

Operating and Maintenance Manual

Revision 1.0 – 10/1/2026

ECLIPSE

#2

Kupferle Water Solutions

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Disclaimer: While this document is complete, comprehensive, and accurate to the best of Kupferle's knowledge, this document is subject to change and is for general information purposes only.

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DESCRIPTION

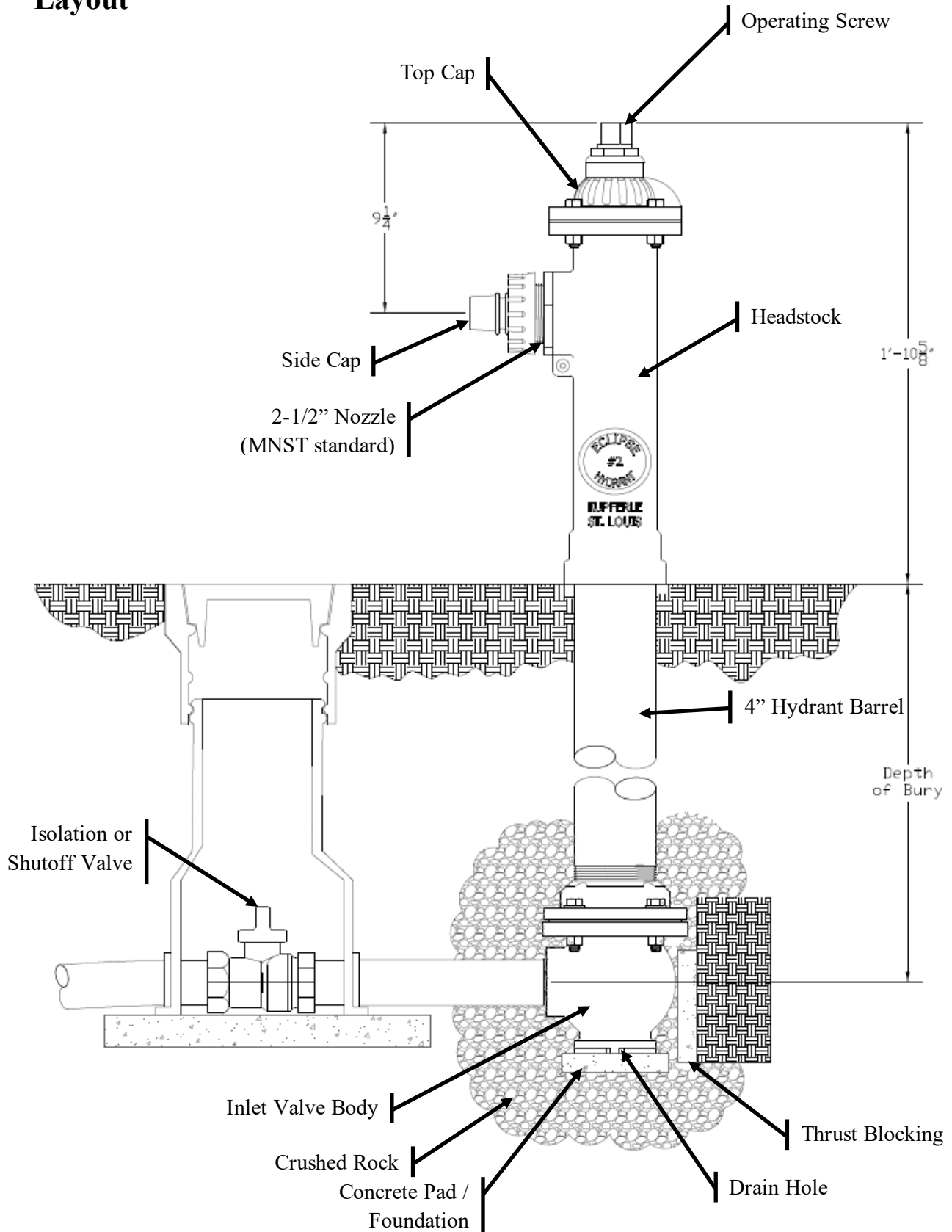
General

The Eclipse #2 hydrant has a 2" FNPT horizontal inlet that leads vertically to and past the 2-3/16" valve opening and drain, through the 3-1/2" Fusion Bonded Epoxy (FBE) coated (internally & externally) barrel, and out a 2-1/2" MNST* nozzle. The hydrant is non-freezing and self-draining with the drain outlet being sealed from when the hydrant is 1/3 open (2 turns) to fully open (6 turns). All working/moving parts are brass, while the plunger seat is nitrile rubber. The inlet and headstock are cast iron and the nozzle is brass. All operating parts can be serviced from above ground with no digging/excavation required. The drain outlet can optionally be nondraining or incorporate a dual check valve to prevent ground water from entering the drain while the main valve is closed. The nozzle can incorporate a vacuum breaker to allow below ground drainage while a hose is connected.

*Standard configuration described above. See cut sheet for additional options, including but not limited to: inlet, nozzle threads, depth of bury, rod material, etc.

If there are any questions regarding specific applications feel freed to contact Kupferle's sales or engineering team via info@hydrants.com for additional help with said request.

Layout



INSTALLATION

NOTE: Kupferle recommends the installation of a corporation or curb stop prior to the hydrant/station for increased serviceability and maintenance.

1. The supply lines must be flushed free of any rock, gravel, or other debris before connecting the hydrant or installing any new or replacement parts.
2. Hydrant to be connected to the supply line via the inlet.
3. Hydrant shall be as vertically plumb as possible.
4. Suitable thread sealant shall be used on Inlets with a pipe thread connection. Inlets with an MJ connection must follow the below torque spec for the bolts.

MJ Joint Size (in)	Bolt Size (in)	Range of Torque (Ft-lbs)
2	5/8	45-60
3	5/8	45-60
4	3/4	75-90

5. The hydrant must be set on a concrete pad or blocking or in a sufficient supply of crushed stone/gravel to ensure it can drain properly and prevent settlement.
6. Installation instructions of the American Water Works Association should be followed when placing and testing the hydrant, specifically regarding drainage and the need for thrust blocking.
 - a. AWWA C600, Installation of Ductile-Iron Mains and Their Appurtenances
 - i. EBAA GI.06, The Installation of Mechanical Joint Fittings
 - b. AWWA M17, Fire Hydrants: Installation, Field Testing, and Maintenance
 - c. AWWA C502, Dry-Barrel Fire Hydrants

Turning the Inlet

1. Lay hydrant on its side and open the valve fully.
2. Remove the inlet bolts completely and turn the inlet.
 - a. If the plunger is interfering with turning, slide the inlet off the plunger. Be sure to keep the brass seat ring in place. Turn, then slide the inlet back onto the plunger.
3. Reinstall bolts, making sure not to pinch or fold the gasket.
4. Carefully inspect the hydrant inlet for leaks when water is applied.

FIELD TESTING

Installed hydrants shall be tested per AWWA standard M17, Fire hydrants: Installation, Field Testing and Maintenance. A summary is as follows:

ANSI/AWWA C502 permits dry-barrel hydrants with unplugged drain outlets to have an allowable leakage of 5 fluid oz/min (0.25 mL/sec) through the drain valve. Therefore, the main valve should not be opened at the same time that the water main is tested. The auxiliary valve should be closed during water-main tests (see ANSI/AWWA C600). However, if it is possible to temporarily plug the drain outlets, the hydrant and main may be tested at the same time.

After the hydrant is installed and, when possible, before backfilling (and after pressure testing the water main), the hydrant should be tested as follows, or unless the purchaser's documents require otherwise.

Pressure Test at Main Pressure

1. Air Bleed Setup: Open the highest nozzle cap (or air vent plug) and crack open the valve to fill the barrel to the nozzle level.
2. Purge Trapped Air: Leave the cap loose until all air vents out, then seal it tight to prevent hazards from compressed air.
3. Full Pressurization: Open the hydrant completely under line pressure.
4. Inspection & Repair: Check flanges, nozzles, packing, and O-rings for leaks; repair or replace parts and retest until leak-free.

If specified by the purchaser to pressure test at higher than main pressure:

1. Air Bleed Setup: Open the highest nozzle cap (or air vent plug) and crack open the valve to fill the barrel to the nozzle level.
2. Purge Trapped Air: Leave the cap loose until all air vents out, then seal it tight to prevent hazards from compressed air.
3. Full Pressurization: Open the hydrant completely, close the isolation valve and pump up to test pressure.
4. Inspection & Repair: Check flanges, nozzles, packing, and O-rings for leaks; repair or replace parts and retest until leak-free.
5. Open the isolation valve.

Drainage Test for Dry-Barrel Hydrants

1. Following the pressure test, close the hydrant main valve.
2. Remove one outlet-nozzle cap and place the palm of one hand over the outlet-nozzle opening.
3. Drainage should be sufficiently rapid to create a noticeable suction.
4. If the hydrant fails the drainage test, partially open the hydrant with the outlet-nozzle caps on to create a pressure that will clear the drain valve. If this fails, the drain-valve assembly should be removed and inspected. If the drain valve is clear, the problem may be that the drain outlet is plugged from outside the hydrant. Repair will require digging down around the outside of the hydrant and clearing the drain outlet.

OPERATION

The hydrant is manually operated, typically using a wrench (1-1/2" Pent) to turn the operating screw. 4-6 rotations of the operating screw counterclockwise will open the hydrant fully. Turn clockwise to close.

Make sure top cap and unused side caps are tight before opening. Do not stand in front of any cap or nozzle when operating.

Open and close slowly to prevent damage from surging water, about 1/4 turn per second.

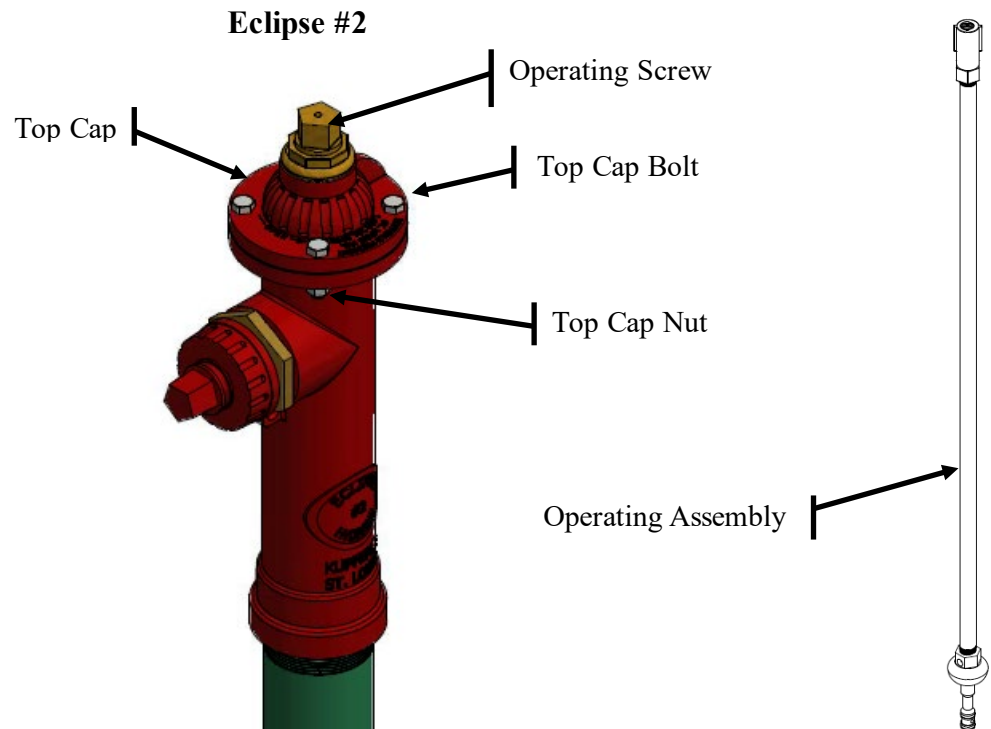
Replace side cap tightly when finished.

MAINTENANCE

NOTE: The water supply must be turned off before maintenance can be performed, typically via the valve box leading to the hydrant.

Inspect annually, replacing damaged or deformed o-rings or seat rubber.

Removing, Inspecting, and Replacing the Operating Assembly

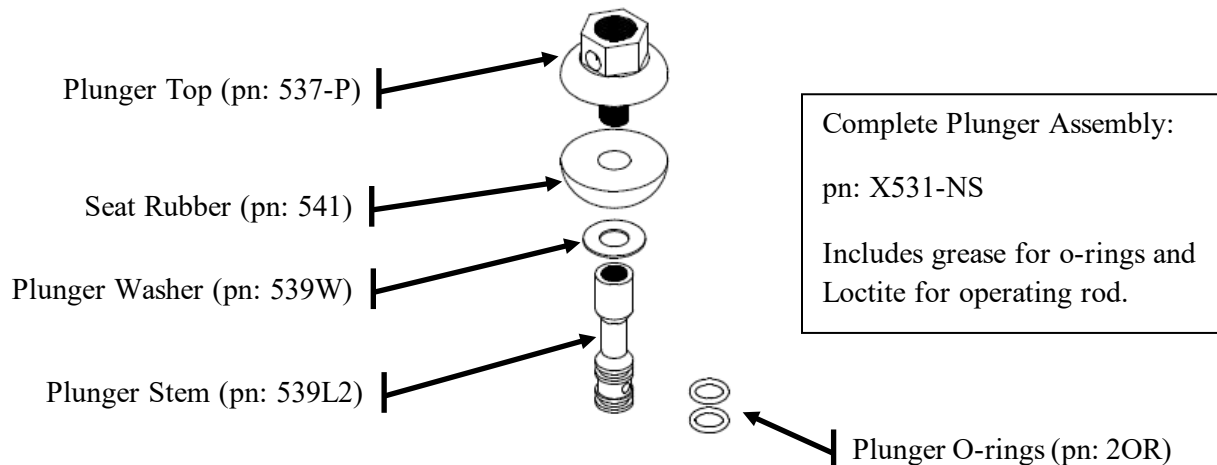


1. Shut off water supply.
2. Open the flow all the way using the operating screw (turn counterclockwise).
3. Remove the top cap bolts using a 3/4" wrench (turning counterclockwise).
4. Pull straight up on the top cap without turning to remove all inner working parts from the blow-off station.

NOTE: If the operating assembly is difficult to pull, a pry bar in between the top cap and head stock can help. In situations where the plunger feels seized, the shutoff can, **with extreme caution**, be cracked to apply pressure on the plunger and force the operating assembly out.

5. Perform inspection & maintenance as required.
6. Before replacing inner working parts, turn water supply back on, flushing out any sediment or debris that may have accumulated, then turn back off.
7. Reassemble the station reversing steps 1-4. Application of a food grade grease to the o-rings and plunger before reassembling is recommended as "best practice".

SEE NEXT PAGE FOR PLUNGER ASSEMBLY



Changing Plunger O-ring

1. Remove the operating assembly to above ground. Refer to Removing the Operating Assembly instructions.
2. Remove and replace plunger O-rings [2OR]. In some cases a hook/pick set of tools can make this process easier.
3. Apply food grade grease or lubrication to the plunger and o-rings for easy operation.
4. Return the operating assembly making sure the top cap is bolted down properly.

Changing Seat Rubber

1. Remove the operating assembly to above ground. Refer to Removing the Operating Assembly instructions.
2. Unfasten the plunger stem with a pipe wrench on the upper part of the stem. Remove the stem [539L2] and washer [539W].
3. Remove and replace the seat rubber [541].
4. Apply loctite to the plunger threads, then return the washer and stem, attaching the seat rubber to the plunger.
 - a. Note: The plunger washer should be physically impressed on the seat rubber.
5. Return the operating assembly making sure the top cap is bolted down properly.

Replacing the Plunger Assembly

1. Remove the operating assembly to above ground. Refer to Removing the Operating Assembly instructions.
2. Using pipe wrenches or channel locks on the operating rod and the plunger top assembly, unscrew the plunger assembly from the operating rod.
3. Thread the new plunger assembly [X531-NS] onto the operating rod. Tighten with a pipe wrench.

4. Apply food grade grease or lubrication to the o-rings for easy operation.
5. Return the operating assembly making sure the top cap is bolted down properly.

TROUBLESHOOTING

Hydrant Will Not Shut Off

Using the steps explained previously, examine seat rubber and plunger o-rings for any signs of wear, cutting, or damage.

While the operating assembly is removed, flush the hydrant to make sure that any debris, gravel, etc. that might be present below hydrant seat is flushed from the water system and hydrant accordingly.

Refer to the cut sheet and replace part(s) as needed.

Hydrant Will Not Drain

Using the steps explained previously, examine seat rubber and plunger o-rings for any signs of wear, cutting, or damage.

Cap the outlet of the hydrant. Using the operating handle/screw turn on the water to the hydrant, only opening the hydrant 1/2 to 1 turn, allowing water to flow directly out the drain hole. This pressurized flow of water is almost always enough pressure to unclog the drain hole. Soil conditions, ground saturation, and backfill can also be a factor that can result in a clogged or slow draining hydrant outside of Kupferle's control.

ORDERING REPLACEMENT PARTS

Replacement parts may be ordered from any water works distributor. A list of distributors may be obtained by calling Kupferle at 1-800-231-3990 or by visiting Kupferle's website.

Parts lists with pricing are also available on Kupferle's website.

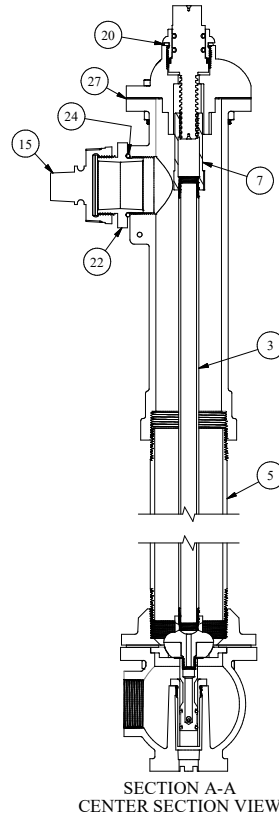
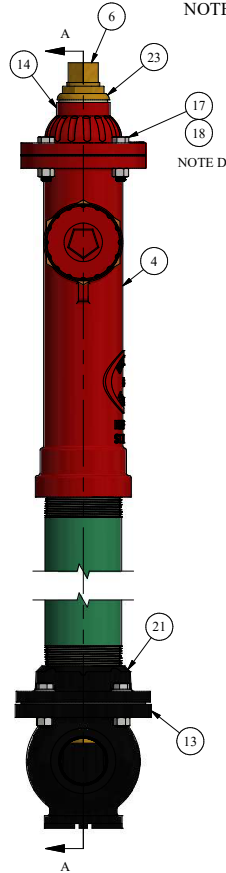
<http://www.hydrants.com>

#2 ECLIPSE POST HYDRANT CUT SHEET

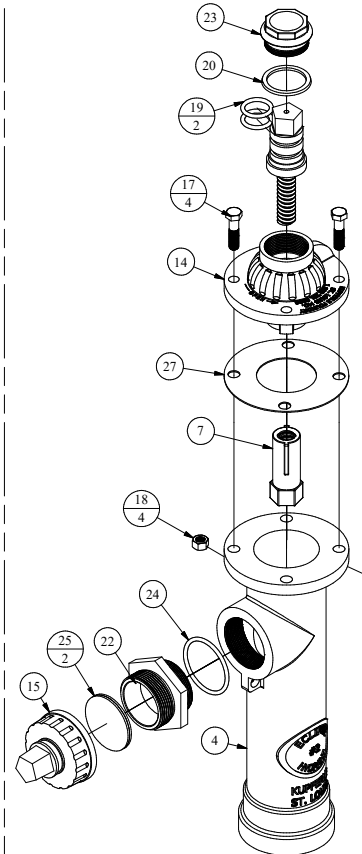
(2" FIP INLET, STANDARD TOP STOCK, 2-1/2" NST OUTLET SHOWN)
NOTE J

PARTS LIST

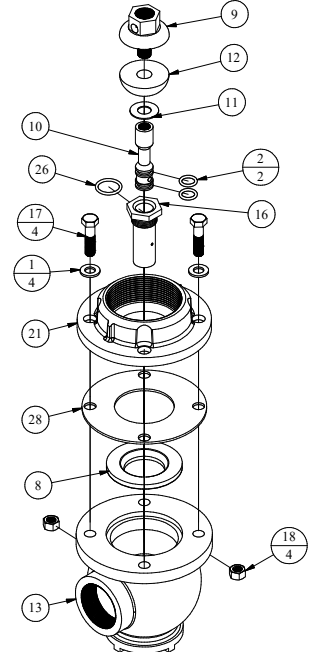
ITEM	QTY	PART NUMBER	DESCRIPTION	NOTES
1	4	1/2W	1/2" BOTTOM WASHER	C
2	2	20R	O-RING FOR PLUNGER STEM	C,K
3	45.875 in	3/4GAL	3/4" GALVANIZED OPERATING ROD	B,C
4	1	487-H	"NEW STYLE" TOP STOCK	C,K,L
5	33.000 in	4FBE	FBE COATED BARREL PIPE	B,C,M
6	1	501A	TOP SCREW	
7	1	511	CONNECTING NUT	C
8	1	521	SEAT RING	C
9	1	537-P	"NEW STYLE" PLUNGER TOP	C,K
10	1	539L2	PLUNGER STEM	
11	1	539W	S.S. PLUNGER WASHER	K
12	1	541	SEAT RUBBER	C,K
13	1	571-A	IRON BOTTOM (2" IP)	J,K
14	1	581-C	"NEW STYLE" TOP CAP	C
15	1	592-A	2-1/2" NST SIDE CAP	K
16	1	611	WASTE TUBE	K
17	8	628A-B	TOP CAP BOLT	C
18	8	629A-N	1/2" HEX NUT	C
19	2	668	OPERATING SCREW O-RING	C
20	1	669	PACKING NUT GASKET	C
21	1	678	FLANGE COUPLING FOR DUCTILE	C
22	1	716	2-1/2" NST BRASS NOZZLE	C,J
23	1	739	PACKING NUT	
24	1	95G	HOUSING O-RING	C
25	2	A16	SIDE CAP GASKET	C,K
26	1	A19	WASTE TUBE O-RING	C,K
27	1	A2-NS	"NEW STYLE" TOP CAP GASKET	C
28	1	A8	"NEW STYLE" VALVE GASKET	C,K
29	1	595	CHAIN ASSEMBLY	A
OPTIONS / REPAIR PARTS LIST				
30	0	1 1/16SR	SOLID OPERATING ROD	A,C
31	0	3/4C	COUPLING FOR OPERATING ROD	A,C
32	0	3/4SSP	SS OPERATING ROD	A,C
33	0	667	HANDWHEEL - 1-1/2" PENT	C
34	0	674	"NEW STYLE" LOCKING WRENCH	C



TOP STOCK PART ASSEMBLY



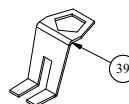
VALVE PART ASSEMBLY



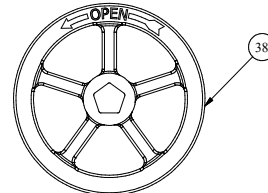
REPAIR KITS

PART NUMBER	DESCRIPTION	PARTS INCLUDED
X475-XX	EXTENSION - 6" INCREMENTS	4FBE EXTERIOR PIPE, 3/4GAL OPERATING ROD, 3/4C COUPLING (1), 678 COUPLING (2), 628A-B BOLT (4), 629A-N NUT (4), A8 GASKET (1)
X501A	1-1/2" PENT TOP SCREW COMPLETE	501A TOP SCREW (1) 1-1/2" PENT (1), 668 O-RING (2)
X581C	IRON TOP CAP COMPLETE	581-C "NEW STYLE" TOP CAP (1), A2-NS GASKET (1), 628A-B BOLT (4), 629A-N NUT (4)
X581C-1	"NEW STYLE" BONNET COMPLETE	581-C TOP CAP (1), 501A TOP SCREW (1), 668 O-RING (2), 739 PACKING NUT (1), 669 GASKET (1), 511 CONNECTING NUT (1), A2-NS GASKET (1), 628A-B BOLT (4), 629A-N NUT (4)
X739	1-1/2" PENT PACKING NUT WITH GASKET	739 PACKING NUT (1), 669 GASKET (1)

LOCKING WRENCH



HANDWHEEL



LEGEND

- X → STANDARD TAG
X/Y → TAG WITH Y QUANTITY

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DRAWN	SMS	5/2/2017
CHECKED	DCL	11/14/2017
MODIFIED	ADC	4/21/2026

SIZE	SCALE
C	1 / 5

DWG NO	#2 Cut_Rev0.2
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2511 NORTH 9TH ST.
ST. LOUIS, MO 63102
1-800-231-3990

SHEET	REV
1 OF 1	0.4

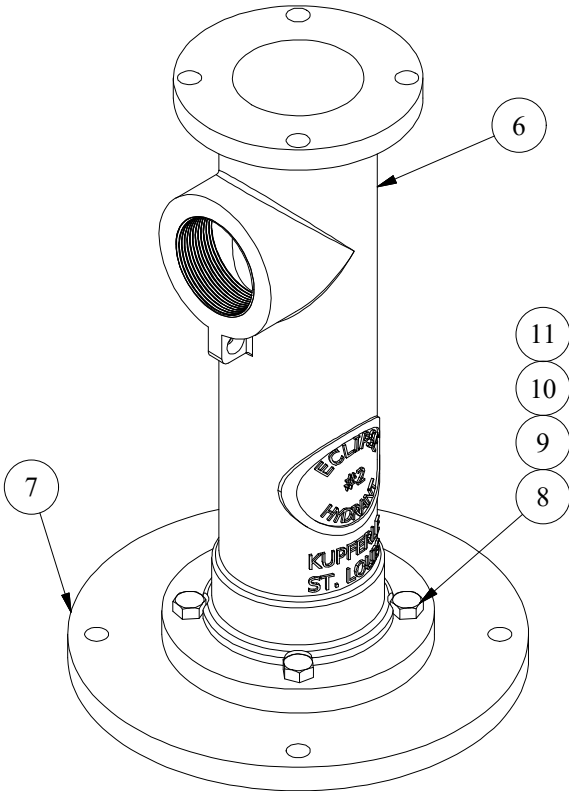
#2 GUIDE FOR TOP STOCK OPTIONS & OLD STYLE REPAIR PARTS LIST

OPTIONS / REPAIR PARTS LIST				
ITEM	QTY	PART NUMBER	DESCRIPTION	NOTES
1	1	487-H	"NEW STYLE" TOP STOCK	C
2	1	487-I	BOLTED FLANGE TOP STOCK	C
3	1	487-J	2 NOZZLE TOP STOCK	C
4	1	487-K	2 NOZZLE BOLTED FLANGE TOP STOCK	C
5	1	581-C	"NEW STYLE" TOP CAP	C
6	1	487-I-B	TOP STOCK WITH DECK MOUNT FLANGE	C
7	1	88PF	FLANGE FOR DECK MOUNT	
8	1	629A-B-SS	BOLT FOR DECK MOUNT FLANGE	
9	1	629A-N-SS	NUT FOR DECK MOUNT FLANGE	
10	1	1/2WSS	WASHER	
11	1	7629	LOCK WASHER	

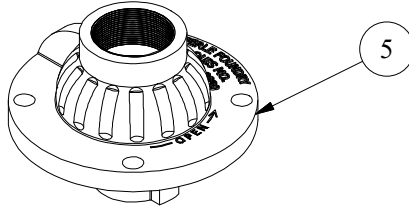
OLD STYLE PARTS LIST				
6	1	PACKING	PACKING	A,C
7	1	A2	"OLD STYLE" TOP CAP GASKET	A,C
8	1	487	"OLD STYLE" 1 NOZZLE TOP STOCK	
9	1	487-A	"OLD STYLE" 2 NOZZLE TOP STOCK	
10	1	581-A	"OLD STYLE" TOP CAP (1-1/2" PENT)	
11	1	581-B	"OLD STYLE" TOP CAP (1-1/4" PENT)	
12	1	664	"OLD STYLE" LOCKING WRENCH	A

TOP STOCK REPAIR KITS		
PART NUMBER	DESCRIPTION	PARTS INCLUDED
X487H	"NEW STYLE" 1 NOZZLE ROUND IRON TOP STOCK COMPLETE	487-H "NEW STYLE" 1 NOZZLE TOP STOCK (1), A2-NS GASKET (1), 628-A-B BOLT (4), 629A-N NUT (4)
X487I	1 NOZZLE BOLTED FLANGE IRON TOP STOCK COMPLETE	487-I "NEW STYLE" BOLTED FLANGE TOP STOCK (1), A2-NS GASKET (1), 628A-B BOLT (4), 629A-N NUT (4)
X487J	2 NOZZLE IRON TOP STOCK COMPLETE	487-J "NEW STYLE" 2 NOZZLE IRON TOP STOCK (1), A2-NS GASKET (1), 628A-B BOLT (4), 629A-N NUT (4)
X487K	2 NOZZLE BOLTED FLANGE IRON TOP STOCK COMPLETE	487-K "NEW STYLE" 2 NOZZLE BOLTED FLANGE IRON TOP STOCK (1), A2-NS GASKET (1), 628A-B BOLT (4), 629A-N NUT (4)
X581C	IRON TOP CAP COMPLETE	581-C "NEW STYLE" TOP CAP (1), A2-NS GASKET (1), 628A-B BOLT (4)
X581C-1	"NEW STYLE" BONNET COMPLETE	581-C TOP CAP (1), 501A TOP SCREW (1), 668 O-RING (2), 739 PACKING NUT (1), 669 GASKET (1), 511 CONNECTING NUT (1), A2-NS GASKET (1), 628A-B BOLT (4), 629A-N NUT (4)
X628A	BOLT AND NUT FOR TOP	628A-B BOLT (1), 629A-N NUT (1)
OLD STYLE REPAIR KITS		
X487	"OLD STYLE" IRON TOP STOCK COMPLETE (1 NOZZLE)	487 "OLD STYLE" TOP STOCK (1), A2 GASKET (1), 628A-B BOLT (4), 628A-N NUT (4)
X487A	"OLD STYLE" IRON TOP STOCK COMPLETE (2 NOZZLE)	487-A "OLD STYLE" TOP STOCK (1), A2 GASKET (1), 628A-B BOLT (4), 628A-N NUT (4)
X531	PLUNGER COMPLETE "OLD STYLE" (WITH LEATHERS)	537 PLUNGER (1), 539L2-OS PLUNGER STEM (1), 539P2 TIP NUT (2), 539K2 LOCK NUT (1), 560 BOTTOM CUP WASHER (1), 561 MIDDLE CUP WASHER (1), 541 SEAT RUBBER (1), 77W WASHER (1)
X566	WASHER SET ("OLD STYLE" WITH LEATHERS)	541 SEAT RUBBER (1), 560 CUP WASHER (1), 561 CUP WASHER (1) 77W WASHER (1)
X581A	"OLD STYLE" IRON TOP CAP COMPLETE (1-1/2" PENT)	581-A "OLD STYLE" TOP CAP (1), A2 GASKET (1), 628A-B BOLT (4), 628A-N NUT (4)
X581A-1	"OLD STYLE" BONNET COMPLETE	581-A "OLD STYLE" TOP CAP (1), 501A TOP SCREW (1), 668 O-RING (2), 739 PACKING NUT (1), 669 GASKET (1), 511 CONNECTING NUT (1), A2 GASKET (1), 628A-B BOLT (4), 628A-N NUT (4)
X581B	"OLD STYLE" IRON TOP CAP COMPLETE (1-1/4" PENT)	581-B "OLD STYLE" TOP CAP (1), A2 GASKET (1), 628A-B BOLT (4), 628A-N NUT (4)
X601A	"OLD STYLE" BRASS NOZZLE 2-1/2" NST	601A NOZZLE (1), 669 GASKET (1)
X628A-OLD	BOLT AND NUT FOR "OLD STYLE" TOP	628A-B BOLT (1), 628A-N NUT (1)

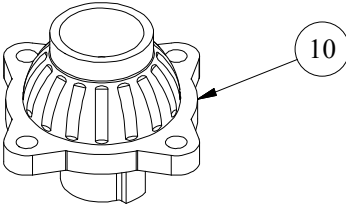
DECK MOUNT FLANGE



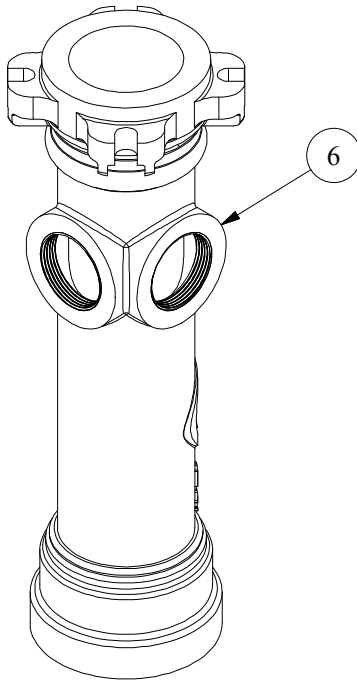
TOP CAP



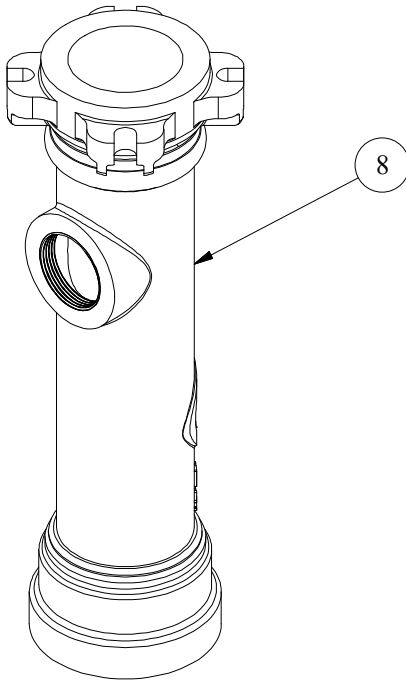
"OLD STYLE" TOP CAP



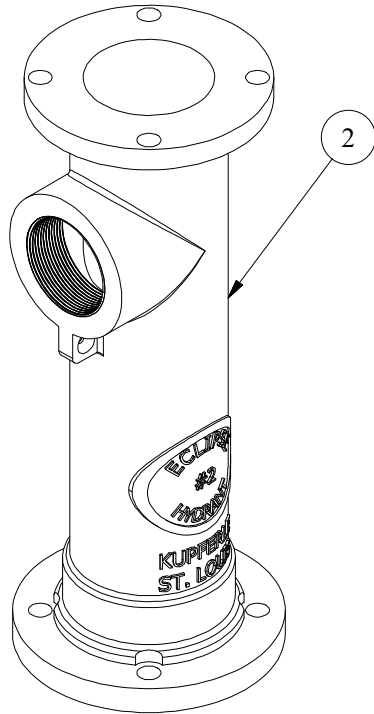
"OLD STYLE" 2 NOZZLE



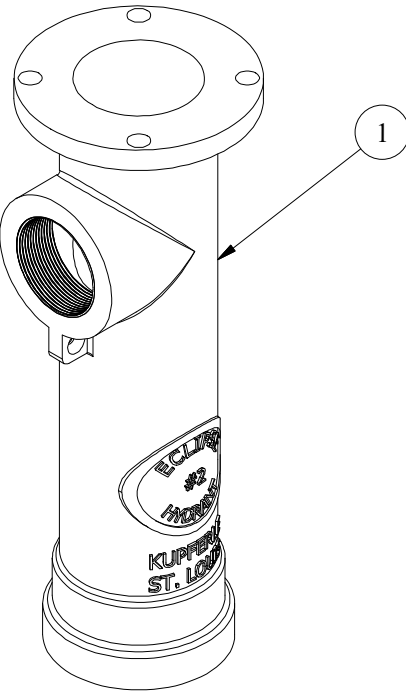
"OLD STYLE" 1 NOZZLE



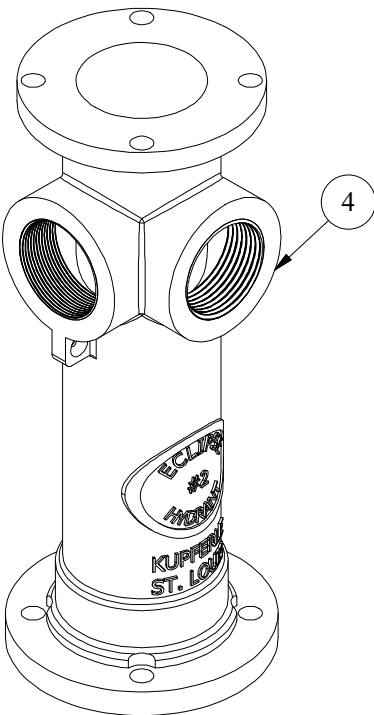
BOLTED FLANGE



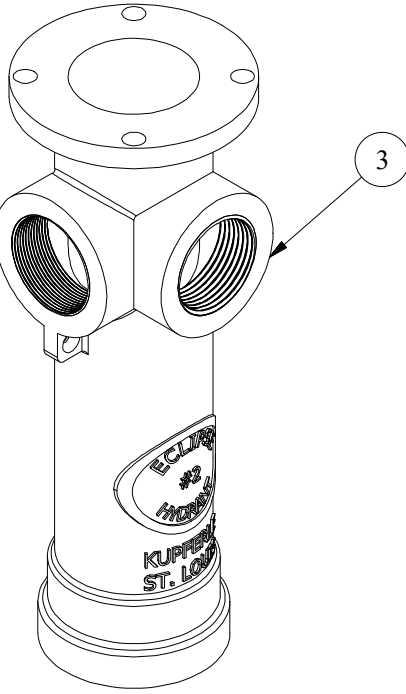
STANDARD



BOLTED FLANGE 2 NOZZLE



2 NOZZLE



NOTE	DESCRIPTION
A	NOT SHOWN
C	SOLD AS REPLACMENT PART

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LEGEND

- (X) → STANDARD TAG
- (X/Y) → TAG WITH Y QUANTITY

DRAWN	11/13/2017	
SMS		
CHECKED	11/14/2017	
DCL		
MODIFIED	04/07/2021	
KJW		
SIZE	SCALE	
C	1 / 5	
DWG NO TOP STOCK OPTIONS & NEW AND OLD STYLE OPTIONS/ REPAIR PARTS LIST		SHEET 1 OF 1
		REV 1

#2 & #85 GUIDE FOR INLET, NOZZLE, & CAP OPTIONS & PLUNGER HISTORY

INLET VALVE OPTIONS

PART NUMBER	DESCRIPTION	PARTS INCLUDED	NOTES
X571A	IRON BOTTOM 2" IP COMPLETE (STANDARD)	571-A BOTTOM (1), 611 WASTE TUBE (1), A19 O-RING (1), 629A-B BOLT (4), 629A-N NUT (4), 1/2W WASHER (4), A8 GASKET (1)	C
X571B	IRON BOTTOM 2-1/2" IP COMPLETE	571-C BOTTOM (1), 3 x 2 1/2HB HEX BUSHING (1), 611 WASTE TUBE (1), A19 O-RING (1), 1/2W WASHER (4), 629A-B BOLT (4), 629A-N NUT (4), A8 GASKET (1)	C
X571C	IRON BOTTOM 3" IP COMPLETE	571-C BOTTOM (1), 611 WASTE TUBE (1), A19 O-RING (1), 1/2W WASHER (4), 629A-B BOLT (4), 629A-N NUT (4), A8 GASKET (1)	C
X571D	IRON BOTTOM 2" MJ COMPLETE	571-D BOTTOM (1), 2MG MJ GLAND (1), 2TG TRANSITION GASKET (1), CORTEN MJ BOLT & NUT (2), 611 WASTE TUBE (1), A19 O-RING (1), 1/2W WASHER (4), 629A-B BOLT (4), 629A-N NUT (4), A8 GASKET (1)	C
X571E	IRON BOTTOM 3" MJ COMPLETE	571-E BOTTOM (1), 663 MJ GLAND (1), 3TG TRANSITION GASKET (1), CORTEN MJ BOLT & NUT (2), 611 WASTE TUBE (1), A19 O-RING (1), 1/2W WASHER (4), 629A-B BOLT (4), 629A-N NUT (4), A8 GASKET (1)	C
X571L	IRON BOTTOM 4" MJ COMPLETE	571-L BOTTOM (1), 611 WASTE TUBE (1), A19 O-RING (1), 1/2W WASHER (4), 629A-B BOLT (4), 629A-N NUT (4), A8 GASKET (1)	C
X629A	BOTTOM BOLT, NUT, AND WASHER (REQUIRES 4 SETS PER BOTTOM)	629A-B BOLT (1), 629A-N NUT (1), 1/2W WASHER (1)	C

OUTLET NOZZLE OPTIONS

X600UF-IP	BRASS NOZZLE 1-1/2" IP	600UF-IP NOZZLE (1), 669 GASKET (1)
X600UF-NST	BRASS NOZZLE 1-1/2" NST	600UF-NST NOZZLE (1), 669 GASKET (1)
X600UF-NPT	BRASS NOZZLE 1-1/2" NPT	600UF-NPT NOZZLE (1), 669 GASKET (1)
X601	BRASS NOZZLE 2" IP	601 NOZZLE (1), 669 GASKET (1)
X601A	BRASS NOZZLE 2-1/2" NST	601A NOZZLE (1), 669 GASKET (1)
X601B	BRASS NOZZLE 2" NPT	601B NOZZLE (1), 669 GASKET (1)
X601C	BRASS NOZZLE 2" NST	601C NOZZLE (1), 669 GASKET (1)
X716	BRASS NOZZLE 2-1/2" NST (STANDARD)	716 NOZZLE (1), 95G GASKET (1)

NOZZLE CAP OPTIONS

X487-V	NOZZLE ADAPTER 2-1/2" KFC SPECIAL x 2" FNPT	487-V NOZZLE ADAPTER (1), 95G GASKET (1)
X591A-IP	NOZZLE CAP COMPLETE 1-1/2" IP	591-A 1 1/2"IP SIDE CAP (1), A14 GASKET (3), 595 CHAIN ASSEMBLY (1)
X591A-NST	NOZZLE CAP COMPLETE 1-1/2" NST	591-A 1 1/2"NST SIDE CAP (1), A14 GASKET (3), 595 CHAIN ASSEMBLY (1)
X591A-2IP	NOZZLE CAP COMPLETE 2" IP	591-A 2"IP SIDE CAP (1), A15 GASKET (2), 595 CHAIN ASSEMBLY (1)
X591A-2NST	NOZZLE CAP COMPLETE 2" NST	591-A 2"NST SIDE CAP (1), A15 GASKET (2), 595 CHAIN ASSEMBLY (1)
X592A	NOZZLE CAP COMPLETE 2-1/2" NST (STANDARD FOR #2)	592-A 2 1/2"NST SIDE CAP (1), A16 GASKET (3), 595 CHAIN ASSEMBLY (1)
X592D	NOZZLE CAP COMPLETE 2-1/2" NST (STANDARD FOR #85)	592-D SIDE CAP (1), A16 GASKET (3), 595 CHAIN ASSEMBLY (1)
X592E	VANDAL PROOF CAP COMPLETE 2-1/2" NST	592-E VANDAL PROOF SIDE CAP (1), A16 GASKET (3), 595 CHAIN ASSEMBLY (1)

PLUNGER REPAIR KITS

X531	PLUNGER COMPLETE "OLD STYLE" (WITH LEATHERS)	537-P PLUNGER (1), 538S PLUNGER STEM (1), 538T PLUNGER TIP (1), 539P2 TIP NUT (2), 560 BOTTOM CUP WASHER (1), 561 MIDDLE CUP WASHER (1), 541 SEAT RUBBER (1), 77W WASHER (1), 9460 WASHER
X531-UOR	PLUNGER COMPLETE "NEW STYLE" (WITH O-RINGS)	537-P PLUNGER (1), 539L2 PLUNGER STEM (1), 539W WASHER (1), 20R O-RINGS (2), 541 SEAT RUBBER (1)
X539L2	"NEW STYLE" PLUNGER STEM COMPLETE	539L2 PLUNGER STEM (1), 20R O-RING (2)
X566	WASHER SET ("OLD STYLE" WITH LEATHERS)	541 SEAT RUBBER (1), 560 CUP WASHER (1), 561 CUP WASHER (1), 77W WASHER (1)
X566-NS	WASHER SET ("NEW STYLE")	541 SEAT RUBBER (1), 20R O-RING (3), 539W WASHER (1)
X611	WASTE TUBE w/ O-RING	611 WASTE TUBE (1), A19 O-RING (1)

PARTS LIST

ITEM	QTY	PART NUMBER	DESCRIPTION	NOTES
1	1	A8	IRON BOTTOM GASKET	C
2	1	A14	1-1/2" SIDE CAP GASKET	C
3	1	A15	2" SIDE CAP GASKET	C
4	1	A16	2-1/2" SIDE CAP GASKET	C
5	1	A19	WASTE TUBE O-RING	C
6	1	CORTEN	MJ BOLT & NUT	C
7	1	1/2W	S.S. WASHER FOR BOTTOM	
8	2	20R	PLUNGER O-RING	C
9	1	2MJG	2" MJ GLAND	C
10	1	2TG	2" TRANSITION GLAND	C
11	1	3TG	3" TRANSITION GLAND	C
12	1	3 x 2 1/2HB	3" x 2-1/2" HEX BUSHING	
13	1	95G	NOZZLE O-RING	C
14	1	487-V	NOZZLE ADAPTER	C
15	1	537-P	"NEW STYLE" PLUNGER TOP	C
16	1	539L2	PLUNGER STEM	C
17	1	539W	S.S. PLUNGER WASHER	
18	1	541	SEAT RUBBER	C
19	1	571-A	IRON BOTTOM (2" IP)	C
20	1	571-C	IRON BOTTOM (3" IP)	C
21	1	571-D	IRON BOTTOM (2" MJ)	C
22	1	571-E	IRON BOTTOM (3" MJ)	C
23	1	571-L	IRON BOTTOM (4" MJ)	C
24	1	591-A 1 1/2"IP	1-1/2" IP SIDE CAP w/ 1-1/2" PENT	
25	1	591-A 1 1/2"NST	1-1/2" NST SIDE CAP w/ 1-1/2" PENT	
26	1	591-A 2"NST	2" NST SIDE CAP w/ 1-1/2" PENT	
27	1	591-A 2"IP	2" IP SIDE CAP w/ 1-1/2" PENT	
28	1	592-A	2-1/2" NST SIDE CAP w/ 1-1/2" PENT	
29	1	592-E	2-1/2" NST VANDAL PROOF SIDE CAP	
30	1	595	CHAIN ASSEMBLY	
31	1	600UF-IP	1-1/2" IP BRASS NOZZLE	
32	1	600UF-NPT	1-1/2" NPT BRASS NOZZLE	
33	1	600UF-NST	1-1/2" NST BRASS NOZZLE	
34	1	601	2" IP BRASS NOZZLE	
35	1	601B	2" NPT BRASS NOZZLE	
36	1	601C	2" NST BRASS NOZZLE	
37	1	611	WASTE TUBE	C
38	1	629A-B	STEEL BOLT	
39	1	629A-N	STEEL NUT	
40	1	663	3" MJ GLAND	C
41	1	669	NOZZLE GASKET	C
42	1	716	2-1/2" NST BRASS NOZZLE	C

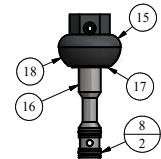
OLD STYLE PARTS LIST

43	1	538S	"OLD STYLE" PLUNGER STEM	
44	1	538T	"OLD STYLE" PLUNGER TIP	
45	1	9460	WASHER	
46	2	539P2	"OLD STYLE" TIP NUT	
47	1	560	BOTTOM CUP WASHER	C
48	1	561	MIDDLE CUP WASHER	C

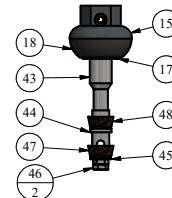
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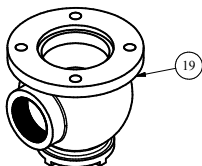
"NEW STYLE" PLUNGER



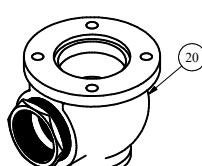
"OLD STYLE" PLUNGER



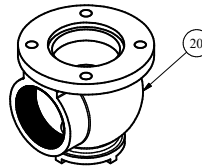
2" IP INLET



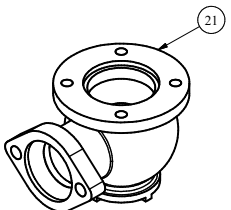
2.5" IP INLET



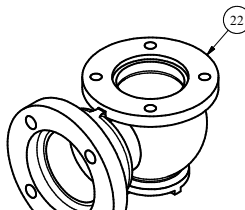
3" IP INLET



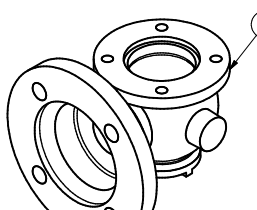
2" MJ INLET



3" MJ INLET



4" MJ INLET



LEGEND

- X → STANDARD TAG
X/Y → TAG WITH Y QUANTITY

DRAWN SMS		9/27/2017	 2511 NORTH 9TH ST. ST. LOUIS, MO 63102 1-800-231-3990	
CHECKED DCL		11/13/2017		
MODIFIED ADC		1/26/2024		
SIZE	SCALE			
C		1 / 4		
DWG NO #2, #85 Inlet, Nozzle, Cap Options, & Plunger History			SHEET 1 OF 1	REV 0.4