

# The Kennedy Guardian



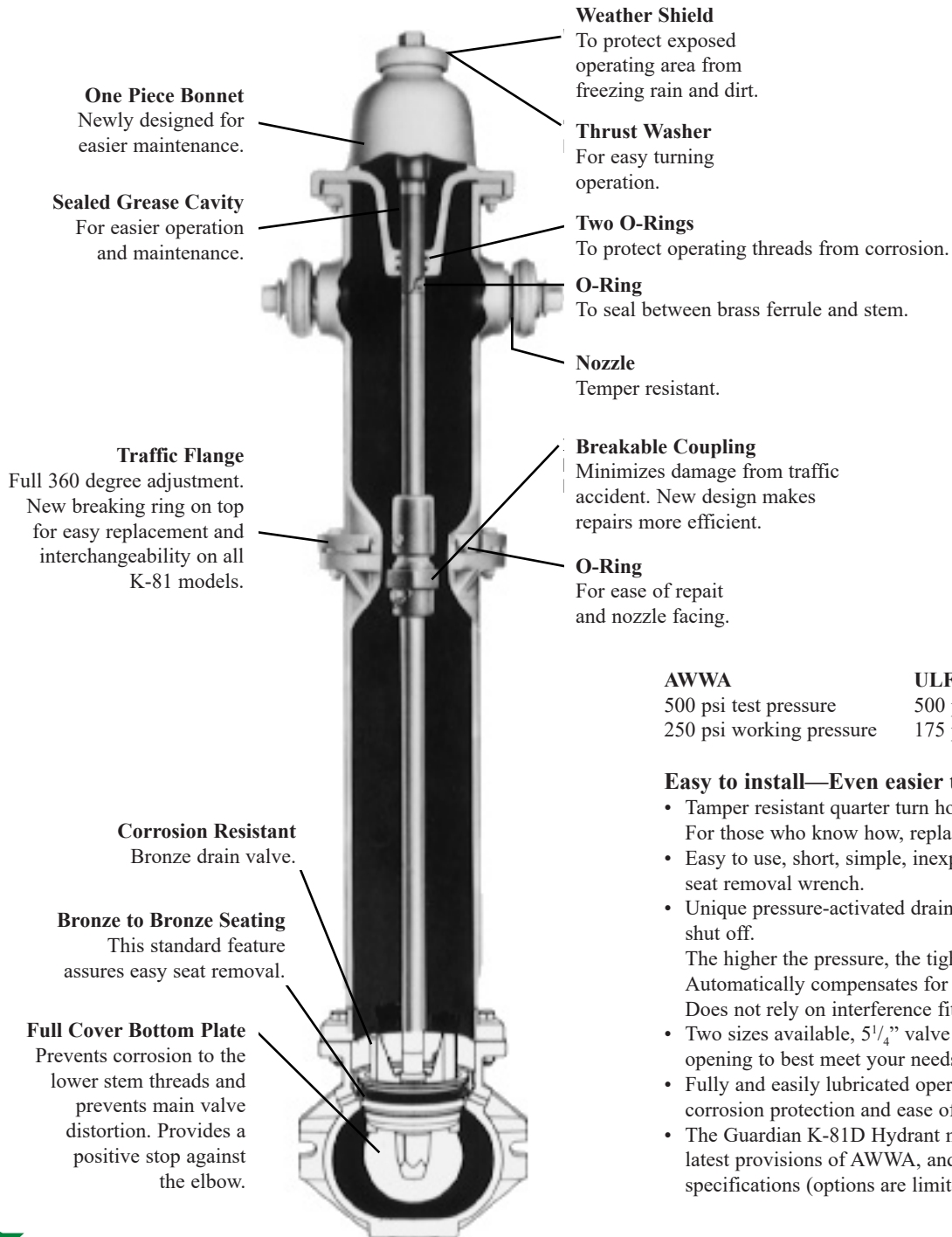
Fire hydrants have been used in fire protection for over 100 years. A.W.W.A. C502 was developed in 1913 as a standard for the manufacture and use of dry barrel hydrants. Kennedy has established itself as a leader in the industry with manufacturing experience dating back to 1905. Many of the early hydrants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

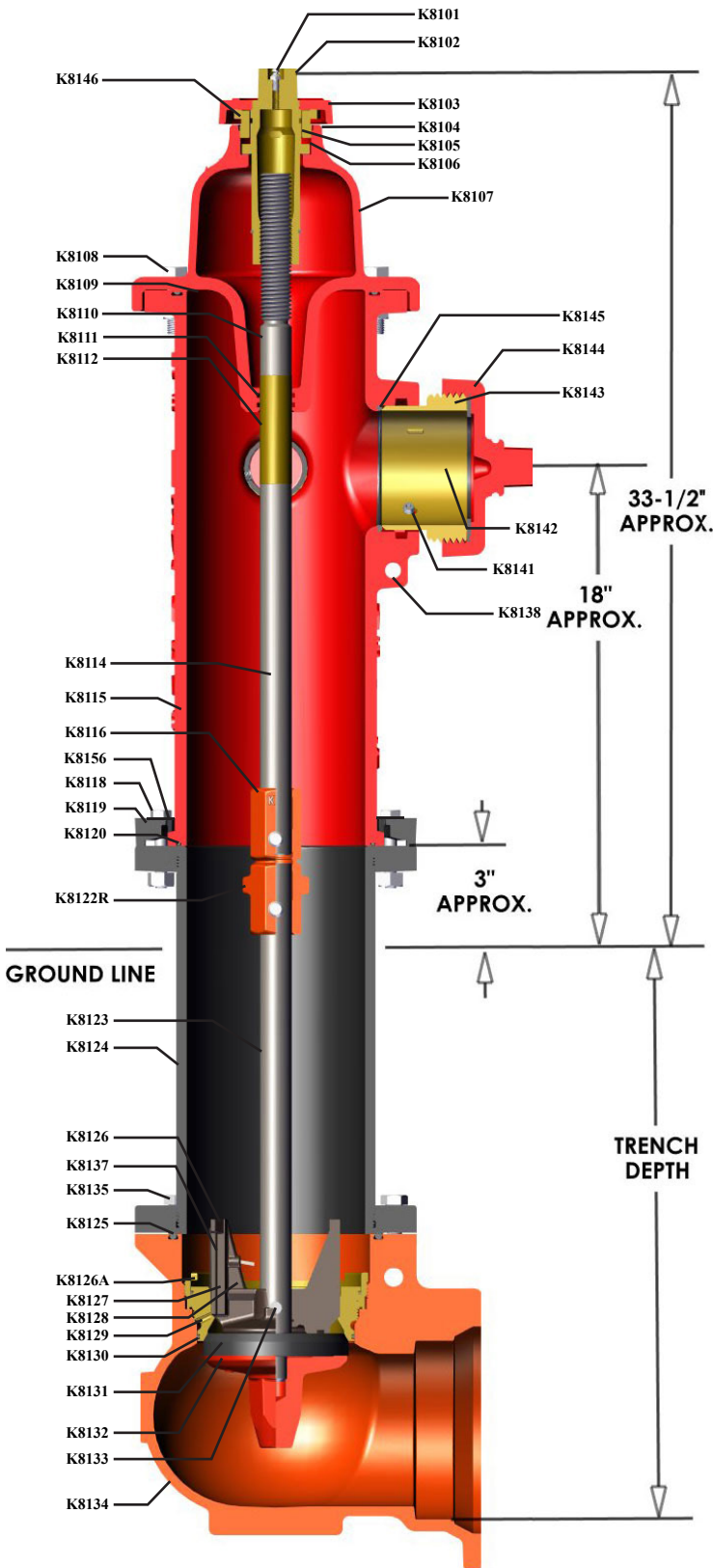


AWWA	ULFM
500 psi test pressure	500 psi test pressure
250 psi working pressure	175 psi working pressure

### 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, and UL 246-FM 1510 specifications (options are limited on UL/FM models)

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



DETAIL & PART	MATERIAL	ASTM SPEC (or as stated)
K8101	ALEMITE FITTING	STAINLESS STEEL A276 (304)
† K8102	OPERATING STEM NUT	BRONZE B584 C87850
K8103	DIRT SHIELD	CAST IRON A126 CLASS B
K8104	STEM LOCK NUT	BRONZE B584 C87850
† K8105	O-RING	BUNA-N (SYN. RUBBER) D2000
† K8106	THRUST WASHER	NYLATRON GS MIL LP-410
K8107	HYDRANT CAP	CAST IRON A126 CLASS B
K8108	CAP BOLTS & NUTS	STAINLESS STEEL F593C/F594
† K8109	CAP O-RING	BUNA-N (SYN. RUBBER) D2000
* K8110	STEM FERRULE	BRASS B135 C26000
† 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	STAINLESS STEEL F593C/F594
K8119	BREAKING RING	CAST IRON A126 CLASS B
K8120	O-RING	BUNA-N (SYN. RUBBER) D2000
K8122R	COUPLING PINS	STAINLESS STEEL 410
K8123	LOWER STEM	C.R. STEEL A108
K8124	LOWER BARREL	DUCTILE IRON ANSI 21.50, 21.51
† K8125	ELBOW O-RING	BUNA-N (SYN. RUBBER) D2000
† K8126A	O-RING	BUNA-N (SYN. RUBBER) D2000
* K8127	SEAT RING INSERT	BRONZE B584/C87850
† K8128	SEAT RING	BRONZE B584/C87850
K8129	DRAIN TUBE	BRASS B135 C23000
† K8130	O-RING	BUNA-N (SYN. RUBBER) D2000
† K8131	MAIN VALVE	EPDM
K8132	BOTTOM PLATE	CAST IRON A126 CLASS B
K8133	DRAIN VALVE PIN	STAINLESS STEEL 410/416
K8134	ELBOW	DUCTILE IRON A536 10 70 50 05
K8135	ELBOW BOLTS AND NUTS	STEEL-302/304 STAINLESS ASTM F593
K8136	DRAIN VALVE	BRONZE B806 C95400/C95500
† 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: HOSE / STEAMER	BRONZE B806C95400/B584C87850
†# 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	
K8156	BREAKING RING STRAPS	

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

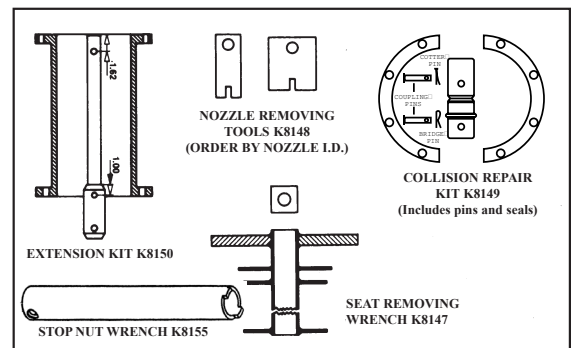
NOTE: Also available in DI 350 PSI.

## Accessories

MARKINGS	STYLE	SHOE SIZE	A	
FRONT: YEAR KENNEDY ELMIRA, N.Y.	BACK: K.V. MONOGRAM KENNEDY ELMIRA, N.Y.	M.J.	4	7 3/4
SIZE TYPE 250CWP	SIZE UL/FM 250	M.J.	6	8
		Flange	4	7 7/8
		Flange	6	8 1/8
		Tyson	6	9

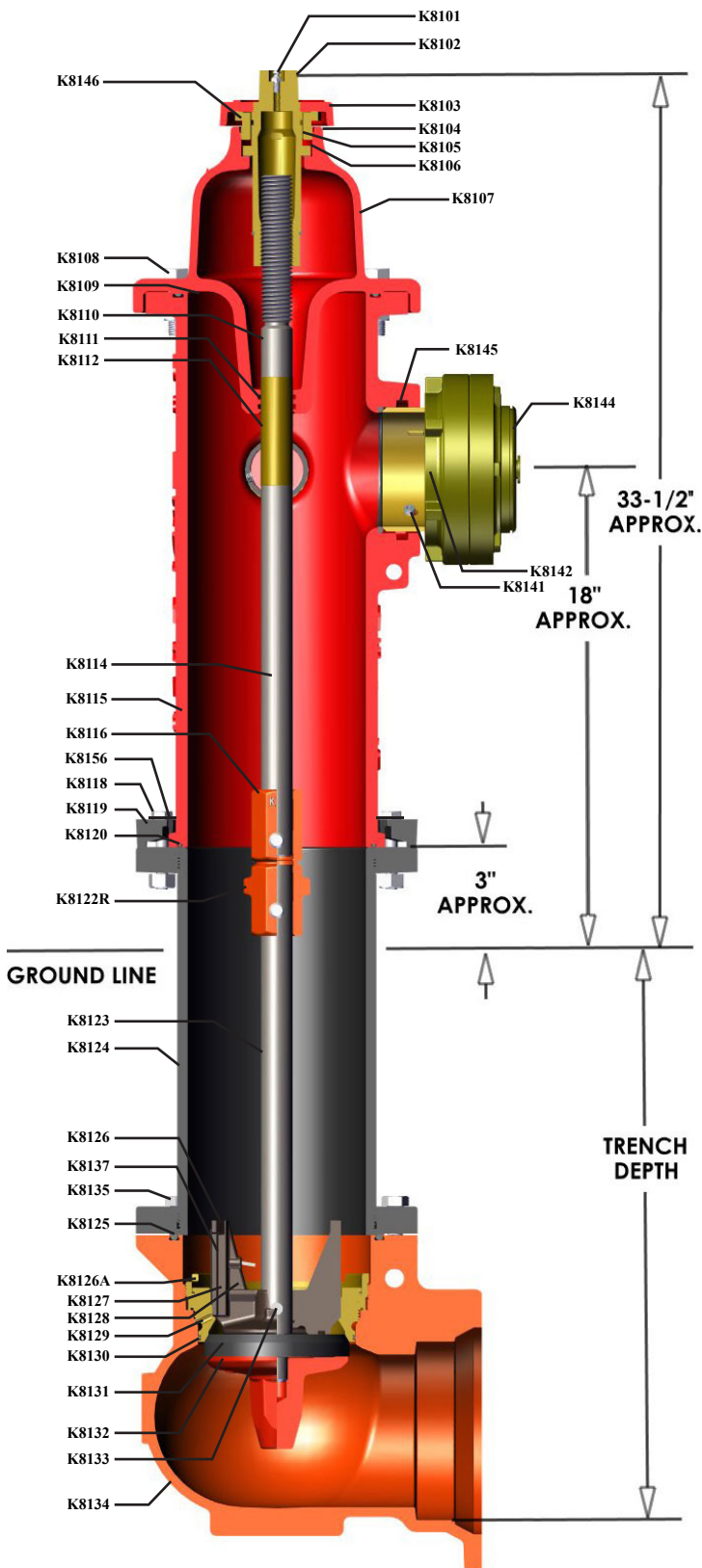
Contact Factory for UL/FM Limitations

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



# Guardian K81A with "Storz" Outlet

## Technical / Dimensional Data (AWWA)



DETAIL & PART	MATERIAL	ASTM SPEC (or as stated)
K8101 ALEMITE FITTING	STAINLESS STEEL	A276 (304)
K8102 OPERATING STEM NUT	BRONZE	B584 C87850
K8103 DIRT SHIELD	CAST IRON	A126 CLASS B
K8104 STEM LOCK NUT	BRONZE	B584 C87850
K8105 O-RING	BUNA-N (SYN. RUBBER)	02000
K8108 CAP BOLTS & NUTS	STAINLESS STEEL	F593C/F594
K8107 HYDRANT CAP		
K8109 CAP O-RING	BUNA-N (SYN. RUBBER)	D20000
* K8110 STEM FERRULE	BRASS	B135 C26000
K8111 O-RING	BUNA-N (SYN. RUBBER)	02000
* K8112 O-RING	BUNA-N (SYN. RUBBER)	02000
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	STAINLESS STEEL	F593C/F594
K8119 BREAKING RING	CAST IRON	A126 CLASS B
K8120 O-RING	BUNA-N (SYN. RUBBER)	D2000
K8122R COUPLING PINS	STAINLESS STEEL	410
K8123 LOWER STEM	C.R. STEEL	A108
K8124 LOWER BARREL	DUCTILE IRON	ANSI 21.50, 21.51
K8125 ELBOW O-RING	BUNA-N (SYN. RUBBER)	D2000
K8126A O-RING	BUNA-N (SYN. RUBBER)	02000
* K8127 SEAT RING INSERT	BRONZE	B584/C87850
K8128 SEAT RING	BRONZE	B584/C87850
K8129 DRAIN TUBE	BRASS	B135 C23000
K8130 O-RING	BUNA-N (SYN. RUBBER)	D2000
K8131 MAIN VALVE	EPDM	
K8132 BOTTOM PLATE	CAST IRON	A126 CLASS B
K8133 DRAIN VALVE PIN	STAINLESS STEEL	410/416
K8134 ELBOW	DUCTILE IRON	A536 10 70 50 05
K8135 ELBOW BOLTS AND NUTS	STEEL-302/304 STAINLESS	ASTM F593
K8136 DRAIN VALVE	BRONZE	B806 C95400/C95500
K8137 DRAIN VALVE FACING w/INSERT		D2000 / A276 (304)
K8138 NOZZLE CHAIN 'S' HOOK	STEEL	A108
* K8139 NOZZLE CAP CHAIN	STEEL	A108
* K8140 NOZZLE CAP BAND	STEEL	A108
K8141 NOZZLE RETAINING SCREW	STAINLESS STEEL	A276 (304)
-# K8142 NOZZLE: HOSE / STEAMER	BRONZE	B806 C95400 / B584 C87850
-# K8143 NOZZLE CAP GASKET (INTEGRAL)		RESILIENT B2000
-# K8144 NOZZLE CAP	AIRCRAFT ALUMINUM	A126 CLASS B
# K8145 O-RING	BUNA-N (SYN. RUBBER)	02000
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		
K8156 BREAKING RING STRAPS		

\*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.

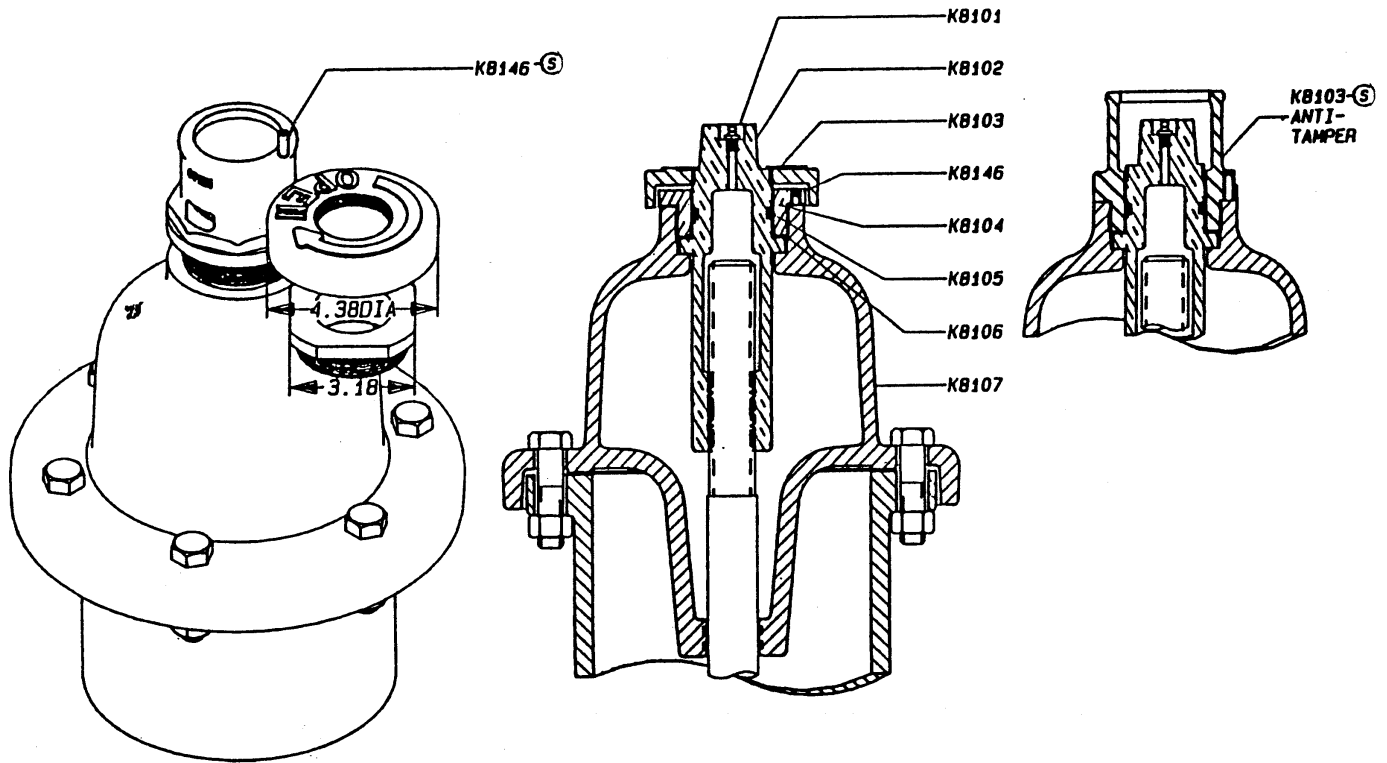
## "Storz" Features

- 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
Tyson	6	9

Tyson 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



## 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 s 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.

## PARTS LIST

DETAIL	PART	MATERIAL	ASTM SPEC		PART CODE
K8101	ALEMITE FITTING	STAINLESS STEEL	A276 (304)	-	4-41670P
K8102	OPERATING STEM NUT	BRONZE	B584 C87850	-	-VARIES
K8103	DIRT SHIELD	CAST IRON	A 126 CLASS B	OPEN LEFT	3212132
				OPEN RIGHT	3212133
K8104	STEM LOCK NUT	BRONZE	B584 C87850	-	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

# Guardian Insert for users of WOOD-MATHEWS HYDRANTS

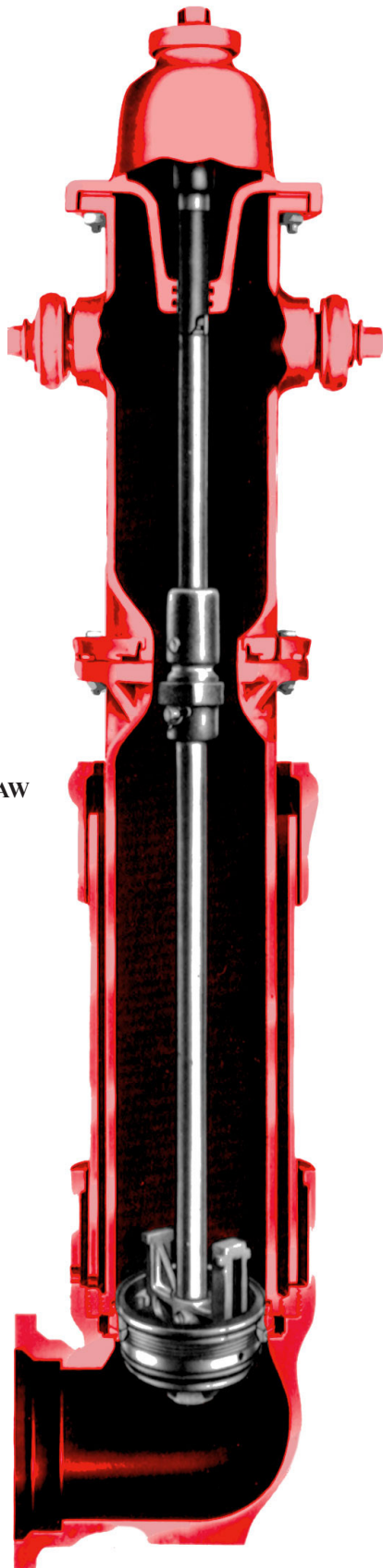


Fig. K81AW

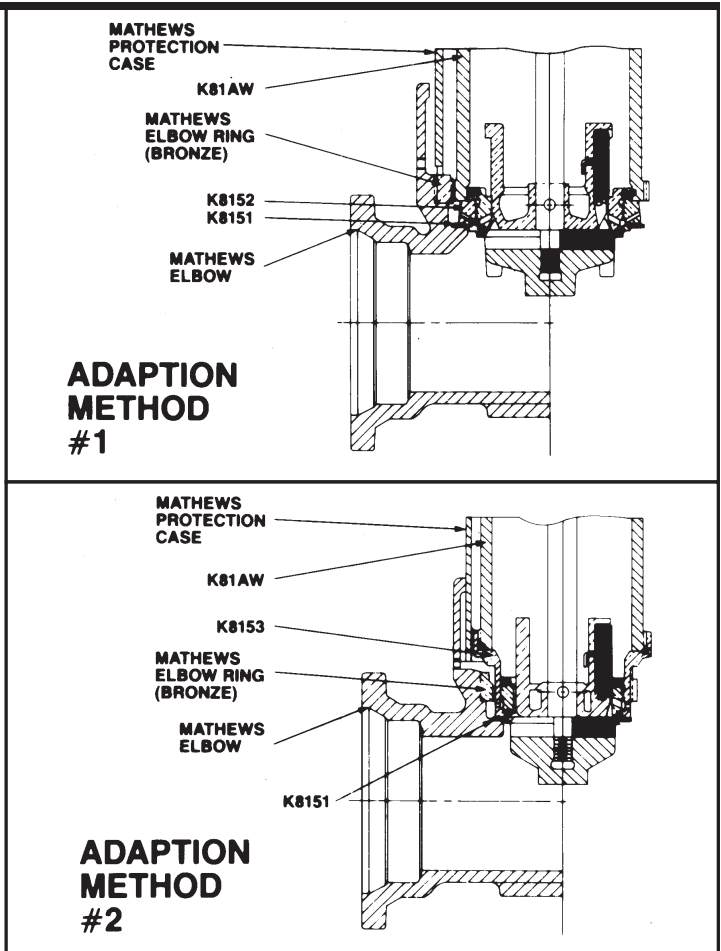
## A True Guardian Insert Replacement

Save the cost of digging to replace that tried and true, but aging friend. Merely unscrew Mathews insert and replace it with a Guardian Insert, and for normal maintenance, never do it again.

## Check These Benefits

1. All working parts are Guardian.
2. Fully maintainable through the bonnet, using light weight wrench.
3. Available to replace 4" former type and Modernized Wood-Mathews.

## Additional Parts for Guardian Insert



## Adaption Method Chart

Corresponds to above illustrations

M.V.O.		M.V.O.			
		5 1/4"	4 1/2"	4"	
<b>MATHEWS</b>	6"	BRONZE LINED	1	-	-
	6"	REGULAR	1	-	-
	5 1/4"	BRONZE LINED	1	-	-
	5 1/4"	REGULAR	2	-	-
	4 1/2"	BRONZE LINED	-	1	-
	4 1/2"	REGULAR	-	2	-
	4"	REGULAR	-	-	2





# 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).
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).

## Parts

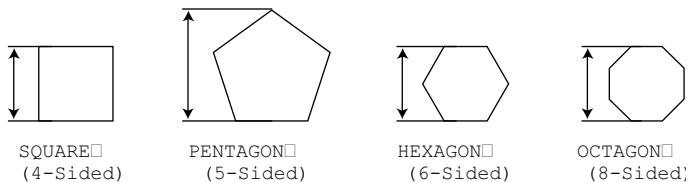
When ordering parts, indicate the following:

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 directions 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 1-1/2 P and 1-1/4" 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.

NATIONAL STANDARD HOSE COUPLING THREAD SPECIFICATIONS (NST)						
A. Nominal inside diameter		2 1/2"	3"	3 1/2"	4"	4 1/2"
Number of threads per inch		7 1/2	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"	1 1/8"	1 1/8"	1 1/4"	1 1/4"
G. Face to start of second turn		1/4"	5/16"	5/16"	7/16"	7/16"
H. Major diameter coupling thread	Min.	3.0836	3.6389	4.2639	5.0359	5.7859
I. Pitch diameter coupling thread	Max.	3.0130	3.5486	4.1736	4.8985	5.6485
	Min.	2.9970	3.5306	4.1556	4.8735	5.6235
J. Minor diameter coupling thread	Max.	2.9424	3.4583	4.0833	4.7611	5.5111
	Min.	2.9104	3.4223	4.0473	4.7111	5.4611
K. Depth of coupling		5/16"	1 1/16"	1 1/16"	1 3/16"	1 3/16"

Also available: Figure 109 Hose Gate Valve (2 1/2").

## Estimated Weights

		DEPTH OF TRENCH										
		2'6"	3'0"	3'6"	4'0"	4'6"	5'0"	5'6"	6'0"	6'6"	7'0"	
Main Valve Opening	K-81A	4 1/2"	336	351	366	381	396	411	426	441	456	534
		5 1/2"	380	409	427	444	460	480	502	523	542	560
	3-way configuration with M.J. shoe less accessories											
Main Valve Opening	K-81AW	4"	281	297	316	333	350	365	381	396	414	429
		4 1/2"	278	295	313	330	347	362	378	393	411	426
	3-way configuration											

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

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

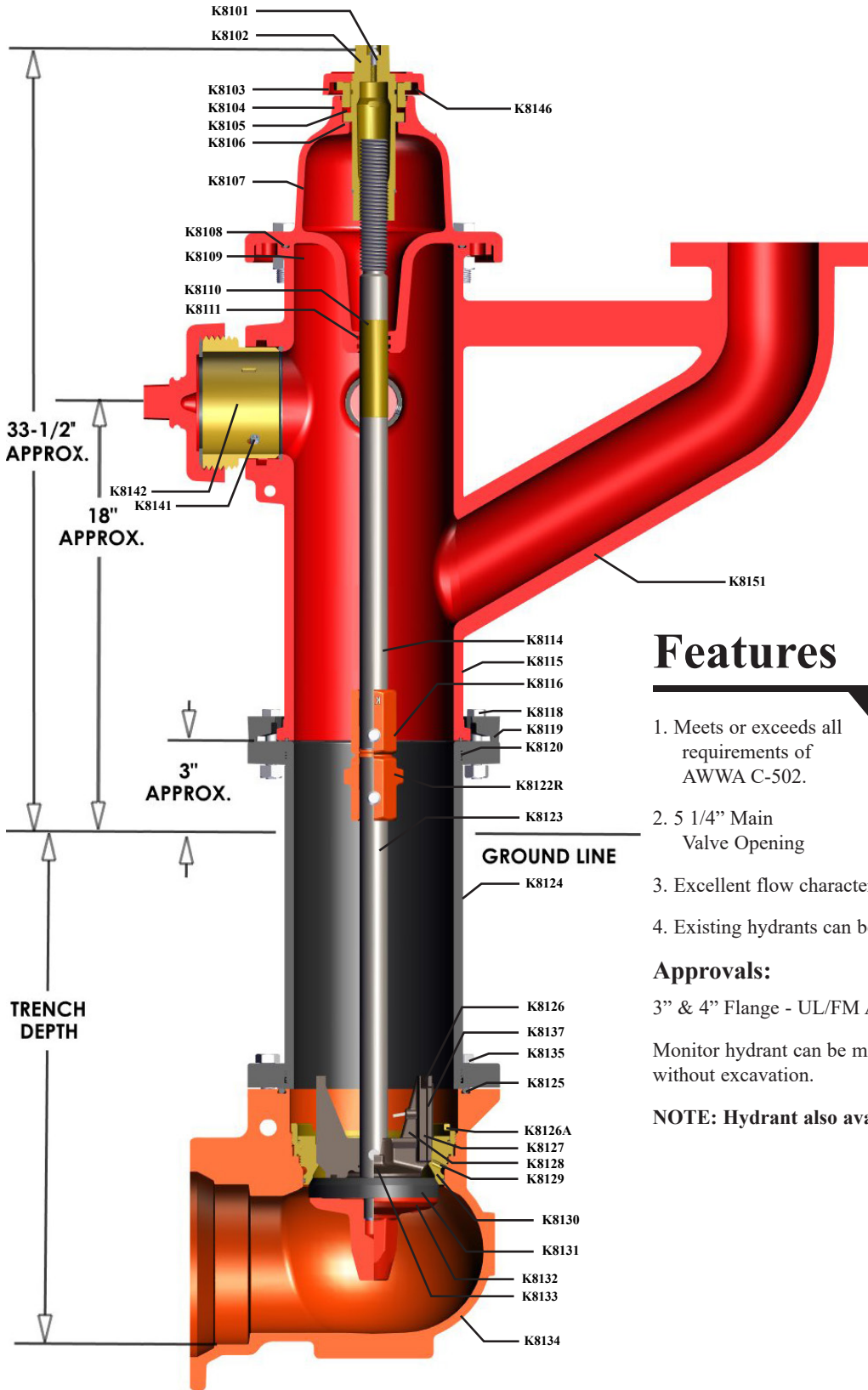
**UPPER BARREL** - Furnish all information cast on the barrel and the number of hose and steamer connections.

**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.

# Kennedy Guardian Monitor Hydrant



## Features

1. Meets or exceeds all requirements of AWWA C-502.

2. 5 1/4" Main Valve Opening

3. Excellent flow characteristics.

4. Existing hydrants can be retrofitted easily and affordably.

### Approvals:

3" & 4" Flange - UL/FM Approved

Monitor hydrant can be maintained through the hydrant cap without excavation.

**NOTE:** Hydrant also available in DI 350 PSI.

STYLE	SHOE SIZE	A
M.J.	4	7 3/4
M.J.	6	8
Flange	4	7 7/8
Flange	6	8 1/8
Tyson	6	9

# 5-1/4" K81AM AWWA Guardian Monitor Hydrant

## 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 Threads

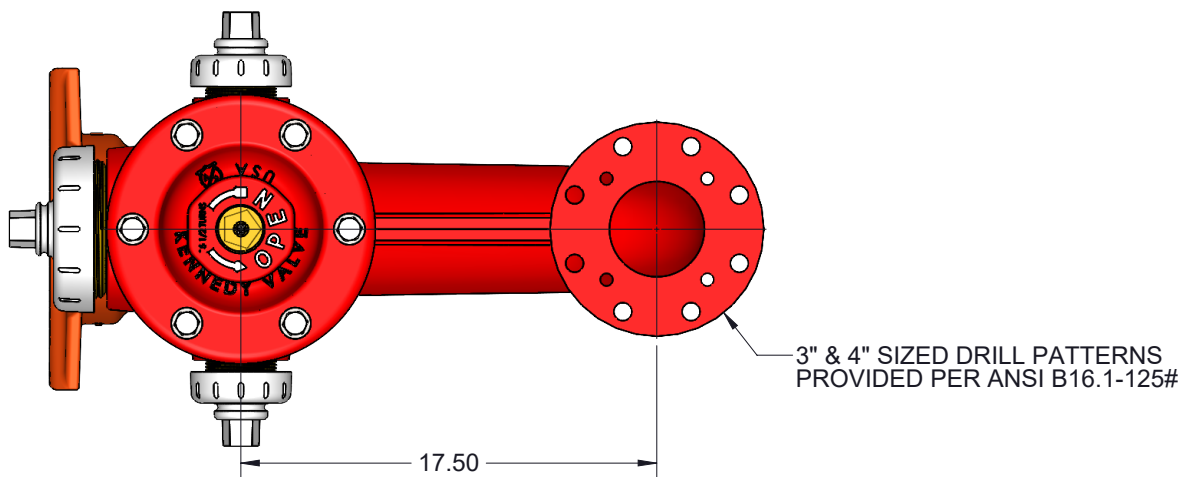
## Parts List

DETAIL & PART	MATERIAL	ASTM SPEC (or as stated)
K8101	ALEMITE FITTING	STAINLESS STEEL A276 (304)
† K8102	OPERATING STEM NUT	BRONZE B584 C87850
K8103	DIRT SHIELD	CAST IRON A126 CLASS B
K8104	STEM LOCK NUT	BRONZE B584 C87850
† K8105	O-RING	BUNA-N (SYN. RUBBER) D2000
† K8106	THRUST WASHER	NYLATRON GS MIL LP-410
K8107	HYDRANT CAP	CAST IRON A126 CLASS B
K8108	CAP BOLTS & NUTS	STAINLESS STEEL F593C/F594
† K8109	CAP O-RING	BUNA-N (SYN. RUBBER) D20000
* K8110	STEM FERRULE	BRASS B135 C26000
† K8111	O-RING	BUNA-N (SYN. RUBBER) D20000
* K8112	O-RING	BUNA-N (SYN. RUBBER) D20000
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	STAINLESS STEEL F593C/F594
K8119	BREAKING RING	CAST IRON A126 CLASS B
K8120	O-RING	BUNA-N (SYN. RUBBER) D2000
K8122R	COUPLING PINS	STAINLESS STEEL 410
K8123	LOWER STEM	C.R. STEEL A108
K8124	LOWER BARREL	DUCTILE IRON ANSI 21.50, 21.51
† K8125	ELBOW O-RING	BUNA-N (SYN. RUBBER) D2000
† K8126A	O-RING	BUNA-N (SYN. RUBBER) D2000
* K8127	SEAT RING INSERT	BRONZE B584 / C87850
† K8128	SEAT RING	BRONZE B584 / C87850
K8129	DRAIN TUBE	BRASS B135 C23000
† K8130	O-RING	BUNA-N (SYN. RUBBER) D2000
† K8131	MAIN VALVE	EPDM
K8132	BOTTOM PLATE	CAST IRON A126 CLASS B
K8133	DRAIN VALVE PIN	STAINLESS STEEL 410/416
K8134	ELBOW	DUCTILE IRON A536 10 70 50 05
K8135	ELBOW BOLTS AND NUTS	STEEL-302/304 STAINLESS ASTM F593
K8136	DRAIN VALVE	BRONZE B806 C95400/C95500
† 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 HOSE / STEAMER	BRONZE B806 C95400 / B584 C87850
†# K8143	NOZZLE CAP GASKET	RUBBER D20000 TYPE AA
# K8144	NOZZLE CAP	CAST IRON A126 CLASS B
†# K8145	O-RING	BUNA-N (SYN. RUBBER) D20000
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	
K8151	MONITOR ELBOW-SPECIAL	
K8156	BREAKING RING STRAPS	

\* Denotes that part is available only as part of an assembly.

# Must specify type of Nozzle, Hose or Steamer.

† Recommended spare parts.





# Iron Hose Gate Valves

## Working Pressures

2-1/2" Cold Water, Non-Shock 175 lbs.

- Non-Rising Stem
- Bronze Mounted
- Rubber Seat

Hydrostatic Test Pressure: 2-1/2" - Seat & Shell - 300 psi.

## Parts List

PART NO.	NAME OF PART	MATERIAL	ASTM SPEC
1	HEX NUT	STEEL	A-108 C-1018
2	HANDWHEEL	MALL. IRON	A-47
3	STUFFING BOX	BRONZE	B-62
4	HX. HD. SCR. & NUT	STEEL	A-108 C-1018
5	O-RINGS	SYN. RUBBER	D-735
6	CAP BUSHING	BRONZE	B-135 ALLOY A
7	SEAT & GSKT. FLG.	NEOPRENE	---
8	NOZZLE	BRONZE	B-61
9	CAP	CAST IRON	A-126 GRADE B
10	STEM	MANG. BRZ	B-132 ALLOY A
11	GASKET	GARLOCK 1591	---
12	BODY	CAST IRON	A-126 GRADE B
13	DISC	BRONZE	B-62
14	PIN	BRZ. ROD	B-16

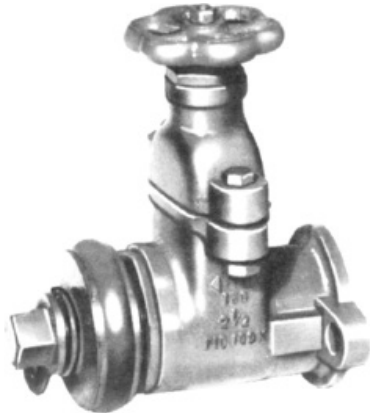
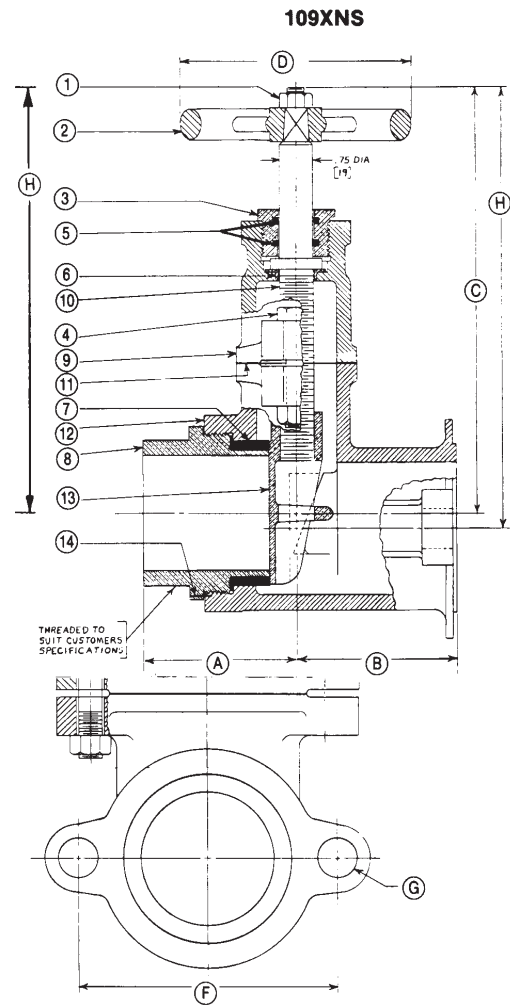
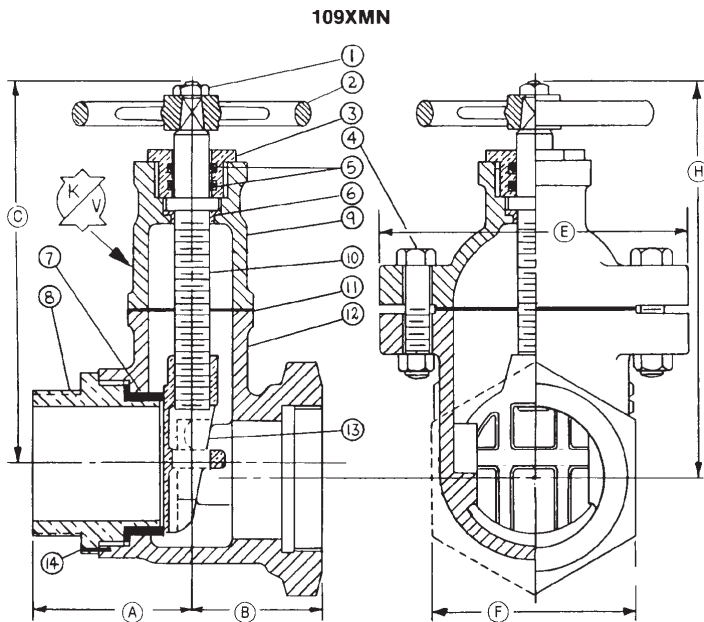
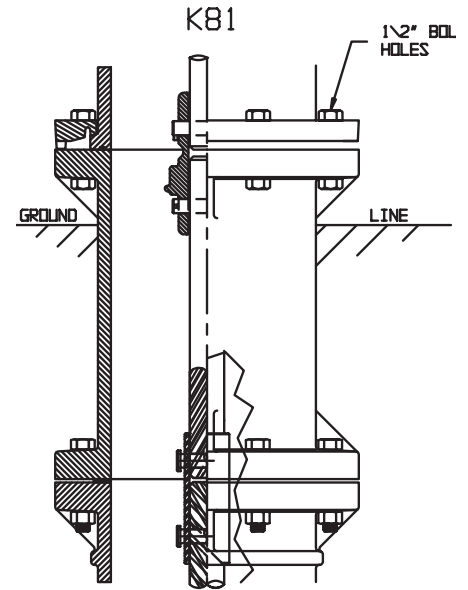
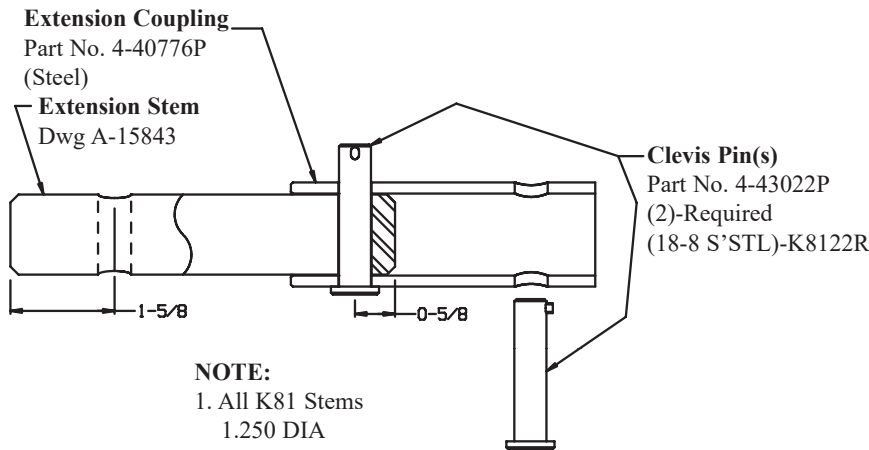


FIG. 109XNS SHOWN  
FIG. 109XMN (Screwed ends also available)



# K81-A Extension Stem Installation

# Spool Installation



**NOTE:** It is preferable to be able to turn the water pressure on and off. If the water pressure is low, it is possible that the hydrant will be opened when removing the upper.

1. Make certain that the hydrant is closed. The water may remain on, but see above note.
2. Remove the eight 1/2-UNC bolts & nuts that retain the breaking rings.
3. Turn the Operating Nut in the opening direction until the threaded stem disengages from the Operating Nut. (This will lift the Upper away from the flange).
4. Lift the complete hydrant upper stand-pipe assembly and done from the stem. List this assembly straight up about 12" to avoid damaging the O-Rings that seal the stem and remove the complete upper assembly.
5. Disengage the Lower Stem from the Upper Stem. Remove the lower Clevis Pin that retains the Lower Stem to the Breaking Coupling.
6. Wire brush the exposed flange of the lower stand-pipe until all dirt and built up rust is removed.
7. Wire brush the end of the Lower Stem and attach the Extension Stem Coupling to the Lower Stem exactly as illustrated below.
8. Attach the Upper Stem to the Extension Stem in exactly the same way that it was previously attached to the Lower Stem.
9. Place the Gasket for the Extension Spool on the exposed flange of the Lower Stand-Pipe. Retain the gasket with grease to keep it from shifting.
10. Place the Extension Spool on the Lower Stand-Pipe and align the bolt holes.
11. Insert the bolts provided in the holes. Start the nuts provided on the bolts. Tighten the bolts wrist tight only then tighten them securely (70 ft-lb), proceeding in a side to side pattern that assures that the pressure on the gasket is uniform.
12. Carefully lift the complete upper assembly up above the Upper Stem and lower it onto the Upper Stem, taking care not to cut the O-Rings in the dome.
13. Turn the Operating Nut in the closed direction until the bottom of the Stand Pipe just touched the flange.
14. Align the hydrants and replace the breaking rings in the original position.
15. Replace the bolts in the breaking rings in the original position.
16. Start the nuts on the bolts and tighten the bolts per step 11 except that the torque should be 40 ft-lb.

# Product / Capability Listing

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## Suggested Specifications

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- Hydrants shall be UL listed and FM approved
- Hydrants shall conform to A.W.W.A. Standard C-502 latest revision and as specified herein.
- Hydrants shall be of the compression type, closing with line pressure.
- Hydrants shall be of the traffic model breakaway type.
- Hydrant cap and stuffing box shall be of a unitized, one piece design creating a water tight cavity without the use of gaskets. The combination of 3 O-Rings to a crimped brass ferrule around the stem shall seal the cavity from contact with water. An alemite fitting shall be supplied for periodic lubrication of the operating threads with grease.
- Operating nut shall be of one piece bronze construction.
- A dirt shield shall be provided to protect the operating mechanism from grit buildup and corrosion due to moisture.
- A thrust washer shall be supplied between the operating nut and stem lock nut to facilitate operation.
- Nozzles shall be of the tamper resistant, 1/4 turn type with O-ring seals and stainless steel retaining screws.
- An O-ring shall be provided to seal between the upper and lower barrels.
- The main valve shall be of synthetic rubber reinforced with steel.
- The seat shall be of a bronze ring threaded to a bronze insert in the hydrant shoe, with O-rings to seal the drainway and barrel from leakage of water in the shoe.
- Hydrant drain valve shall momentarily force flush with each operation. Drainway shall be of bronze. Drain valve facing shall be of synthetic rubber with a stainless steel retaining pin.
- Hydrants shall be Guardian as manufactured by Kennedy Valve or approved equal.



### **Kennedy Valve**

Division of McWane  
1021 E. Water Street  
Elmira, New York 14902-1516  
607-734-2211 | Fax: 800-952-4771

