. Diameter pilot nozzle		2.8500	3.3540	3.9730	4.6100	5.3570
F. Length of thread – nozzle		1"	1⅛"	1⅛"	1¼"	1¼"
G. Face to start of second turn		¼"	⅝"	⅝"	7/16"	7/16"
H. Major diameter coupling thread	Min.	3.0836	3.6389	4.2639	5.0359	5.7859
	Max.	3.0130	3.5486	4.1736	4.8985	5.6485
I. Pitch diameter coupling thread	Min.	2.9970	3.5306	4.1556	4.8735	5.6235
	Max.	2.9424	3.4583	4.0833	4.7611	5.5111
J. Minor diameter coupling thread	Min.	2.9104	3.4223	4.0473	4.7111	5.4611
	Max.	2.8500	3.3540	3.9730	4.6100	5.3570
K. Depth of coupling		⅝"	1⅛"	1⅛"	1⅜"	1⅜"

Also available: Figure 109 Hose Gate Valve (2½").

# Kennedy Guardian Monitor Hydrant

5 1/4" K81AM  
AWWA  
NON-TRAFFIC  
MODEL



## FEATURES:

- 1) MEETS or EXCEEDS ALL REQUIREMENTS OF AWWA C-502.
- 2) 5 1/4" MAIN VALVE OPENING.
- 3) EXCELLENT FLOW CHARACTERISTICS.
- 4) MONITOR ELBOW CAN BE POSITIONED INDEPENDENTLY OF THE UPPER BARREL.
- 5) EXISTING HYDRANTS CAN BE RETROFITTED EASILY AND AFFORDABLY.
- 6) MONITOR ELBOW IS AVAILABLE WITH EITHER 3" or 4" ANSI DRILLING WITH THE SAME LARGE DISCHARGE ORIFICE.

## APPROVALS:

- 3" FLANGE – UL/FM APPROVED  
 4" FLANGE – FM ONLY  
 MONITOR HYDRANT CAN BE MAINTAINED THROUGH THE HYDRANT CAP WITHOUT EXCAVATION.

Style	Shoe Size	A
M.J.	4	7 3/4
M.J.	6	8
Flange	4	7 7/8
Flange	6	8 1/8
Tyton	6	9

5 1/4" MVO  
 Drain holes are shown rotated 90° for clarity.

# 5 1/4" K81AM AWWA Guardian Monitor Hydrant

## PARTS LIST

### Options:

#### Upper Barrel Configurations

- 1 Steamer & 2 Hose Nozzles
- 2 Hose Nozzles
- 2 Steamer Nozzles
- 1 Steamer & 3 Hose Nozzles

#### Handwheel Operation – 16" ø

#### Inlet Connections

- 6" Mechanical Joint, Flanged, Push-on or Ring Tite Elbows
- 6" ANSI Straight Shoe
- 6" 250# Raised Face Elbow
- 8" Mechanical Joint or Flanged Elbow

2 1/2" Size

#### Independent Hose Gate Valves

- Bolt-on/Figure 109XNS
- Screw-on/Figure 109XMN

#### Salt Water Protection

- Fusion Bonded Coatings
- Stainless Steel Stems & Fasteners

#### Operating Details

- "Open" Clockwise or Counter Clockwise
- Any Size & Shape of Operating Nuts
- Any Nozzle Outlet Thread(s)

DETAIL	PART	MATERIAL	ASTM SPEC (or as stated)
	K8101	ALEMITE FITTING	STAINLESS STEEL
†	K8102	OPERATING STEM NUT	BRONZE
	K8103	DIRT SHIELD	CAST IRON
	K8104	STEM LOCK NUT	BRONZE
†	K8105	O-RING	BUNA-N (SYN. RUBBER)
†	K8106	THRUST WASHER	NYLATRON GS
	K8107	HYDRANT CAP	CAST IRON
	K8108	CAP BOLTS & NUTS	STEEL (ZINC PLATED)
†	K8109	CAP GASKET	CLOTH INSERTED RUBBER
*	K8110	STEM FERRULE	NAVAL BRASS
†	K8111	O-RING	BUNA-N (SYN. RUBBER)
*	K8112	O-RING	BUNA-N (SYN. RUBBER)
	K8114	UPPER STEM	H.R. STEEL
	K8115	UPPER BARREL	CAST IRON
	K8116	STEM BREAKING COUPLING	CAST IRON
	K8118	BOLTS & NUTS	STEEL (ZINC PLATED)
	K8119	BREAKING RING	CAST IRON
	K8120	O-RING	BUNA-N (SYN. RUBBER)
	K8122	CLEVIS PINS	STAINLESS STEEL (18-8)
	K8123	LOWER STEM	H.R. STEEL
	K8124	LOWER BARREL	DUCTILE IRON (or C.I.)
†	K8125	ELBOW GASKET	CELLULOSE FIBER
†	K8126A	O-RING	BUNA-N (SYN. RUBBER)
*	K8127	SEAT RING INSERT	BRONZE
†	K8128	SEAT RING	BRONZE
	K8129	DRAIN TUBE	NAVAL BRASS
†	K8130	O-RING	BUNA-N (SYN. RUBBER)
†	K8131	MAIN VALVE	NEOPRENE W/STL. INSERT
	K8132	BOTTOM PLATE	CAST IRON
	K8133	DRAIN VALVE PIN	STEEL-STAINLESS
	K8134	ELBOW	DUCTILE IRON
	K8135	ELBOW BOLTS AND NUTS	STAINLESS STEEL
†	K8136	DRAIN VALVE	BRONZE
	K8137	DRAIN VALVE FACING W/INSERT	BUNA-N W/STAINLESS STEEL
*	K8139	NOZZLE CAP CHAIN	STEEL
*	K8140	NOZZLE CHAIN BAND	STEEL
†	K8141	NOZZLE RETAINING SCREW	STAINLESS STEEL
#	K8142	NOZZLE	BRONZE
#	K8143	NOZZLE CAP GASKET	NEOPRENE RUBBER
#	K8144	NOZZLE CAP	CAST IRON
†#	K8145	O-RING	BUNA-N (SYN. RUBBER)
	K8146	ALLEN HEAD SET SCREW	STAINLESS STEEL
†	K8147	SEAT REMOVAL WRENCH	
	K8148	NOZZLE REMOVAL TOOLS	
†	K8149	COLLISION REPAIR KIT	
	K8150	GRADE EXTENSION KIT	
	K8151	MONITOR ELBOW-SPECIAL	

\* = Denotes that part is available only as part of an assembly.  
# = Must specify type of Nozzle, Hose or Steamer.  
† Recommended spare parts.

