



# WILLOUGHBY

COUNT ON US.



## PARTS AND ACCESSORIES CATALOG



# WILLOUGHBY

COUNT ON US.

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# PARTS AND ACCESSORIES CATALOG

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# NOTES:

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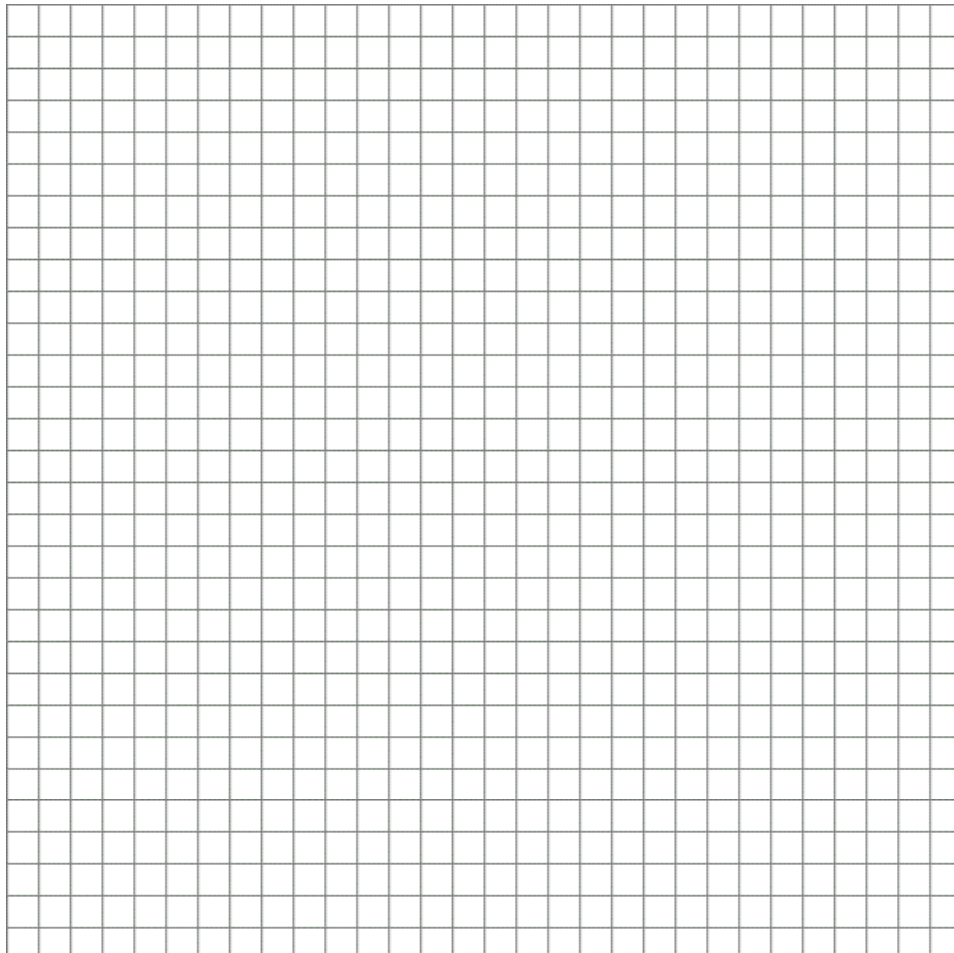
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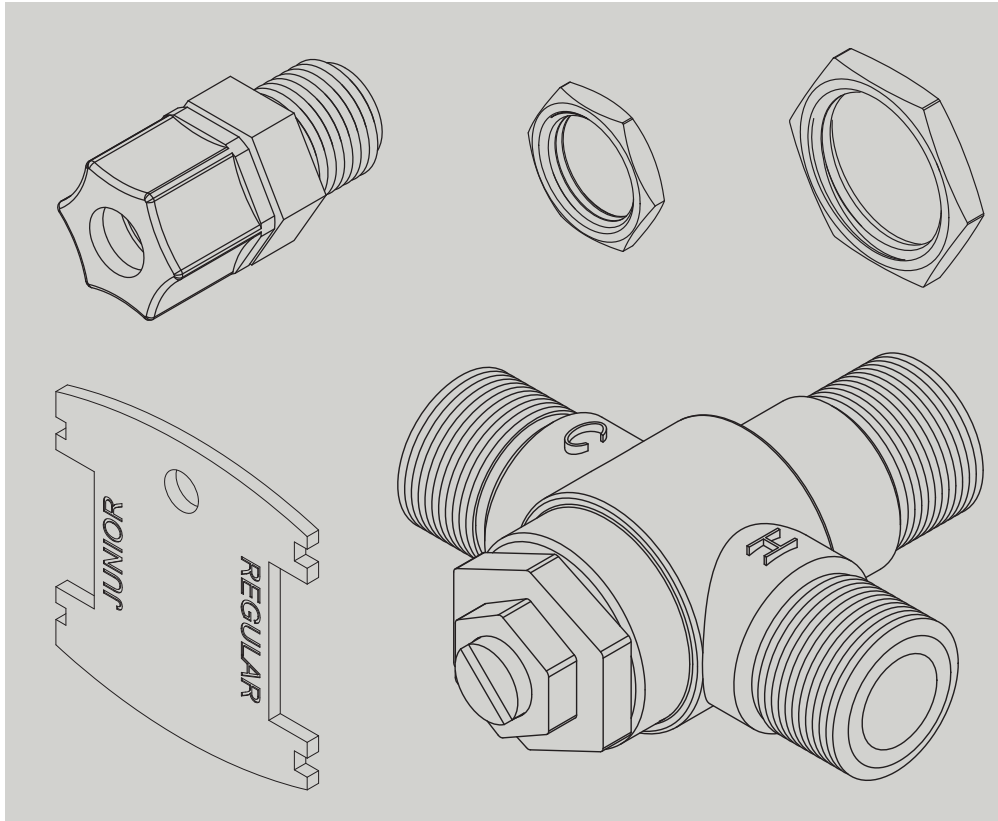
# PARTS AND ACCESSORIES CATALOG



WILLOUGHBY

## SECTION

# 1



## COMMON HARDWARE & FITTINGS

### THESE ITEMS:

BITS, TOOLS, & HARDWARE KITS \_\_\_\_\_

SCREWS, NUTS, & FASTENERS \_\_\_\_\_

VALVE HARDWARE - CLIPS, O-RINGS, FITTINGS \_\_\_\_\_

PLUMBING FITTINGS - FERRULES, ELBOWS, ADAPTERS \_\_\_\_\_

TUBING - PNEUMATIC & WATER \_\_\_\_\_

INLINE VALVES & FLEX HOSES \_\_\_\_\_

TRANSFORMERS, WIRING, & CONNECTORS \_\_\_\_\_

### BEGIN ON PAGE:

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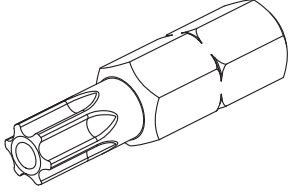
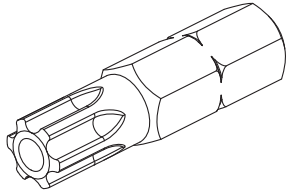
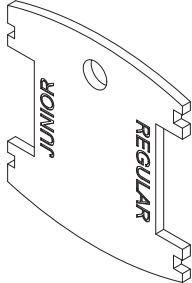
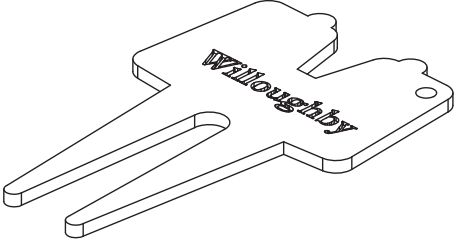
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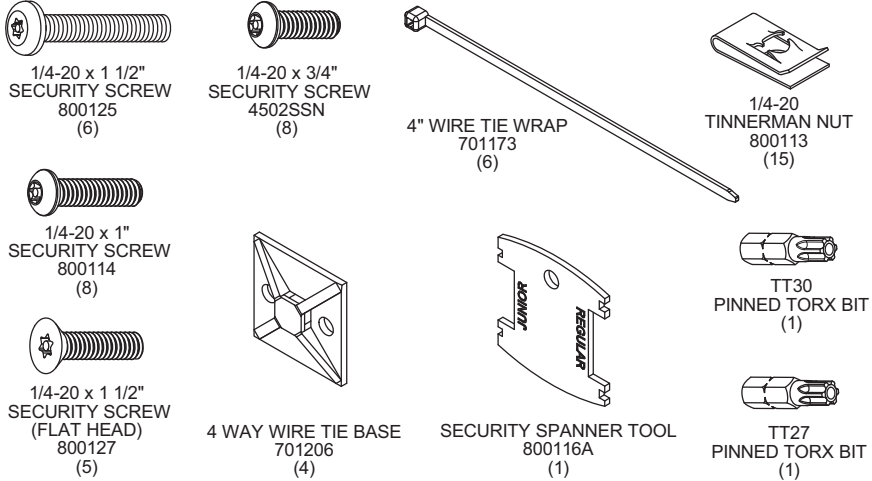
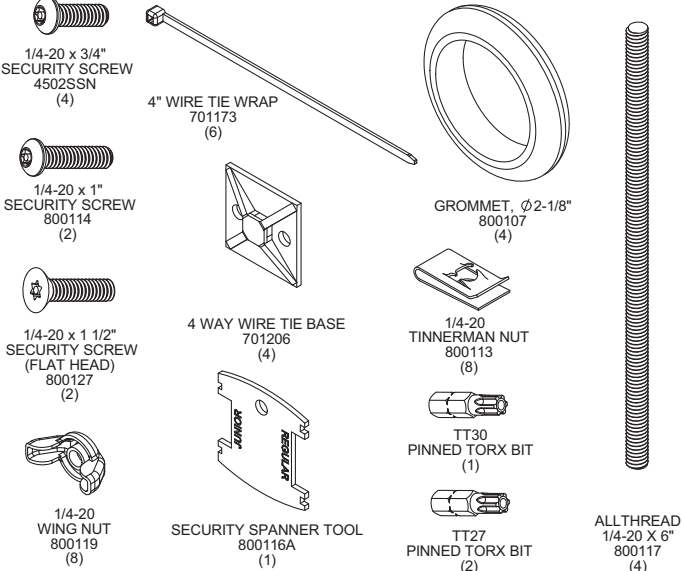
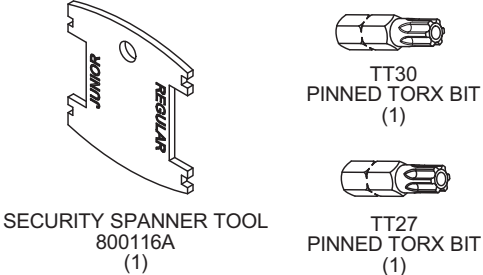
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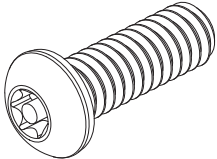
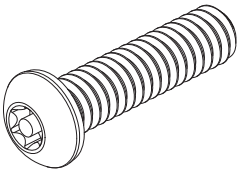
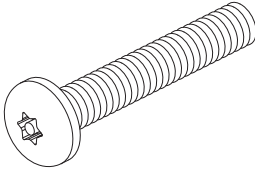
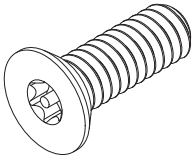
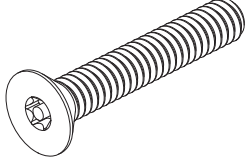
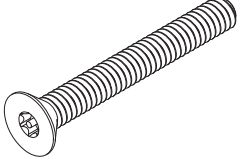
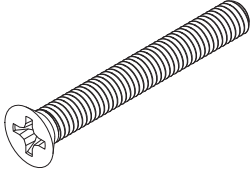
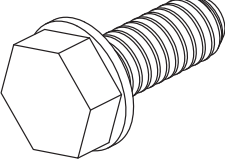
**BITS & TOOLS**

	P/N & DESCRIPTION	COMPONENT
	<p><b>P/N: T-27</b></p> <p>TT27 SECURITY BIT</p>	
	<p><b>P/N: T-30</b></p> <p>TT30 SECURITY BIT</p>	
	<p><b>P/N: 800116A</b></p> <p>UNIVERSAL SECURITY SPANNER</p>	
	<p><b>P/N: SPR</b></p> <p>SOAP CAP (PLUG) REMOVER TOOL</p>	

# HARDWARE KITS

	P/N & DESCRIPTION	KIT
	<p><b>P/N: 801256</b></p> <p>HARDWARE KIT, WAV-PEDESTAL</p>	 <p>1/4-20 x 1 1/2" SECURITY SCREW 800125 (6)</p> <p>1/4-20 x 3/4" SECURITY SCREW 4502SSN (8)</p> <p>4" WIRE TIE WRAP 701173 (6)</p> <p>1/4-20 TINNEMAN NUT 800113 (15)</p> <p>1/4-20 x 1" SECURITY SCREW 800114 (8)</p> <p>4 WAY WIRE TIE BASE 701206 (4)</p> <p>SECURITY SPANNER TOOL 800116A (1)</p> <p>TT30 PINNED TORX BIT (1)</p> <p>1/4-20 x 1 1/2" SECURITY SCREW (FLAT HEAD) 800127 (5)</p> <p>TT27 PINNED TORX BIT (1)</p>
	<p><b>P/N: 800168</b></p> <p>HARDWARE KIT, WAF-PEDESTAL</p>	 <p>1/4-20 x 3/4" SECURITY SCREW 4502SSN (4)</p> <p>4" WIRE TIE WRAP 701173 (6)</p> <p>GROMMET, <math>\phi</math>2-1/8" 800107 (4)</p> <p>1/4-20 x 1" SECURITY SCREW 800114 (2)</p> <p>4 WAY WIRE TIE BASE 701206 (4)</p> <p>1/4-20 TINNEMAN NUT 800113 (8)</p> <p>TT30 PINNED TORX BIT (1)</p> <p>1/4-20 x 1 1/2" SECURITY SCREW (FLAT HEAD) 800127 (2)</p> <p>SECURITY SPANNER TOOL 800116A (1)</p> <p>TT27 PINNED TORX BIT (2)</p> <p>1/4-20 WING NUT 800119 (8)</p> <p>ALLTHREAD 1/4-20 X 6" 800117 (4)</p>
	<p><b>P/N: 800258</b></p> <p>HARDWARE KIT, SPANNER &amp; BITS</p>	 <p>SECURITY SPANNER TOOL 800116A (1)</p> <p>TT30 PINNED TORX BIT (1)</p> <p>TT27 PINNED TORX BIT (1)</p>

## SCREWS

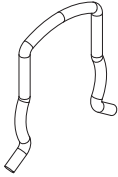
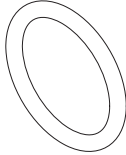
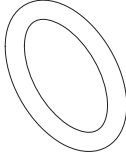
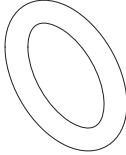
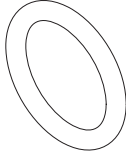
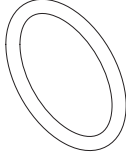
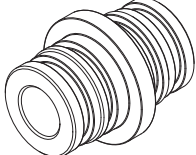
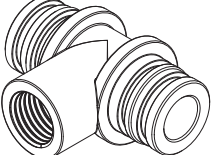
	P/N & DESCRIPTION	COMPONENT
	<b>P/N: 4502SSN</b> SECURITY SCREW, BUTTON HEAD, 1/4-20 X 3/4"	BIT: TT27 
	<b>P/N: 800114</b> SECURITY SCREW, BUTTON HEAD, 1/4-20 X 1"	BIT: TT27 
	<b>P/N: 800125</b> SECURITY SCREW, BUTTON HEAD, 1/4-20 X 1-1/2"	BIT: TT27 
	<b>P/N: 4503SSN</b> SECURITY SCREW, FLAT HEAD, 1/4-20 X 3/4"	BIT: TT27 
	<b>P/N: 800127</b> SECURITY SCREW, FLAT HEAD, 1/4-20 X 1-1/2"	BIT: TT30 
	<b>P/N: 4509SSN</b> SECURITY SCREW, FLAT HEAD, 1/4-20 X 2"	BIT: TT30 
	<b>P/N: 800131</b> PHILLIPS SCREW, FLAT HEAD #10-32 X 2-1/2"	
	<b>P/N: 800133</b> HEX SCREW, #10 X 1/2"	

**NUTS & FASTENERS**

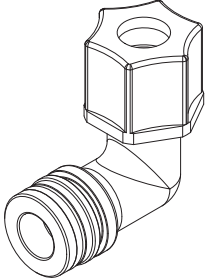
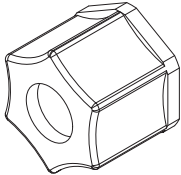
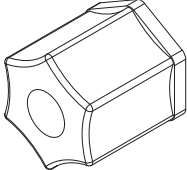
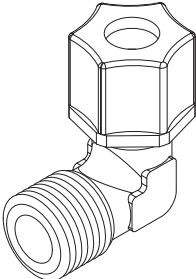
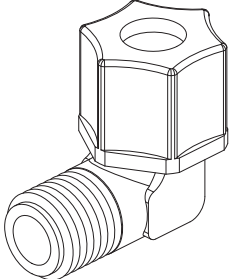
	P/N & DESCRIPTION	COMPONENT
	<p><b>P/N: 800113</b></p> <p>TINNERMAN CLIP, 1/4-20</p>	
	<p><b>P/N: 800119</b></p> <p>WING NUT, 1/4-20</p>	
	<p><b>P/N: 701166</b></p> <p>HEX NUT, 10-24</p>	
	<p><b>P/N: 320313</b></p> <p>LOCK NUT, BRASS, 3/8" MIP</p>	
	<p><b>P/N: 600612N</b></p> <p>LOCK NUT, BRASS, 3/4" MPT</p>	
	<p><b>P/N: 540010</b></p> <p>SET SCREW, #8-32 X 1/4"</p>	



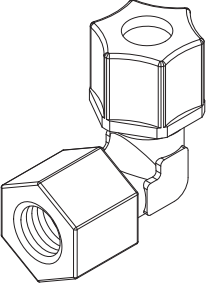
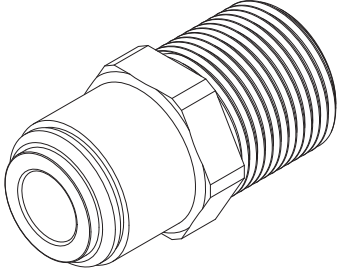
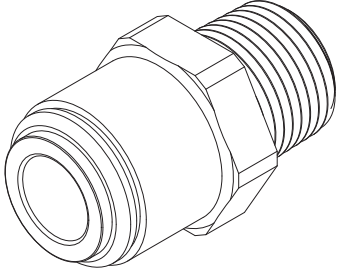
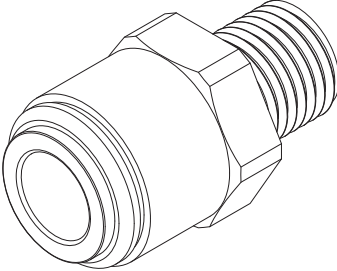
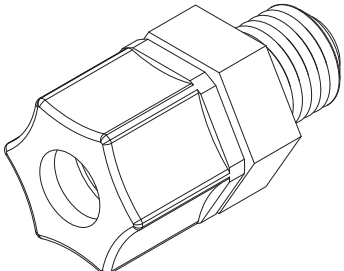
**VALVE HARDWARE** CLIPS, O-RINGS, FITTINGS

	P/N & DESCRIPTION	COMPONENT
	<b>P/N: 980140</b> VALVE SPRING CLIP, ROUND	
	<b>P/N: 980164</b> O-RING, #015	
	<b>P/N: 600114</b> O-RING, #115	
	<b>P/N: 600120</b> O-RING, #111	
	<b>P/N: 600129</b> O-RING, #013	
	<b>P/N: 600131</b> O-RING, #017	
	<b>P/N: 980197</b> VALVE COUPLING	
	<b>P/N: 980196</b> VALVE TEE	

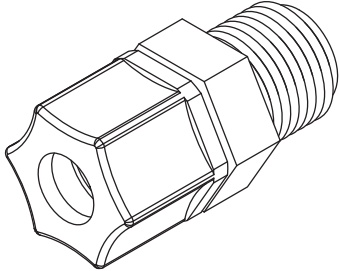
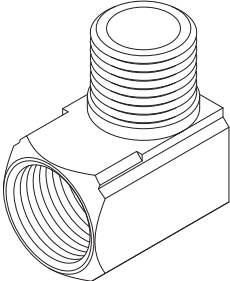
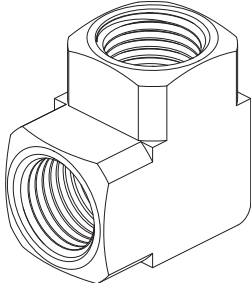
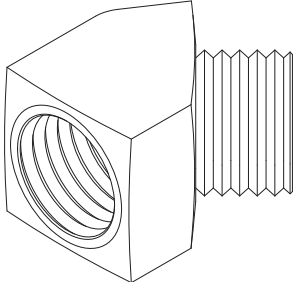
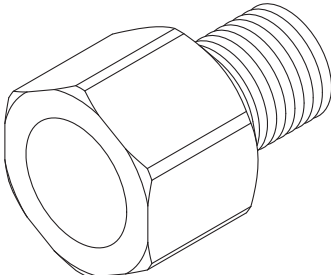
# PLUMBING FITTINGS

	P/N & DESCRIPTION	COMPONENT
	<p><b>P/N: 980600A</b></p> <p>VALVE ELBOW, 3/8" TUBE</p>	
	<p><b>P/N: 320559</b></p> <p>FERRULE NUT, 3/8" TUBE</p>	
	<p><b>P/N: 320555</b></p> <p>FERRULE NUT, 1/4" TUBE</p>	
	<p><b>P/N: 320577</b></p> <p>ELBOW, FERRULE, 3/8" TUBE X 3/8" MPT</p>	
	<p><b>P/N: 320579</b></p> <p>ELBOW, FERRULE, 3/8" TUBE X 1/4" MPT</p>	



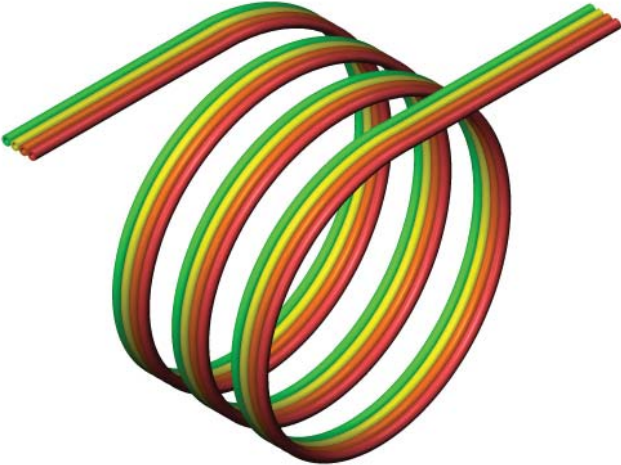
**PLUMBING FITTINGS (CONT.)**

	P/N & DESCRIPTION	COMPONENT
	<p><b>P/N: 320614</b></p> <p>ELBOW, FERRULE, 3/8" TUBE X 1/4" FPT</p>	
	<p><b>P/N: 320440</b></p> <p>ADAPTER FITTING, PTC, 3/8" TUBE X 1/2" MPT</p>	
	<p><b>P/N: 320400</b></p> <p>ADAPTER FITTING, PTC, 3/8" TUBE X 3/8" MPT</p>	
	<p><b>P/N: 320429</b></p> <p>ADAPTER FITTING, PTC, 3/8" TUBE X 1/4" NPT</p>	
	<p><b>P/N: 321010</b></p> <p>CONNECTOR, FERRULE, 3/8" TUBE X 1/4" MPT</p>	

**PLUMBING FITTINGS (CONT.)**

	P/N & DESCRIPTION	COMPONENT
	<p><b>P/N: 320566</b></p> <p>CONNECTOR, FERRULE, 3/8" TUBE X 3/8" MPT</p>	
	<p><b>P/N: 320598LF</b></p> <p>ELBOW, BRASS (LEAD FREE), 1/2" NPT STREET</p>	
	<p><b>P/N: 320600LF</b></p> <p>ELBOW, BRASS (LEAD FREE), 1/2" FPT X 1/2" FPT</p>	
	<p><b>P/N: 320581LF</b></p> <p>ELBOW, 45° BRASS (LEAD FREE), 1/2" NPT STREET</p>	
	<p><b>P/N: 320546</b></p> <p>ADAPTER FITTING, BRASS, 1/4" FPT X 1/8" MPT</p>	

**TUBING PNEUMATIC**






	P/N & DESC.	COMPONENT
	<p><b>P/N: 600475</b></p> <p>Ø1/8" TUBING, PNEUMATIC, BLUE</p> <p><b>SPECIFY FT. ____</b></p>	
	<p><b>P/N: 600470</b></p> <p>Ø1/8" TUBING, PNEUMATIC, RED</p> <p><b>SPECIFY FT. ____</b></p>	
	<p><b>P/N: 800035</b></p> <p>Ø1/8" TUBING, PNEUMATIC, 4 COLORS EACH (R, O, Y, G)</p> <p><b>SPECIFY FT. ____</b></p>	



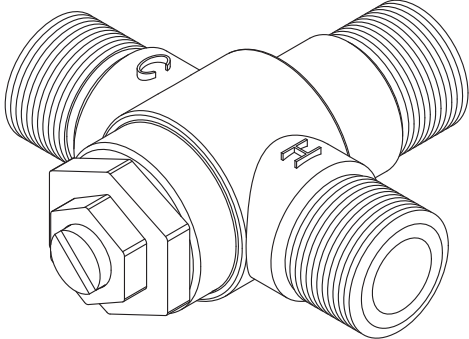
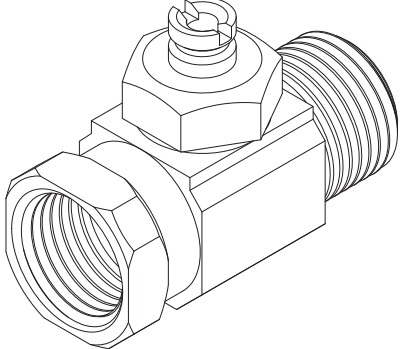
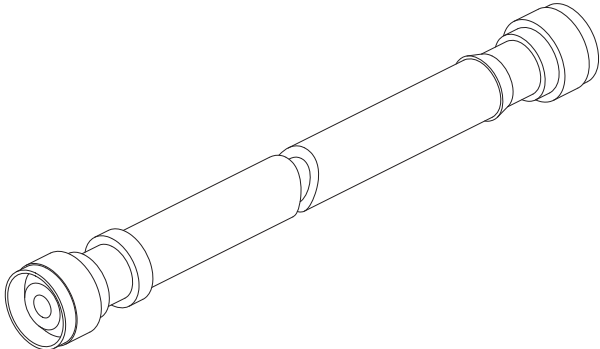
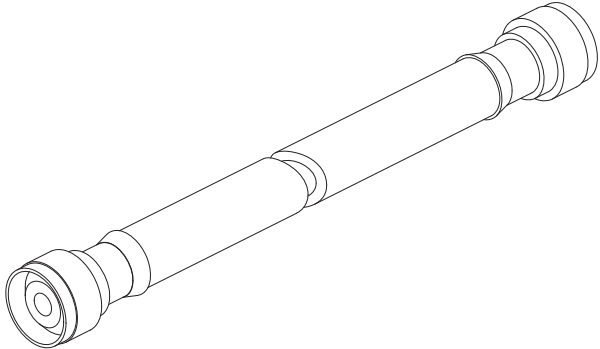
**TUBING WATER**

	P/N & DESC.	COMPONENT	P/N & DESC.	COMPONENT
	<p><b>P/N: 600523</b></p> <p>Ø3/8" TUBING, NATURAL (NSF)</p> <p><b>SPECIFY FT. ____</b></p>		<p><b>P/N: 600523G</b></p> <p>Ø3/8" TUBING, GREEN (NSF)</p> <p><b>SPECIFY FT. ____</b></p>	
	<p><b>P/N: 600523B</b></p> <p>Ø3/8" TUBING, BLUE (NSF)</p> <p><b>SPECIFY FT. ____</b></p>		<p><b>P/N: 600523O</b></p> <p>Ø3/8" TUBING, ORANGE (NSF)</p> <p><b>SPECIFY FT. ____</b></p>	
	<p><b>P/N: 600523BLK</b></p> <p>Ø3/8" TUBING, BLACK (NSF)</p> <p><b>SPECIFY FT. ____</b></p>		<p><b>P/N: 600523R</b></p> <p>Ø3/8" TUBING, RED (NSF)</p> <p><b>SPECIFY FT. ____</b></p>	

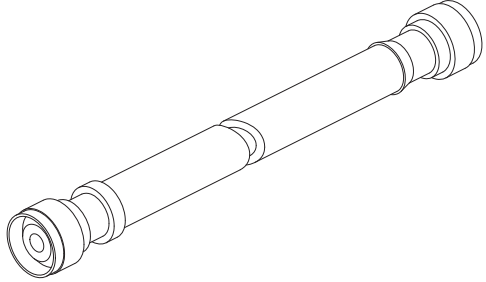
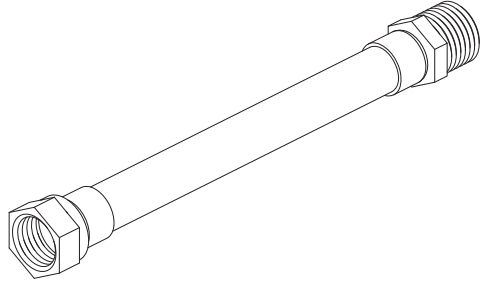
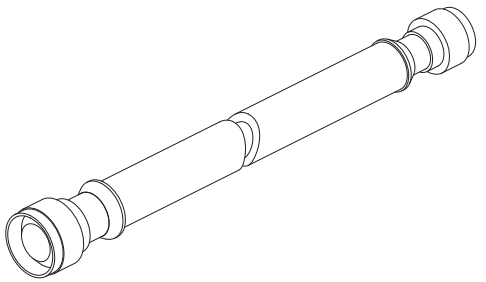
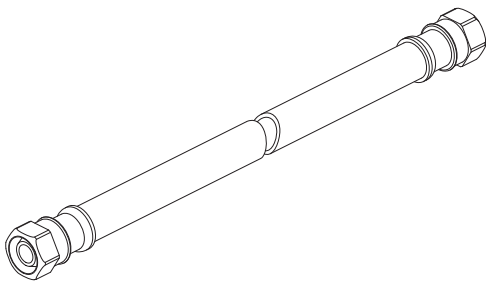
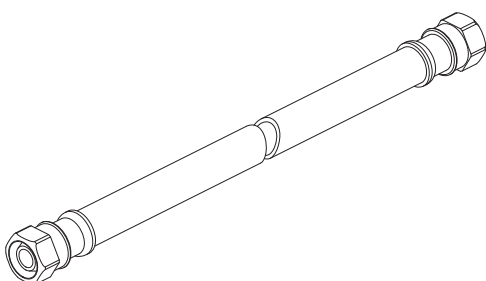
**TUBING** WATER (CONT.)

	P/N & DESC.	COMPONENT		P/N & DESC.	COMPONENT
	<b>P/N: 600523V</b> Ø3/8" TUBING, VIOLET (NSF) <b>SPECIFY FT. ____</b>			<b>P/N: 600471</b> Ø1/4" TUBING, NATURAL (NSF) <b>SPECIFY FT. ____</b>	
	<b>P/N: 600523W</b> Ø3/8" TUBING, WHITE (NSF) <b>SPECIFY FT. ____</b>			<b>P/N: 600520</b> Ø5/8" TUBING, CLEAR (NSF) <b>SPECIFY FT. ____</b>	
	<b>P/N: 600523Y</b> Ø3/8" TUBING, YELLOW (NSF) <b>SPECIFY FT. ____</b>				

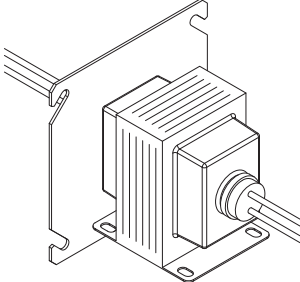
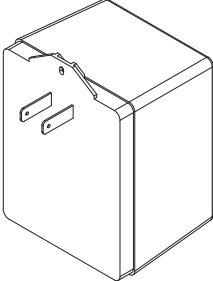
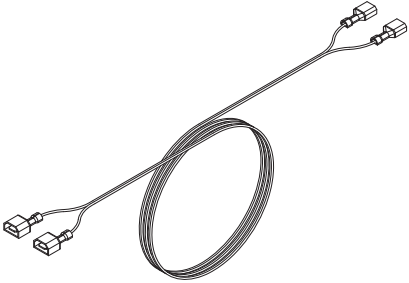
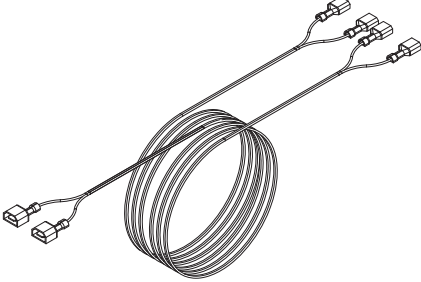
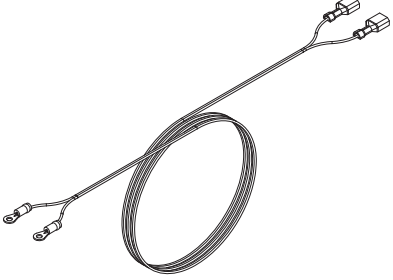
# INLINE VALVES & FLEX HOSES

	P/N & DESCRIPTION	COMPONENT
	<p><b>P/N: 700480ELF</b></p> <p>INLINE THERMOSTATIC MIXING VALVE, POWERS</p>	
	<p><b>P/N: 380259LF</b></p> <p>INLINE SCREWDRIVER STOP, 1/2" MPT X 1/2" FPT</p>	
	<p><b>P/N: 980506</b></p> <p>6" FLEX HOSE, STAINLESS STEEL, 1/2" FIP X 1/2" FIP</p>	
	<p><b>P/N: 980520</b></p> <p>20" FLEX HOSE, STAINLESS STEEL, 1/2" FIP X 1/2" FIP</p>	

## FLEX HOSES

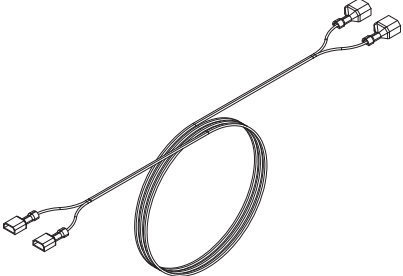
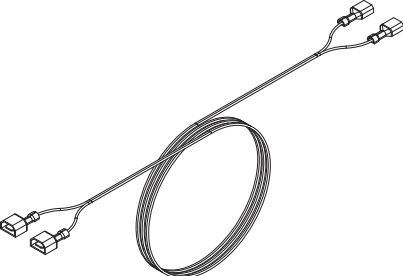
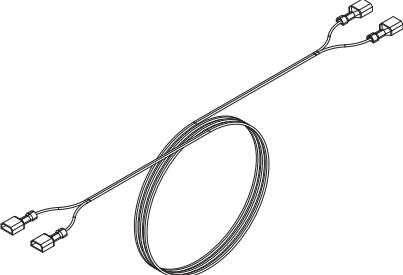
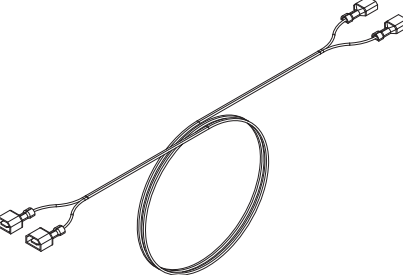
	P/N & DESCRIPTION	COMPONENT
	<p><b>P/N: 320512</b></p> <p>48" FLEX HOSE, STAINLESS STEEL, 1/2" FIP X 1/2" FIP</p>	
	<p><b>P/N: 320511SS</b></p> <p>20" FLEX HOSE, STAINLESS STEEL, 1/2" FIP X 1/2" MIP</p>	
	<p><b>P/N: 320508SS</b></p> <p>20" FLEX HOSE, STAINLESS STEEL, 1/2" FIP X 3/8" FIP</p>	
	<p><b>P/N: 320462SS</b></p> <p>20" FLEX HOSE, STAINLESS STEEL, 3/8" FIP X 3/8" FIP</p>	
	<p><b>P/N: 320462SS-48</b></p> <p>48" FLEX HOSE, STAINLESS STEEL, 3/8" FIP X 3/8" FIP</p>	

# TRANSFORMERS & WIRING HARNESSSES

	P/N & DESCRIPTION	COMPONENT
	<p><b>P/N: 701272</b></p> <p><b>(TF24H) HARD-WIRE TRANSFORMER</b></p>	
	<p><b>P/N: 701210</b></p> <p><b>(TF24P) PLUG-IN TRANSFORMER</b></p>	
	<p><b>P/N: 701403</b></p> <p>WIRING HARNESS, SINGLE CONTROLLER (HARD-WIRE TRANSFORMER)</p>	
	<p><b>P/N: 701310-8</b></p> <p>WIRING HARNESS, DUAL CONTROLLERS (HARD-WIRE TRANSFORMER)</p>	
	<p><b>P/N: 701310-6</b></p> <p>WIRING HARNESS, 1 &amp; 2 CONTROLLERS (PLUG-IN TRANSFORMER)</p>	



**WIRING HARNESSES (CONT.)**

	P/N & DESCRIPTION	COMPONENT
	<p><b>P/N: 701315</b></p> <p>WIRING HARNESS, 8', FEMALE-FEMALE</p>	
	<p><b>P/N: 701316</b></p> <p>WIRING HARNESS, 8', MALE-FEMALE</p>	
	<p><b>P/N: 701111-5</b></p> <p>WIRING HARNESS, 5' RED, PNEUTRONIC-TO-VALVE</p>	
	<p><b>P/N: 701146-4</b></p> <p>WIRING HARNESS, 4' RED, PUSH BUTTON EXTENSION</p>	

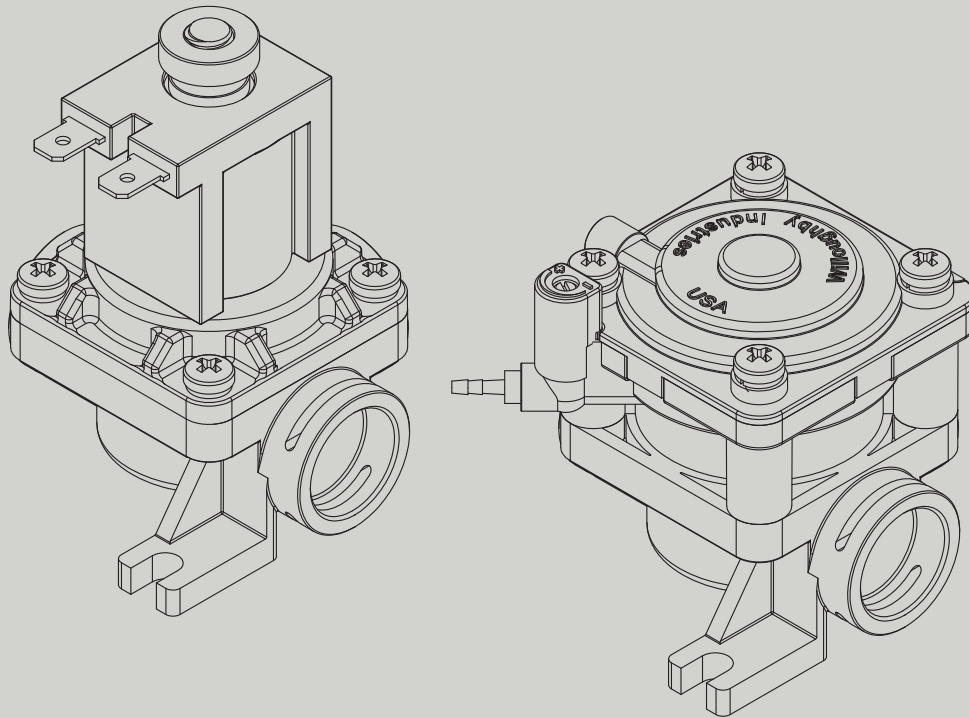
# PARTS AND ACCESSORIES CATALOG



WILLOUGHBY

SECTION

2



## VALVE IDENTIFICATION GUIDE

### **THESE ITEMS:**

PNEUMATIC / MECHANICAL VALVES- IDENTIFICATION \_\_\_\_\_

ELECTRONIC VALVES- IDENTIFICATION \_\_\_\_\_

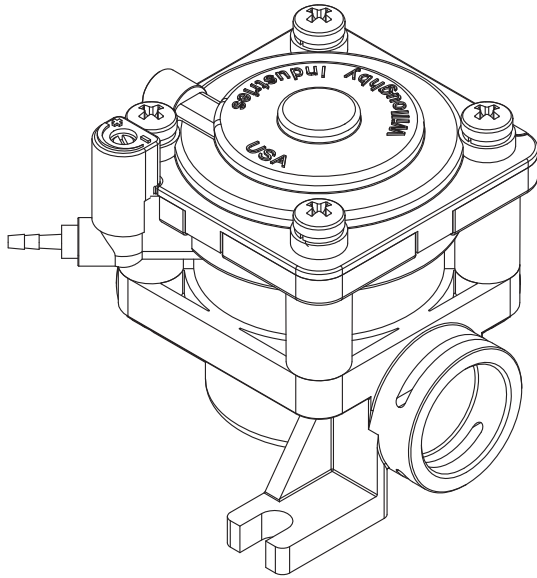
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22

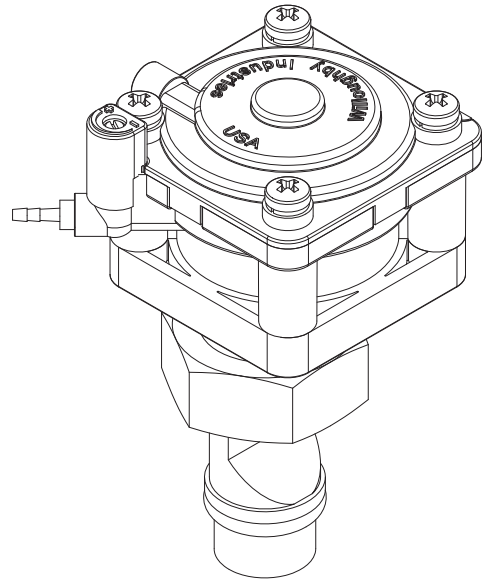
23

# PNEUMATIC / MECHANICAL VALVE IDENTIFICATION

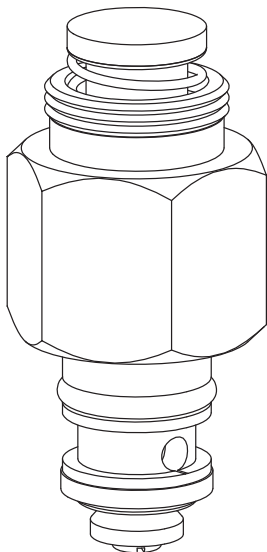
## LEAD-FREE PNEUMATIC BEGIN: SECTION 3



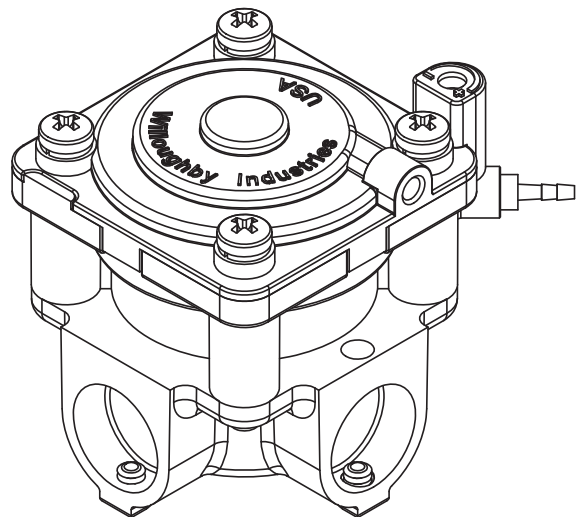
## LEAD-FREE RETROFIT BEGIN: SECTION 4



## BRASS-BODY MECHANICAL BEGIN: SECTION 5

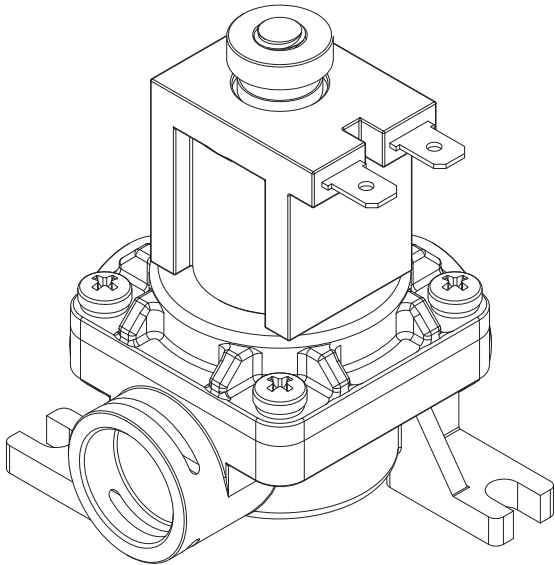


## BRASS-BODY PNEUMATIC BEGIN: SECTION 6

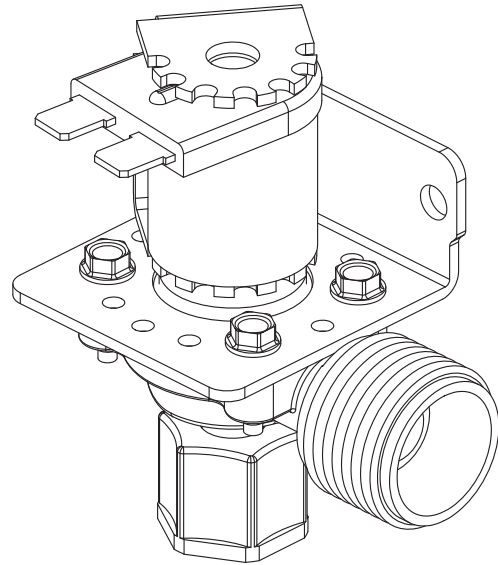


# ELECTRONIC VALVE IDENTIFICATION

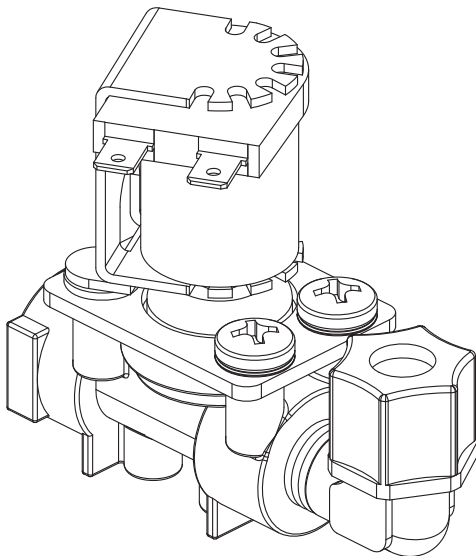
**LEAD-FREE ELECTRONIC**  
BEGIN: SECTION 7



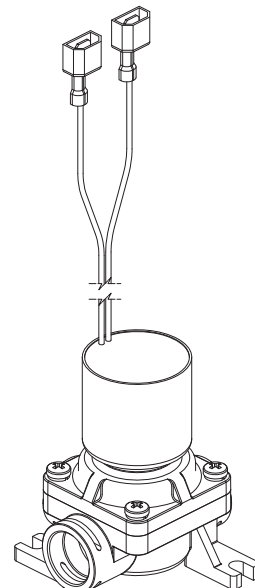
**ELECTRONIC**  
BEGIN: SECTION 8



**ELECTRONIC WASH FOUNTAIN**  
BEGIN: SECTION 8



**LEAD-FREE BATTERY OPERATED**  
BEGIN: SECTION 10



# NOTES:

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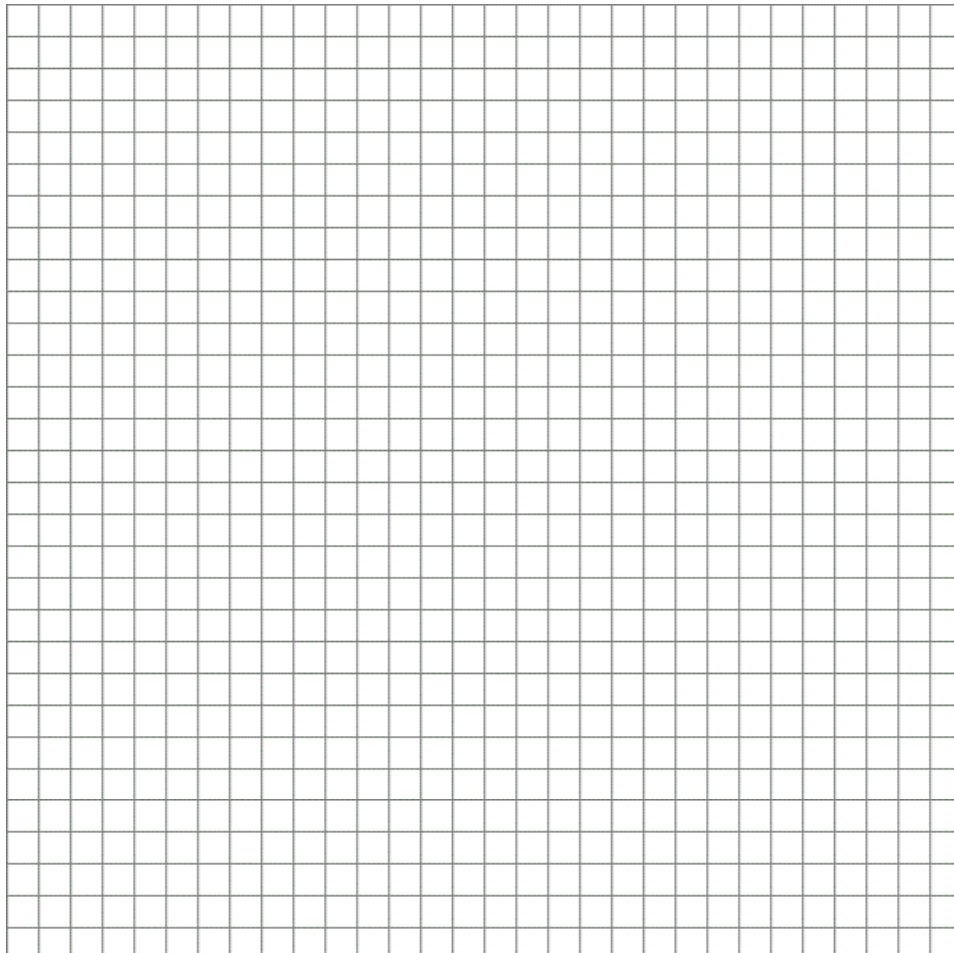
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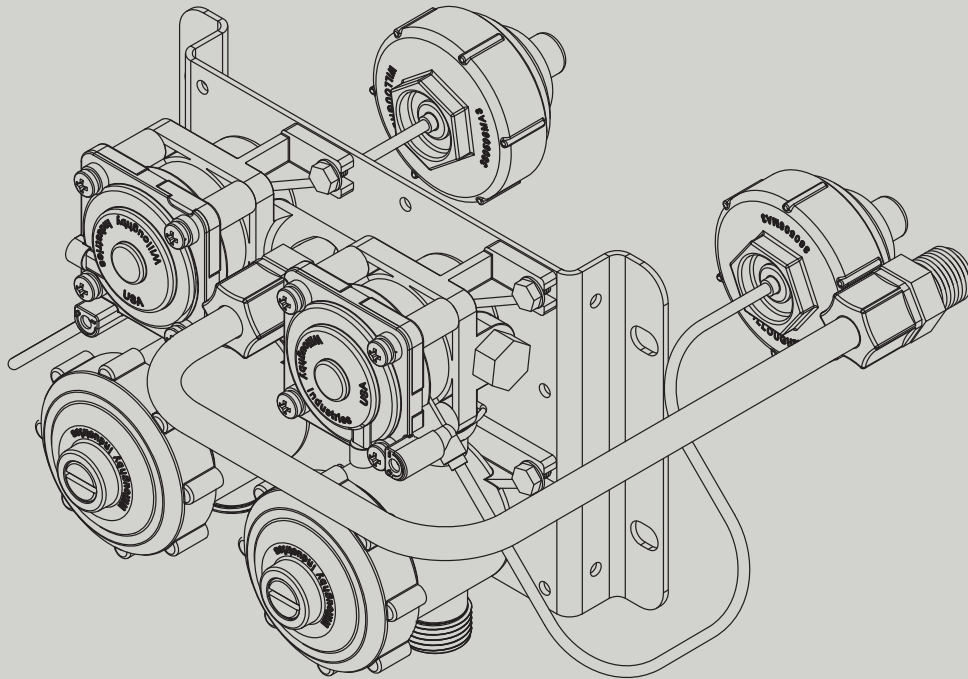


# PARTS AND ACCESSORIES CATALOG



WILLOUGHBY

## SECTION 3



## PNEUMATIC VALVES & PARTS- LEAD FREE

### **THESE ITEMS:**

SINGLE TEMP. PNEUMATIC VALVES- OVERVIEW	_____
DUAL TEMP. PNEUMATIC VALVES- OVERVIEW	_____
PML METERING VALVE OPERATION	_____
PML COMPLETE METERING VALVE ASSEMBLIES	_____
PML METERING VALVE COMPONENTS & KITS	_____
PSL NON-METERING VALVE OPERATION	_____
PSL COMPLETE NON-METERING VALVE ASSEMBLIES	_____
PSL NON-METERING VALVE COMPONENTS & KITS	_____

### **BEGIN ON PAGE:**

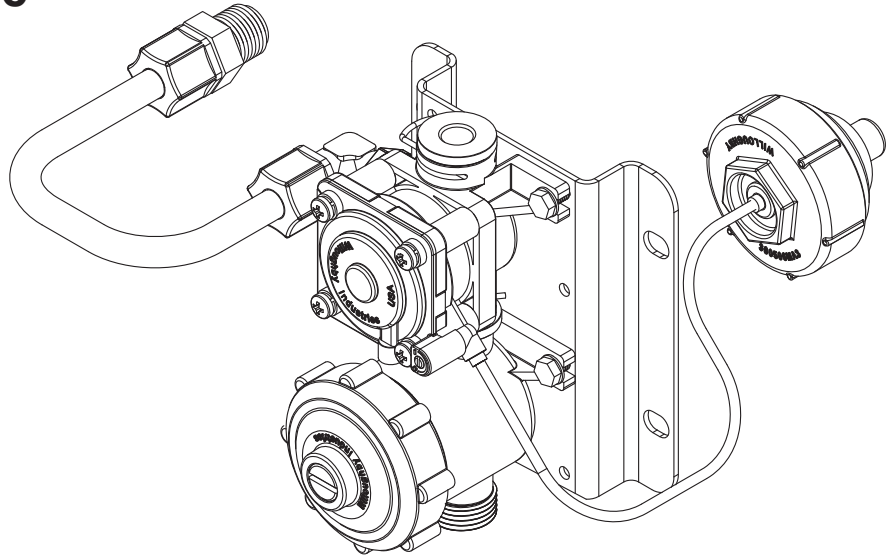
26
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37
41

# PML1 / PSL1

## Single Temperature

### Lead-free

### Pneumatic Valve



(PML1 SHOWN)

### Recommended Specifications

Single Temperature, Lead-free Pneumatic Valve assembly shall be: Willoughby Model No. **P\_\_L1** (Select from options list)

The valve assembly shall use diaphragms to pneumatically activate non-hold-open metering (5-90 second) or non-metering pneumatic valves. The vandal-resistant push buttons shall be keyed/non-removable from the front of the fixture and shall require less than 5 lbs of force to operate.

The plastic valve checkstop/strainer shall feature integral mounting points. Replaceable stainless steel strainer and optional 0.5 GPM flow control can be serviced without disturbing the supply line. Assembly shall use flexible tubing to connect to the filler/bubbler/shower head. Water inlet is 1/2" MPT and is reversible for either top or bottom supply. A galvanized wall mounting plate is provided, wall anchoring hardware provided by others.

Flexible tubing is supplied for walls up to 8" thick. Recommended operating pressure shall be 35-70 psi. Valve shall withstand pressures up to 90 psi. The maximum length for tubing between the push button actuator and the valve is 10 feet. The pneumatic system is entirely self-contained and shall require no outside air supply. Cost reducing manifolded valves shall consist of multiple valve assemblies served by a common supply line.

Valve complies with NSF-61 standard.

#### Model Number:

- PML1 Single Temp. Metering
- PSL1 Single Temp. Non-metering

#### Flow Selection (choose one):

- 0.5 GPM Flow (lavatories)
- 1.5 GPM Flow (showers)
- 2.0 GPM Flow (showers)
- NFC (No Flow Control) (showers, up to MA2)

#### Push Button:

- PPB Pneumatic Push Button
- PBH Ligature-resistant Pneumatic Push Button
- PLPB Pneumatic Palm Push Button

#### Options:

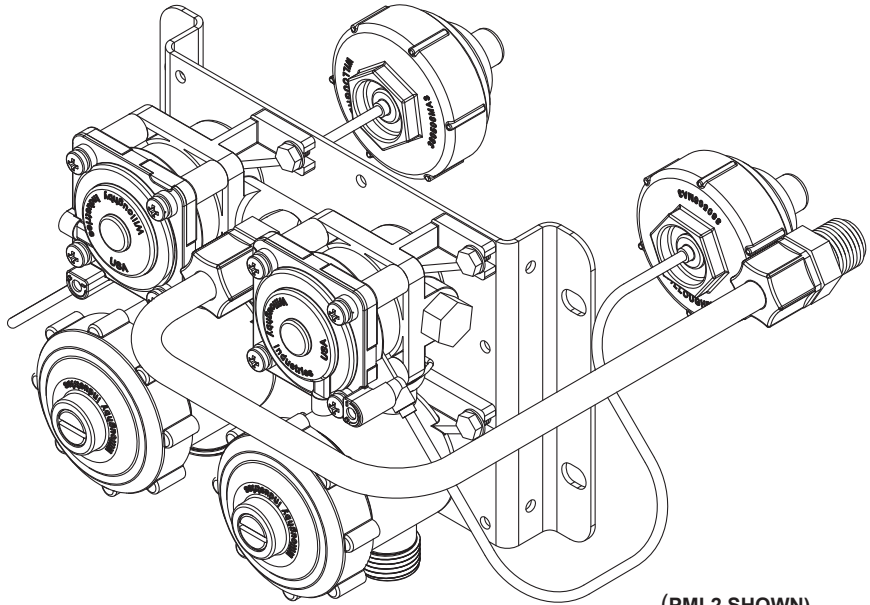
- MA2 (Double Manifold, No flow limitation)
- MA3 (Triple Manifold, 0.5 GPM flow only)
- MA4 (Quad Manifold, 0.5 GPM flow only)
- TMV In-line Thermostatic Mixing Valve

# PML2 / PSL2

## Dual Temperature

## Lead-free

## Pneumatic Valve



(PML2 SHOWN)

### Recommended Specifications

Dual Temperature, Lead-free Pneumatic Valve assembly shall be: Willoughby Model No. **P\_\_L2** (Select from options list)

The valve assembly shall use diaphragms to pneumatically activate non-hold open metering (5-90 second) or non-metering pneumatic valves. The vandal-resistant push buttons shall be keyed/non-removable from the front of the fixture and shall require less than 5 lbs of force to operate.

The plastic valve checkstop/strainer shall feature integral mounting points. Replaceable stainless steel strainer and optional 0.5 GPM flow control can be serviced without disturbing the supply line. Assembly shall use flexible tubing to connect to the filler/bubbler/shower head. Water inlet is 1/2" MPT and is reversible for either top or bottom supply. A galvanized wall mounting plate is provided, wall anchoring hardware provided by others.

Flexible tubing is supplied for walls up to 8" thick. Recommended operating pressure shall be 35-70 psi. Valve shall withstand pressures up to 90 psi. The maximum length for tubing between the push button actuator and the valve is 10 feet. The pneumatic system is entirely self-contained and shall require no outside air supply. Cost reducing manifolded valves shall consist of multiple valve assemblies served by a common supply line. Valve complies with NSF-61 standard.

\* This is not a substitute for a thermostatic mixing valve. The delivered water temperature is the result of the two combined inlet temperatures and cannot be adjusted by this valve assembly. The hot side of the valve must be supplied with tempered water.

#### Model Number:

- PML2 Dual Temp. Metering
- PSL2 Dual Temp. Non-metering

#### Flow Selection (choose one):

- 0.5 GPM Flow (lavatories)
- 1.5 GPM Flow (showers)
- 2.0 GPM Flow (showers)
- NFC (No Flow Control) (showers, up to MA2)

#### Push Button:

- PPB Pneumatic Push Button
- PBH Ligature-resistant Pneumatic Push Button
- PLPB Pneumatic Palm Push Button

#### Options:

- MA2 (Double Manifold, No flow limitation)
- MA3 (Triple Manifold, 0.5 GPM flow only)
- MA4 (Quad Manifold, 0.5 GPM flow only)
- TMV In-line Thermostatic Mixing Valve

# PML: METERING VALVES

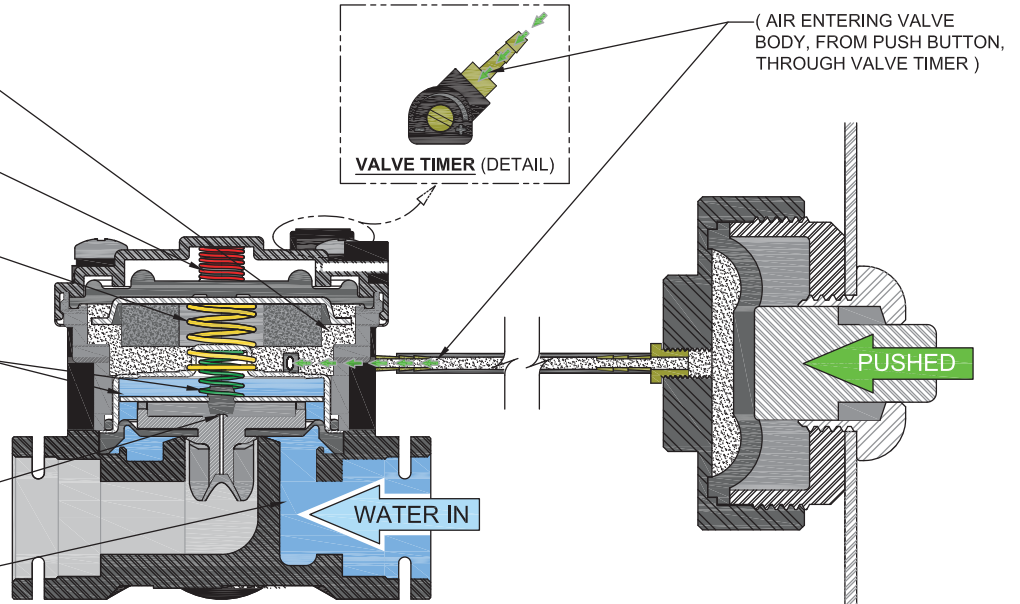
## VALVE OPERATION DIAGRAM



### WHEN THE VALVE IS CLOSED:

**BEGIN**

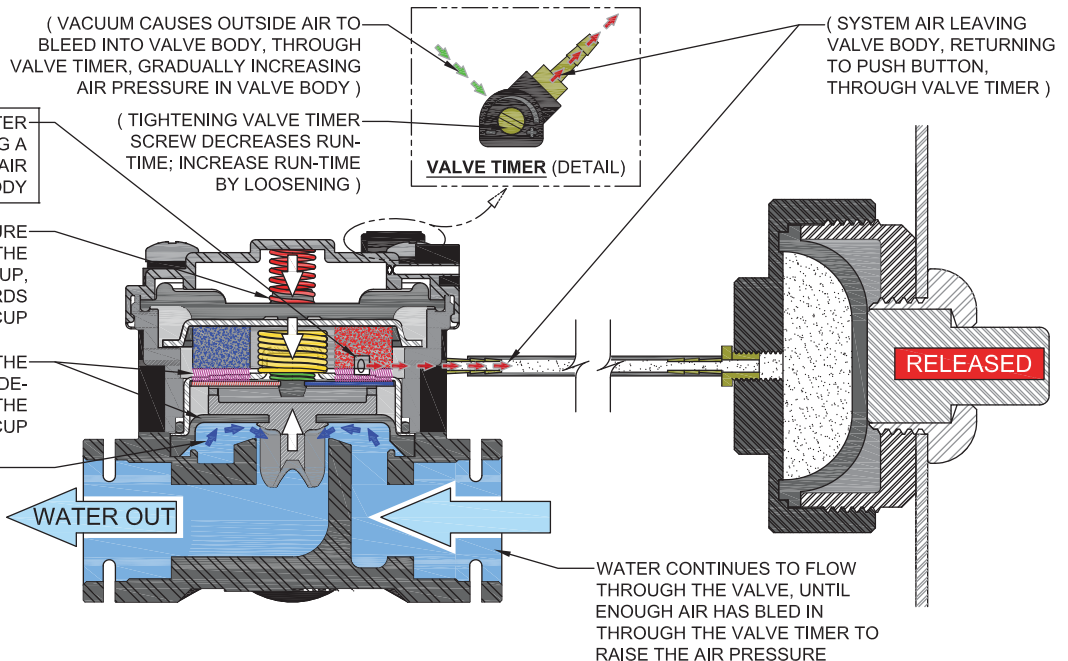
- PUSH BUTTON IS PUSHED, WHICH INCREASES SYSTEM AIR PRESSURE INSIDE VALVE BODY
- AIR-SIDE-SPRING IS COMPRESSED AGAINST THE TOP COVER BY THE MAGNET-SPRING
- MAGNET-SPRING HOLDS MAGNET, MAGNET-CUP, AND AIR-SIDE-DIAPHRAGM UP AND AWAY FROM THE BARRIER-CUP
- WATER-SIDE-SPRING AND BLEED-ORIFICE WATER PRESSURE PRESS ACTUATOR-DISK / DIAPHRAGM AGAINST THE VALVE-BASE, STOPPING THE WATER FLOW
- BLEED-ORIFICE IN DIAPHRAGM GUIDE IS CLOSED BY THE RUBBER STOPPER IN ACTUATING-DISK
- SUPPLY WATER IS HELD IN THE VALVE BODY SUPPLY INLET BY THE WATER-SIDE-DIAPHRAGM

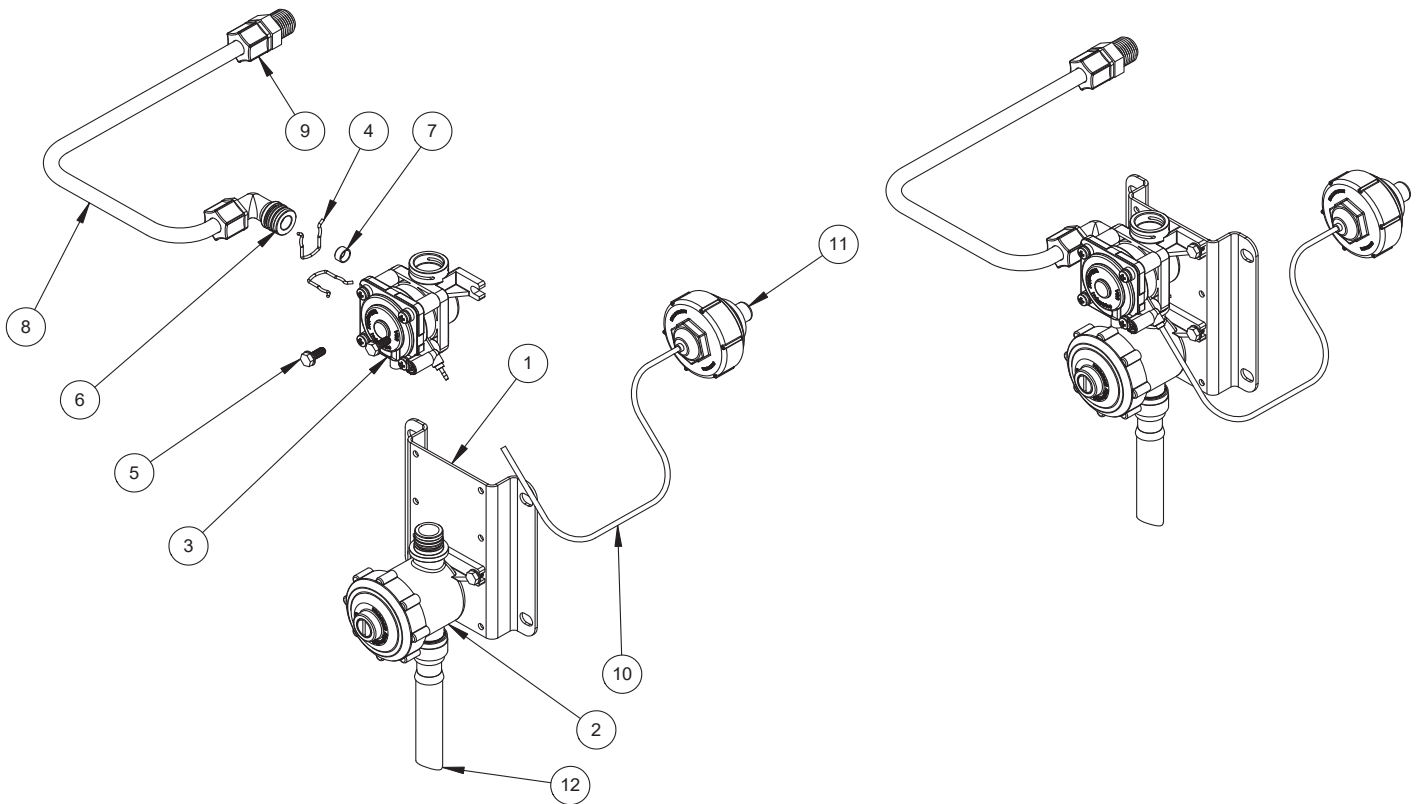


### WHEN THE VALVE IS OPENED:

**CONTINUE**

- ( VACUUM CAUSES OUTSIDE AIR TO BLEED INTO VALVE BODY, THROUGH VALVE TIMER, GRADUALLY INCREASING AIR PRESSURE IN VALVE BODY )
- ( TIGHTENING VALVE TIMER SCREW DECREASES RUN-TIME; INCREASE RUN-TIME BY LOOSENING )
- PUSH BUTTON IS RELEASED AFTER BEING PUSHED, CREATING A VACUUM THAT LOWERS THE AIR PRESSURE IN THE VALVE BODY
- THE DECREASED AIR PRESSURE AND AIR-SIDE-SPRING FORCE THE AIR-SIDE-DIAPHRAGM, MAGNET-CUP, AND MAGNET DOWN TOWARDS THE BARRIER-CUP
- THE MAGNET ATTRACTS THE ACTUATOR-DISK / WATER-SIDE-DIAPHRAGM UP TOWARDS THE BARRIER CUP
- AS THE MAGNET PULLS THE ACTUATOR-DISK TOWARDS THE BARRIER CUP, THE WATER PRESSURE PUSHES THE WATER-SIDE-DIAPHRAGM UPWARDS, OPENING THE VALVE



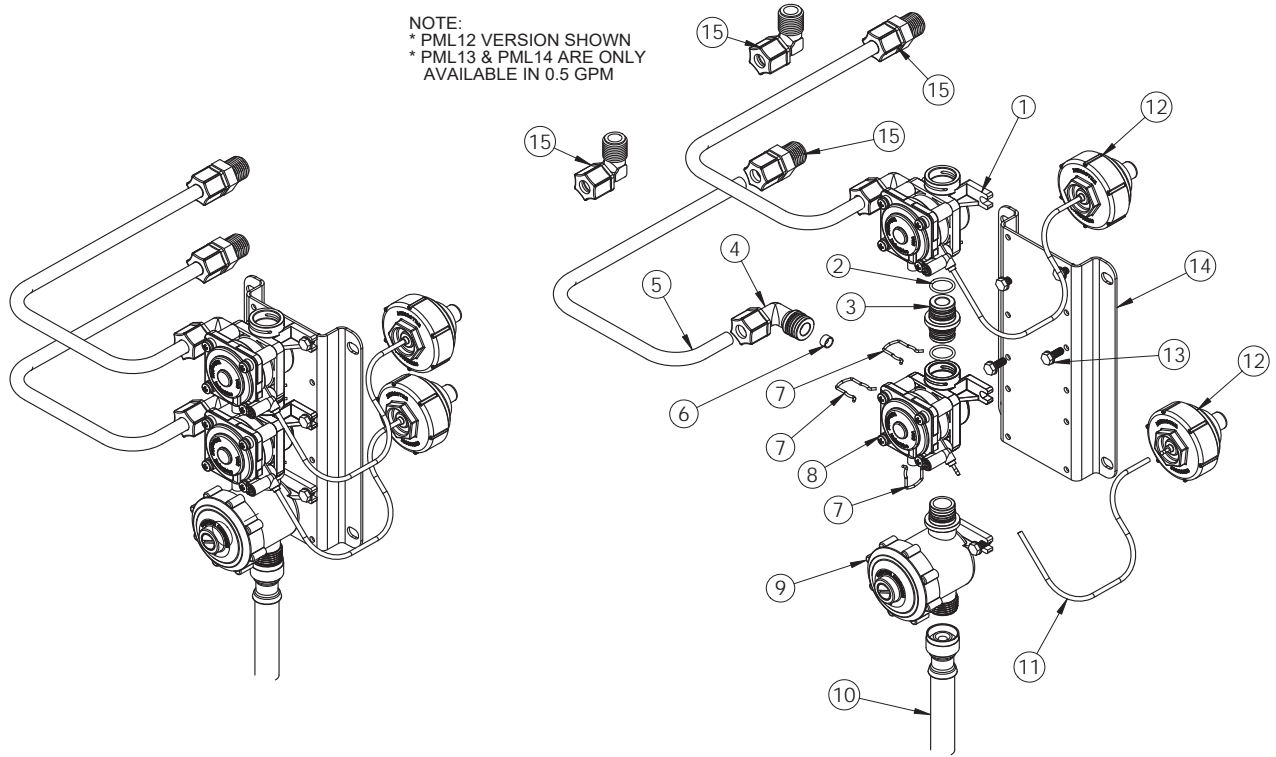
**PML1** SINGLE TEMPERATURE METERING VALVES

ITEM #	PART NUMBER	DESCRIPTION	SEE CATALOG SECTION #:
1	980501	PML11 VALVE MOUNTING BRACKET	---
2	980183	CHECKSTOP ASSEMBLY	11
3	980406PL	PNEUMATIC VALVE ASSEMBLY, LEFT-PLUGGED PORT	3
4	980140	SPRING CLIP	1
5	800133	#10-16 SELF TAP TYPE B HEX HEAD SCREW	1
6	980600A	VALVE FITTING ASSEMBLY, 3/8" ELBOW	1
7	P/N VARIES	FLOW CONTROL INSERT (VARIES, OPTIONAL ON SOME VALVES)	11
8	600523	FLEXIBLE TUBING, 3/8" (10mm) O.D. (20 FT. TOTAL)	1 (SOLD PER FOOT)
9	320566	(OPTIONAL) CONNECTOR, 3/8" TUBE x 3/8" MPT	1
	320577	(OPTIONAL) ELBOW, 3/8" TUBE x 3/8" MPT	1
10	600470	PNEUMATIC TUBING, 1/16" I.D. x 1/8" O.D. (RED)	1 (SOLD PER FOOT)
11	P/N VARIES	PNEUMATIC PUSH BUTTON (VARIES)	12
12	980506	6" STAINLESS STEEL FLEX HOSE	1
	980520	20" STAINLESS STEEL FLEX HOSE	1

**SEE PAGE 33 FOR INDIVIDUAL METERING VALVE ASSEMBLIES**

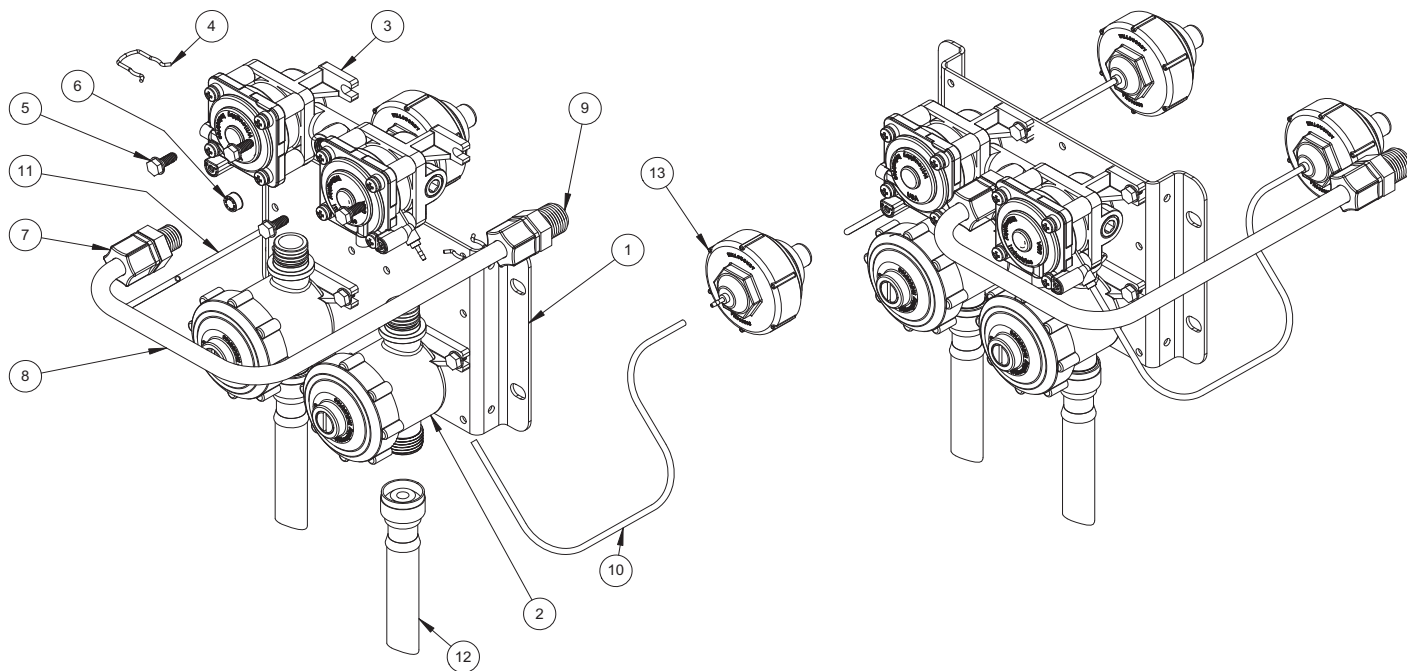


# PML1 SINGLE TEMPERATURE METERING VALVES (MANIFOLDED)



ITEM #	PART NUMBER	DESCRIPTION	SEE CATALOG SECTION #:
1	980406PL	PNEUMATIC VALVE ASSEMBLY, LEFT-PLUGGED PORT	3
2	980164	'O'-RING, #015	1
3	980197	PLASTIC VALVE COUPLING	1
4	980600A	VALVE FITTING ASSEMBLY, 3/8" ELBOW	1
5	600523	FLEXIBLE TUBING, 3/8" (10mm) O.D. (20 FT. TOTAL)	1 (SOLD PER FOOT)
6	P/N VARIES	FLOW CONTROL INSERT (VARIES, OPTIONAL ON SOME VALVES)	11
7	980140	SPRING CLIP	1
8	980406L	PNEUMATIC VALVE ASSEMBLY, LEFT HAND	3
9	980183	CHECKSTOP ASSEMBLY	11
10	980506	6" STAINLESS STEEL FLEX HOSE	1
	980520	20" STAINLESS STEEL FLEX HOSE	1
11	600470	PNEUMATIC TUBING, 1/16" I.D. x 1/8" O.D. (RED)	1 (SOLD PER FOOT)
12	P/N VARIES	PNEUMATIC PUSH BUTTON (VARIES)	12
13	800133	#10-16 SELF TAP TYPE B HEX HEAD SCREW	1
14	9805012	PML12 VALVE MOUNTING BRACKET	---
	9805013	PML13 VALVE MOUNTING BRACKET	---
	9805014	PML14 VALVE MOUNTING BRACKET	---
15	320566	(OPTIONAL) CONNECTOR, 3/8" TUBE x 3/8" MPT	1
	320577	(OPTIONAL) ELBOW, 3/8" TUBE x 3/8" MPT	1

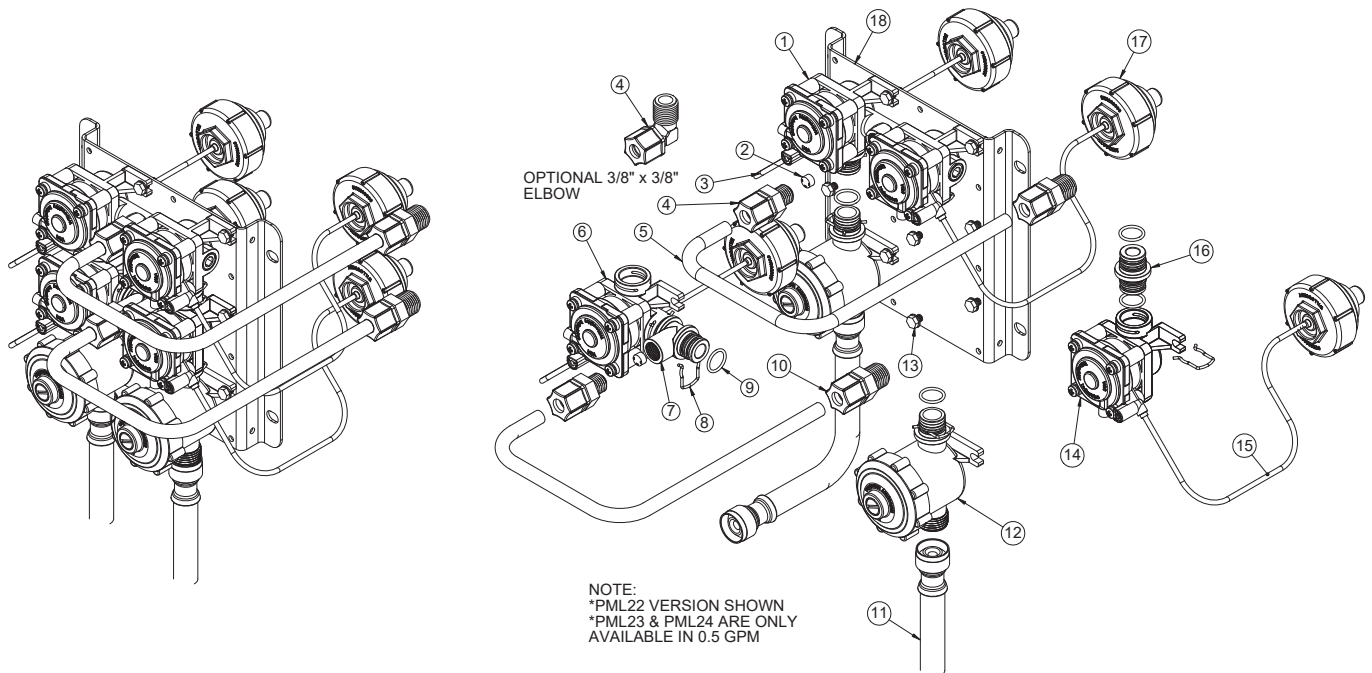
SEE PAGE 33 FOR INDIVIDUAL METERING VALVE ASSEMBLIES

**PML2** DUAL TEMPERATURE METERING VALVES (MANIFOLDED)

ITEM #	PART NUMBER	DESCRIPTION	SEE CATALOG SECTION #:
1	980502	PML21 VALVE MOUNTING BRACKET	---
2	980183	CHECKSTOP ASSEMBLY	11
3	980407	PML2 VALVE ASSEMBLY	3
4	980140	SPRING CLIP	1
5	800133	#10-16 SELF TAP TYPE B HEX HEAD SCREW	1
6	P/N VARIES	FLOW CONTROL INSERT (VARIES, OPTIONAL ON SOME VALVES)	11
7	321010	CONNECTOR, 3/8" TUBE x 1/4" MPT	1
8	600523	FLEXIBLE TUBING 3/8" (10mm) O.D. (20 FT. TOTAL)	1 (SOLD PER FOOT)
9	320566	(OPTIONAL) CONNECTOR, 3/8" TUBE x 3/8" MPT	1
	320577	(OPTIONAL) ELBOW, 3/8" TUBE x 3/8" MPT	1
10	600475	PNEUMATIC TUBING, 1/16" I.D. x 1/8" O.D. (BLUE)	1 (SOLD PER FOOT)
11	600470	PNEUMATIC TUBING, 1/16" I.D. x 1/8" O.D. (RED)	1 (SOLD PER FOOT)
12	980506	(OPTIONAL) 6" STAINLESS STEEL FLEX HOSE	1
	980520	(OPTIONAL) 20" STAINLESS STEEL FLEX HOSE	1
13	P/N VARIES	PNEUMATIC PUSH BUTTON (VARIES)	12

**SEE PAGE 33 FOR INDIVIDUAL METERING VALVE ASSEMBLIES**

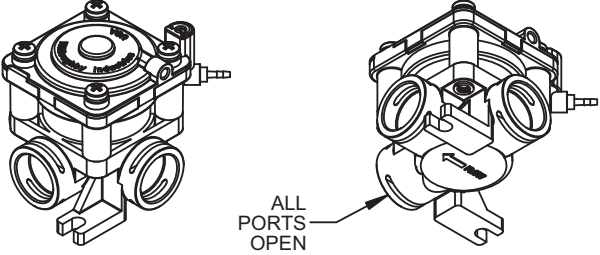
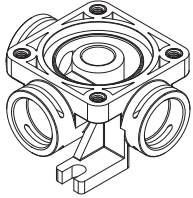
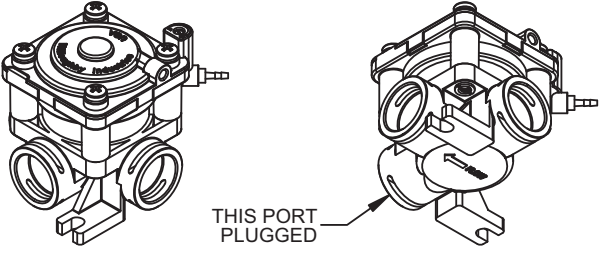
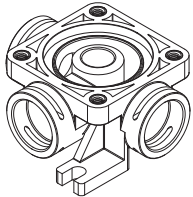
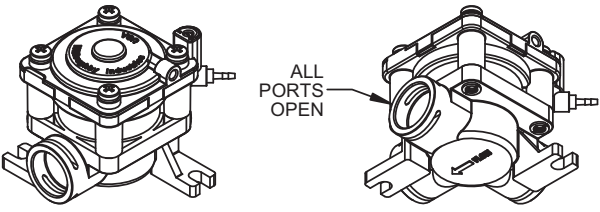
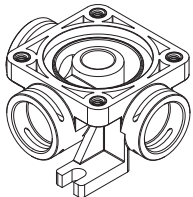
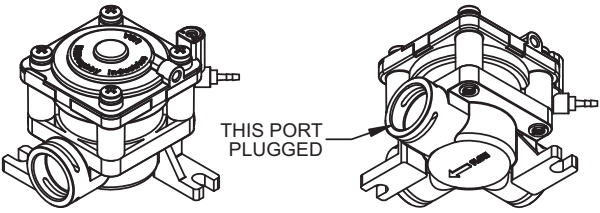
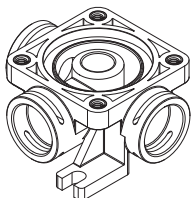
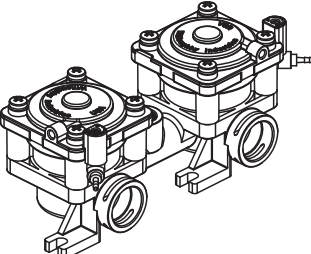
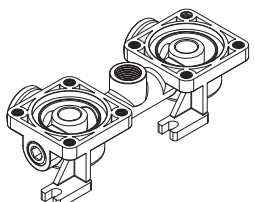


**PML2** DUAL TEMPERATURE METERING VALVES (MANIFOLDED)

ITEM #	PART NUMBER	DESCRIPTION	SEE CATALOG SECTION #:
1	980407	PML2 VALVE ASSEMBLY	3
2	P/N VARIES	FLOW CONTROL INSERT (VARIES, OPTIONAL ON SOME VALVES)	11
3	600470	PNEUMATIC TUBING, 1/16" I.D. (RED)	1 (SOLD PER FOOT)
4	321010	CONNECTOR, 3/8" TUBE x 1/4" MPT	1
5	600523	FLEXIBLE TUBING 3/8" (10mm) O.D. (20 FT. TOTAL)	1 (SOLD PER FOOT)
6	980406R	PNEUMATIC VALVE ASSEMBLY, RIGHT HAND	3
7	980196	PLASTIC VALVE 'T'	1
8	980140	SPRING CLIP	1
9	980164	'O'-RING #015	1
10	320566	(OPTIONAL) CONNECTOR, 3/8" TUBE x 3/8" MPT	1
	320577	(OPTIONAL) ELBOW, 3/8" TUBE x 3/8" MPT	1
11	980506	(OPTIONAL) 6" STAINLESS STEEL FLEX HOSE	1
	980520	(OPTIONAL) 20" STAINLESS STEEL FLEX HOSE	1
12	980183	CHECKSTOP ASSEMBLY	11
13	800133	#10-16 SELF TAP TYPE B HEX HEAD SCREW	1
14	980406L	PNEUMATIC VALVE ASSEMBLY, LEFT HAND	3
15	600475	PNEUMATIC TUBING, 1/16" I.D. x 1/8" O.D. (BLUE)	1 (SOLD PER FOOT)
16	980197	PLASTIC VALVE COUPLING	1
17	P/N VARIES	PNEUMATIC PUSH BUTTON (VARIES)	12
18	9805022	PML22 VALVE MOUNTING BRACKET	---
	9805023	PML23 VALVE MOUNTING BRACKET	---
	9805024	PML24 VALVE MOUNTING BRACKET	---

SEE PAGE 33 FOR INDIVIDUAL METERING VALVE ASSEMBLIES

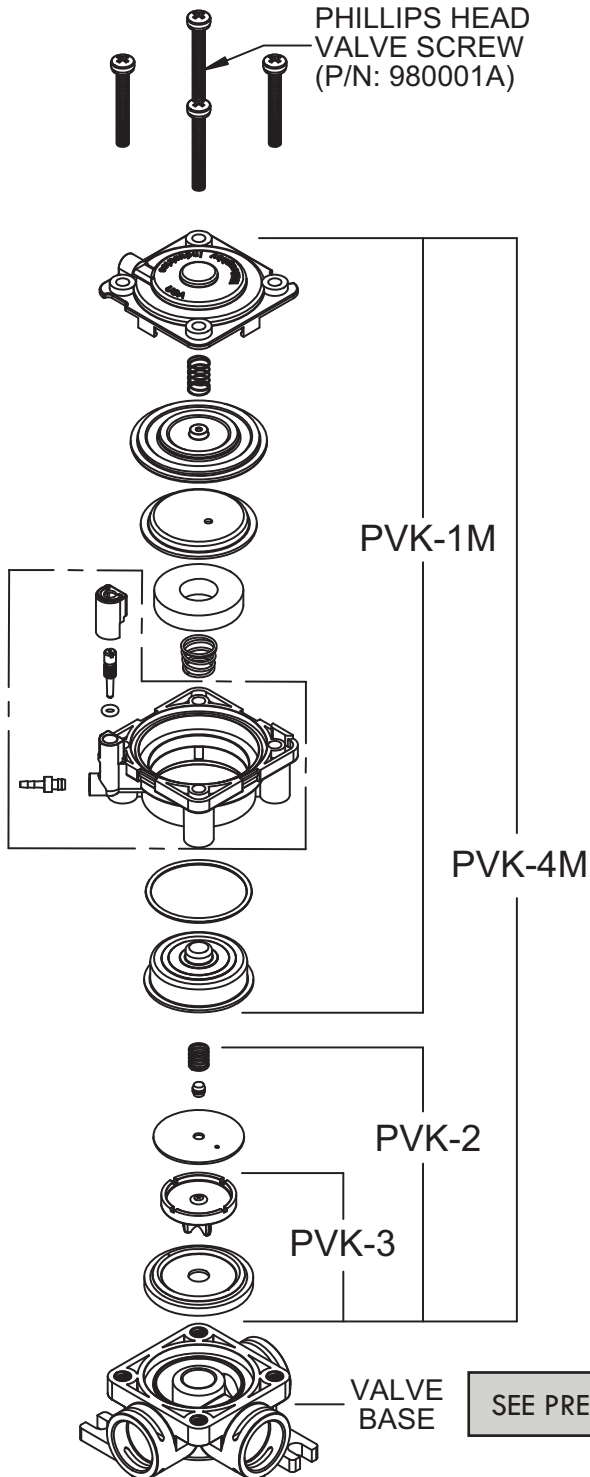
**PML** INDIVIDUAL METERING VALVE ASSEMBLIES / BASES

	PART NUMBER	VALVE ASSEMBLY	BASE ONLY P/N
	<p><b>P/N: 980406L</b> PML, LEFT HAND</p>		<p><b>P/N: 980420</b></p> 
	<p><b>P/N: 980406PL</b> PML, PLUGGED LEFT PORT</p>		<p><b>P/N: 980420L</b></p> 
	<p><b>P/N: 980406R</b> PML, RIGHT HAND</p>		<p><b>P/N: 980420</b></p> 
	<p><b>P/N: 980406PR</b> PML, PLUGGED RIGHT PORT</p>		<p><b>P/N: 980420R</b></p> 
	<p><b>P/N: 980407</b> PML2, DUAL TEMPERATURE</p>		<p><b>P/N: 980415</b></p> 

SEE THE NEXT PAGE FOR **PML** VALVE ASSEMBLY COMPONENTS

**PML VALVE ASSEMBLY COMPONENTS & KITS (PVKs)**

**\*COMMON TO ALL PML VALVES**



**NOTES:**

- PARTS LISTED IN **PVK** COMPONENT KITS ARE NOT SOLD INDIVIDUALLY
- **PVK-1M, PVK-2, & PVK-3** PARTS ARE AVAILABLE IN KIT FORM ONLY
- COMPONENT KIT PART NUMBERS ARE LISTED IN THE EXPLODED VIEW,

**SEE THE FOLLOWING PAGE FOR DETAILS**

**PART NUMBER**

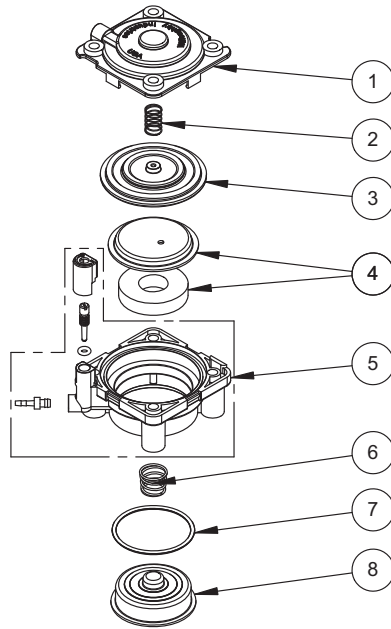
**VALVE ASSEMBLY**

**P/N: PVK-4M**

**COMPLETE PML REBUILD KIT  
INCLUDES: PVK-1M, PVK-2, PVK-3, & 380897**

**P/N: PVK-1M**

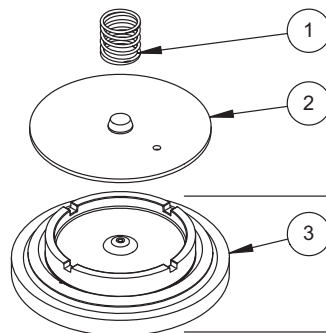
**PML AIR-SIDE  
REBUILD KIT**



ITEM #	DESCRIPTION	QTY.
1	AIR SIDE TOP COVER	1
2	AIR SIDE SPRING	1
3	DIAPHRAGM, AIR SIDE, PNEUMATIC METERING VALVE	1
4	METERING VALVE MAGNET/CUP ASSEMBLY	1
5	METERING VALVE BODY ASSEMBLY	1
6	SPRING, AIR SIDE MAGNET	1
7	O-RING M1.5x32 BUNA-70	1
8	BARRIER CUP	1

**P/N: PVK-2**

**WATER-SIDE  
ASSEMBLY KIT**

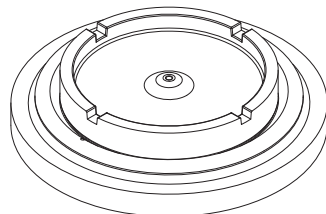


ITEM #	DESCRIPTION	QTY.
1	SPRING, WATER SIDE DIAPHRAGM	1
2	WATER SIDE DISK ASSEMBLY	1
3	WATER SIDE DIAPHRAGM/ADAPTOR ASSY.	1

PVK-3  
(ITEM #: 3)

**P/N: PVK-3**

**WATER-SIDE  
DIAPHRAGM**



**NOTE: PVK-3 IS  
INCLUDED IN PVK-2**

# PSL: NON-METERING VALVES

## VALVE OPERATION DIAGRAM



### WHEN THE VALVE IS CLOSED:

**BEGIN**

PUSH BUTTON IS IN RELEASED POSITION, KEEPING THE SYSTEM AIR PRESSURE LOW

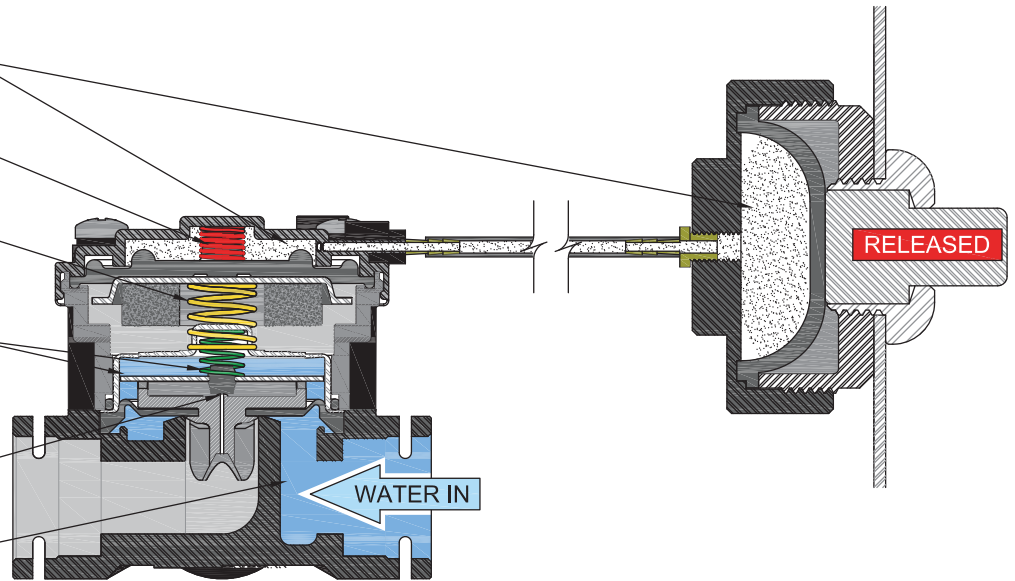
AIR-SIDE-SPRING IS COMPRESSED AGAINST THE TOP COVER BY THE MAGNET-SPRING

MAGNET-SPRING HOLDS MAGNET, MAGNET-CUP, AND AIR-SIDE-DIAPHRAGM UP AND AWAY FROM THE BARRIER-CUP

WATER-SIDE-SPRING AND BLEED-ORIFICE WATER PRESSURE PRESS ACTUATOR-DISK / DIAPHRAGM AGAINST THE VALVE-BASE, STOPPING THE WATER FLOW

BLEED-ORIFICE IN DIAPHRAGM GUIDE IS CLOSED BY THE RUBBER STOPPER IN ACTUATING-DISK

SUPPLY WATER IS HELD IN THE VALVE BODY SUPPLY INLET BY THE WATER-SIDE-DIAPHRAGM



### WHEN THE VALVE IS OPENED:

**CONTINUE**

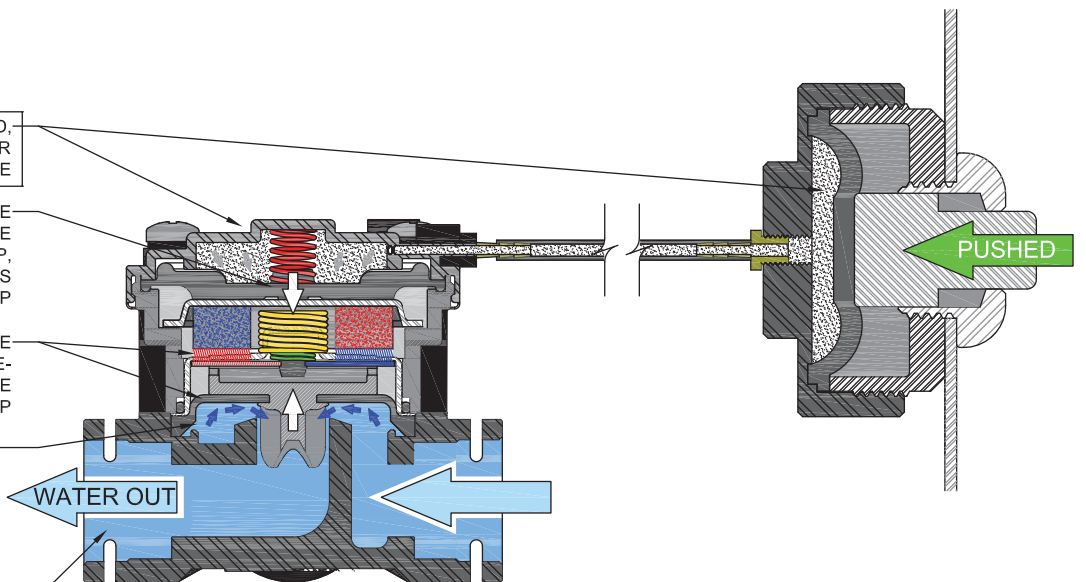
PUSH BUTTON IS PUSHED, INCREASING THE SYSTEM AIR PRESSURE

THE INCREASED AIR PRESSURE AND AIR-SIDE-SPRING FORCE THE AIR-SIDE-DIAPHRAGM, MAGNET-CUP, AND MAGNET DOWN TOWARDS THE BARRIER-CUP

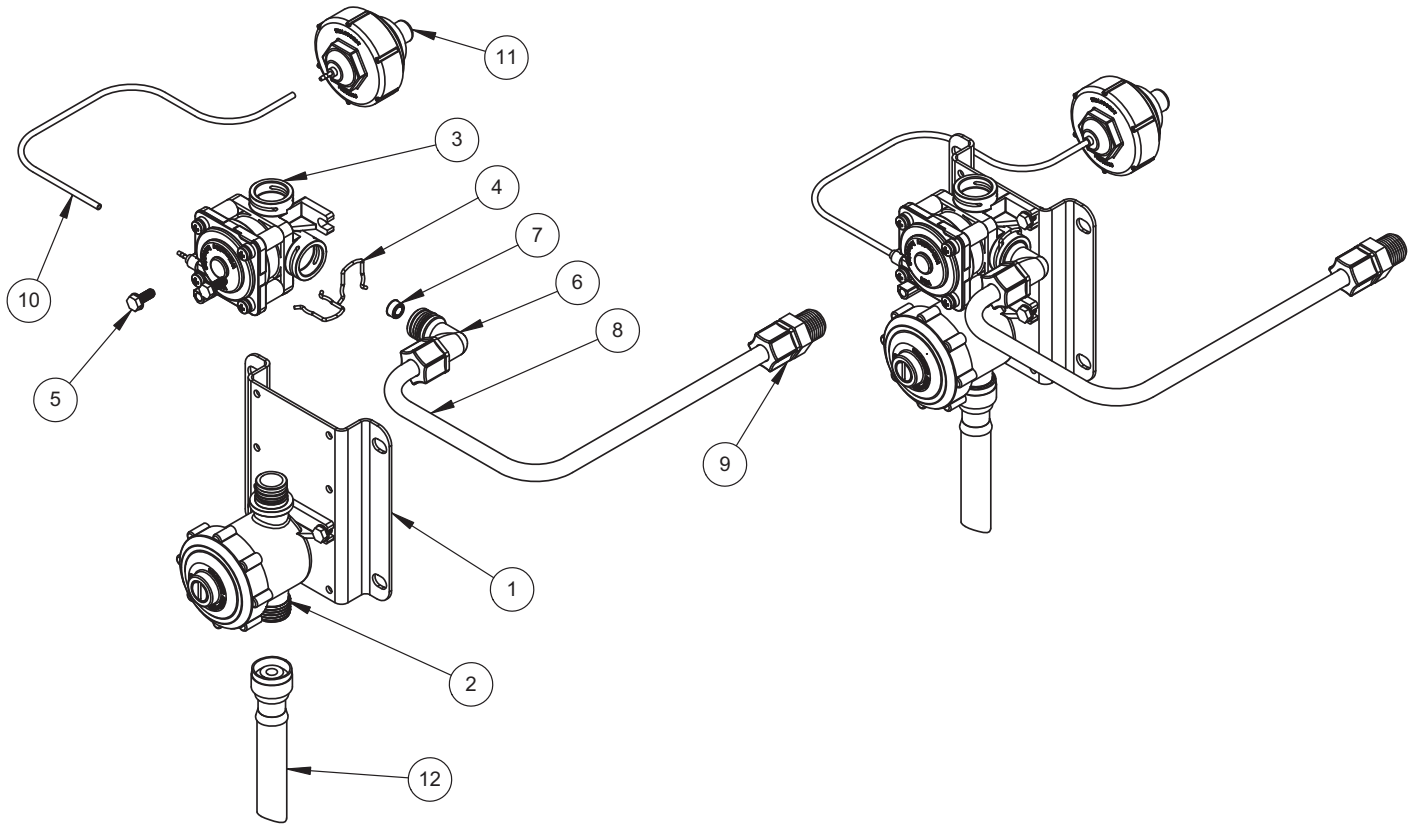
THE MAGNET ATTRACTS THE ACTUATOR-DISK / WATER-SIDE-DIAPHRAGM UP TOWARDS THE BARRIER CUP

AS THE MAGNET PULLS THE ACTUATOR-DISK TOWARDS THE BARRIER CUP, THE WATER PRESSURE PUSHES THE WATER-SIDE-DIAPHRAGM UPWARDS, OPENING THE VALVE

WATER CONTINUES TO FLOWS THROUGH THE VALVE AS LONG AS THE PUSH BUTTON IS HELD



**PSL1 SINGLE TEMPERATURE NON-METERING VALVES**

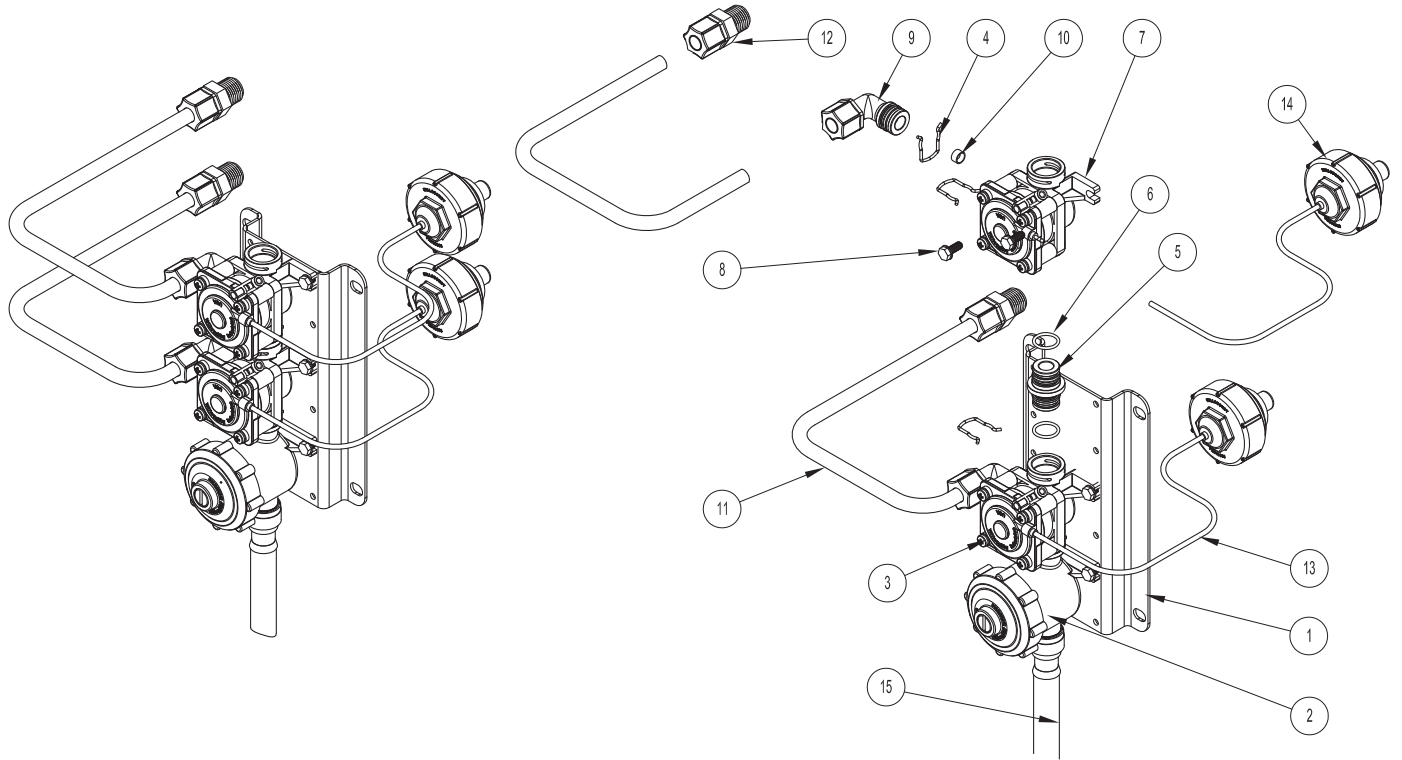


ITEM #	PART NUMBER	DESCRIPTION	SEE CATALOG SECTION #:
1	980501	PML11 VALVE MOUNTING BRACKET	---
2	980183	CHECKSTOP ASSEMBLY	11
3	980403PL	PNEUMATIC VALVE ASSEMBLY, LEFT-PLUGGED PORT	3
4	980140	SPRING CLIP	1
5	800133	#10-16 SELF TAP TYPE B HEX HEAD SCREW	1
6	980600A	VALVE FITTING ASSEMBLY, 3/8" ELBOW	1
7	P/N VARIES	FLOW CONTROL INSERT (VARIES, OPTIONAL ON SOME VALVES)	11
8	600523	FLEXIBLE TUBING, 3/8" (10mm) O.D. (20 FT. TOTAL)	1 (SOLD PER FOOT)
9	320566	(OPTIONAL) CONNECTOR, 3/8" TUBE x 3/8" MPT	1
	320577	(OPTIONAL) ELBOW, 3/8" TUBE x 3/8" MPT	1
10	600470	PNEUMATIC TUBING, 1/16" I.D. x 1/8" O.D. (RED)	1 (SOLD PER FOOT)
11	P/N VARIES	PNEUMATIC PUSH BUTTON (VARIES)	12
12	980506	6" STAINLESS STEEL FLEX HOSE	1
	980520	20" STAINLESS STEEL FLEX HOSE	1

**SEE PAGE 41 FOR INDIVIDUAL NON-METERING VALVE ASSEMBLIES**



# PSL1 SINGLE TEMPERATURE NON-METERING VALVES

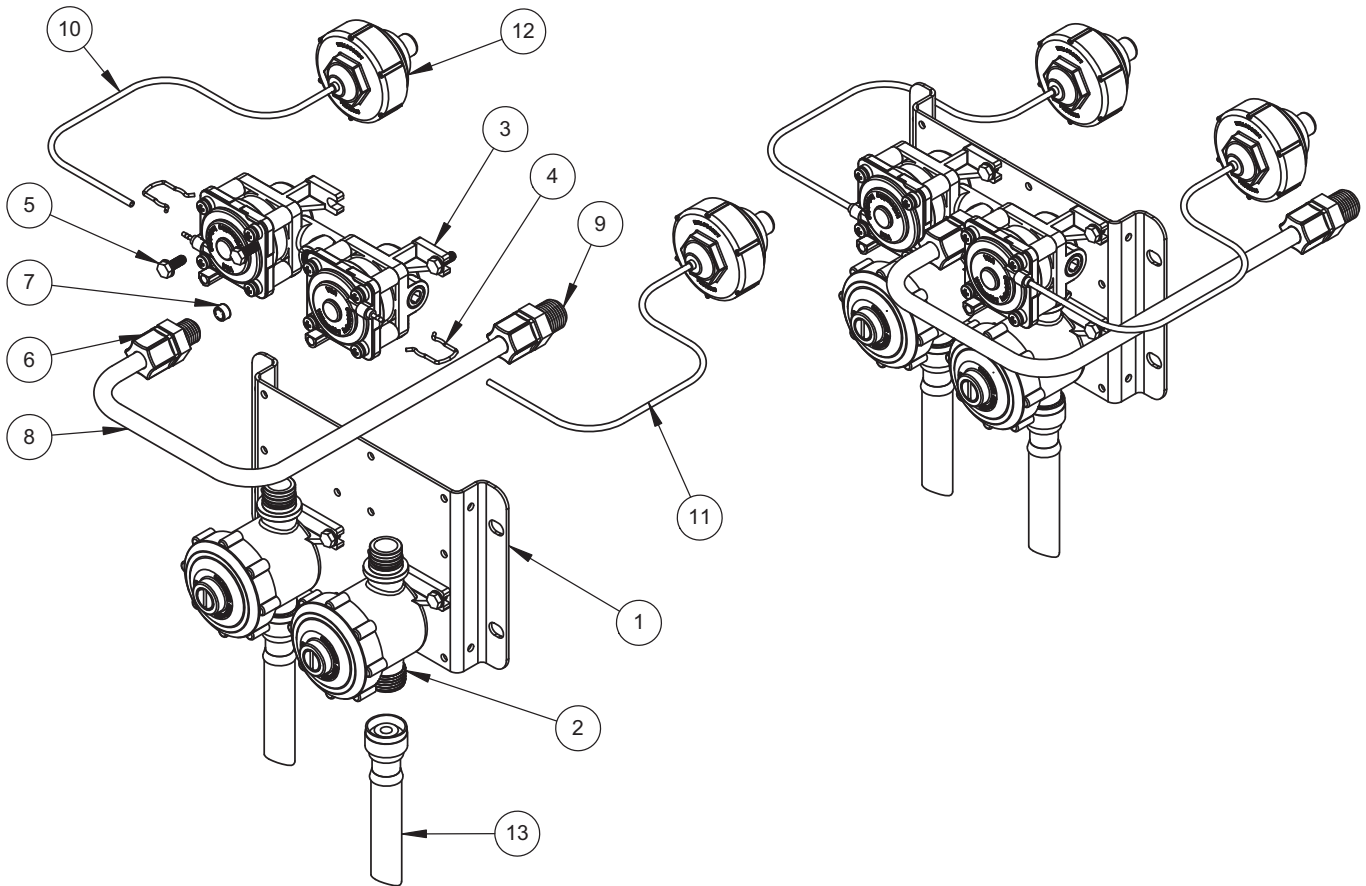


ITEM #	PART NUMBER	DESCRIPTION	SEE CATALOG SECTION #:
1	9805012	PML12 VALVE MOUNTING BRACKET	---
	9805013	PML13 VALVE MOUNTING BRACKET	---
	9805014	PML14 VALVE MOUNTING BRACKET	---
2	980183	CHECKSTOP ASSEMBLY	1
3	980403	PNEUMATIC SELF-CLOSING VALVE ASSEMBLY	3
4	980140	SPRING CLIP	1
5	980197	PLASTIC VALVE COUPLING	1
6	980164	O-RING, #015	1
7	980403PL	PNEUMATIC SELF-CLOSING VALVE ASSEMBLY- LEFT PLUGGED PORT	3
8	800133	#10-16 SELF TAP TYPE B HEX HEAD SCREW	1
9	980600A	VALVE FITTING ASSEMBLY, 3/8" ELBOW	1
10	P/N VARIES	FLOW CONTROL INSERT (VARIES, OPTIONAL ON SOME VALVES)	11
11	600523	FLEXIBLE TUBING 3/8" OD X 1/4" ID	1 (SOLD PER FOOT)
12	300566	(OPTIONAL) CONNECTOR, 3/8" TUBE x 3/8" MPT	1
	320577	(OPTIONAL) ELBOW, 3/8" TUBE x 3/8" MPT	1
13	600470	PNEUMATIC TUBING 1/16" ID (RED)	1 (SOLD PER FOOT)
14	P/N VARIES	PNEUMATIC PUSH BUTTON (VARIES)	12
15	980506	(OPTIONAL) 6" STAINLESS STEEL FLEX HOSE	1
	980520	(OPTIONAL) 20" STAINLESS STEEL FLEX HOSE	1

SEE PAGE 41 FOR INDIVIDUAL NON-METERING VALVE ASSEMBLIES



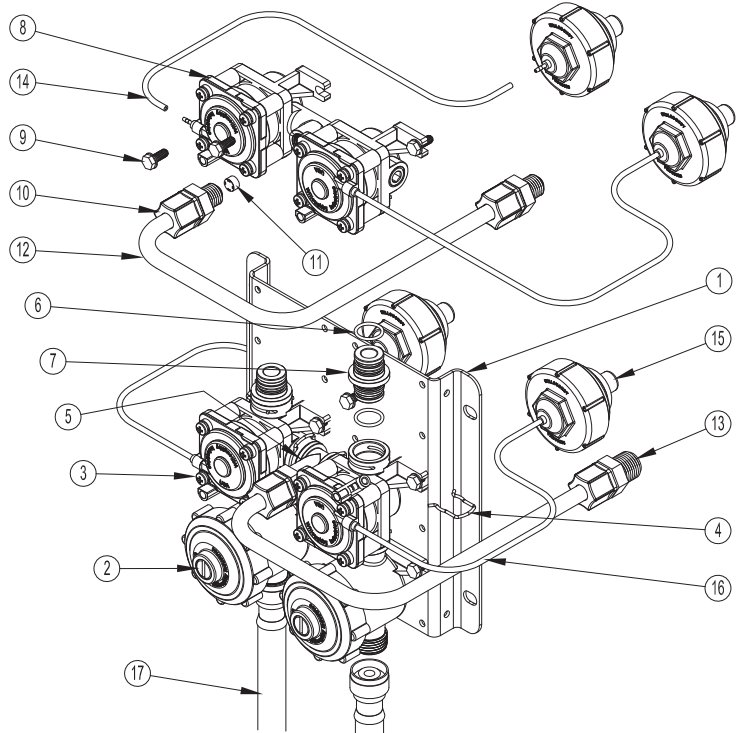
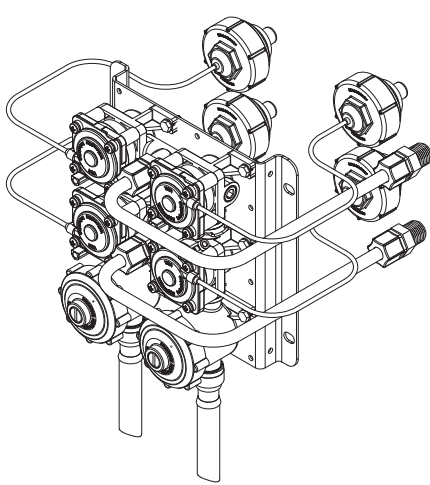
**PSL2 DUAL TEMPERATURE. NON-METERING VALVES**



ITEM #	PART NUMBER	DESCRIPTION	SEE CATALOG SECTION #:
1	980502	PML21 VALVE MOUNTING BRACKET	---
2	980183	CHECKSTOP ASSEMBLY	11
3	980404	PNEUMATIC SELF-CLOSING VALVE ASSEMBLY- DUAL TEMP	3
4	980140	SPRING CLIP	1
5	800133	#10-16 SELF TAP TYPE B HEX HEAD SCREW	1
6	321010	CONNECTOR, 3/8" TUBE x 1/4" MPT	1
7	P/N VARIES	FLOW CONTROL INSERT (VARIES, OPTIONAL ON SOME VALVES)	11
8	600523	FLEXIBLE TUBING 3/8" (10mm) O.D. (20 FT. TOTAL)	1 (SOLD PER FOOT)
9	320566	(OPTIONAL) CONNECTOR, 3/8" TUBE x 3/8" MPT	1
	320577	(OPTIONAL) ELBOW, 3/8" TUBE x 3/8" MPT	1
10	600470	PNEUMATIC TUBING, 1/16" I.D. x 1/8" O.D. (RED)	1 (SOLD PER FOOT)
11	600475	PNEUMATIC TUBING, 1/16" I.D. x 1/8" O.D. (BLUE)	1 (SOLD PER FOOT)
12	P/N VARIES	PNEUMATIC PUSH BUTTON (VARIES)	12
13	980506	(OPTIONAL) 6" STAINLESS STEEL FLEX HOSE	1
	980520	(OPTIONAL) 20" STAINLESS STEEL FLEX HOSE	1

**SEE PAGE 41 FOR INDIVIDUAL NON-METERING VALVE ASSEMBLIES**

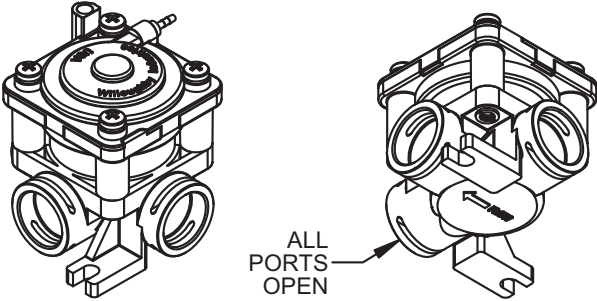
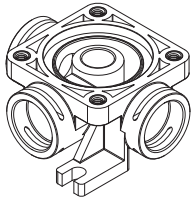
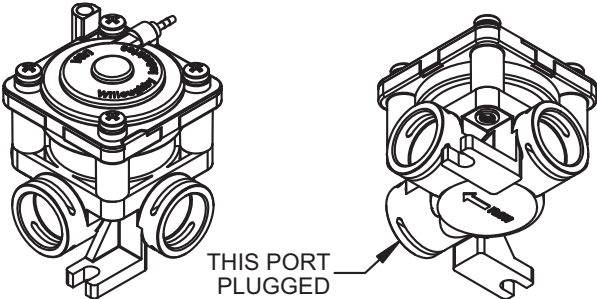
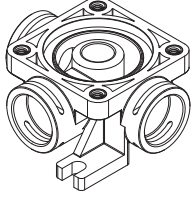
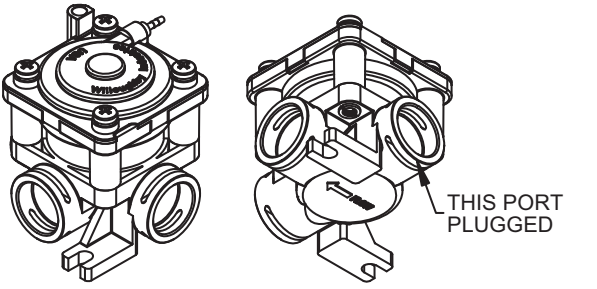
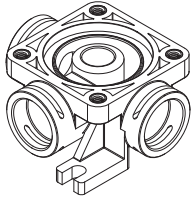
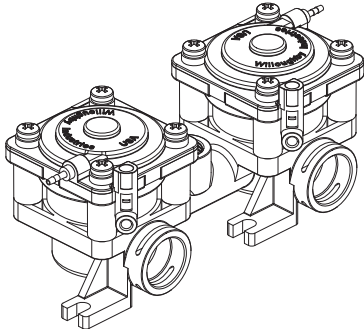
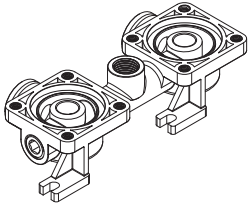
**PSL2 DUAL TEMP. NON-METERING VALVES (MANIFOLDED)**



ITEM NO.	PART #	DESCRIPTION	SEE CATALOG SECTION #:
1	9805022	PML22 VALVE MOUNTING BRACKET	---
	9805023	PML23 VALVE MOUNTING BRACKET	---
	9805024	PML24 VALVE MOUNTING BRACKET	---
2	980183	CHECKSTOP ASSEMBLY	11
3	980403	PNEUMATIC SELF-CLOSING VALVE ASSEMBLY	3
4	980140	SPRING CLIP	1
5	980196	PLASTIC VALVE T	1
6	980164	O-RING, #015	1
7	980197	PLASTIC VALVE COUPLING	1
8	980404	PNEUMATIC SELF-CLOSING VALVE ASSEMBLY- DUAL TEMP	3
9	800133	#10-16 SELF TAP TYPE B HEX HEAD SCREW	1
10	321010	3/8" TUBE x 1/4" MPT CONNECTOR	1
11	P/N VARIES	FLOW CONTROL INSERT (VARIES, OPTIONAL ON SOME VALVES)	11
12	600523	FLEXIBLE TUBING 3/8" OD X 1/4" ID	1 (SOLD PER FOOT)
13	300566	3/8" x 3/8" MPT CONNECTOR	1
14	600475	PNEUMATIC TUBING 1/16" ID x 1/8" OD (BLUE)	1 (SOLD PER FOOT)
15	P/N VARIES	PNEUMATIC PUSH BUTTON (VARIES)	12
16	600470	PNEUMATIC TUBING 1/16" ID (RED)	1 (SOLD PER FOOT)
17	980506	(OPTIONAL) 6" STAINLESS STEEL FLEX HOSE	1
	980520	(OPTIONAL) 20" STAINLESS STEEL FLEX HOSE	1

**SEE PAGE 41 FOR INDIVIDUAL NON-METERING VALVE ASSEMBLIES**

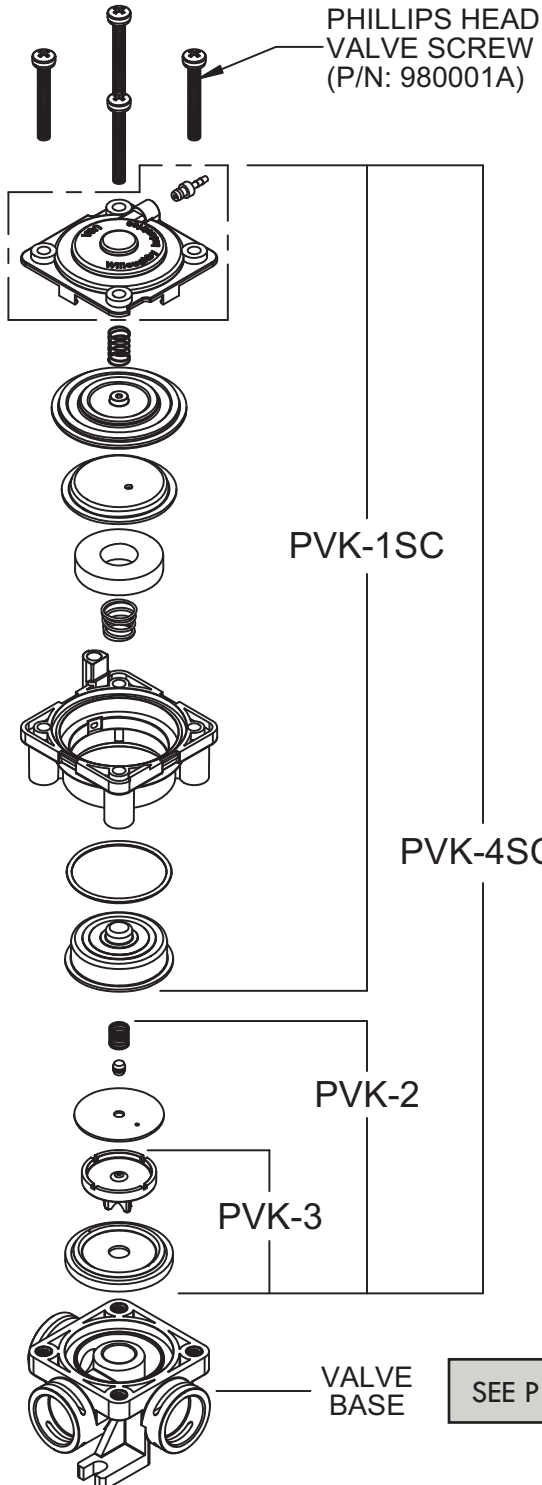
**PSL** INDIVIDUAL NON-METERING VALVE ASSEMBLIES / BASES

	PART NUMBER	VALVE ASSEMBLY	BASE ONLY P/N
	<p><b>P/N: 980403</b> PSL, ALL PORTS OPEN</p>		<p><b>P/N: 980420</b></p> 
	<p><b>P/N: 980403PL</b> PSL, PLUGGED LEFT PORT</p>		<p><b>P/N: 980420L</b></p> 
	<p><b>P/N: 980403PR</b> PSL, PLUGGED RIGHT PORT</p>		<p><b>P/N: 980420R</b></p> 
	<p><b>P/N: 980404</b> PSL2, DUAL TEMPERATURE</p>		<p><b>P/N: 980415</b></p> 

SEE THE NEXT PAGE FOR **PSL** VALVE ASSEMBLY COMPONENTS

**PSL VALVE ASSEMBLY COMPONENTS & KITS (PVKs)**

**\*COMMON TO ALL PSL VALVES**



**NOTES:**

- PARTS LISTED IN **PVK** COMPONENT KITS ARE NOT SOLD INDIVIDUALLY
- **PVK-1SC, PVK-2, & PVK-3** PARTS ARE AVAILABLE IN KIT FORM ONLY
- COMPONENT KIT PART NUMBERS ARE LISTED IN THE EXPLODED VIEW,

**SEE THE FOLLOWING PAGE FOR DETAILS**

**PART NUMBER**

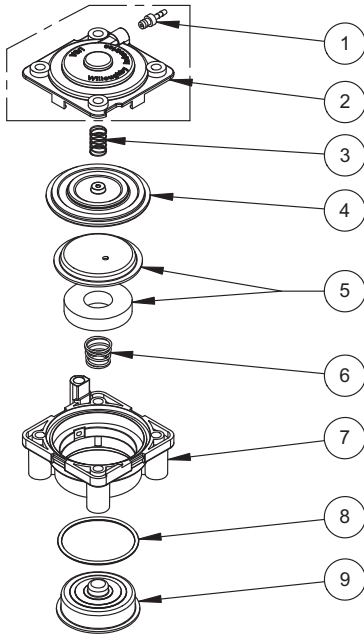
**VALVE ASSEMBLY**

**P/N: PVK-4SC**

**COMPLETE PSL REBUILD KIT  
INCLUDES: PVK-1SC, PVK-2, PVK-3, & 380897**

**P/N: PVK-1SC**

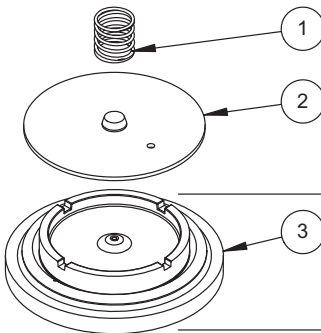
**PSL AIR-SIDE  
REBUILD KIT**



ITEM #	DESCRIPTION	QTY.
1	FITTING, HOSE BARB, PUSH-IN, 1/16" (BRASS)	1
2	AIR SIDE TOP COVER	1
3	AIR SIDE SPRING	1
4	DIAPHRAGM, AIR SIDE, PNEUMATIC METERING VALVE	1
5	METERING VALVE MAGNET/CUP ASSEMBLY	1
6	SPRING, AIR SIDE MAGNET	1
7	BODY, MOLDED WI PNEU. MTRG.	1
8	O-RING M1.5x32 BUNA-70	1
9	BARRIER CUP	1

**P/N: PVK-2**

**WATER-SIDE  
ASSEMBLY KIT**

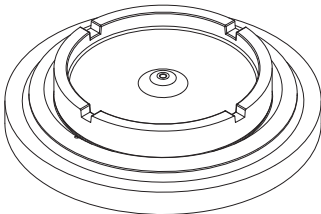


ITEM #	DESCRIPTION	QTY.
1	SPRING, WATER SIDE DIAPHRAGM	1
2	WATER SIDE DISK ASSEMBLY	1
3	WATER SIDE DIAPHRAGM/ADAPTOR ASSY.	1

PVK-3  
(ITEM #: 3)

**P/N: PVK-3**

**WATER-SIDE  
DIAPHRAGM**



**NOTE: PVK-3 IS INCLUDED IN PVK-2**

# NOTES:

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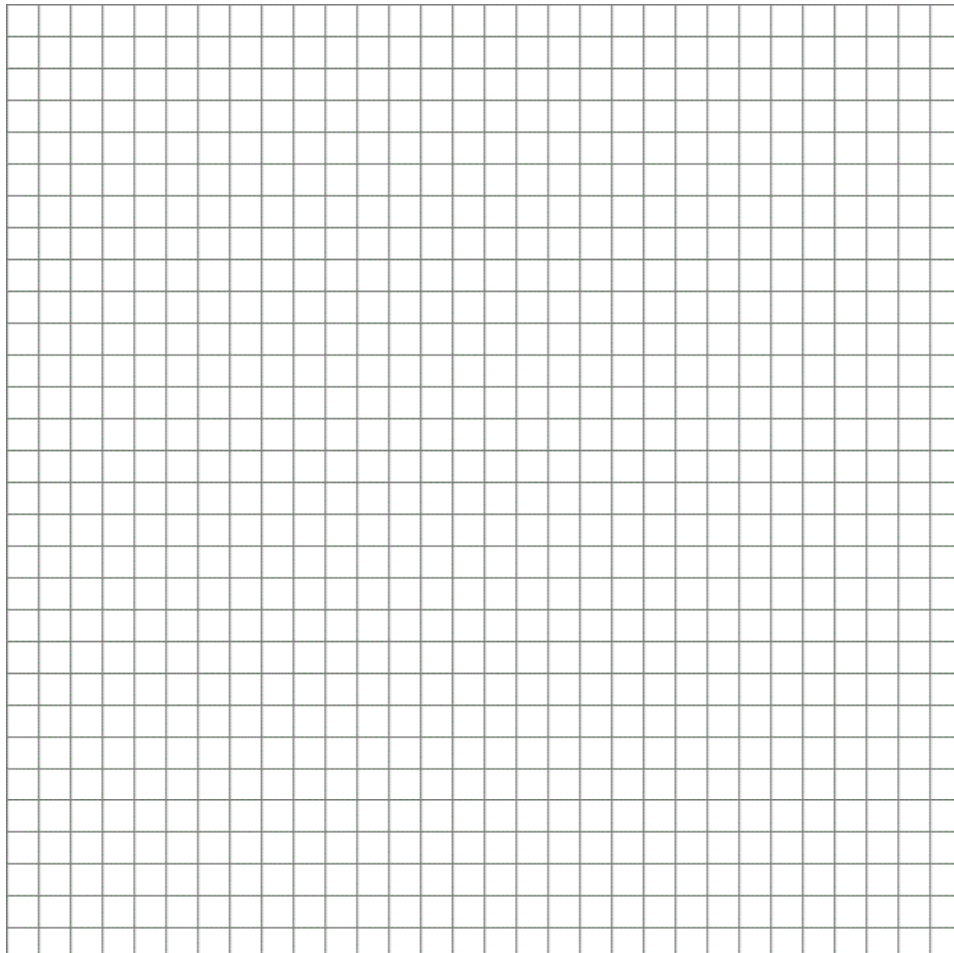
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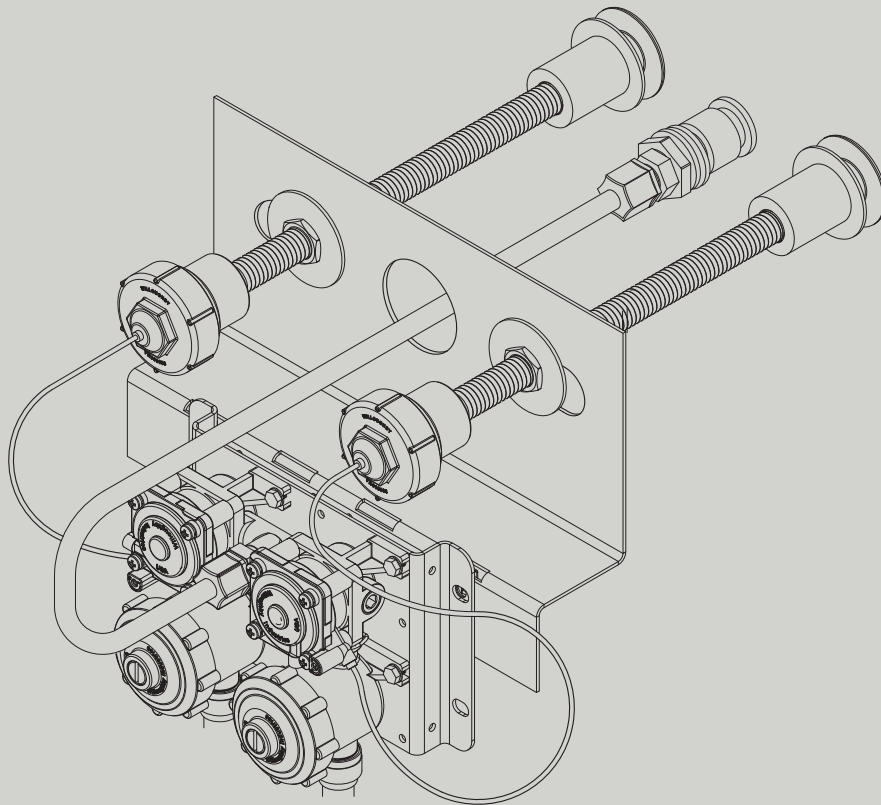
# PARTS AND ACCESSORIES CATALOG



WILLOUGHBY

SECTION

4



## PNEUMATIC RETROFIT VALVES- LEAD FREE

### **THESE ITEMS:**

DUAL TEMP. REPLACEMENT PNEUMATIC VALVES- OVERVIEW  
REPLACEMENT PNEUMATIC VALVE ASSEMBLY  
& COMPONENTS \_\_\_\_\_  
BEHAVIORAL HEALTHCARE PNEUMATIC FAUCET- OVERVIEW\_

### **BEGIN ON PAGE:**

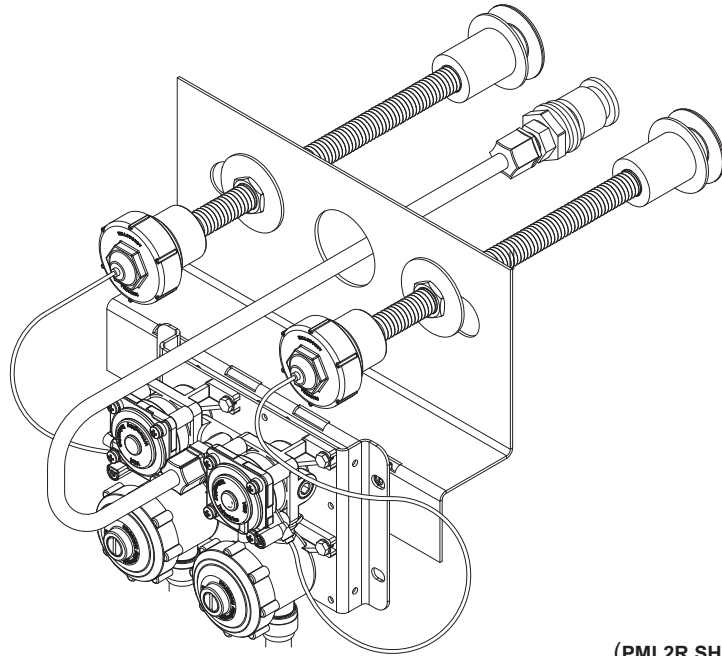
46

47

49



## PML2R / PSL2R Dual Temperature Replacement Pneumatic Valve



(PML2R SHOWN)

### Recommended Specifications

Dual Temperature, Lead-free, Replacement Pneumatic Valve assembly shall be: Willoughby Model No. **P\_\_L2R**  
(Select from options list)

This valve is designed to replace existing valves on china and aluminum fixtures with integral bubblers. The valve assembly shall use diaphragms to pneumatically activate non-hold open metering (5-90 second) or non-metering pneumatic valves. The vandal-resistant push buttons shall be keyed/non-removable from the front of the fixture and shall require less than 5 lbs of force to operate.

The plastic valve checkstop/strainer shall feature integral mounting points. Replaceable stainless steel strainer and optional 0.5 GPM flow control can be serviced without disturbing the supply line. Assembly shall use flexible tubing to connect to the filler/bubbler/shower head. Water inlet is 1/2" MPT and is reversible for either top or bottom supply. A galvanized wall mounting plate is provided, wall anchoring hardware provided by others.

Flexible tubing is supplied for walls up to 8" thick. Recommended operating pressure shall be 35-70 psi. Valve shall withstand pressures up to 90 psi. The maximum length for tubing between the push button actuator and the valve is 10 feet. The pneumatic system is entirely self-contained and shall require no outside air supply. Cost reducing manifolded valves shall consist of multiple valve assemblies served by a common supply line.

Valve complies with NSF-61 standard.

#### Model Number:

- PML2R Dual Temp. Metering
- PSL2R Dual Temp. Non-metering

#### Inlet Connection (choose one):

- 3/4"
- 1"

#### Options:

- MA2 (Double Manifold, No flow limitation)
- MA3 (Triple Manifold, 0.5 GPM flow only)
- MA4 (Quad Manifold, 0.5 GPM flow only)
- TMV In-line Thermostatic Mixing Valve

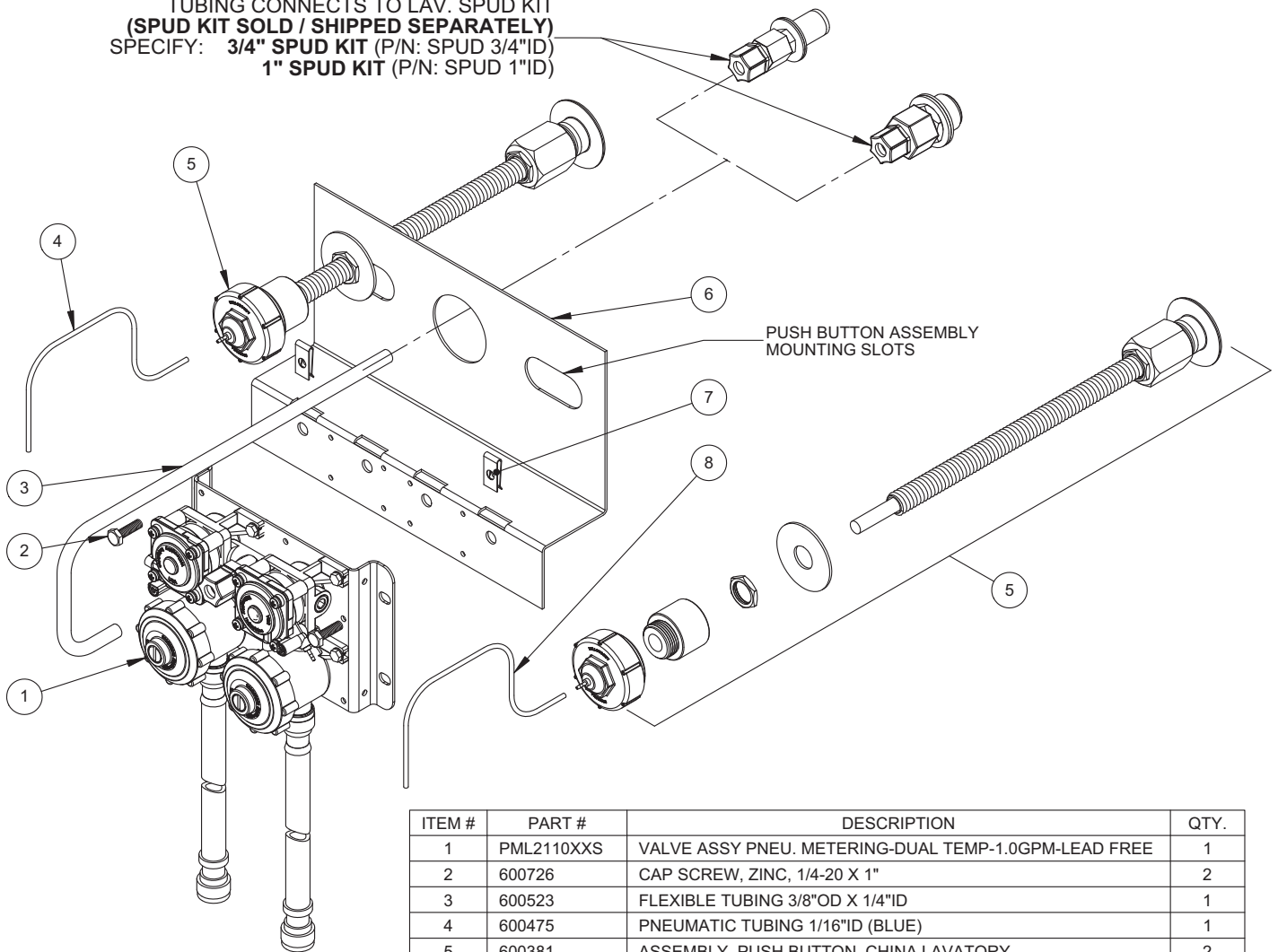
\* This is not a substitute for a thermostatic mixing valve. The delivered water temperature is the result of the two combined inlet temperatures and cannot be adjusted by this valve assembly. The hot side of the valve must be supplied with tempered water.

\*\* Push buttons require minimum  $\text{Ø}1\text{-}5/16\text{'}$  round or  $1\text{-}1/8\text{'}$  square backslash openings.

FOR PNEUMATIC VALVE ASSEMBLY DETAILS: SEE SECTION 3  
FOR PUSH BUTTONS: SEE SECTION 12

**PML2R** REPLACEMENT VALVE ASSEMBLY FOR CHINA LAV.

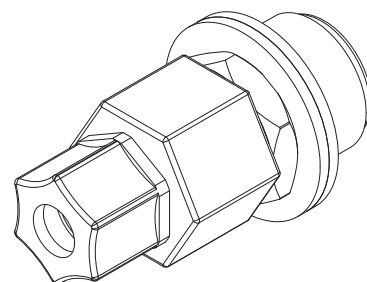
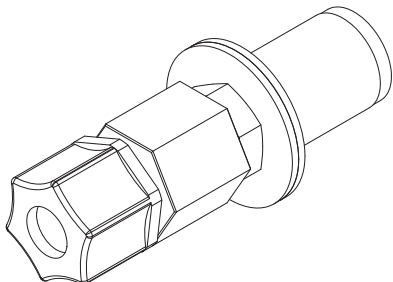
TUBING CONNECTS TO LAV. SPUD KIT  
 (SPUD KIT SOLD / SHIPPED SEPARATELY)  
 SPECIFY: 3/4" SPUD KIT (P/N: SPUD 3/4"ID)  
 1" SPUD KIT (P/N: SPUD 1"ID)

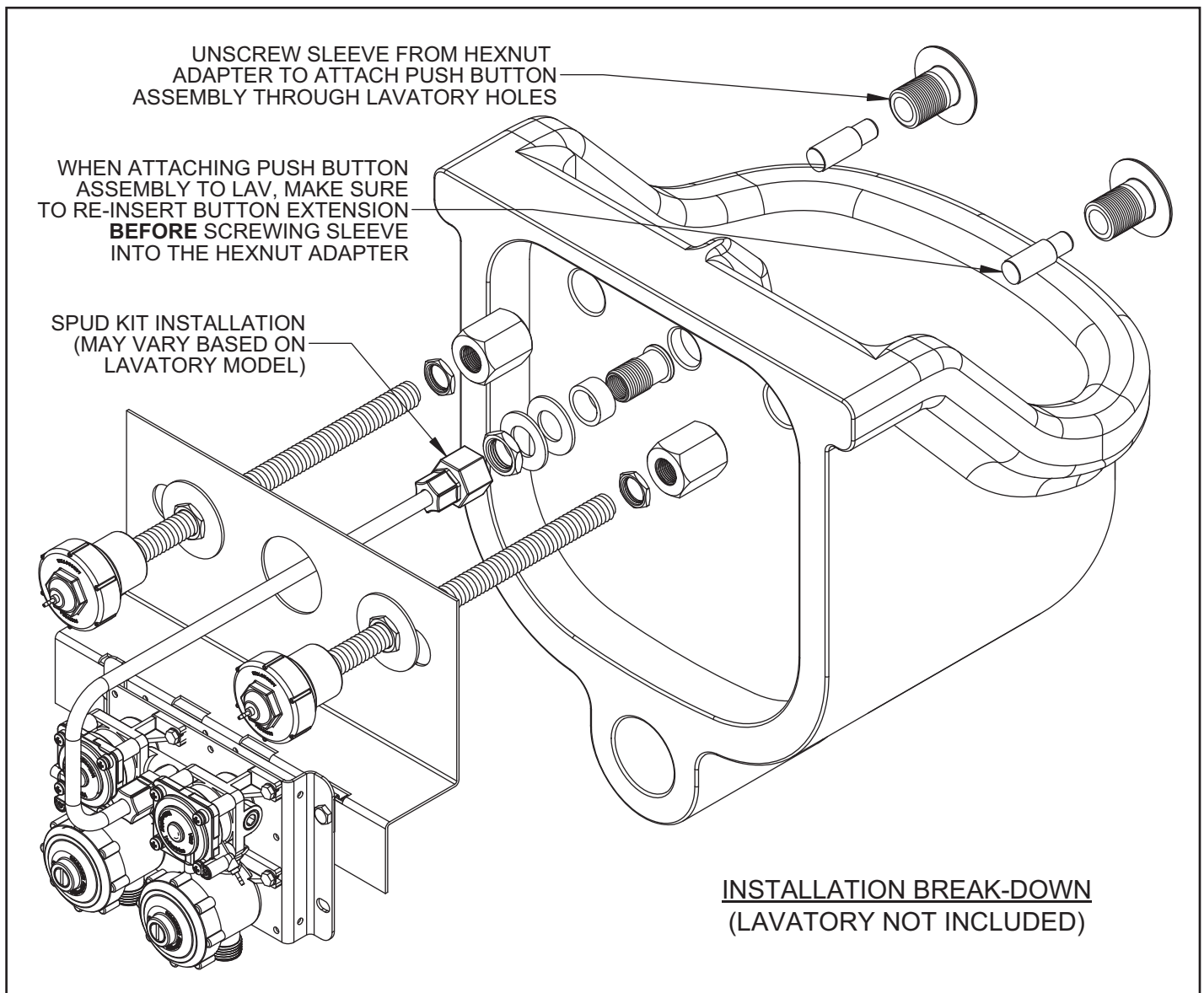


ITEM #	PART #	DESCRIPTION	QTY.
1	PML2110XXS	VALVE ASSY PNEU. METERING-DUAL TEMP-1.0GPM-LEAD FREE	1
2	600726	CAP SCREW, ZINC, 1/4-20 X 1"	2
3	600523	FLEXIBLE TUBING 3/8"OD X 1/4"ID	1
4	600475	PNEUMATIC TUBING 1/16"ID (BLUE)	1
5	600381	ASSEMBLY, PUSH BUTTON, CHINA LAVATORY	2
6	500023	BRACKET, CHINA LAV, 14GA. GALV.	1
7	800113	TINNERMAN NUT 1/4-20, S/S	2
8	600470	PNEUMATIC TUBING 1/16"ID (RED)	1

**P/N: SPUD 3/4"ID**

**P/N: SPUD 1"ID**



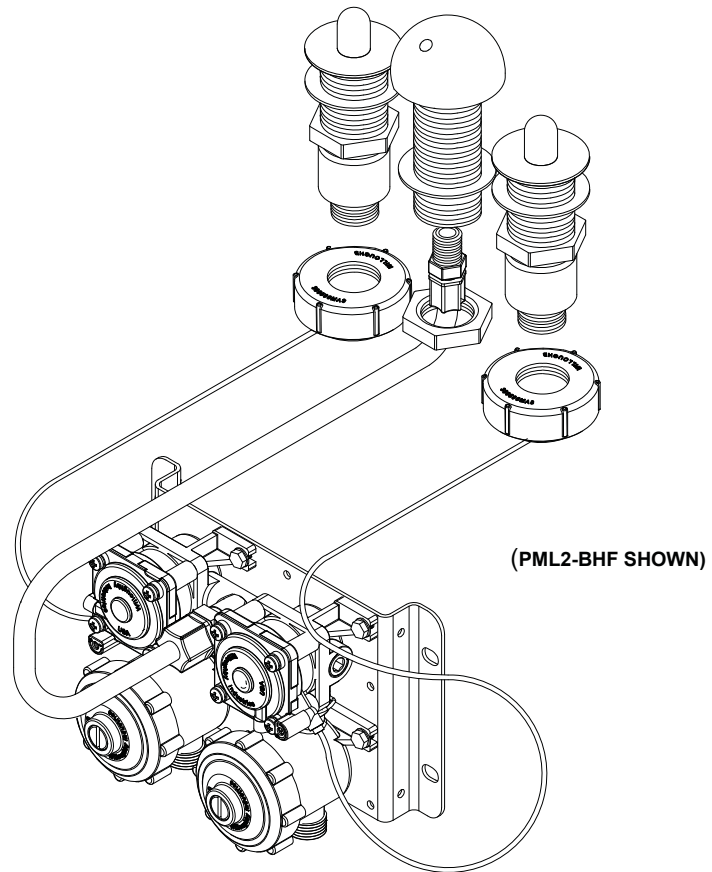
**PML2R** REPLACEMENT VALVE ASSEMBLY FOR CHINA LAV.

# PML-BHF

## Lead-free

## Behavioral Healthcare

## Pneumatic Faucet



### Recommended Specifications

Lead-free Behavioral Healthcare Pneumatic Faucet shall be: Willoughby Model No. **PML-BHF**  
(Select from options list on the following page)

The Behavioral Healthcare Faucet is designed to either retrofit existing lavatories or be specified for new design. Faucet shall be deck mounted, requiring (3)  $\text{Ø}1\text{-}5/16\text{'}$  to  $\text{Ø}1\text{-}1/2\text{'}$  faucet holes (faucet holes between 4" centerset to 8" centerset are recommended). Bubbler and push buttons shall be machined from T303 stainless steel and shall have ligature-resistant hemispherical designs.

Valve constructed of stainless steel and plastic materials and complies with NSF-61 standard. The valve assembly shall use a diaphragm to pneumatically activate a non-hold-open metering (5-90 second) pneumatic valve assembly. The push button shall require less than 5 lbs. of force to operate. Vandal resistant stainless steel push button and keyed pump body shall be non-removable from the top of the fixture deck. The valve flow is 0.5 GPM.

The plastic valve checkstop/strainer shall feature integral mounting points. Replaceable stainless steel strainer and optional 0.5 GPM flow control can be serviced without disturbing the supply line. Assembly shall use flexible tubing to connect to the filler/bubbler. Water inlet is 1/2" MPT and is reversible for either top or bottom supply. A galvanized wall mounting plate is provided, wall anchoring hardware provided by others.

Recommended operating pressure shall be 35-70 psi. Valve shall withstand pressures up to 90 psi. The maximum length for tubing between the push button actuator and the valve is 10 feet. The pneumatic system is entirely self-contained and shall require no outside air supply.

\* The PML2 valve is not a substitute for a thermostatic mixing valve. In dual temperature valves, the delivered water temperature is the result of the two combined inlet temperatures and cannot be adjusted by this valve assembly. The hot side of the valve must be supplied with tempered water.

An In-line Thermostatic Mixing Valve (TMV) is available (select from options list on the following page).

**MODEL NUMBER AND OPTIONS:**

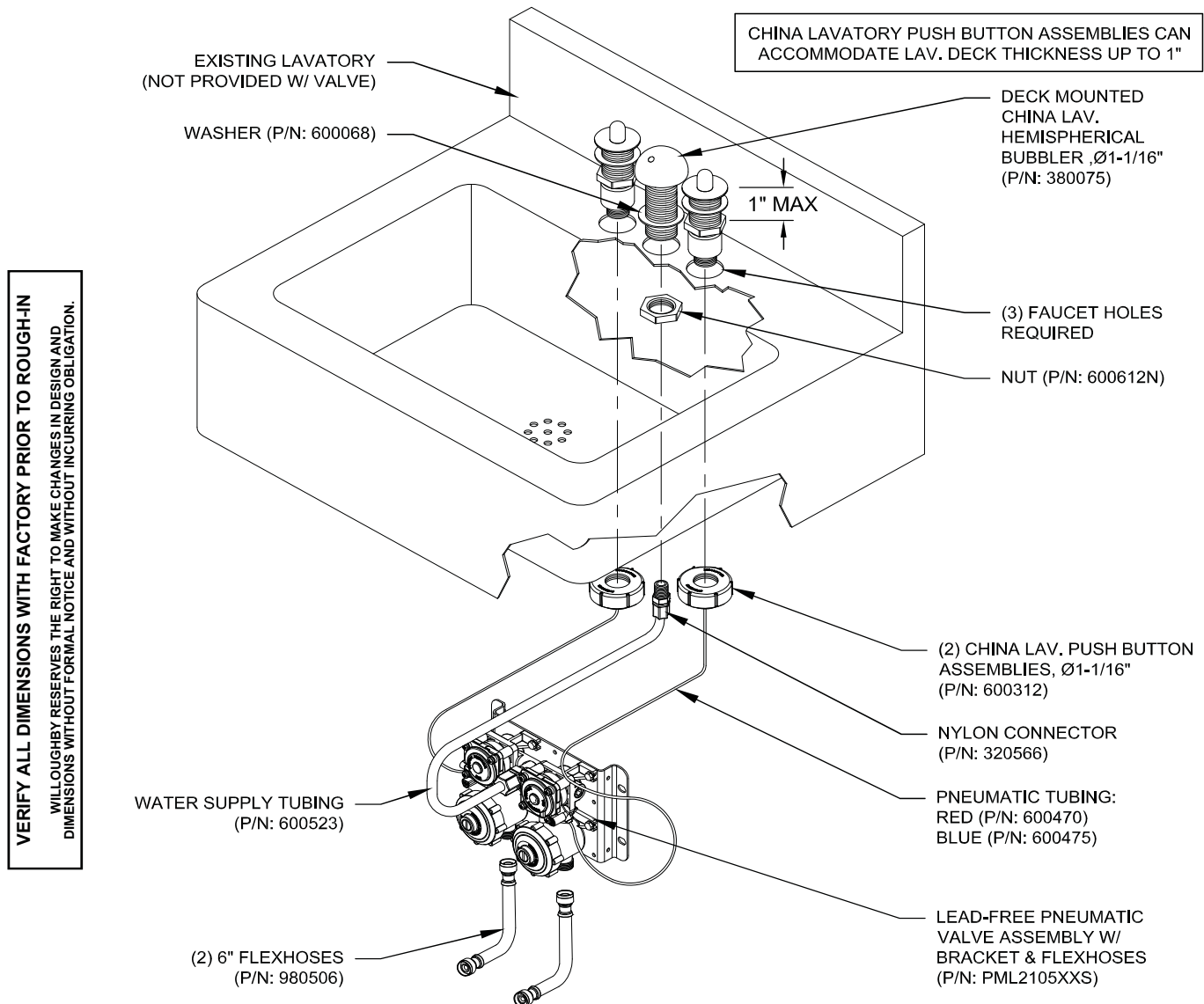
1.) Valve Selection: (Choose One)

- PML1-BHF Single Temperature Metering Valve
- PML2-BHF Dual Temperature Metering Valve

2.) Options:

- TMV In-line Thermostatic Mixing Valve

Approved For Manufacturing By: \_\_\_\_\_ Date: \_\_\_\_\_ Company: \_\_\_\_\_  
 Wall Thickness: \_\_\_\_\_ Wall Type: \_\_\_\_\_

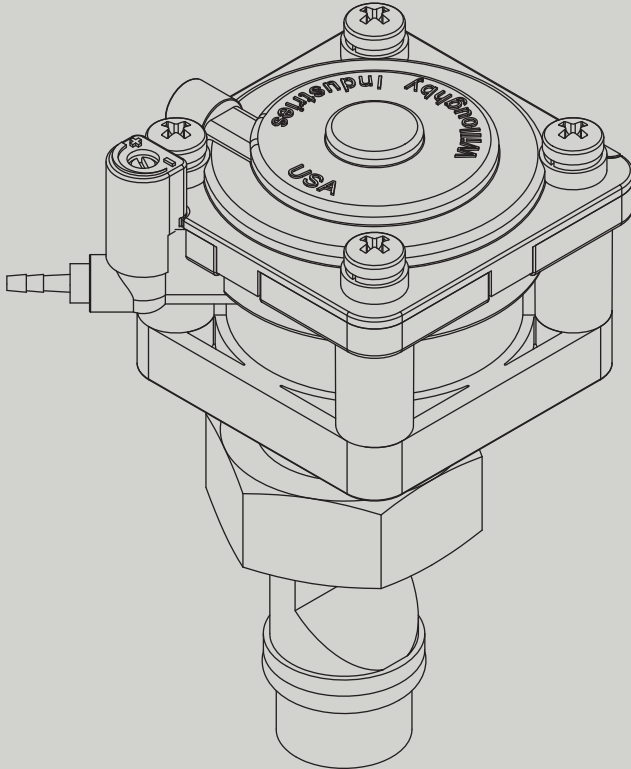


**VERIFY ALL DIMENSIONS WITH FACTORY PRIOR TO ROUGH-IN**  
 WILLOUGHBY RESERVES THE RIGHT TO MAKE CHANGES IN DESIGN AND DIMENSIONS WITHOUT FORMAL NOTICE AND WITHOUT INCURRING OBLIGATION.

# PARTS AND ACCESSORIES CATALOG



WILLOUGHBY



## SECTION

# 5

## MECHANICAL VALVE PARTS & RETROFITS

### **THESE ITEMS:**

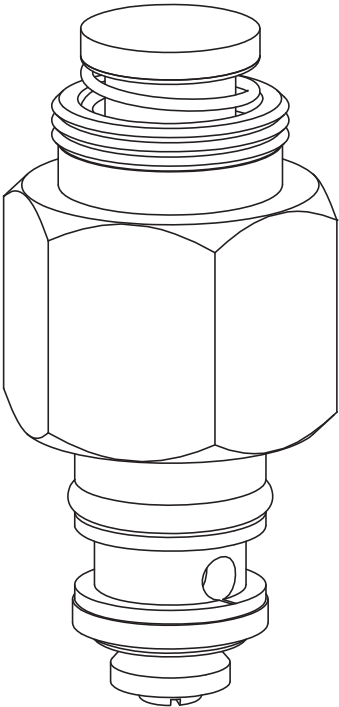
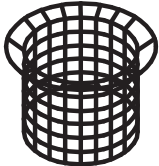
MECHANICAL VALVE REPLACEMENT PARTS \_\_\_\_\_  
MECHANICAL VALVE REFERENCE DRAWINGS \_\_\_\_\_  
RETROFIT ASSEMBLIES FOR MECHANICAL VALVES- OVERVIEW \_\_\_\_\_  
RETROFIT ASSEMBLIES FOR MECHANICAL VALVES \_\_\_\_\_

### **BEGIN ON PAGE:**

52  
54  
58  
59

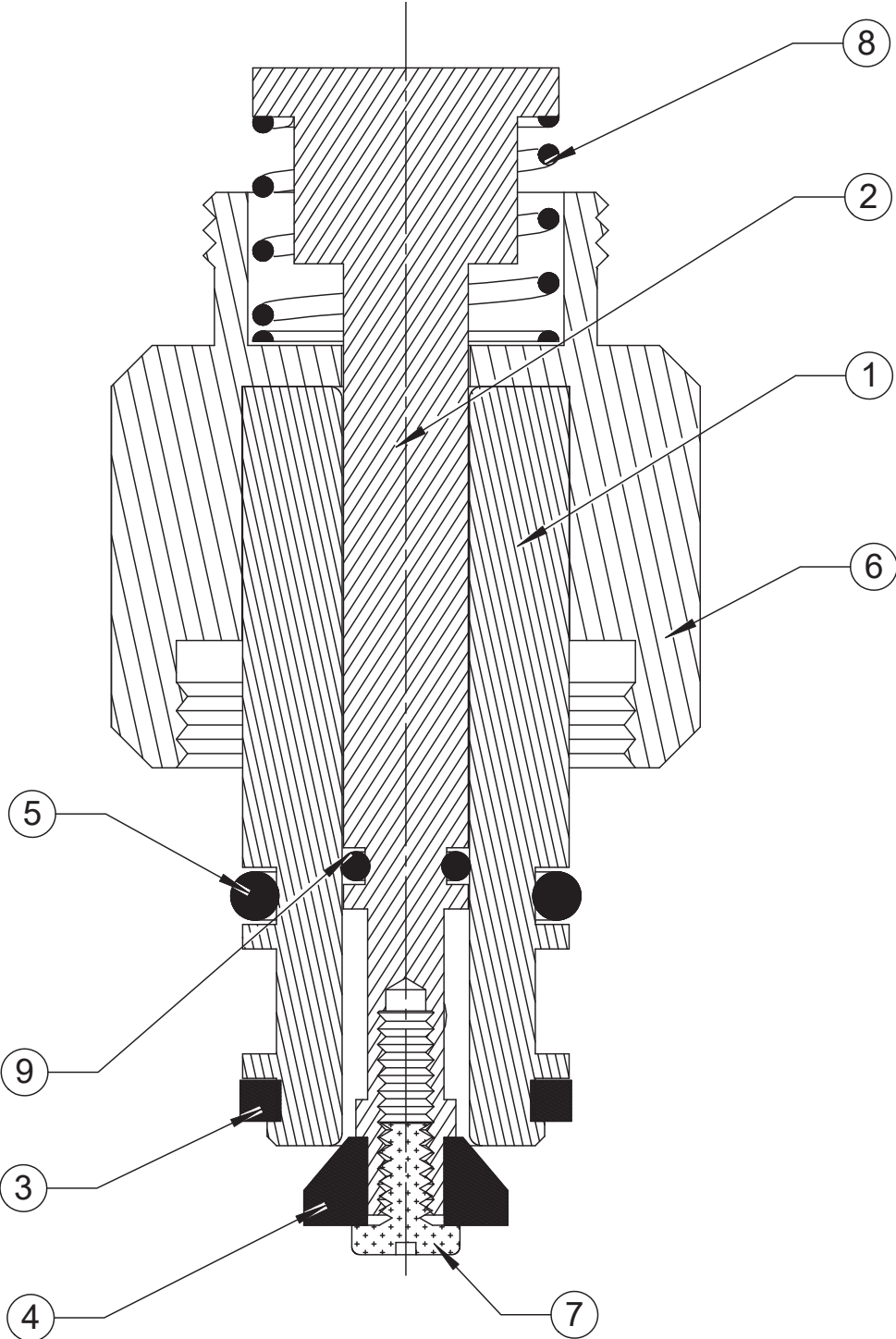


## MECHANICAL VALVE REPLACEMENT PARTS

ITEM #	P/N	DESCRIPTION
N/A	600276	<p>SELF-CLOSING MECHANICAL VALVE CARTRIDGE, BRASS FOR REPLACEMENT ONLY</p> <p>(METERING MECHANICAL VALVE CARTRIDGE IS DISCONTINUED AS OF MAY 2012)</p> 
N/A	600181	<p>MECHANICAL CARTRIDGE STRAINER INSERT</p> 
N/A	600103	<p>CARTRIDGE RESEAL KIT (INCLUDES ITEM #S: 3, 4, 5, 7, 9)</p>
1	600604	INSERT BODY, SELF CLOSING
2	600029	BLEEDER STEM
3	600108	O-RING, TETRASEAL #77264-R .612 ID X .070 W
4	600176	FAUCET WASHER (NSF)
5	600105	O-RING 15MM ID x 3MM W
6	380017	INTERMEDIATE NUT
7	600180	SCREW #6-32 x 1/4" SLOTTED PANHEAD, S/S, #77035-P
8	600171	CARTRIDGE RETURN SPRING
9	600115	O-RING (#008) #77035-I



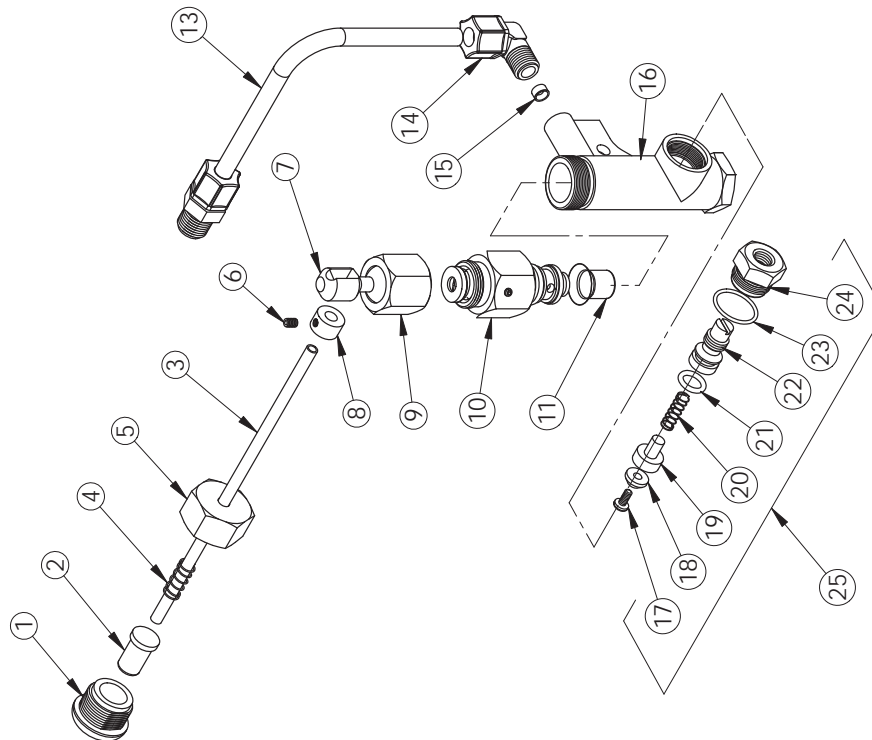
**P/N: 600276 SELF-CLOSING MECHANICAL VALVE CARTRIDGE (SECT.)**



# MECHANICAL VALVE REFERENCE DRAWINGS

DWG#: 920039 (WM1B) MECHANICAL METERING, SINGLE TEMP.

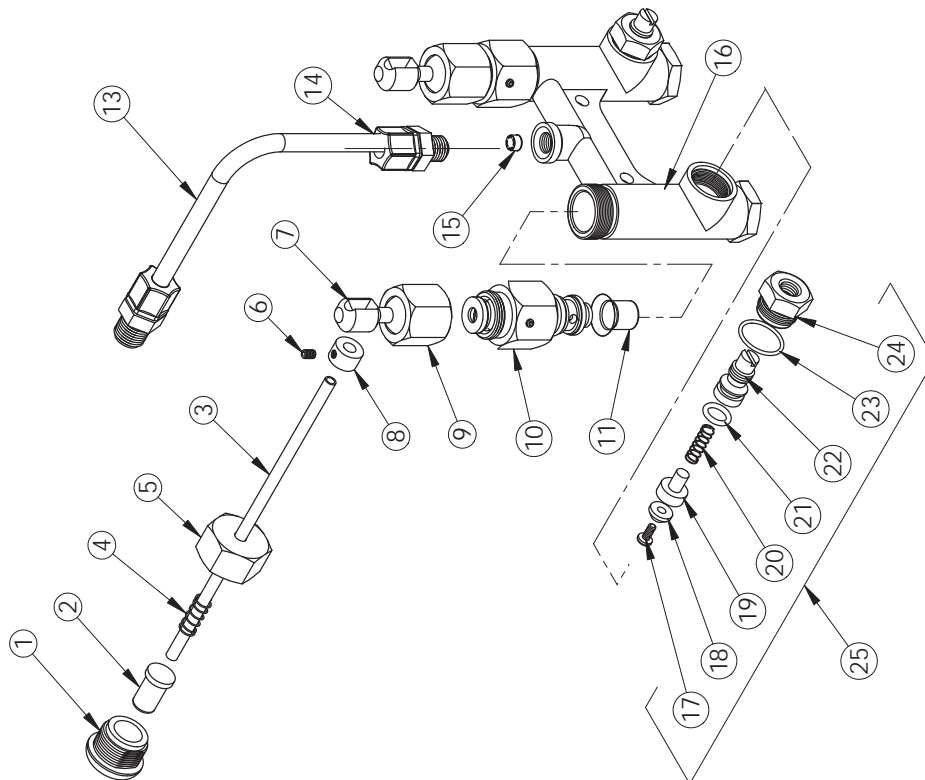
ITEM NO.	PART #	DESCRIPTION	QTY.
1	380145	PUSHBUTTON SLEEVE	1
2	600060	PUSHBUTTON	1
3	115104	PUSHROD (LENGTH=WALL + 6")	1
4	600075	SPRING FOR PUSHROD	1
5	600055	PUSHBUTTON NUT	1
6	600096	SCREW, SOCKET SCREW, S/S, #10-32 X 1/4"	1
7	380118	TOGGLE LEVER, BRASS	1
8	600095	COLLAR 1/4" BRASS SHAFT	1
9	600005	TOGGLE NUT	1
10	N/A	DISCONTINUED METERING CARTRIDGE	1
11	600181	INSERT, STRAINER, T304 S/S (80-MESH)	1
12	320566	3/8" x 3/8" MPT CONNECTOR	1
13	600523	TUBING 3/8 OD X 1/4 ID NATURAL	1
14	320579	ELBOW 3/8" TUBE x 1/4" MPT	1
15	380138	FLOW REGULATOR, 0.5 GPM, RED (MR03)	1
16	380180	VALVE BODY H-CASTING (HALF)	1
17	540001	SCREW #8-32 x 3/8" PANHEAD SLOTTED	1
18	600176	FAUCET WASHER (NSF)	1
19	600091	CHECKSTOP PLUNGER	1
20	600234	SPRING FOR CHECKSTOP	1
21	600120	O-RING (#11) #77035-R .424"ID	1
22	600093	CHECKSTOP STEM	1
23	600768	O-RING (#019)	1
24	600092	CHECKSTOP NUT	1
25	600089	STOP ASSEMBLY	1



# MECHANICAL VALVE REFERENCE DRAWINGS (CONT.)

DWG#: 920038 (WM1B) MECHANICAL METERING, DUAL TEMP.

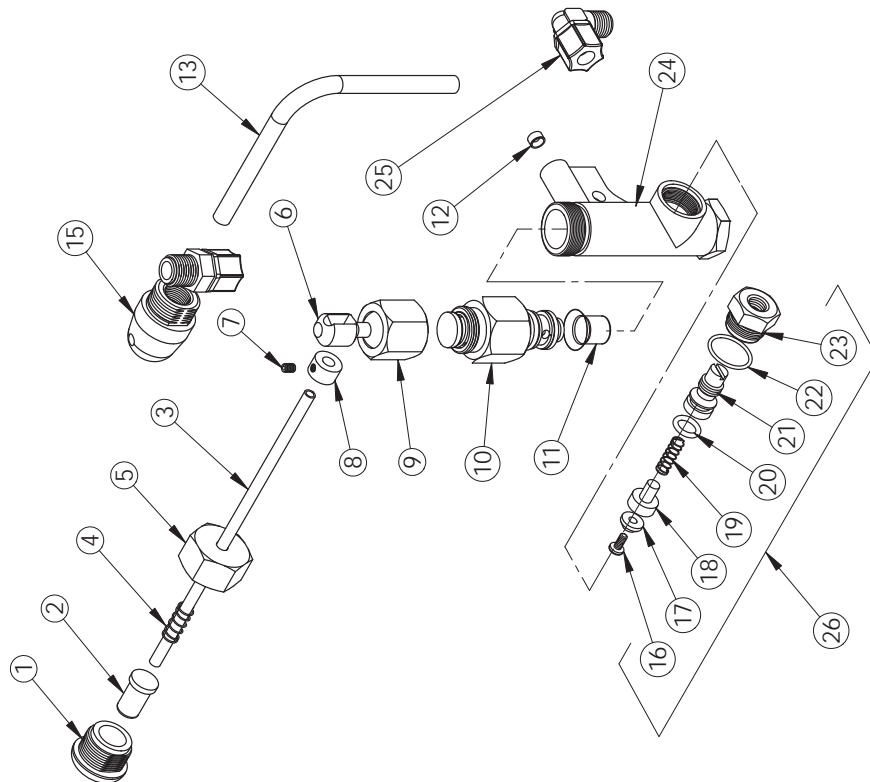
ITEM NO.	PART #	DESCRIPTION	QTY.
1	380145	PUSHBUTTON SLEEVE	2
2	600060	PUSHBUTTON	2
3	115104	PUSHROD (LENGTH=WALL + 6")	2
4	600075	SPRING FOR PUSHROD	2
5	600055	PUSHBUTTON NUT	2
6	600096	SCREW, SOCKET SCREW, S/S, #10-32 X 1/4"	2
7	380118	TOGGLE LEVER, BRASS	2
8	600095	COLLAR 1/4" BRASS SHAFT	2
9	600005	TOGGLE NUT	2
10	N/A	DISCONTINUED METERING CARTRIDGE	2
11	600181	INSERT, STRAINER, T304 S/S (80-MESH)	2
12	320566	3/8" x 3/8" MPT CONNECTOR	1
13	600523	TUBING 3/8 OD X 1/4 ID NATURAL	1
14	321010	3/8" TUBE x 1/4" MPT CONNECTOR	1
15	380138	FLOW REGULATOR, 0.5 GPM, RED (MR03)	1
16	380180	VALVE BODY H-CASTING	1
17	540001	SCREW #8-32 x 3/8" PANHEAD SLOTTED	2
18	600176	FAUCET WASHER (NSF)	2
19	600091	CHECKSTOP PLUNGER	2
20	600234	SPRING FOR CHECKSTOP	2
21	600120	O-RING (#111) #77035-R, .424"ID	2
22	600093	CHECKSTOP STEM	2
23	600768	O-RING (#019)	2
24	600092	CHECKSTOP NUT	2
25	600089	STOP ASSEMBLY	2



**MECHANICAL VALVE** REFERENCE DRAWINGS (CONT.)

**DWG#: 920040 (WSC1B) MECHANICAL SELF-CLOSING, SINGLE TEMP.**

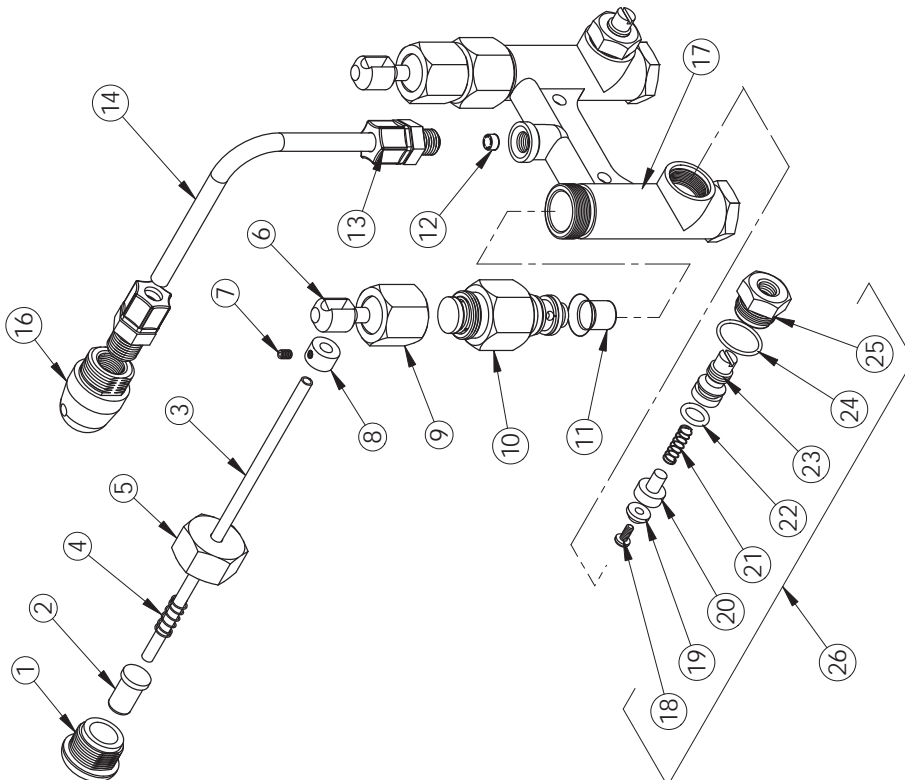
ITEM NO	QTY	PART #	DESCRIPTION
1	1	380145	PUSHBUTTON SLEEVE
2	1	600060	PUSHBUTTON
3	1	115104	PUSHROD (LENGTH=WALL + 6")
4	1	600075	SPRING FOR PUSHROD
5	1	600055	PUSHBUTTON NUT
6	1	380118	TOGGLE LEVER, BRASS
7	1	600096	SET SCREW #10-32 x 1/4" SCKT
8	1	600095	COLLAR 1/4" BRASS SHAFT
9	1	600005	TOGGLE NUT
10	1	600276	CARTRIDGE SELF-CLOSING
11	1	600181	STRAINER INSERT
12	1	380138	
13	1	970018	3/8" x 1/4" ID NATURAL
15	1	380045	(BP) FILLER/BUBBLER
16	1	540001	SCREW #8-32 x 3/8" PANHD SLOTTED
17	1	600176	FAUCET WASHER (NSF)
18	1	600091	CHECKSTOP PLUNGER
19	1	600234	SPRING FOR CHECKSTOP
20	1	600120	O-RING (#11)
21	1	600093	CHECKSTOP STEM
22	1	600768	O-RING (#019)
23	1	600092	CHECKSTOP NUT
24	1	380180A	VALVE BODY H-CASTING
25	1	320579	3/8" x 3/8" MPT CONNECTOR



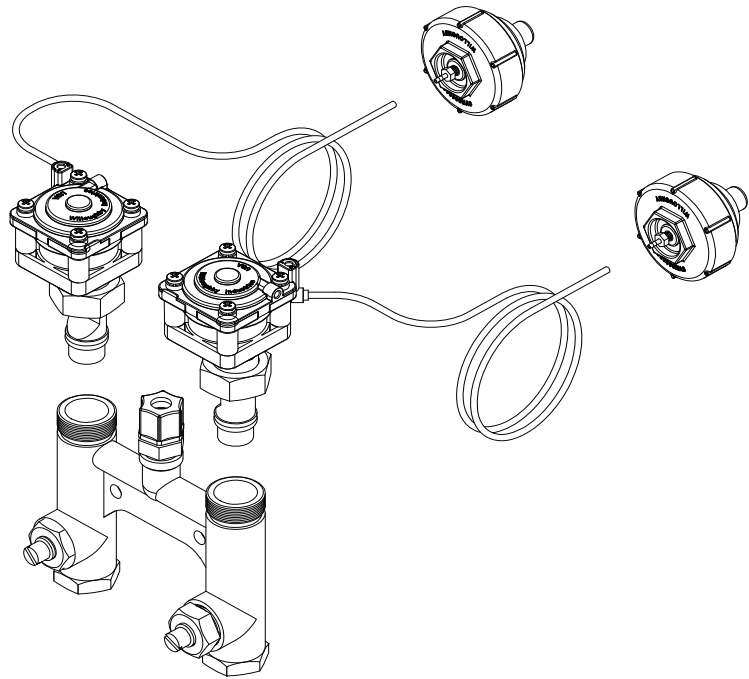
# MECHANICAL VALVE REFERENCE DRAWINGS (CONT.)

DWG#: 920014 (WSC1B) MECHANICAL SELF-CLOSING, DUAL TEMP.

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	380145	PUSHBUTTON SLEEVE	2
2	600060	PUSHBUTTON	2
3	115104	PUSHROD (LENGTH=WALL + 6")	2
4	600075	SPRING FOR PUSHROD	2
5	600055	PUSHBUTTON NUT	2
6	380118	TOGGLE LEVER, BRASS	2
7	600096	SCREW, SOCKET SCREW, S/S, #10-32 X 1/4"	2
8	600095	COLLAR 1/4" BRASS SHAFT	2
9	600005	TOGGLE NUT	2
10	600276	CARTRIDGE SELF-CLOSING	2
11	600181	INSERT, STRAINER, T304 S/S (80-MESH)	2
12	380138	FLOW REGULATOR, 0.5 GPM, RED (MR03)	1
13	321010	3/8" TUBE x 1/4" MPT CONNECTOR	1
14	970018	TUBING 3/8 OD X 1/4 ID NATURAL	1
15	320566	3/8" x 3/8" MPT CONNECTOR	1
16	380045	(BP) FILLER/BUBBLER	1
17	380180	VALVE BODY H-CASTING	1
18	540001	SCREW #8-32 x 3/8" PANHEAD SLOTTED	2
19	600176	FAUCET WASHER (NSF)	2
20	600091	CHECKSTOP PLUNGER	2
21	600234	SPRING FOR CHECKSTOP	2
22	600120	O-RING (#111) #77035-R .424"ID	2
23	600093	CHECKSTOP STEM	2
24	600768	O-RING (#019)	2
25	600092	CHECKSTOP NUT	2
26	600089	STOP ASSEMBLY	2



## WRMV / WRSCV Retrofit Valve Assemblies



### Recommended Specifications

Retrofit Valve Assembly shall be:  
Willoughby Model No. **WR\_\_V-\_\_** (Select from options list)

The Willoughby Retrofit Metering Valve Assembly (WRMV) and Willoughby Retrofit Non-metering Valve Assembly (WRSCV) are designed to easily convert single and dual temperature mechanical valve cartridges, pushrods, and toggles to state-of-the-art pneumatically operated metering or non-metering valve assemblies.

Existing Willoughby valve cartridges manufactured since 1985 can be directly replaced with WRMV and WRSCV retrofit valve assembly kits, specifically Willoughby valve models:

- WM-1 (Single temperature mechanical metering)
- WM-2 (Dual temperature mechanical metering)
- WSC-1 (Single temperature mechanical non-metering)
- WSC-2 (Dual temperature mechanical non-metering)

Certain existing competitors' valves may also be converted to pneumatic operation using the Willoughby WRMV or WRSCV retrofit valve assembly kits. However, conversions may require field modification of existing push button holes in fixture; consult with a Willoughby factory representative for additional details.

The WRMV and WRSCV valve assembly kits shall include:

- Push button-operated pneumatic diaphragm pumps
- Non-hold-open metering (5-90 seconds) or non-metering pneumatic valve cartridges
- 5' of 1/8" tubing for each valve

(All components for both the WRMV and WRSCV kits are the same except for the integral pneumatic valves.)

Vandal-resistant stainless steel push buttons attached to the diaphragm pumps activate the integral pneumatic valve within each valve cartridge via 1/8" pneumatic tubing. The vandal-resistant push buttons shall be keyed/non-removable from the front of the fixture and shall require less than 5 lbs of force to operate.

The pneumatic system is entirely self-contained and requires no outside air supply, eliminating traditional mechanical toggles and pushrod components. Recommended operating pressure will be 35-70 psi. Valves shall withstand pressures up to 90 psi.

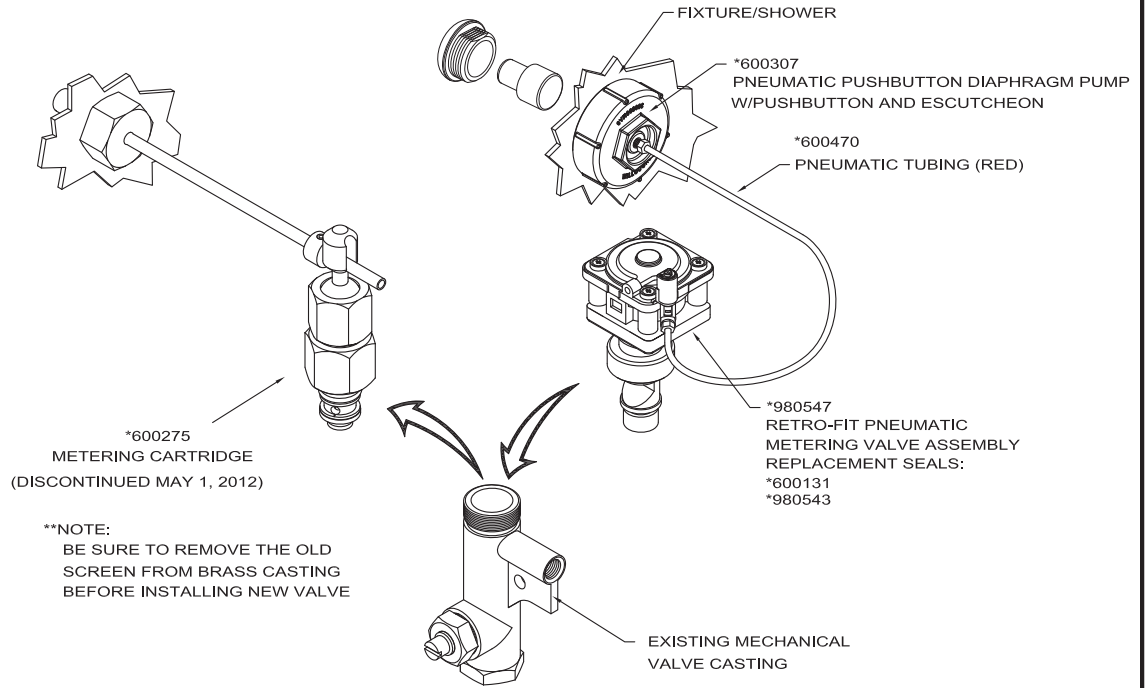
#### **Model Number:**

- WRMV-1B Single Temp. Metering Valves
- WRMV-2B Dual Temp. Metering Valves
- WRSCV-1B Single Temp. Non-metering Valves
- WRSCV-2B Dual Temp. Non-metering Valves

# WRMV / WRSCV ASSEMBLY DETAILS

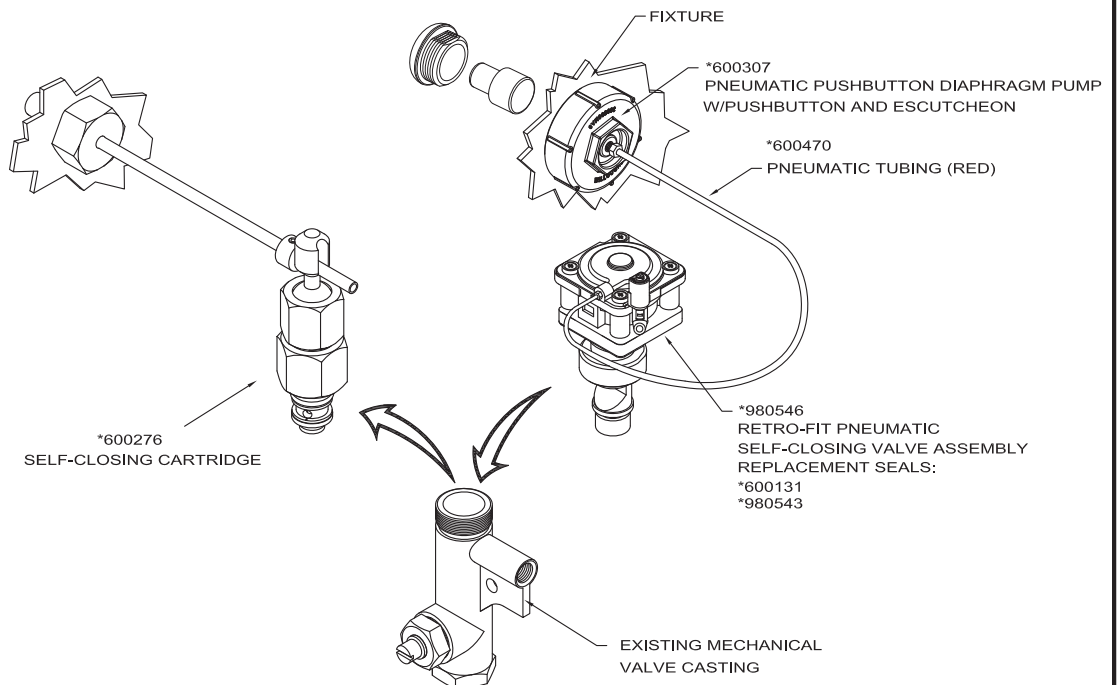
## WRMV-1B

THESE \*PART #'S ARE INCLUDED IN A WRMV-1B ASSEMBLY



## WRSCV-1B

THESE \*PART #'S ARE INCLUDED IN A WRSCV-1B ASSEMBLY





# NOTES:

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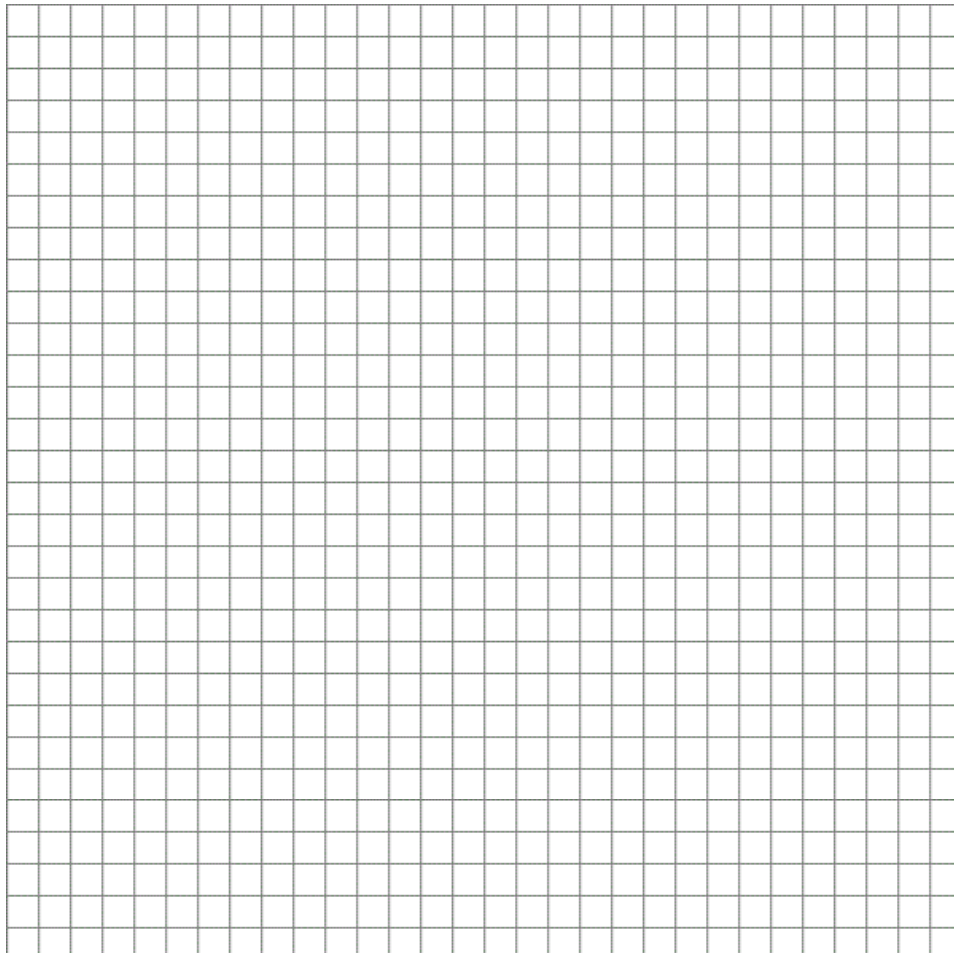
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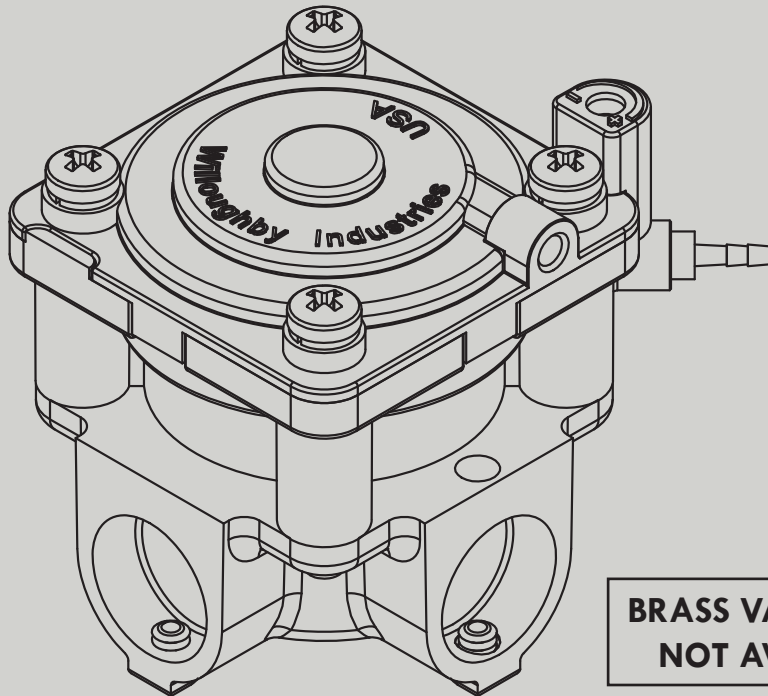
# PARTS AND ACCESSORIES CATALOG



WILLOUGHBY

SECTION

6



BRASS VALVE BODY  
NOT AVAILABLE

## PNEUMATIC VALVE PARTS- BRASS BODIED

### **THESE ITEMS:**

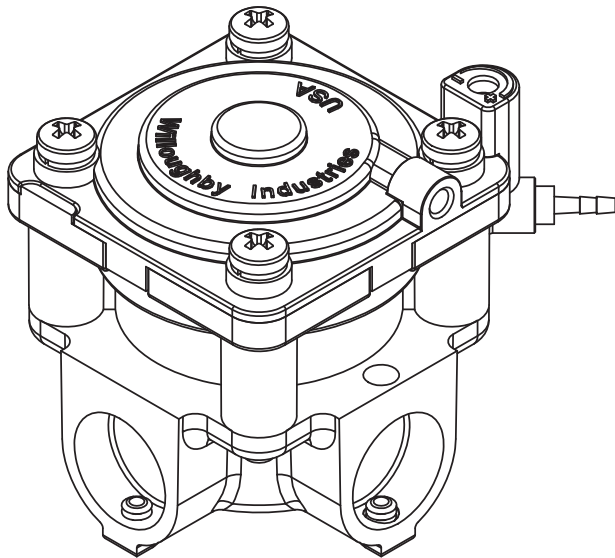
BRASS BODIED PNEUMATIC VALVE PARTS - OVERVIEW \_\_\_\_\_  
WASHFOUNTAIN ELECTRONIC VALVE PARTS \_\_\_\_\_  
PM METERING VALVE PARTS & KITS \_\_\_\_\_  
PS NON-METERING VALVE PARTS & KITS \_\_\_\_\_

### **BEGIN ON PAGE:**

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**PNEUMATIC VALVE PARTS BRASS BODIED - OVERVIEW**

**P/N: 380997WI PRE-2014 BRASS BODIED PNEUMATIC VALVE IS NO LONGER AVAILABLE FOR DIRECT REPLACEMENT**



**PARTS FOR P/N: 380997WI ARE AVAILABLE BASED ON VALVE CONFIGURATION:**

• IF YOU HAVE A **PM** METERING VALVE ASSEMBLY, SEE:

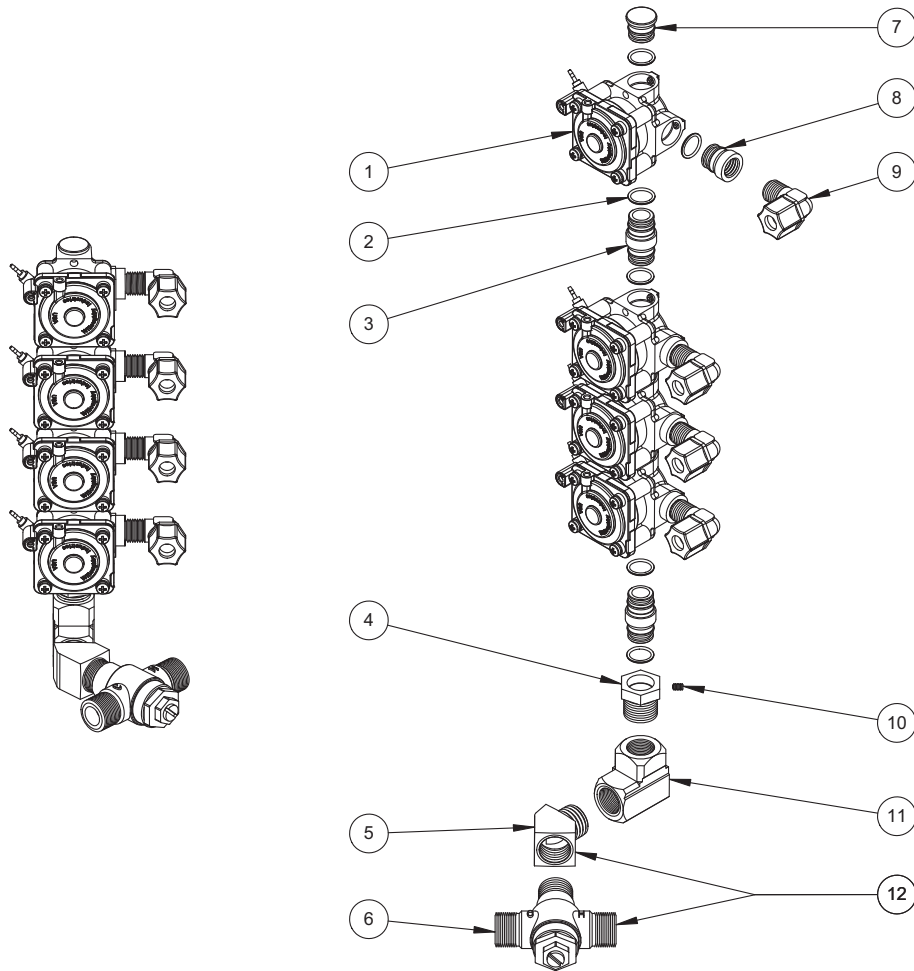
**PM VALVE ASSEMBLY  
COMPONENTS & KITS**

• IF YOU HAVE A **PS** NON-METERING (OR SELF CLOSING) VALVE ASSEMBLY, SEE:

**PS VALVE ASSEMBLY  
COMPONENTS & KITS**

**SEE FOLLOWING PAGES FOR SPECIFIC VALVE COMPONENTS**

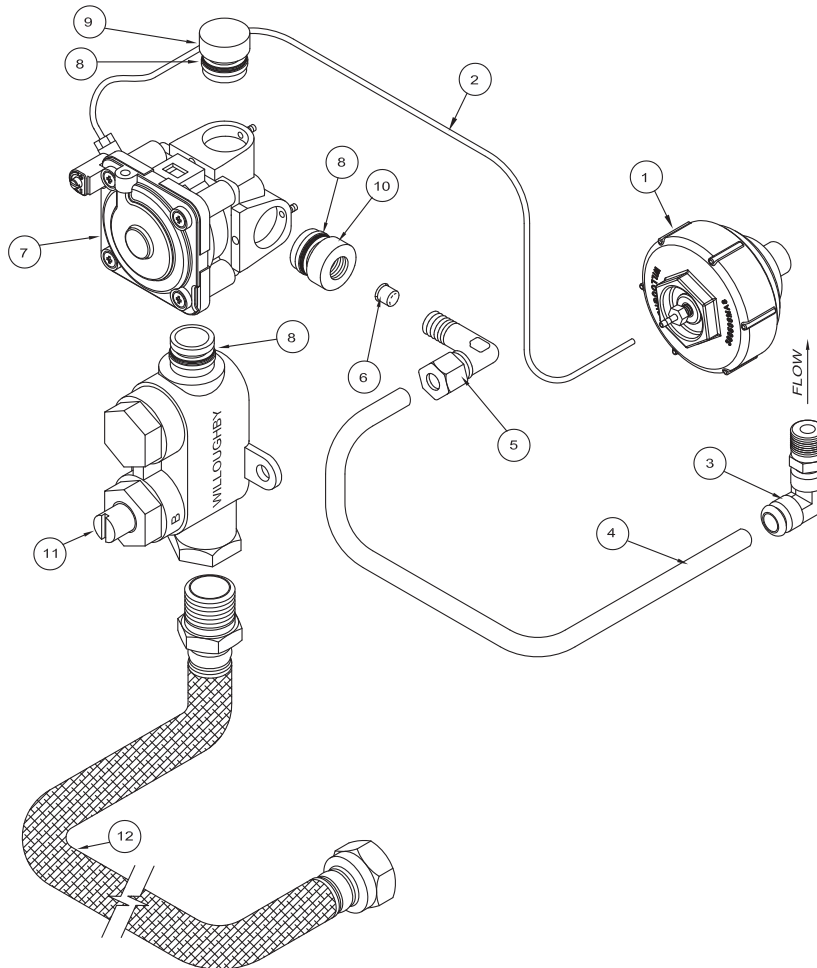
**WASHFOUNTAIN PNEUMATIC VALVE ASSM. - BRASS**



ITEM #	PART NUMBER	DESCRIPTION	SEE CATALOG SECTION #:
1	N/A	WASHFOUNTAIN VALVE, BRASS BODY PNEU. (PARTS AVAILABLE ONLY)	6
2	600130	O-RING, #015	1
3	380999	BRASS COUPLER FITTING	---
4	380992	BRASS VALVE BODY ADAPTOR FITTING	---
5	320581LF	ELBOW FITTING, 45°, 1/2" STREET	1
6	700480ELF	POWERS HYDROGUARD TMV (LFE480) INLINE	1
7	380998	MALE COUPLER PLUG	---
8	380222	ELBOW ADAPTER FITTING	---
9	320579	3/8" TUBE x 1/4" MPT ELBOW	1
10	540010	SET SCREW, #8-32 X 1/4"	1
11	320600LF	ELBOW FITTING, 90° 1/2" FPT X 1/2" FPT	1
12	800034E	THERMOSTATIC MIXING VALVE ASSM. (LFE480)	1

SEE FOLLOWING PAGES FOR PNEUMATIC VALVE COMPONENTS

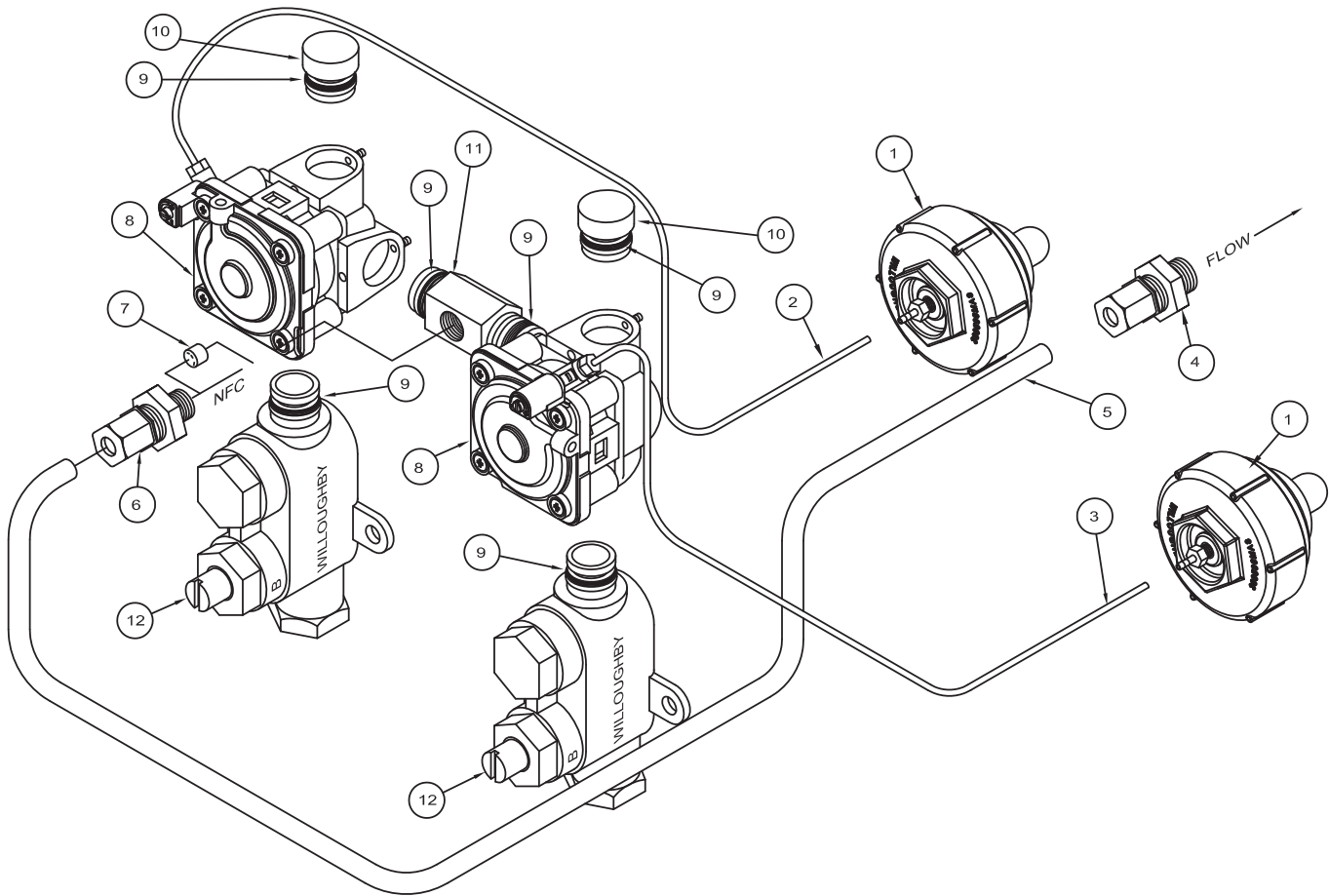
**PM1/PS1 SINGLE TEMP. PNEUMATIC VALVE ASSM. - BRASS**



ITEM #	PART NUMBER	DESCRIPTION	SEE CATALOG SECTION #:
1	P/N VARIES	PNEUMATIC PUSH BUTTON (VARIES)	12
2	600475	PNEUMATIC TUBING, 1/16" I.D. x 1/8" O.D. (BLUE)	1 (SOLD PER FOOT)
3	320608	PRESTOLOCK ELBOW, 3/8" TUBE x 3/8" MPT	---
4	600523	FLEXIBLE TUBING 3/8" (10mm) O.D.	1 (SOLD PER FOOT)
5	320579	3/8" TUBE x 1/4" MPT ELBOW	1
6	P/N VARIES	FLOW CONTROL INSERT (VARIES, OPTIONAL ON SOME VALVES)	11
7	N/A	WASHFOUNTAIN VALVE, BRASS BODY PNEU. (PARTS AVAILABLE ONLY)	6
8	600130	O-RING, #015	1
9	380998	MALE COUPLER PLUG	---
10	380222	ELBOW ADAPTER FITTING	---
11	600183	CHECKSTOP ASSEMBLY, BRASS	11
12	320511SS	(OPTIONAL) 20" STAINLESS STEEL FLEX HOSE, 1/2" MIP x 1/2" FIP	1

SEE FOLLOWING PAGES FOR PNEUMATIC VALVE COMPONENTS

**PM2/PS2 DUAL TEMP. PNEUMATIC VALVE ASSM. - BRASS**

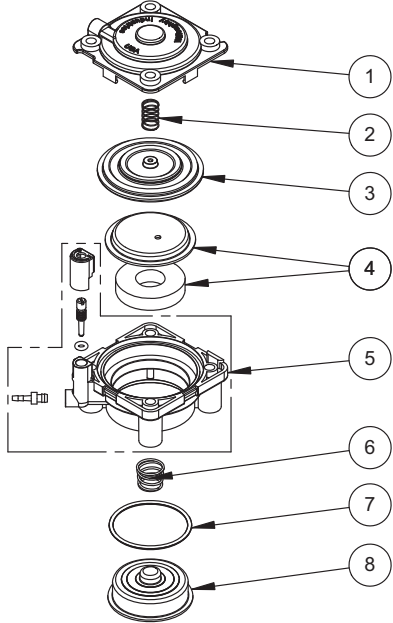
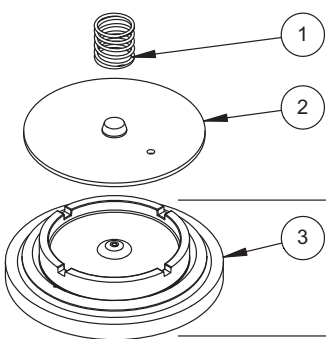
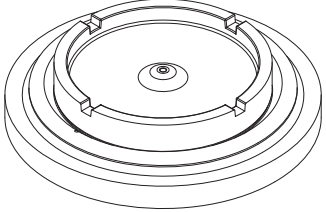


ITEM #	PART NUMBER	DESCRIPTION	SEE CATALOG SECTION #:
1	P/N VARIES	PNEUMATIC PUSH BUTTON (VARIES)	12
2	600475	PNEUMATIC TUBING, 1/16" I.D. x 1/8" O.D. (BLUE)	1 (SOLD PER FOOT)
3	600470	PNEUMATIC TUBING, 1/16" I.D. x 1/8" O.D. (RED)	1 (SOLD PER FOOT)
4	320566	3/8" x 3/8" MPT CONNECTOR	1
5	600523	FLEXIBLE TUBING 3/8" (10mm) O.D.	1 (SOLD PER FOOT)
6	321010	3/8" TUBE x 1/4" MPT CONNECTOR	1
7	P/N VARIES	FLOW CONTROL INSERT (VARIES, OPTIONAL ON SOME VALVES)	11
8	N/A	WASHFOUNTAIN VALVE, BRASS BODY PNEU. (PARTS AVAILABLE ONLY)	6
9	600130	O-RING, #015	1
10	380998	MALE COUPLER PLUG	---
11	380221	TEE ADAPTER FITTING	---
12	600183	CHECKSTOP ASSEMBLY, BRASS	11
NS	320511SS	(OPTIONAL) 20" STAINLESS STEEL FLEX HOSE, 1/2" MIP x 1/2" FIP	1

SEE FOLLOWING PAGES FOR PNEUMATIC VALVE COMPONENTS

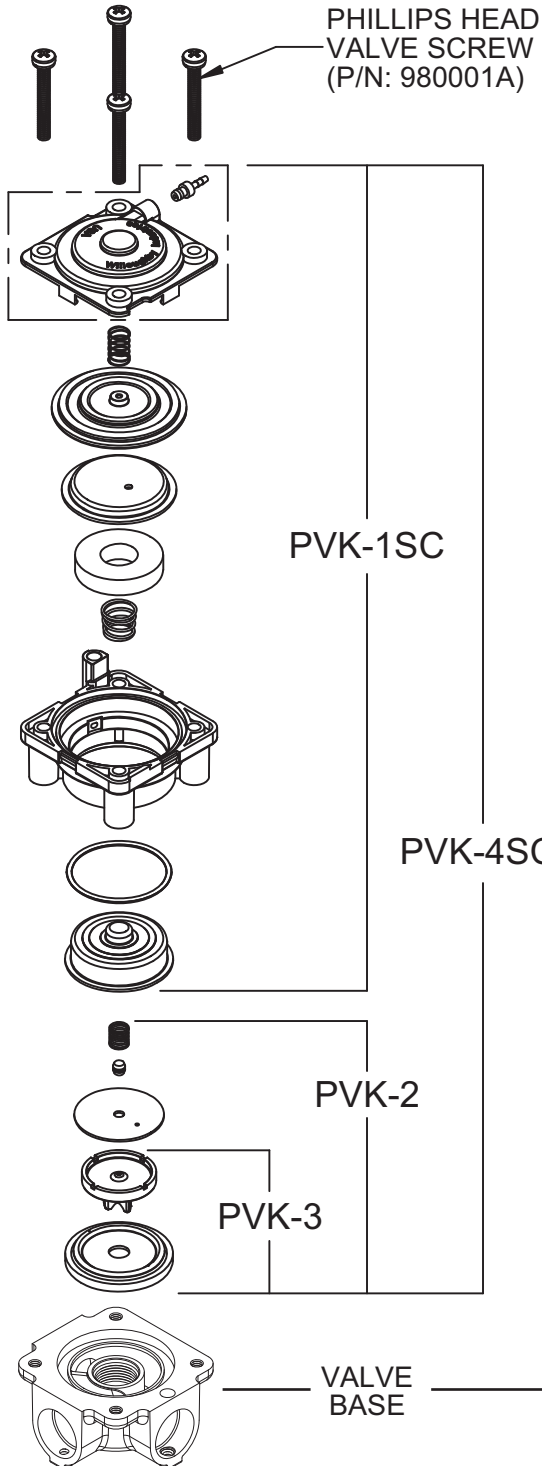




	PART NUMBER	VALVE ASSEMBLY																											
	P/N: PVK-4M	<p>COMPLETE PML REBUILD KIT                      INCLUDES: PVK-1M, PVK-2, PVK-3, &amp; 380897</p>																											
	<p>P/N: PVK-1M                      PML AIR-SIDE                      REBUILD KIT</p>	 <table border="1" data-bbox="966 672 1477 1150"> <thead> <tr> <th>ITEM #</th> <th>DESCRIPTION</th> <th>QTY.</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>AIR SIDE TOP COVER</td> <td>1</td> </tr> <tr> <td>2</td> <td>AIR SIDE SPRING</td> <td>1</td> </tr> <tr> <td>3</td> <td>DIAPHRAGM, AIR SIDE, PNEUMATIC METERING VALVE</td> <td>1</td> </tr> <tr> <td>4</td> <td>METERING VALVE MAGNET/CUP ASSEMBLY</td> <td>1</td> </tr> <tr> <td>5</td> <td>METERING VALVE BODY ASSEMBLY</td> <td>1</td> </tr> <tr> <td>6</td> <td>SPRING, AIR SIDE MAGNET</td> <td>1</td> </tr> <tr> <td>7</td> <td>O-RING M1.5x32 BUNA-70</td> <td>1</td> </tr> <tr> <td>8</td> <td>BARRIER CUP</td> <td>1</td> </tr> </tbody> </table>	ITEM #	DESCRIPTION	QTY.	1	AIR SIDE TOP COVER	1	2	AIR SIDE SPRING	1	3	DIAPHRAGM, AIR SIDE, PNEUMATIC METERING VALVE	1	4	METERING VALVE MAGNET/CUP ASSEMBLY	1	5	METERING VALVE BODY ASSEMBLY	1	6	SPRING, AIR SIDE MAGNET	1	7	O-RING M1.5x32 BUNA-70	1	8	BARRIER CUP	1
ITEM #	DESCRIPTION	QTY.																											
1	AIR SIDE TOP COVER	1																											
2	AIR SIDE SPRING	1																											
3	DIAPHRAGM, AIR SIDE, PNEUMATIC METERING VALVE	1																											
4	METERING VALVE MAGNET/CUP ASSEMBLY	1																											
5	METERING VALVE BODY ASSEMBLY	1																											
6	SPRING, AIR SIDE MAGNET	1																											
7	O-RING M1.5x32 BUNA-70	1																											
8	BARRIER CUP	1																											
	<p>P/N: PVK-2                      WATER-SIDE                      ASSEMBLY KIT</p>	 <table border="1" data-bbox="974 1285 1481 1470"> <thead> <tr> <th>ITEM #</th> <th>DESCRIPTION</th> <th>QTY.</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>SPRING, WATER SIDE DIAPHRAGM</td> <td>1</td> </tr> <tr> <td>2</td> <td>WATER SIDE DISK ASSEMBLY</td> <td>1</td> </tr> <tr> <td>3</td> <td>WATER SIDE DIAPHRAGM/ADAPTOR ASSY.</td> <td>1</td> </tr> </tbody> </table> <p>PVK-3 (ITEM #: 3)</p>	ITEM #	DESCRIPTION	QTY.	1	SPRING, WATER SIDE DIAPHRAGM	1	2	WATER SIDE DISK ASSEMBLY	1	3	WATER SIDE DIAPHRAGM/ADAPTOR ASSY.	1															
ITEM #	DESCRIPTION	QTY.																											
1	SPRING, WATER SIDE DIAPHRAGM	1																											
2	WATER SIDE DISK ASSEMBLY	1																											
3	WATER SIDE DIAPHRAGM/ADAPTOR ASSY.	1																											
	<p>P/N: PVK-3                      WATER-SIDE                      DIAPHRAGM</p>	 <div data-bbox="1015 1717 1469 1864" style="border: 1px solid black; padding: 5px;"> <p><b>NOTE: PVK-3 IS INCLUDED IN PVK-2</b></p> </div>																											

**PS VALVE ASSEMBLY COMPONENTS & KITS (PVKs)**

**\*COMMON TO ALL PS VALVES**



**BRASS VALVE BODY IS NO LONGER AVAILABLE**

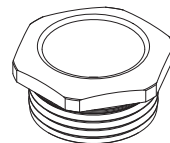
**NOTES:**

- PARTS LISTED IN **PVK** COMPONENT KITS ARE NOT SOLD INDIVIDUALLY
- **PVK-1SC, PVK-2, & PVK-3** PARTS ARE AVAILABLE IN KIT FORM ONLY
- COMPONENT KIT PART NUMBERS ARE LISTED IN THE EXPLODED VIEW,

**SEE THE FOLLOWING PAGE FOR DETAILS**

**OTHER PARTS:**

- **VALVE BASE: N/A**
- **BASE INSERT, P/N: 380897**



**PART NUMBER**

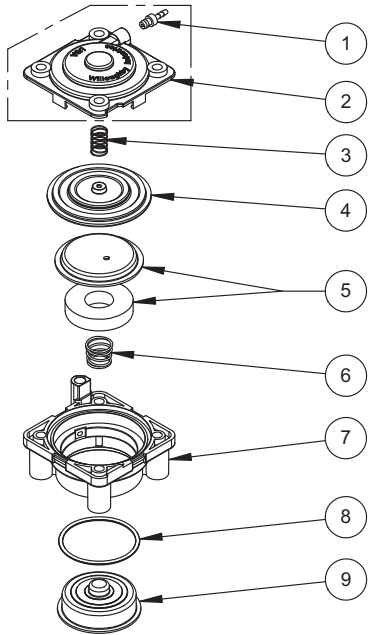
**VALVE ASSEMBLY**

**P/N: PVK-4SC**

**COMPLETE PSL REBUILD KIT  
INCLUDES: PVK-1SC, PVK-2, PVK-3, & 380897**

**P/N: PVK-1SC**

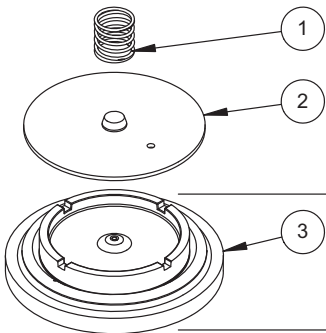
**PSL AIR-SIDE  
REBUILD KIT**



ITEM #	DESCRIPTION	QTY.
1	FITTING, HOSE BARB, PUSH-IN, 1/16" (BRASS)	1
2	AIR SIDE TOP COVER	1
3	AIR SIDE SPRING	1
4	DIAPHRAGM, AIR SIDE, PNEUMATIC METERING VALVE	1
5	METERING VALVE MAGNET/CUP ASSEMBLY	1
6	SPRING, AIR SIDE MAGNET	1
7	BODY, MOLDED WI PNEU. MTRG.	1
8	O-RING M1.5x32 BUNA-70	1
9	BARRIER CUP	1

**P/N: PVK-2**

**WATER-SIDE  
ASSEMBLY KIT**

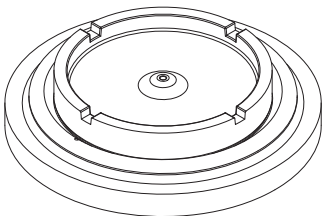


ITEM #	DESCRIPTION	QTY.
1	SPRING, WATER SIDE DIAPHRAGM	1
2	WATER SIDE DISK ASSEMBLY	1
3	WATER SIDE DIAPHRAGM/ADAPTOR ASSY.	1

PVK-3  
(ITEM #: 3)

**P/N: PVK-3**

**WATER-SIDE  
DIAPHRAGM**



**NOTE: PVK-3 IS INCLUDED IN PVK-2**

# NOTES:

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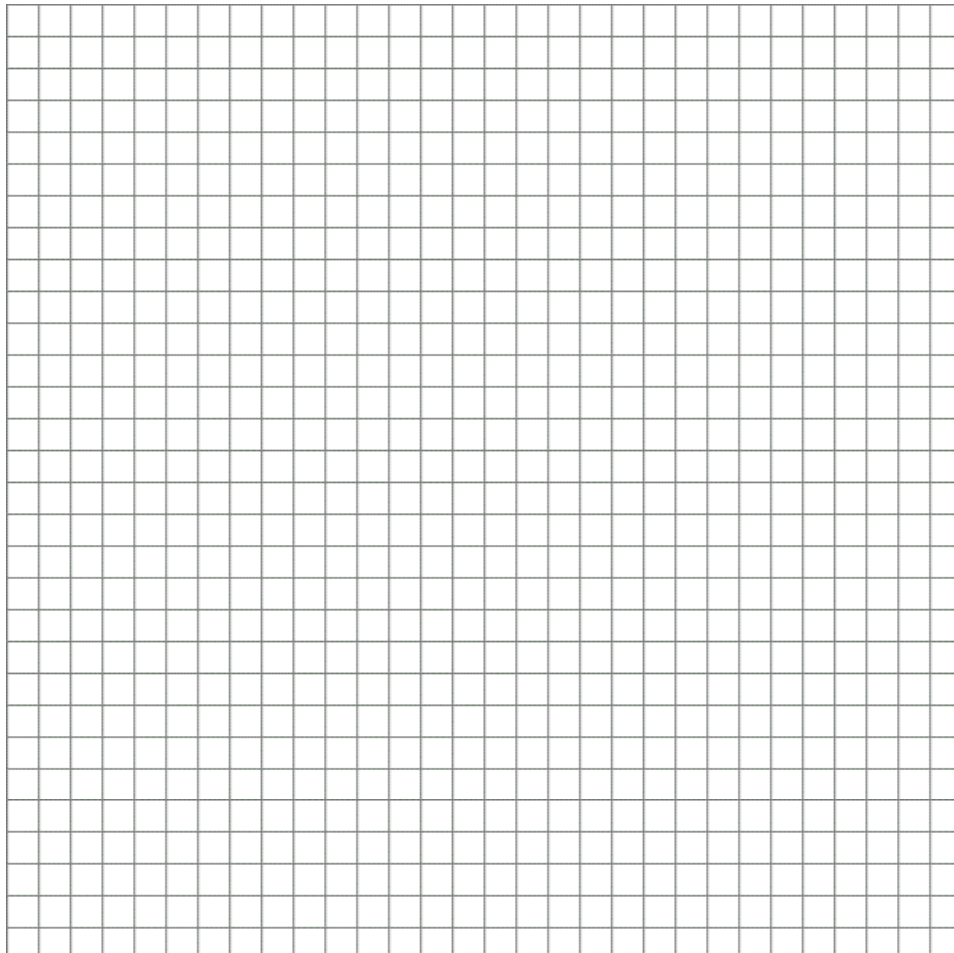
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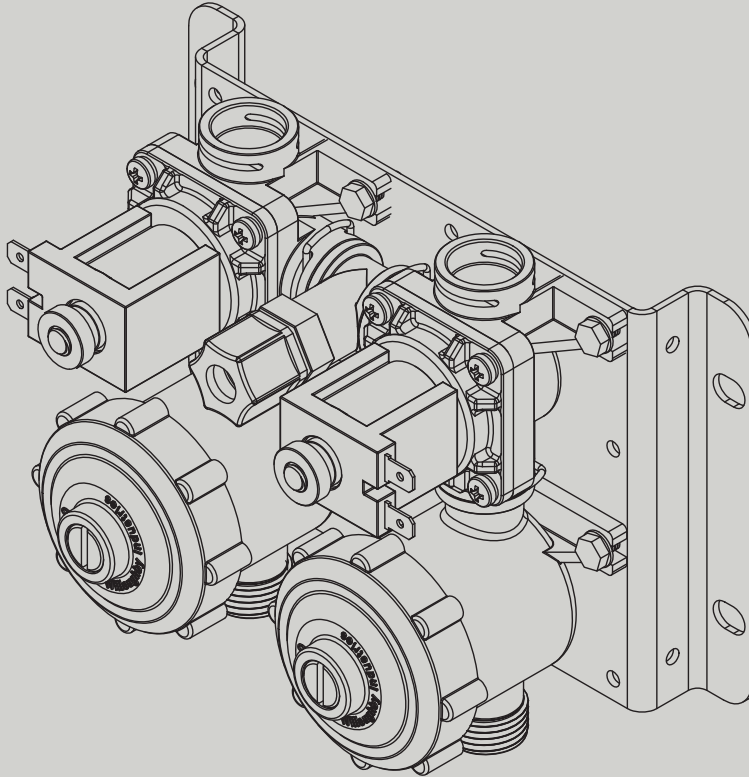
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# PARTS AND ACCESSORIES CATALOG



WILLOUGHBY



## SECTION

# 7

## ELECTRONIC VALVES & PARTS- LEAD FREE

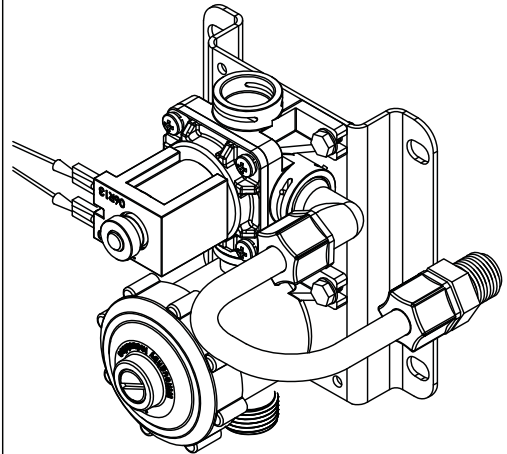
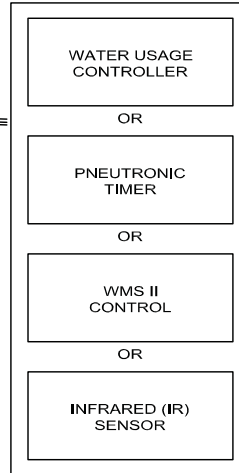
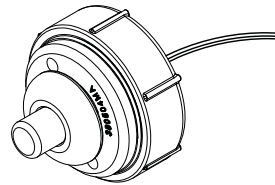
### THESE ITEMS:

SINGLE TEMP. ELECTRONIC VALVES- OVERVIEW _____	
DUAL TEMP. ELECTRONIC VALVES- OVERVIEW _____	
E1L1 COMPLETE ELECTRONIC VALVE ASSEMBLIES _____	
E1L2 COMPLETE ELECTRONIC VALVE ASSEMBLIES _____	
E1L ELECTRONIC VALVE COMPONENTS & KITS _____	

### BEGIN ON PAGE:

72
73
74
75
76

# E1L1 Single Temperature Lead-free Electronic Valve



## Recommended Specifications

Single Temperature, Lead-free, Electronic Valve assembly shall be: Willoughby Model No. **E1L1** (Select from options list)

Stainless steel push buttons on the fixture shall be wired to an appropriate electronic valve control (select from the list of control choices). The vandal-resistant push buttons shall be keyed/ non-removable from the front of the fixture and shall require less than 5 lbs of force to operate.

The plastic valve checkstop/strainers shall feature integral mounting points. Replaceable stainless steel strainer and optional 0.5 GPM flow control can be serviced without disturbing the supply line. Assembly shall use flexible tubing to connect to the filler/ bubbler/shower head. Water inlet is 1/2" MPT and is reversible for either top or bottom supply. A galvanized wall mounting plate is provided, wall anchoring hardware provided by others.

Flexible tubing is supplied for walls up to 8" thick. Recommended operating pressure shall be 35-70 psi. Valve shall withstand pressures up to 90 psi. Cost-reducing manifolded valves shall consist of multiple valve assemblies served by a common supply line. A 24 volt AC source shall be required for a timer and valve operation.

Valve complies with NSF-61 standard.

### Flow Selection (choose one):

- 0.5 GPM Flow (lavatories)
- 1.5 GPM Flow (showers)
- 2.0 GPM Flow (showers)
- NFC (No Flow Control) (showers, up to MA2)

### Control:

- WUCC-3010     WUSC-2200     WUSC-2400
- Pneutronic Timer     WMS II Control
- Infrared (IR) Sensor

### Push Button\*:

- EPB            Electronic Push Button
- EPBH          Ligature-resistant Electronic Push Button
- PZPB          Piezo Push Button

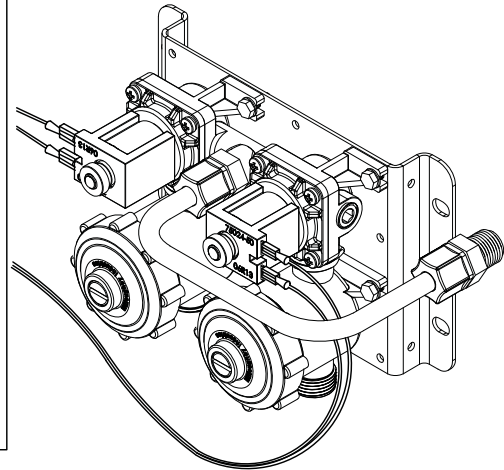
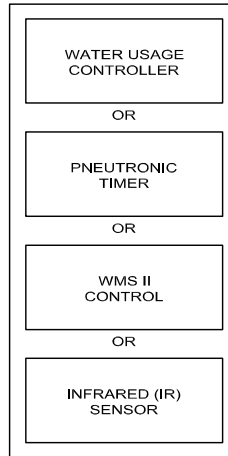
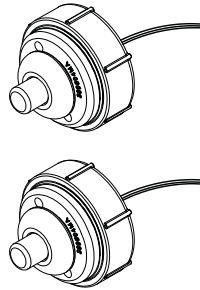
\*Not required for IR

### Options:

- MA2 (Double Manifold, no flow limitation)
- MA3 (Triple Manifold, 0.5 GPM flow only)
- MA4 (Quad Manifold, 0.5 GPM flow only)
- TMV          In-line Thermostatic Mixing Valve  
24 VAC Power Transformer supplied by others.

FOR POWER SUPPLY TRANSFORMERS AND WIRING: [SEE SECTION 1](#)  
FOR ELECTRONIC WATER MANAGEMENT CONTROLS: [SEE SECTION 8](#)  
FOR PUSH BUTTONS OR INFRARED SENSORS: [SEE SECTION 12](#)

# E1L2 Dual Temperature Lead-free Electronic Valve



## Recommended Specifications

Dual Temperature, Lead-free Electronic Valve assembly shall be: Willoughby Model No. **E1L2** (Select from options list)

Stainless steel push buttons on the fixture shall be wired to an appropriate electronic valve control (select from the list of control choices). The vandal-resistant push buttons shall be keyed/non-removable from the front of the fixture and shall require less than 5 lbs of force to operate.

The plastic valve checkstop/strainers shall feature integral mounting points. Replaceable stainless steel strainer and optional 0.5 GPM flow control can be serviced without disturbing the supply line. Assembly shall use flexible tubing to connect to the filler/bubbler/shower head. Water inlet is 1/2" MPT and is reversible for either top or bottom supply. A galvanized wall mounting plate is provided, wall anchoring hardware provided by others.

Flexible tubing is supplied for walls up to 8" thick. Recommended operating pressure shall be 35-70 psi. Valve shall withstand pressures up to 90 psi. Cost-reducing manifolded valves shall consist of multiple valve assemblies served by a common supply line. A 24 volt AC source shall be required for a timer and valve operation.

Valve complies with NSF-61 standard.

\* This is not a substitute for a thermostatic mixing valve. The delivered water temperature is the result of the two combined inlet temperatures and cannot be adjusted by this valve assembly. The hot side of the valve must be supplied with tempered water.

### Flow Selection (choose one):

- 0.5 GPM Flow (lavatories)
- 1.5 GPM Flow (showers)
- 2.0 GPM Flow (showers)
- NFC (No Flow Control) (showers, up to MA2)

### Control:

- WUCC-3010     WUSC-2200     WUSC-2400
- Pneutronic Timer     WMS II Control
- Infrared (IR) Sensor

### Push Buttons\*:

- EPB            Electronic Push Buttons
- EPBH          Ligature-resistant Electronic Push Buttons
- PZPB          Piezo Push Buttons

\*Not required for IR

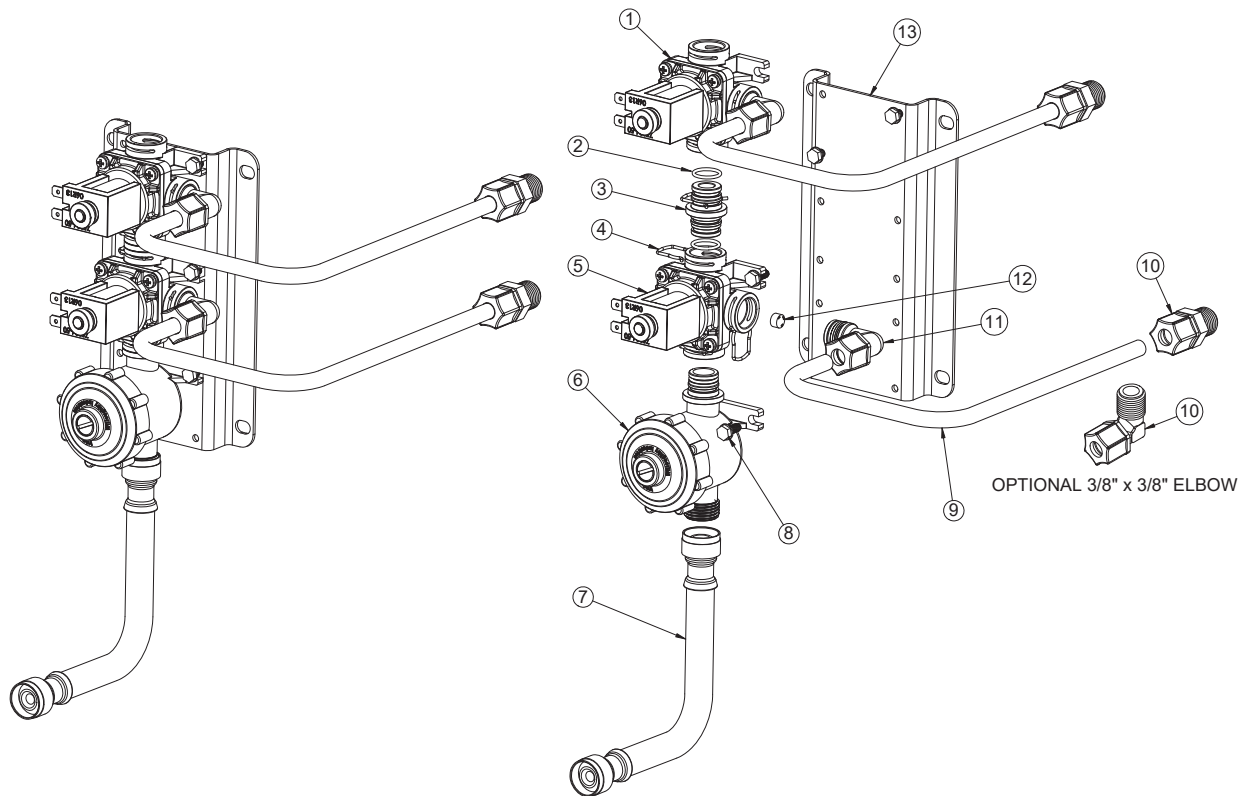
### Options:

- MA2 (Double Manifold, no flow limitations)
- MA3 (Triple Manifold, 0.5 GPM flow only)
- MA4 (Quad Manifold, 0.5 GPM flow only)
- TMV          In-line Thermostatic Mixing Valve  
24 VAC Power Transformer supplied by others.

FOR POWER SUPPLY TRANSFORMERS AND WIRING: SEE SECTION 1  
FOR ELECTRONIC WATER MANAGEMENT CONTROLS: SEE SECTION 8  
FOR PUSH BUTTONS OR INFRARED SENSORS: SEE SECTION 12



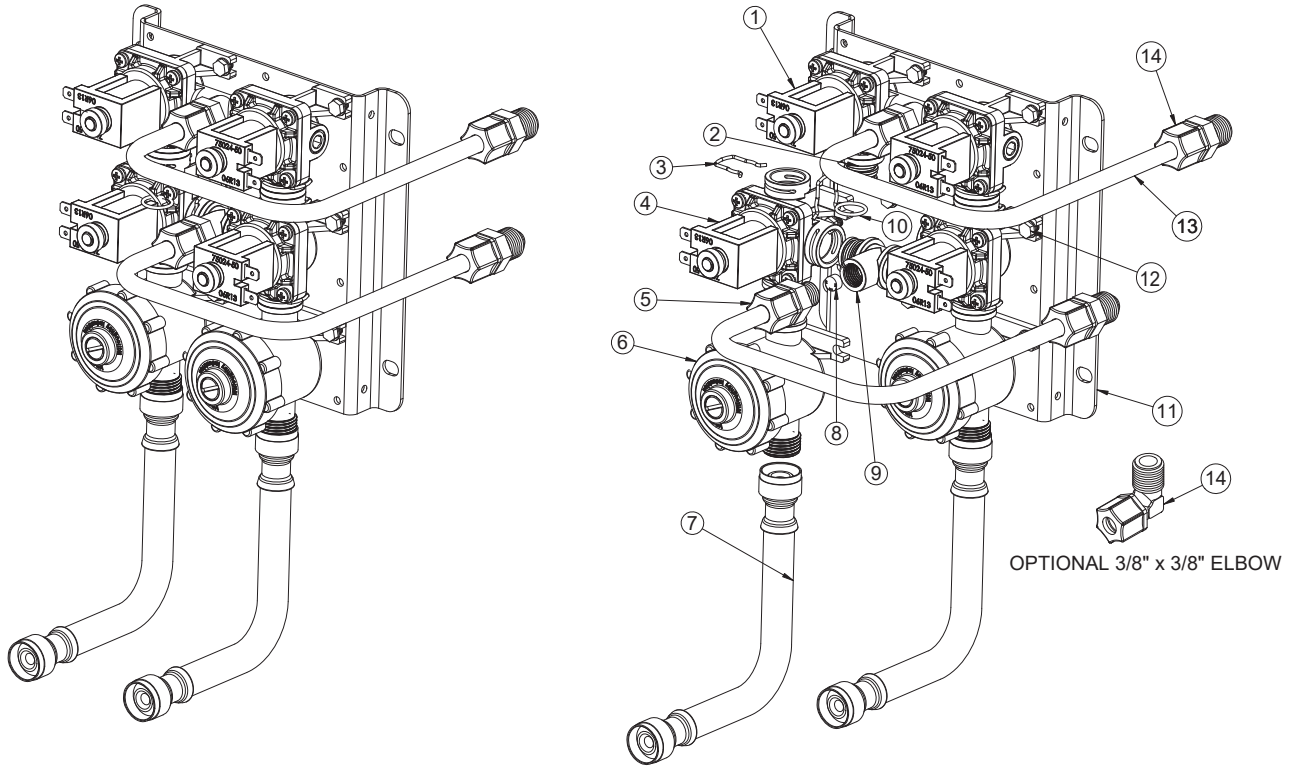
# E1L1 SINGLE TEMPERATURE ELECTRONIC VALVES



ITEM #	PART NUMBER	DESCRIPTION	SEE CATALOG SECTION #:
1	980408PR	E1L VALVE ASSEMBLY, RIGHT-PLUGGED PORT	6
2	980164	'O'-RING, #015	1
3	980197	PLASTIC VALVE COUPLING	1
4	980140	SPRING CLIP	1
5	980408	E1L VALVE ASSEMBLY	6
6	980183	CHECKSTOP ASSEMBLY	11
7	980506	(OPTIONAL) 6" STAINLESS STEEL FLEX HOSE	1
7	980520	(OPTIONAL) 20" STAINLESS STEEL FLEX HOSE	1
8	800133	#10-16 SELF TAP TYPE B HEX HEAD SCREW	1
9	600523	FLEXIBLE TUBING 3/8" (10mm) O.D. 20 FT. TOTAL	1 (SOLD PER FOOT)
10	320566	(OPTIONAL) CONNECTOR, 3/8" TUBE x 3/8" MPT	1
10	320577	(OPTIONAL) ELBOW, 3/8" TUBE x 3/8" MPT	1
11	980600A	VALVE FITTING ASSEMBLY, 3/8" ELBOW	1
12	P/N VARIES	FLOW CONTROL INSERT (VARIES, OPTIONAL ON SOME VALVES)	11
13	980501	PML11 VALVE MOUNTING BRACKET	---
	9805012	PML12 VALVE MOUNTING BRACKET	---
	9805013	PML13 VALVE MOUNTING BRACKET	---
	9805014	PML14 VALVE MOUNTING BRACKET	---

**SEE PAGE-AFTER-NEXT FOR INDIVIDUAL ELECTRONIC VALVE ASSEMBLIES**

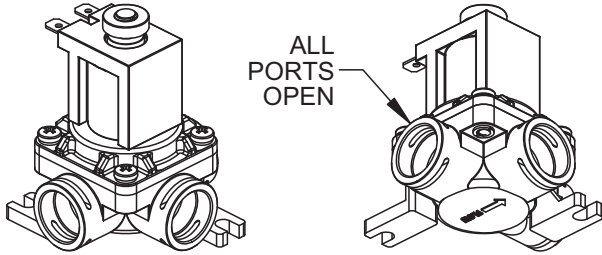
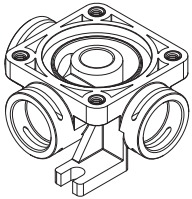
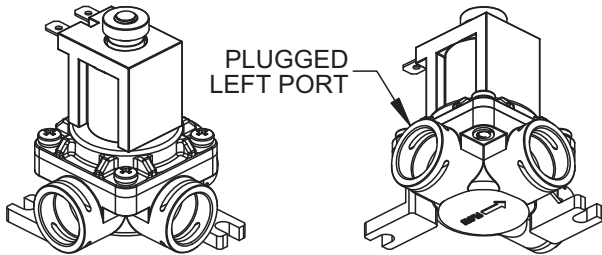
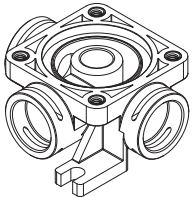
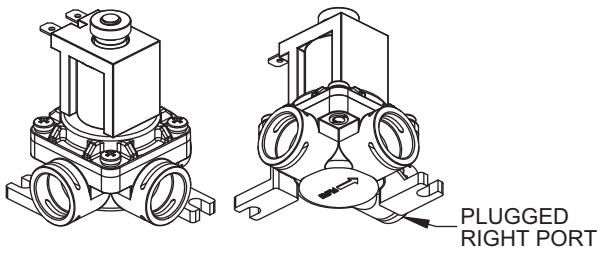
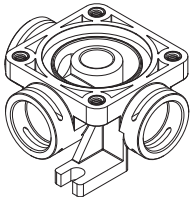
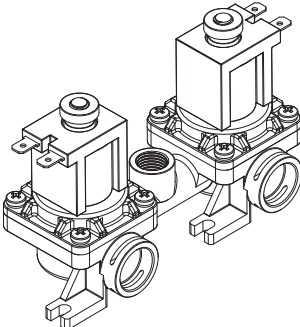
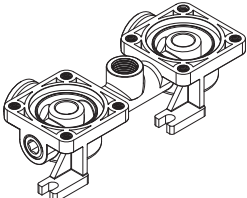
# E1L2 DUAL TEMPERATURE ELECTRONIC VALVES



ITEM #	PART NUMBER	DESCRIPTION	SEE CATALOG SECTION #:
1	980409	DUAL TEMP, WILLOUGHBY SOLENOID PARTS ASSEMBLY (E1L2)	6
2	980197	PLASTIC VALVE COUPLING	1
3	980140	SPRING CLIP	1
4	980408	E1L VALVE ASSEMBLY	6
5	321010	CONNECTOR, 3/8" TUBE x 1/4" MPT	1
6	980183	CHECKSTOP ASSEMBLY	11
7	980506	(OPTIONAL) 6" STAINLESS STEEL FLEX HOSE	1
7	980520	(OPTIONAL) 20" STAINLESS STEEL FLEX HOSE	1
8	P/N VARIES	FLOW CONTROL INSERT (VARIES, OPTIONAL ON SOME VALVES)	11
9	980196	PLASTIC VALVE 'T'	1
10	980164	'O'-RING, #015	1
11	980502	PML21 VALVE MOUNTING BRACKET	---
	9805022	PML22 VALVE MOUNTING BRACKET	---
	9805023	PML23 VALVE MOUNTING BRACKET	---
	9805024	PML24 VALVE MOUNTING BRACKET	---
12	800133	#10-16 SELF TAP TYPE B HEX HEAD SCREW	1
13	600523	FLEXIBLE TUBING 3/8" (10mm) O.D. 20 FT. TOTAL	1 (SOLD PER FOOT)
14	320566	(OPTIONAL) CONNECTOR, 3/8" TUBE x 3/8" MPT	1
14	320577	(OPTIONAL) ELBOW, 3/8" TUBE x 3/8" MPT	1

**SEE NEXT PAGE FOR INDIVIDUAL ELECTRONIC VALVE ASSEMBLIES**

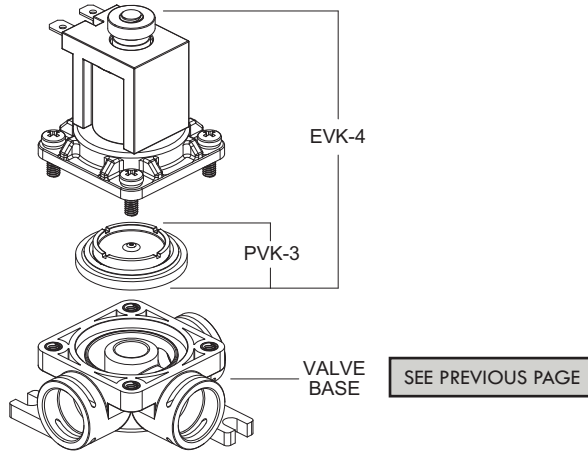
**E1L** INDIVIDUAL ELECTRONIC VALVE ASSEMBLIES / BASES

	PART NUMBER	VALVE ASSEMBLY	BASE ONLY P/N
	<p><b>P/N: 980408</b> E1L, ALL PORTS OPEN</p>		<p><b>P/N: 980420</b></p> 
	<p><b>P/N: 980408PL</b> E1L, PLUGGED LEFT PORT</p>		<p><b>P/N: 980420L</b></p> 
	<p><b>P/N: 980408PR</b> E1L, PLUGGED RIGHT PORT</p>		<p><b>P/N: 980420R</b></p> 
	<p><b>P/N: 980409</b> E1L2, DUAL TEMPERATURE</p>		<p><b>P/N: 980415</b></p> 

SEE THE NEXT PAGE FOR **E1L** VALVE ASSEMBLY COMPONENTS

**E1L VALVE ASSEMBLY COMPONENTS & KITS (EVKs/PVKs)**

**\*COMMON TO ALL E1L VALVES**



**NOTES:**

- PARTS LISTED IN THE **EVK-4** COMPONENT KIT ARE AVAILABLE INDIVIDUALLY
- **PVK-3** KIT PARTS ARE AVAILABLE IN KIT FORM ONLY

	PART NUMBER	VALVE ASSEMBLY																																				
	<p><b>P/N: EVK-4</b></p> <p><b>E1L COMPLETE REBUILD KIT</b></p>	<table border="1" data-bbox="841 1050 1474 1480"> <thead> <tr> <th>ITEM #</th> <th>PART #</th> <th>DESCRIPTION</th> <th>QTY.</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>980534</td> <td>NYLON NUT, 5/16-18</td> <td>1</td> </tr> <tr> <td>2</td> <td>980532</td> <td>COIL, 24V AC</td> <td>1</td> </tr> <tr> <td>3</td> <td>980170A</td> <td>#8-32 x 1/2 " SCREW W/SEMS SPLIT L/W</td> <td>4</td> </tr> <tr> <td>4</td> <td>980530</td> <td>ARMATURE CAP, 24V VALVE</td> <td>1</td> </tr> <tr> <td>5</td> <td>980533</td> <td>SPRING, 5/8 24v VALVE</td> <td>1</td> </tr> <tr> <td>6</td> <td>980565</td> <td>ARMATURE BUMPER ASSEMBLY, EL VALVE</td> <td>1</td> </tr> <tr> <td>7</td> <td>980305</td> <td>WATER SIDE DIAPHRAGM/ADAPTOR ASSY.</td> <td>1</td> </tr> <tr> <td>8</td> <td>380897</td> <td>VALVE SEAT, w/O-RING</td> <td>1</td> </tr> </tbody> </table>	ITEM #	PART #	DESCRIPTION	QTY.	1	980534	NYLON NUT, 5/16-18	1	2	980532	COIL, 24V AC	1	3	980170A	#8-32 x 1/2 " SCREW W/SEMS SPLIT L/W	4	4	980530	ARMATURE CAP, 24V VALVE	1	5	980533	SPRING, 5/8 24v VALVE	1	6	980565	ARMATURE BUMPER ASSEMBLY, EL VALVE	1	7	980305	WATER SIDE DIAPHRAGM/ADAPTOR ASSY.	1	8	380897	VALVE SEAT, w/O-RING	1
ITEM #	PART #	DESCRIPTION	QTY.																																			
1	980534	NYLON NUT, 5/16-18	1																																			
2	980532	COIL, 24V AC	1																																			
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4	980530	ARMATURE CAP, 24V VALVE	1																																			
5	980533	SPRING, 5/8 24v VALVE	1																																			
6	980565	ARMATURE BUMPER ASSEMBLY, EL VALVE	1																																			
7	980305	WATER SIDE DIAPHRAGM/ADAPTOR ASSY.	1																																			
8	380897	VALVE SEAT, w/O-RING	1																																			
	<p><b>P/N: PVK-3</b></p> <p><b>WATER-SIDE DIAPHRAGM</b></p>	<div data-bbox="1010 1717 1471 1864" style="border: 1px solid black; padding: 5px;"> <p><b>NOTE: PVK-3 IS INCLUDED IN EVK-4</b></p> </div>																																				

# NOTES:

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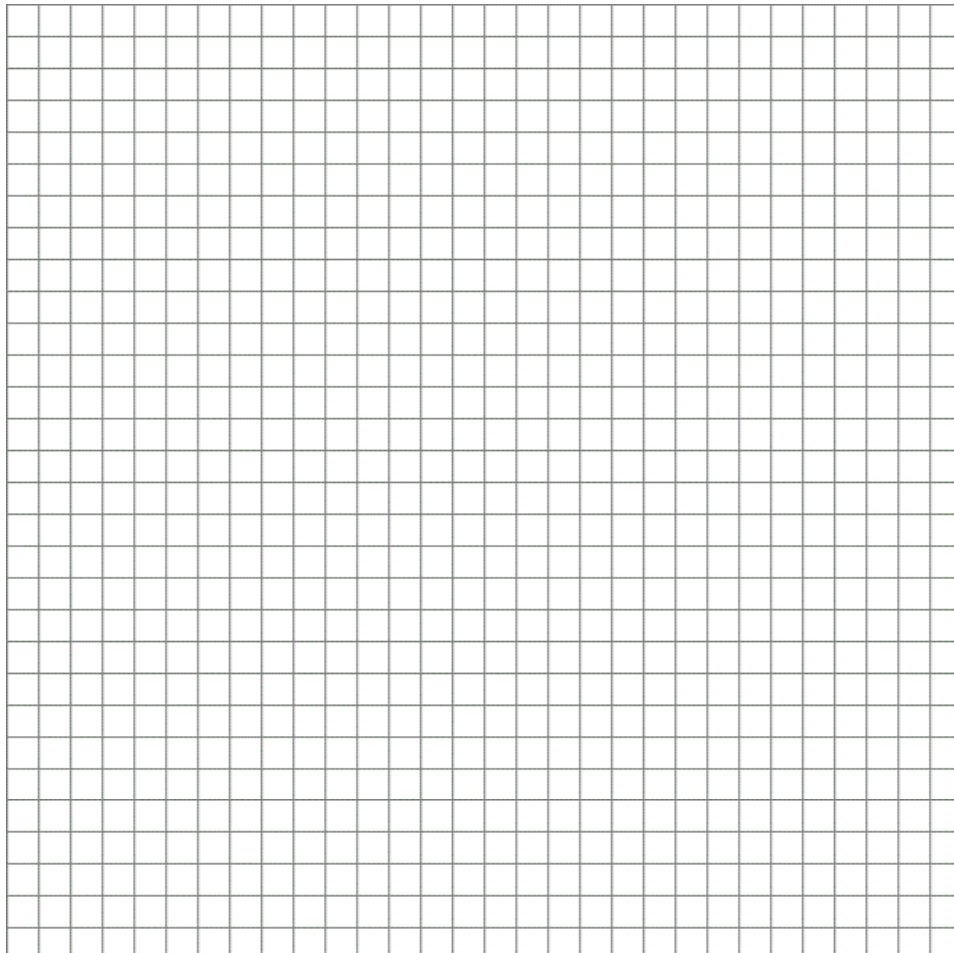
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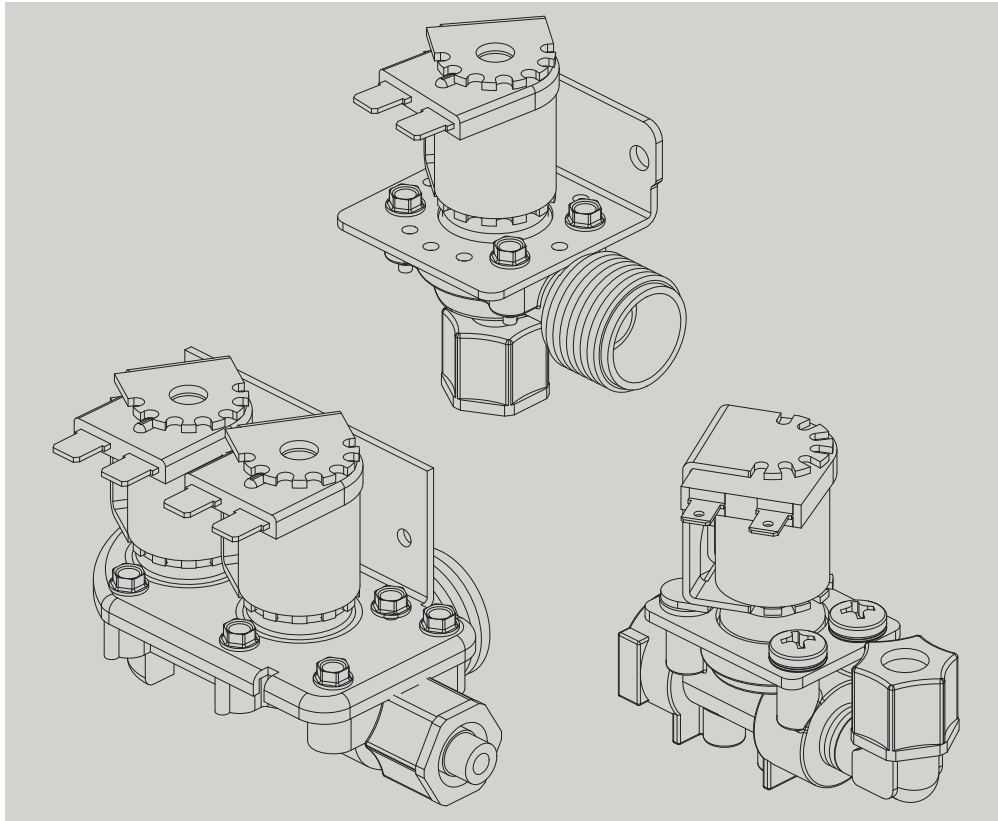
# PARTS AND ACCESSORIES CATALOG



WILLOUGHBY

## SECTION

# 8



## ELECTRONIC VALVE PARTS

### THESE ITEMS:

EL1 SINGLE TEMP. ELECTRONIC VALVE PARTS \_\_\_\_\_

EL2 DUAL TEMP. ELECTRONIC VALVE PARTS \_\_\_\_\_

WASHFOUNTAIN ELECTRONIC VALVE PARTS \_\_\_\_\_

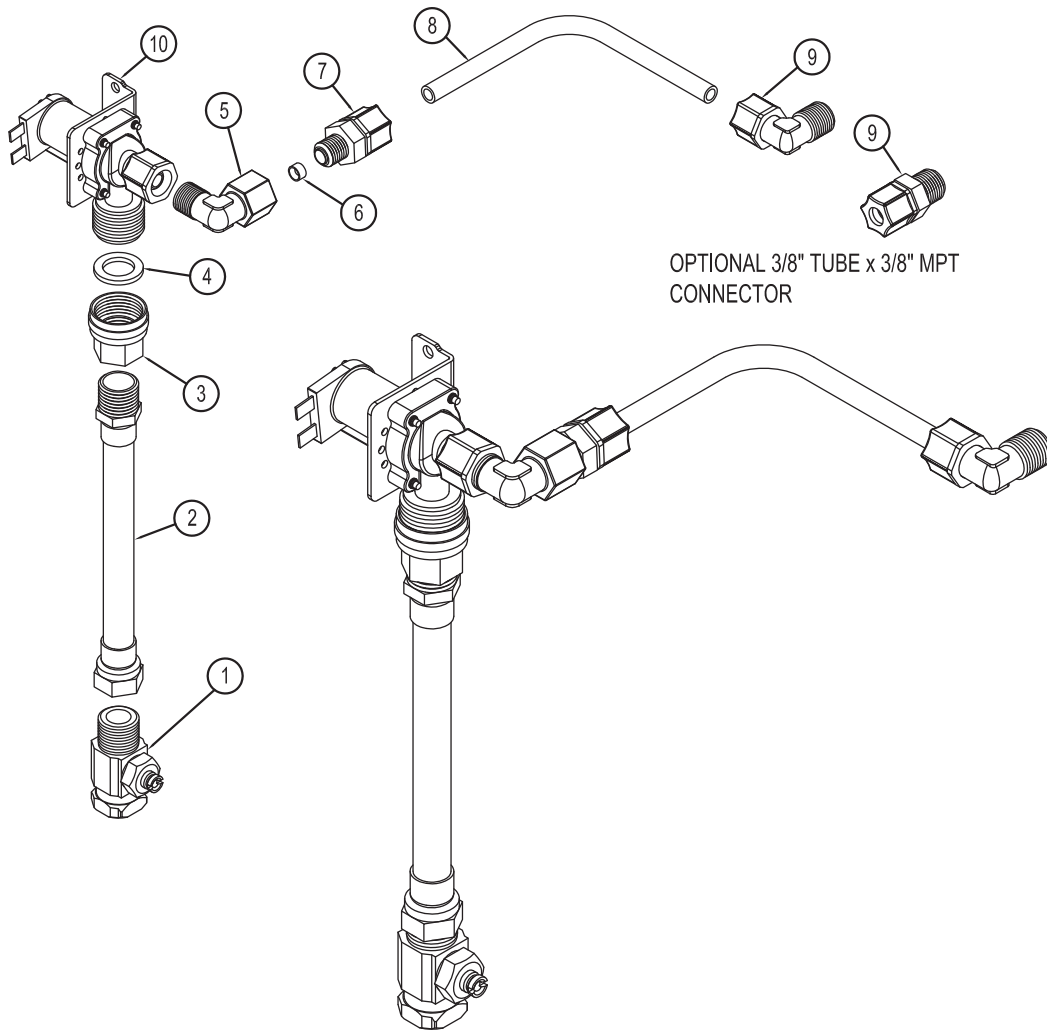
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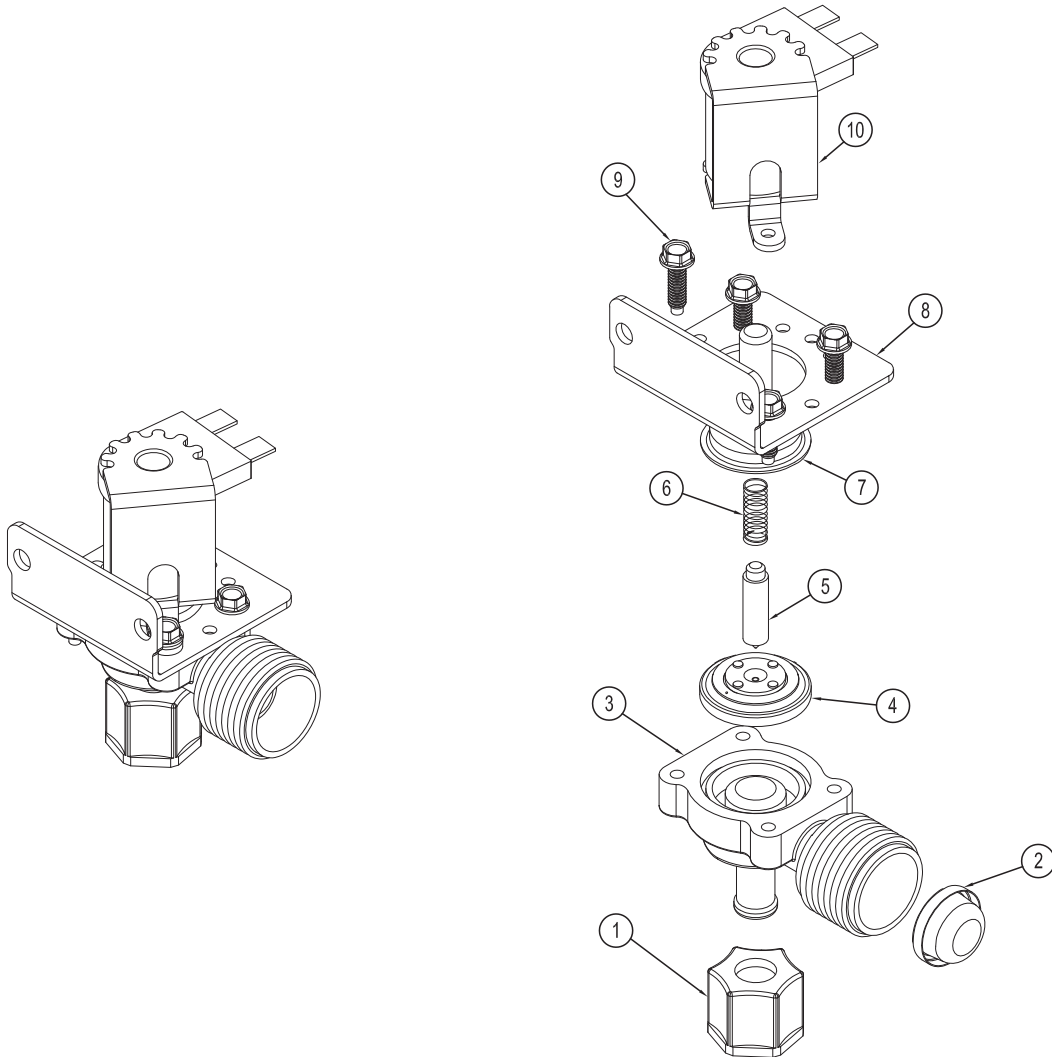
**EL1 SINGLE TEMPERATURE ELECTRONIC VALVE ASSEMBLY**



ITEM #	PART NUMBER	DESCRIPTION	SEE CATALOG SECTION #:
1	380259LF	STOP, INTEGRAL 1/2" MPT x 1/2" FPT	1
2	320511SS	FLEXHOSE 1/2" MIP - 1/2" FIP 3/8" OD	1
3	600375	SWIVEL, 3/4" FGH x 1/2" FPT	---
4	600310	WASHER, GARDEN HOSE, 3/4"	---
5	320614	ELBOW, 3/8" TUBE x 1/4" FPT	1
6	P/N VARIES	FLOW CONTROL INSERT (VARIES, OPTIONAL ON SOME VALVES)	11
7	321010	3/8" TUBE x 1/4" MPT CONNECTOR	1
8	600523	FLEXIBLE TUBING 3/8" OD x 1/4" ID	1 (SOLD PER FOOT)
9	320577	(OPTIONAL) 3/8" TUBE x 3/8" MPT ELBOW	1
	320566	(OPTIONAL) 3/8" TUBE x 3/8" MPT CONNECTOR	1
10	600956N98	SOLENOID VALVE, PLASTIC, 1 TEMP. 24V (EL1)	1

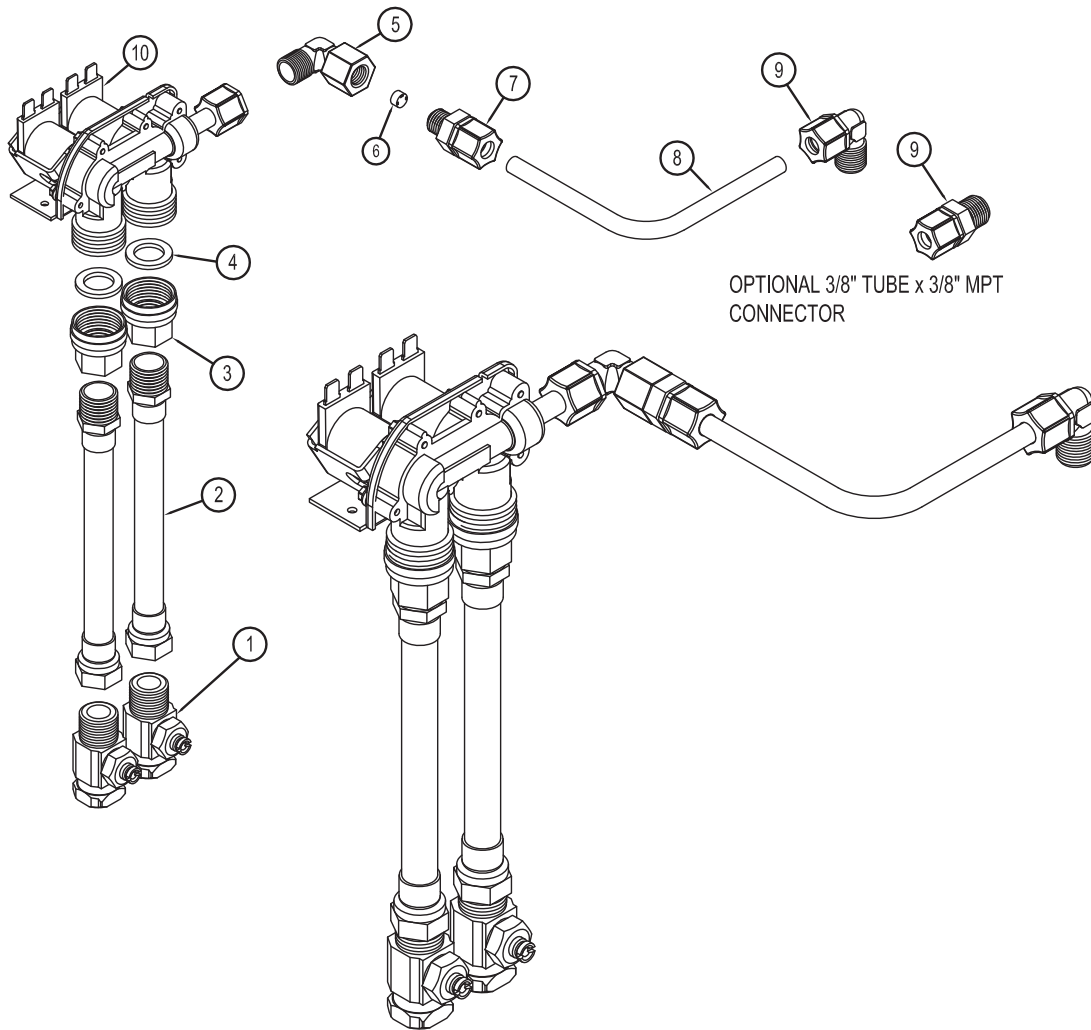
**SEE NEXT PAGE FOR INDIVIDUAL EL1 SOLENOID VALVE**



**EL1 SINGLE TEMPERATURE SOLENOID VALVE - HORTON****COMPLETE EL1 SOLENOID VALVE - P/N: 600956N98**

ITEM #	PART NUMBER	DESCRIPTION	QTY:
1	320559	FERRULE NUT 3/8" TUBE	1
2	500031	SCREEN	1
3	N/A	BODY, SOLENOID VALVE	1
4	DI7438-2N	DIAPHRAGM	1
5	500032	ARMATURE	1
6	500030	SPRING	1
7	500033	ARMATURE GUIDE	1
8	N/A	BRACKET, MOUNTING	1
9	N/A	SCREW	4
10	500034	24 VAC COIL ASSEMBLY	1

# EL2 DUAL TEMPERATURE ELECTRONIC VALVE ASSEMBLY



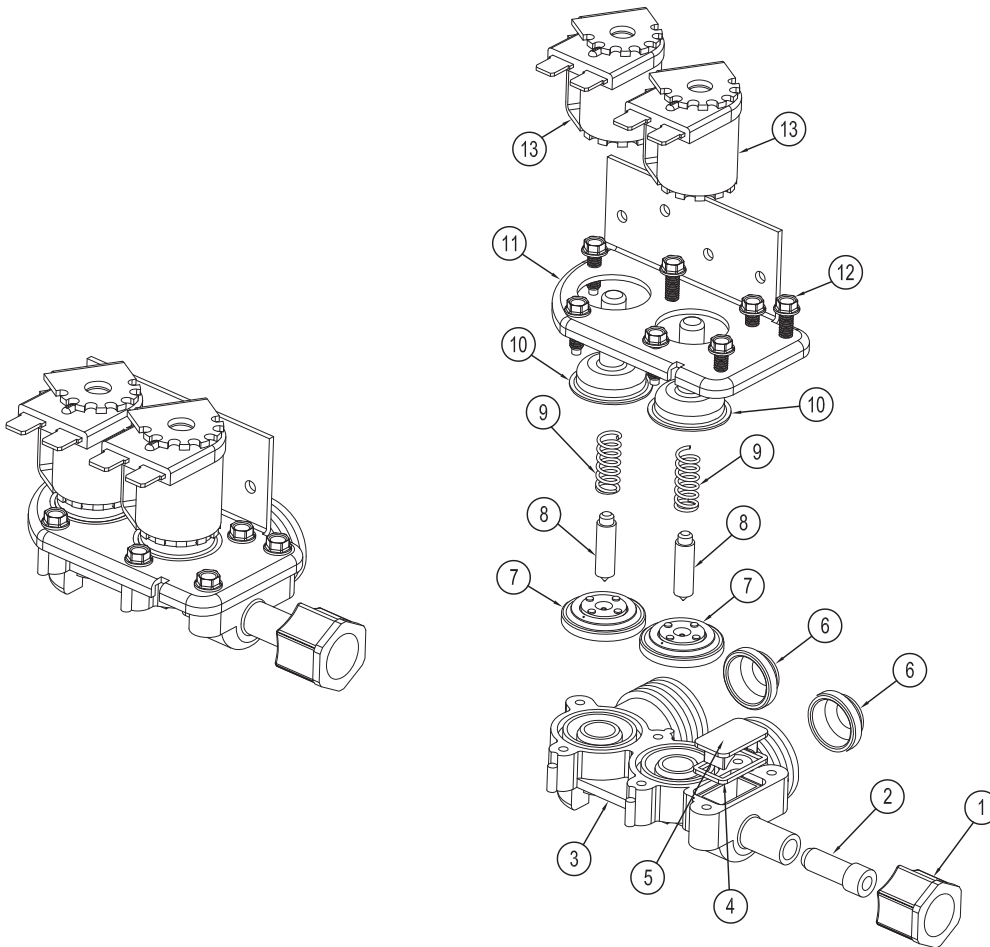
OPTIONAL 3/8" TUBE x 3/8" MPT CONNECTOR

ITEM #	PART NUMBER	DESCRIPTION	SEE CATALOG SECTION #:
1	380259LF	STOP, INTEGRAL 1/2" MPT x 1/2" FPT	1
2	320511SS	FLEXHOSE 1/2" MIP - 1/2" FIP 3/8" OD	1
3	600375	SWIVEL, 3/4" FGH x 1/2" FPT	---
4	600310	WASHER, GARDEN HOSE, 3/4"	---
5	320614	ELBOW, 3/8" TUBE x 1/4" FPT	1
6	P/N VARIES	FLOW CONTROL INSERT (VARIES, OPTIONAL ON SOME VALVES)	11
7	321010	3/8" TUBE x 1/4" MPT CONNECTOR	1
8	600523	FLEXIBLE TUBING 3/8" OD x 1/4" ID	1 (SOLD PER FOOT)
9	320577	(OPTIONAL) 3/8" TUBE x 3/8" MPT ELBOW	1
	320566	(OPTIONAL) 3/8" TUBE x 3/8" MPT CONNECTOR	1
10	600956N98	SOLENOID VALVE, PLASTIC, 2 TEMP. 24V (EL2)	1

SEE NEXT PAGE FOR INDIVIDUAL EL2 SOLENOID VALVE

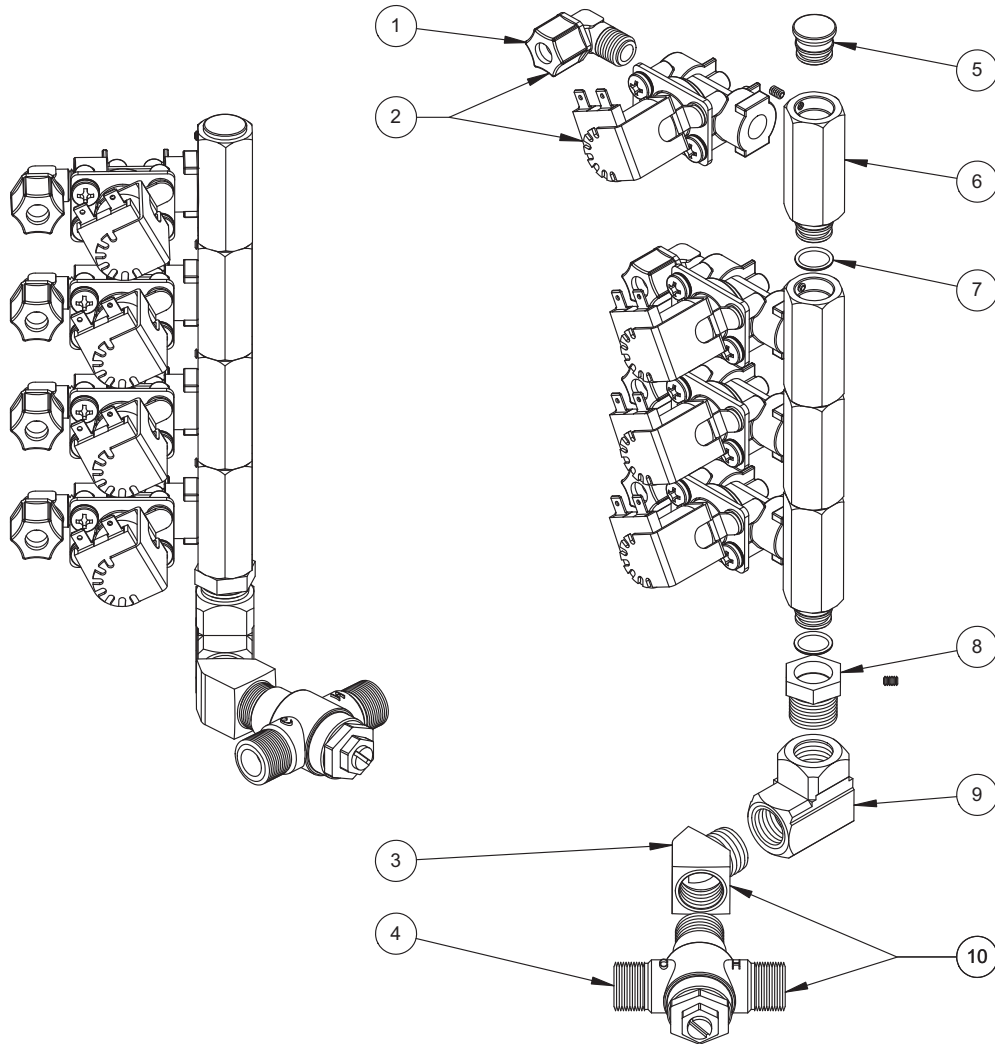
# EL2 DUAL TEMPERATURE SOLENOID VALVE - HORTON

## COMPLETE EL2 SOLENOID VALVE - P/N: 600951N98



ITEM #	PART NUMBER	DESCRIPTION	QTY:
1	320559	FERRULE NUT 3/8" TUBE	1
2	500007	OUTLET EXTENSION	1
3	600325	2-BODY	1
4	500005	GASKET	1
5	500015	FLOW RESTRICTOR PLUG	1
6	500031	SCREEN	2
7	DI7438-2N	DIAPHRAGM	2
8	500032	ARMATURE	2
9	500030	SPRING	2
10	500033	ARMATURE GUIDE	2
11	N/A	2-BRACKET	1
12	N/A	SCREW	7
13	500034	24 VAC COIL ASSEMBLY	2

# WASHFOUNTAIN ELECTRONIC VALVE ASSEMBLY (BRASS)

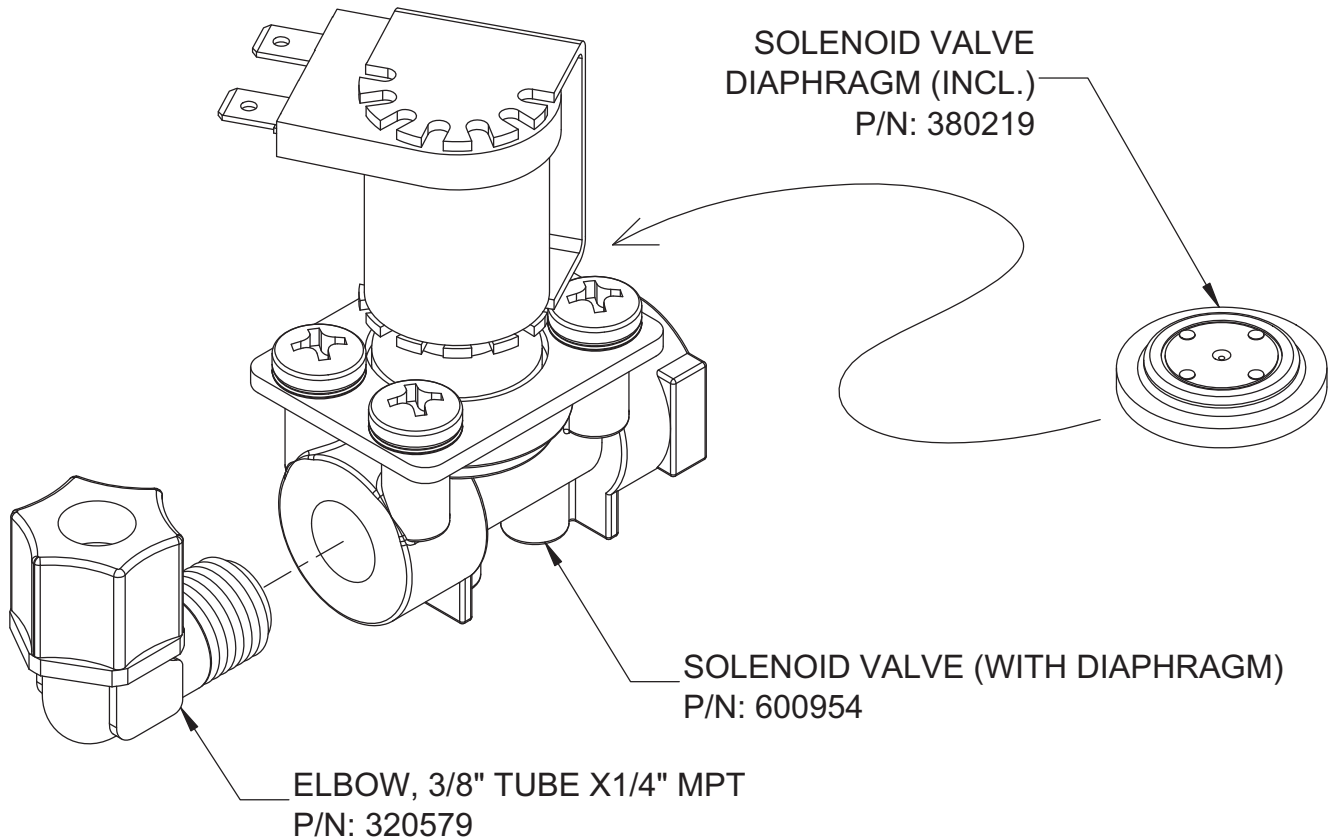


ITEM #	PART NUMBER	DESCRIPTION	SEE CATALOG SECTION #:
1	320579	3/8" TUBE x 1/4" MPT ELBOW	1
2	380186RK	WASHFOUNTAIN VALVE, DEMA SOLENOID	8
3	320581LF	ELBOW FITTING, 45°, 1/2" STREET	1
4	700480ELF	POWERS HYDROGUARD TMV (LFE480) INLINE	1
5	380998	MALE COUPLER PLUG	---
6	N/A	BRASS MANIFOLD COUPLER FITTING (NO LONGER AVAILABLE)	---
7	600130	O-RING, #015	1
8	380992	COUPLER ADAPTER FITTING	---
9	320600LF	ELBOW FITTING, 90° 1/2" FPT X 1/2" FPT	1
10	700480-KIT	THERMOSTATIC MIXING VALVE ASSM. (LFE480)	1

SEE NEXT PAGE FOR INDIVIDUAL WASHFOUNTAIN SOLENOID VALVE

# WASHFOUNTAIN SOLENOID VALVE - DEMA

## COMPLETE WASHFOUNTAIN SOLENOID VALVE - P/N: 380186RK



**P/N: 380186RK INCLUDES P/N: 600954 & 320579**

**SOLENOID DIAPHRAGM CAN ALSO BE ORDERED SEPARATELY. USE P/N: 380219**

# NOTES:

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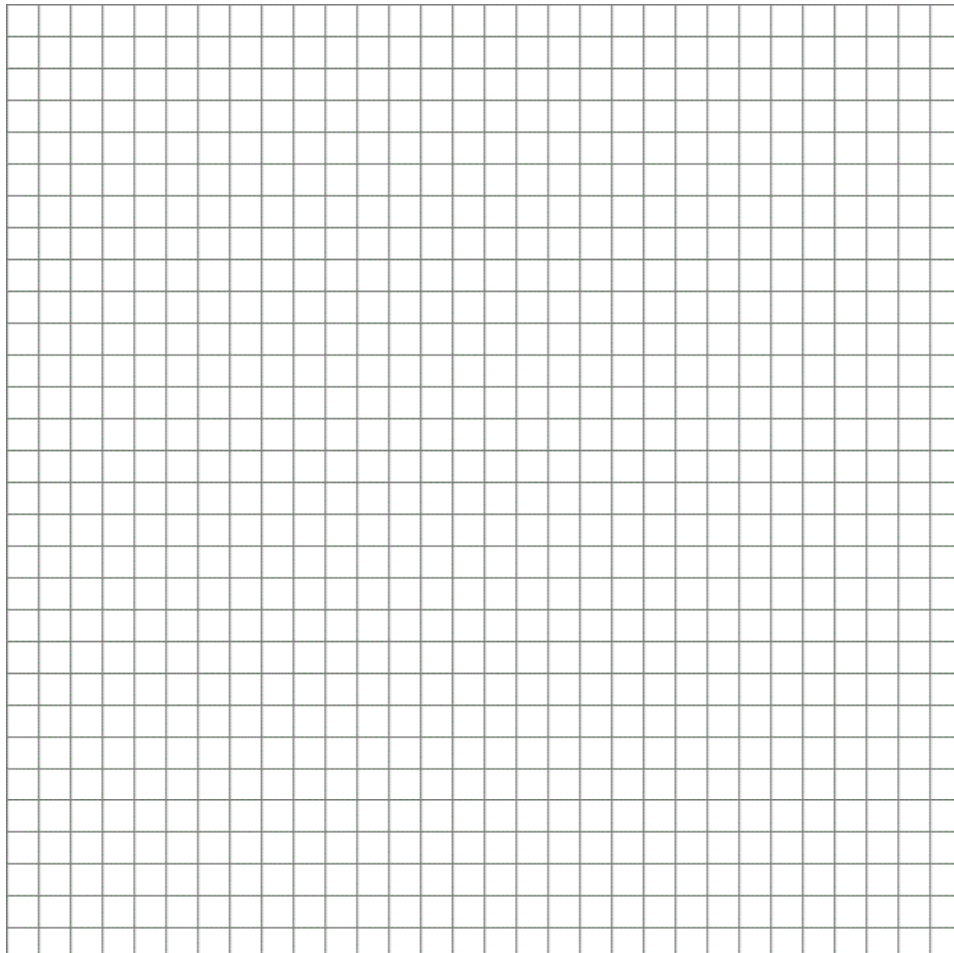
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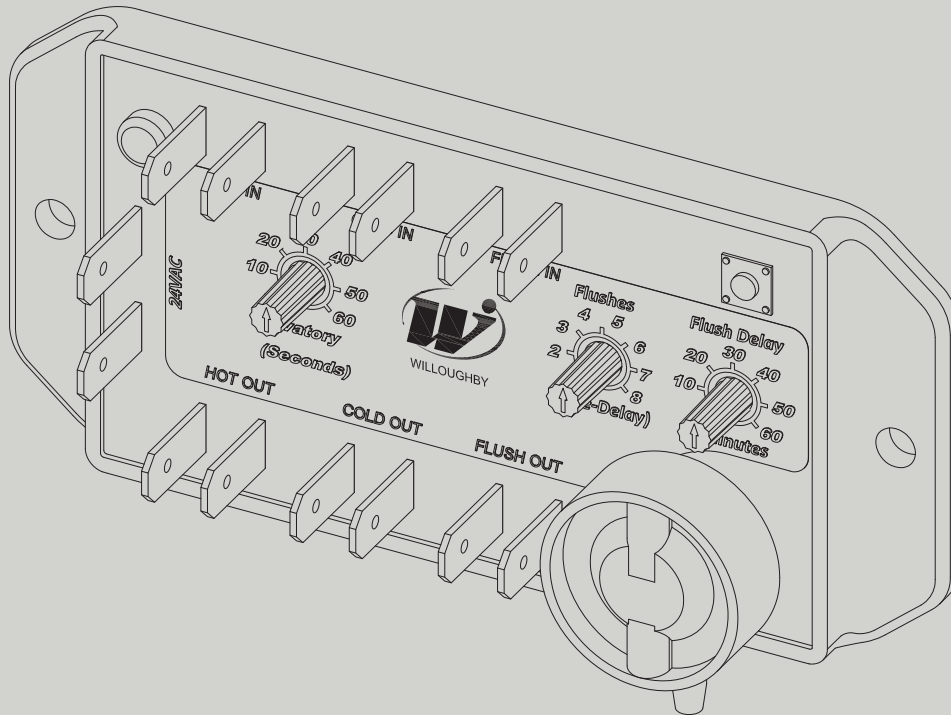
# PARTS AND ACCESSORIES CATALOG



**WILLOUGHBY**

## SECTION

# 9



## ELECTRONIC WATER MANAGEMENT

### THESE ITEMS:

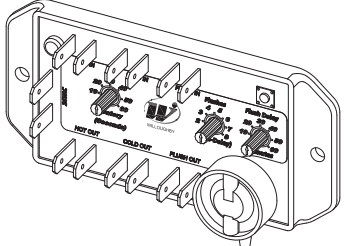
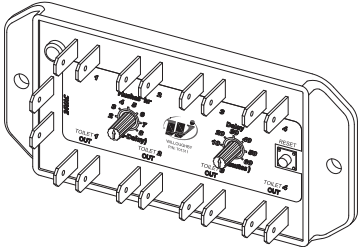
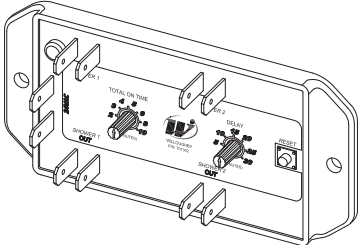
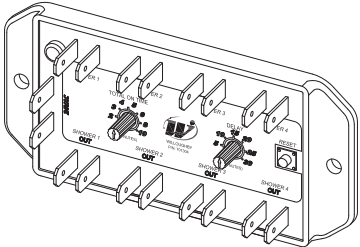
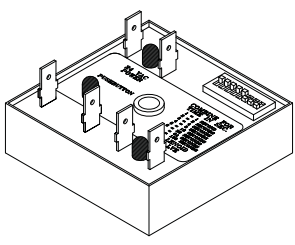
- WUCC- COMBI CONTROLLER \_\_\_\_\_
- WUFC- FLUSH CONTROLLER \_\_\_\_\_
- WUSC- SHOWER CONTROLLERS \_\_\_\_\_
- PNEUTRONIC VALVE CONTROLLER \_\_\_\_\_
- CVC2- WMSII VALVE CONTROLLER \_\_\_\_\_
- WMSII- NETWORKED WATER MANAGEMENT \_\_\_\_\_

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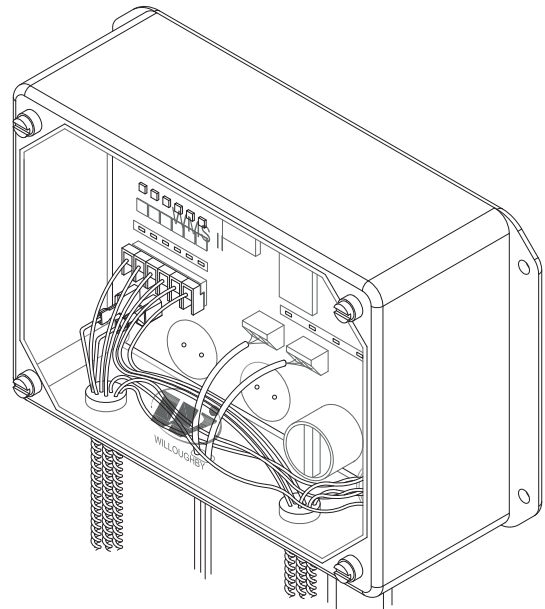
**STAND-ALONE ELECTRONIC WATER USAGE CONTROLLERS**

	MODEL & P/N		DESCRIPTION & FEATURES
	<b>WUCC-3010</b> <b>(P/N: WUCC-KIT)</b> COMBI CONTROLLER		<ul style="list-style-type: none"> <li>• ABLE TO CONTROL: (2) LAVATORY VALVES (H&amp;C), (1) ELECTRONIC FLUSH VALVE, &amp; TOILET OVERFLOW</li> <li>• WIRING AND TRANSFORMER INCLUDED, SPECIFY TRANSFORMER TYPE NEEDED WHEN ORDERING</li> </ul>
	<b>WUFC-4000</b> <b>(P/N: WUFC-KIT)</b> FLUSH CONTROLLER		<ul style="list-style-type: none"> <li>• ABLE TO CONTROL: (1-4) ELECTRONIC FLUSH VALVES</li> <li>• WIRING AND TRANSFORMER INCLUDED, SPECIFY TRANSFORMER TYPE NEEDED WHEN ORDERING</li> </ul>
	<b>WUSC-2200</b> <b>(P/N: WUSC-2200-KIT)</b> 2-SHOWER CONTROLLER		<ul style="list-style-type: none"> <li>• ABLE TO CONTROL: (1-2) ELECTRONIC SHOWER VALVES</li> <li>• WIRING AND TRANSFORMER INCLUDED, SPECIFY TRANSFORMER TYPE NEEDED WHEN ORDERING</li> </ul>
	<b>WUSC-2400</b> <b>(P/N: WUSC-2400-KIT)</b> 4-SHOWER CONTROLLER		<ul style="list-style-type: none"> <li>• ABLE TO CONTROL: (1-4) ELECTRONIC SHOWER VALVES</li> <li>• WIRING AND TRANSFORMER INCLUDED, SPECIFY TRANSFORMER TYPE NEEDED WHEN ORDERING</li> </ul>
	<b>PNEUTRONIC            CONTROLLER</b> <b>(P/N: 330043)</b>		<ul style="list-style-type: none"> <li>• <u>FOR REPLACEMENT OF EXISTING WILLOUGHBY PNEUTRONIC CONTROLLER</u></li> <li>• ABLE TO CONTROL: (1) ELECTRONIC VALVE</li> <li>• WIRING AND TRANSFORMER ARE NOT INCLUDED, SPECIFY IF NEEDED</li> </ul>

FOR POWER SUPPLY TRANSFORMERS AND WIRING: SEE SECTION 1  
 ELECTRONIC VALVE ASSEMBLIES: SEE SECTION 6  
 FOR PUSH BUTTONS: SEE SECTION 12

## CVC2

### Willoughby WMS II Cell Valve Controller



#### Recommended Specifications

Electronic water management Cell Valve Controller shall be:  
Willoughby Model: **CVC2**

Willoughby WMS II Cell Valve Controllers (CVCs) shall be located in the plumbing chase and shall control the operation of selected electronic lavatory valves, electronic shower valves, and electronic toilet flush valves.

CVCs are modular, factory-wired, and capable of operating in either stand-alone or fully-networked configurations (See WMS II Spec Page for networking details). A fully-networked system of chase-mounted CVCs can be controlled using Willoughby electronic Water Management Software installed on a secure central control room PC workstation.

Each CVC shall be capable of controlling up to six (6) individual low-voltage solenoid valves. Possible configurations include:

- (2) Lavatory/toilet combination units (each combination unit having (2) lavatory valves (hot & cold) and (1) flush valve)
- (3) Individual lavatories (hot and cold)
- (4) Toilets with overflow sensing
- (6) Toilets without overflow sensing
- (6) Single temperature showers
- Any combination totalling not more than (6) individual valves

CVCs shall require 24 Volt AC for operation and shall retain all memory of settings in the event of power interruption. System manufacturer shall supply 120/24 VAC step down transformers.

The CVC's electronic circuitry shall be encased in a water-resistant (not waterproof) enclosure; as with all electrical and electronic equipment, avoid contact with water especially once connected to the power supply.

#### Standard Features

Each valve activation shall be controlled by a vandal-resistant, internally-sealed, stainless steel push button. Each push button shall require less than 5 lbs. of force to activate.

All solenoid valves shall be non-hold-open and all metering times shall be independently adjustable for each valve:

- (1 to 60 sec.) for each lavatory valve
- (1 to 10 sec.) for each flush valve
- (1 sec. to 9 min. 59 sec.) for each shower valve

Metering cycles can be interrupted with a second button push.

Diagnostic push buttons on the CVC will enable maintenance personnel to activate valves and overflow functions from the chase.

CVCs shall also include separate diagnostic lights to indicate:

- Presence of control power in the CVC
- Network communication activity (in networked CVCs)
- Status of all valve outputs
- Presence and type of any lockout condition on valve function

A programmable re-initiate delay feature shall be provided to control amount of fixture use to a preset threshold. Once the fixture use threshold has been reached, function will be locked-out for a preset time period (up to 4 hours).

A parallel pre-initiate delay feature shall also be provided to insert time between switch actuation and the subsequent valve actuation.

Configurable overuse limits shall be provided to control the amount of use of all fixture functions within a programmable time period of up to 24 hours. Overuse control shall be configurable to trigger only notification, latched lock-out of the fixture function, or auto-limit of fixture function to prevent its overuse.

**MODEL NUMBER AND OPTIONS:**

**1.) Control System:**

- CVC2 Cell Valve Controller

**2.) Control Station:**

- Stand-alone (Standard)
- Networked PC (Additional Cost)
- Laptop PC (Additional Cost)  
(Laptop PC recommended for field-adjustment of CVC settings)

**3.) Toilet Parameter Configuration:**

Number of Toilets with Overflow Sensing: \_\_\_\_ (4 max.)

Number of Toilets w/o Overflow Sensing: \_\_\_\_ (6 max.)

- (3) Flushes per (1 Hr.) with (1 Hr.) Lock-out
- Custom: ( \_\_ ) Flushes per ( \_\_ Hr.), with ( \_\_ Hr.) Lock-out

**4.) Lavatory Parameter Configuration:**

Number of Lavatories: \_\_\_\_ Single or Dual Temp: \_\_\_\_

- (15 sec.) per Button-push, (5 min.) of Water Flow per (30 min.)
- Custom: ( \_\_ sec.) per Button-push,  
( \_\_ min.) of Water Flow per ( \_\_ min.)  
with ( \_\_ min.) Lock-out

**5.) Shower Parameter Configuration:**

Number of Showers: \_\_\_\_ Single or Dual Temp: \_\_\_\_

- (2 min.) per Button-push, (8 min.) of Water Flow per (30 min.),  
with (30 min.) Lock-out
- Custom: ( \_\_ min.) per Button-push,  
( \_\_ min.) of Water Flow per ( \_\_ min.),  
with ( \_\_ min.) Lock-out

**6.) Other Options:**

- Block Diagram Screen Layout (Standard for Tablet PC)
- Floor Plan Screen Layout (Additional cost for Tablet PC)
- On-site Start-Up, Commissioning, and Training Session  
(must be scheduled 30 days prior to training and after complete installation and testing of the system)

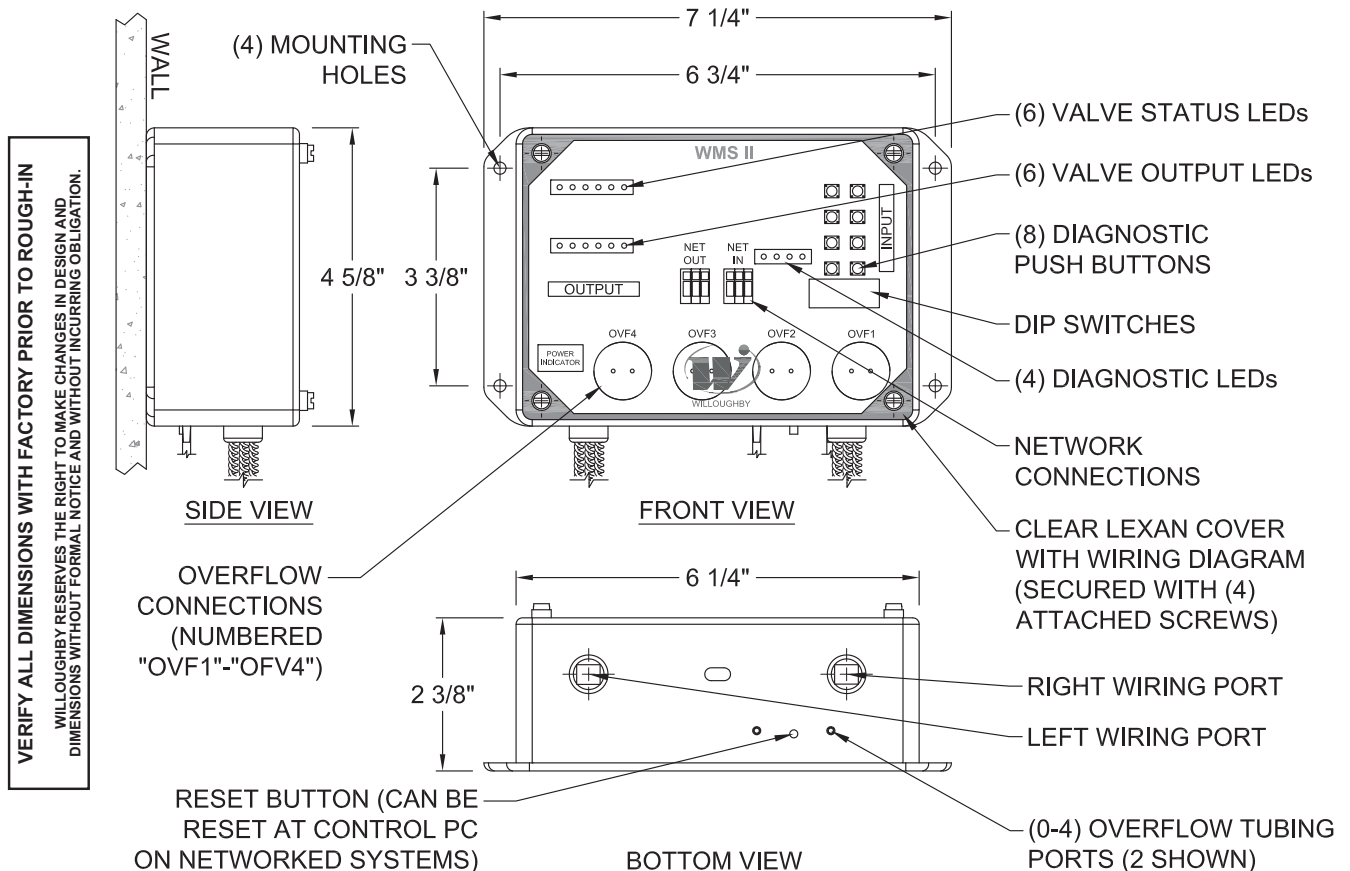
- TF24 Transformer, 110V to 24V\*

- Other \_\_\_\_\_

- Other \_\_\_\_\_

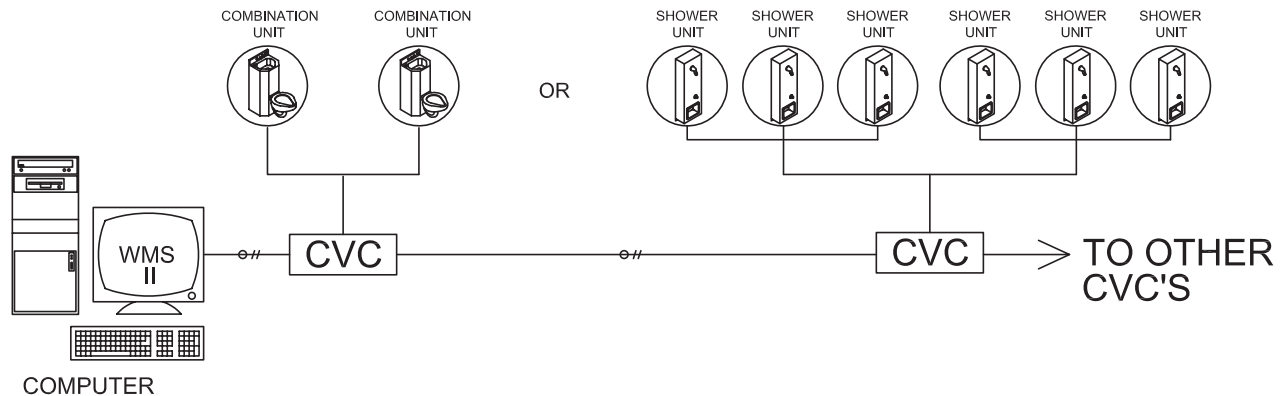
\*(Req 110V power through ground fault interrupter (GFCI) receptacle)

Approved For Manufacturing By: \_\_\_\_\_ Date: \_\_\_\_\_ Company: \_\_\_\_\_  
Wall Thickness: \_\_\_\_\_ Wall Type: \_\_\_\_\_



## WMS II

### Water Management System- Networked



### Recommended Specifications

Electronic water management system shall be:  
Willoughby Model: **WMS II**

Water management system shall be PC based and running on a Windows XP, Windows 7 or newer operating system. PC shall serve as the operator interface serving multiple individual trunks of networked Cell Valve Controllers.

Individual Cell Valve Controllers (CVC's) shall be located in the plumbing chase and shall control the operation of electronic lavatory valves, electronic shower valves and electronic-hydraulic flush valves. An option shall also be provided to control the operation of a master shut-off valve that provides water to an area of several cells or fixtures.

CVC's shall require 24 volts AC for operation and shall retain all memory of settings in the event of power interruption. System manufacturer shall supply 120/24 VAC step down transformers. Each CVC shall be capable of controlling up to 2 lavatory/toilet combination units (1 hot valve, 1 cold valve and 1 flush valve for each unit), 3 individual lavatories or up to 4 toilets with overflow sensing (6 toilets without overflow sensing) or combinations thereof for a total of 6 individual low voltage solenoid valves. CVC's shall be modular and capable of operating in a fully networked or stand-alone configuration.

A diagnostic light on the CVC indicates the presence of control power in the CVC. A flashing light indicates the computer in the CVC is operational. Another flashing light indicates network communication activity.

Valve output lights on the CVC shall provide the status of all valve outputs. An additional set of lights shall indicate the presence and type of any lockout condition on valve function.

Diagnostic push buttons on the CVC shall also be provided to enable maintenance personnel to activate valves and overflow functions from the plumbing chase.

Valve activation shall come from vandal-resistant stainless steel internally sealed push buttons. Push buttons shall require less than 5 pounds of force to activate. Push button housing shall be isolated from the low voltage wiring.

All solenoid valves shall be non-hold open and all metering times shall be independently adjustable. Metering time for each valve shall be adjustable from 1 to 60 seconds for each lavatory valve, 1 to 10 seconds for each flush valve and 1 second to 9 minutes and 59 seconds for each shower valve. Metering cycles shall be interruptible with a second push of the button. All the settings can either be set for a single fixture or a mass selection of all fixtures of the same type on the PC screen.

A programmable re-initiate delay feature for fixture functions shall be provided to control their amount of use to a preset threshold after which the function will be locked out for a preset period of time of up to four hours. A parallel pre-initiate delay feature shall also be provided to insert time between switch actuation and the subsequent valve actuation.

(CONTINUED ON BACK OF PAGE)

## Willoughby Industries - Security Products



Configurable overuse limits shall be provided to control the amount of use of all fixture functions within a programmable time period of up to 24 hours. Overuse control shall be configurable to trigger only notification, latched lock out of the fixture function, or auto-limit of fixture function to prevent its overuse.

A fully networked system shall consist of CVC's in the plumbing chases and a PC workstation located in a control room which has a PC with a 15" or larger color monitor. Optional touch screen interface shall be available as an option.

The PC workstation shall display all fixtures and indicate their operations graphically in row and column format. An option to provide a representation of the facility floor plan may also be selected.

The workstation shall be capable of controlling up to 4 networks, each consisting of a maximum 127 nodes and up to 4,000 ft. of network wiring. Twisted 3-pair cable of CAT 3 rating shall be used for all network wiring (provided by others). Stand-alone CVC's not connected to a network shall be programmed via an optional portable device or programmed at the factory.

In the event of a loss of network communications or a loss of power, system timing parameters shall be retained in each CVC to allow fixtures to operate in the same way that they operated prior to the loss of power or the loss of network communications.

Supplied valve and switch cabling from the control board shall each be 8 feet with the option to easily add extensions if necessary for unique control mounting situations.

Note: Willoughby will require an electronic CAD file (DWG or DXF) of the facility floor plan identifying the fixtures to be controlled by the WMSII system.

### 1.) Control System:

WMSII

### 2.) Control Station:

- Desktop PC
- Standard Monitor (LCD)
- Touch Screen (LCD) (additional cost)
- Laptop PC
- No PC (Stand-alone only)

### 4.) Other Options:

- Block Diagram Screen Layout (Standard)
- Floor Plan Screen Layout (additional cost)
- On-site Start-Up, Commissioning, and Training Session  
(must be scheduled 30 days prior to training and after complete installation and testing of the system)
- Other \_\_\_\_\_
- Other \_\_\_\_\_

### THE NETWORKED SYSTEM SHALL BE CAPABLE OF:

- Enabling or disabling an individual fixture or an entire group of fixtures from the control station.
- Controlling the maximum number of simultaneous flushes (adjustable from 1 to 999) that can occur within a given time period (adjustable from 1 to 60 seconds).

### (CONTINUED FROM BELOW):

- Automatically flushing a toilet after an adjustable period of non-use has passed to prevent trap from drying out and creating stagnate water.
- Allowing for remote actuation of fixtures from the control station
- Providing scheduled permit or lockout time periods per day for selected fixtures.
- Providing indication and reset capability of overflow alarms.
- Logging all valve activity chronologically including overuse and overflow occurrences.
- Providing 4 levels of security: view only, operator, supervisor, and administrator (Each level includes the functions of the previous lower level.)
- Providing an elapsed-time lock for a fixture to be dynamically locked for a specific period of time (adjustable from 1 minute - 4 hours)
- Providing an automatic actuation of fixture function at preset intervals (adjustable from 1 minute - 240 hours) (It can be used to remove all control from the fixture user and tie fixture function to regular timed intervals.)

#### ◦ View-only Security Level

- Move between display screens
- Observe fixture activity on screens
- Observe any loss of communications to fixture controllers
- Log into a higher security level

#### ◦ Operator Security Level

- Remote valve actuation
- Fixture lockout/reset
- Clear alarms (overflow and overuse)

#### ◦ Supervisor Security Level

- Set and adjust valve timing
- Set and adjust initiate and re-initiate delays
- Set and adjust permit (lockout) schedules
- Set and adjust overuse limits and responses
- Set alarm display options
- Turn on and set FlushGuard to limit simultaneous flushes
- Access fixture event log (if enabled by administrator)
- Use log files to analyze water-consumption history
- Enable and disable sound effects
- Access system user log file (if enabled by administrator)
- Optional selection of a 24 hour point at which all over-use counts will be reset

#### ◦ Administrator Security Level

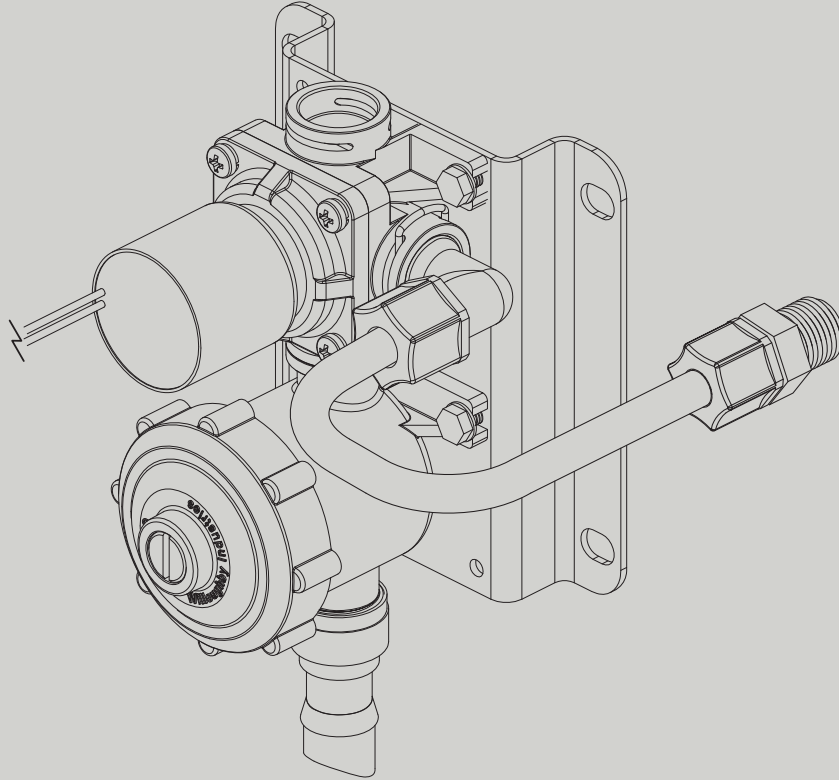
- Create system user accounts with name, password, and security level defined
- Set and adjust network communication settings
- Enable and configure remote client connections to server
- Configure fixture event log files and user activity log files
- Set sound files to be used when sound feature is enabled

# PARTS AND ACCESSORIES CATALOG



WILLOUGHBY

## SECTION 10



### BATTERY OPERATED VALVES & PARTS

**THESE ITEMS:**

EBL BATTERY OPERATED VALVES- OVERVIEW \_\_\_\_\_  
EBL1 COMPLETE (BO) VALVE ASSEMBLIES \_\_\_\_\_  
EBL1 (BO) VALVE COMPONENTS & KITS \_\_\_\_\_

**BEGIN ON PAGE:**

94

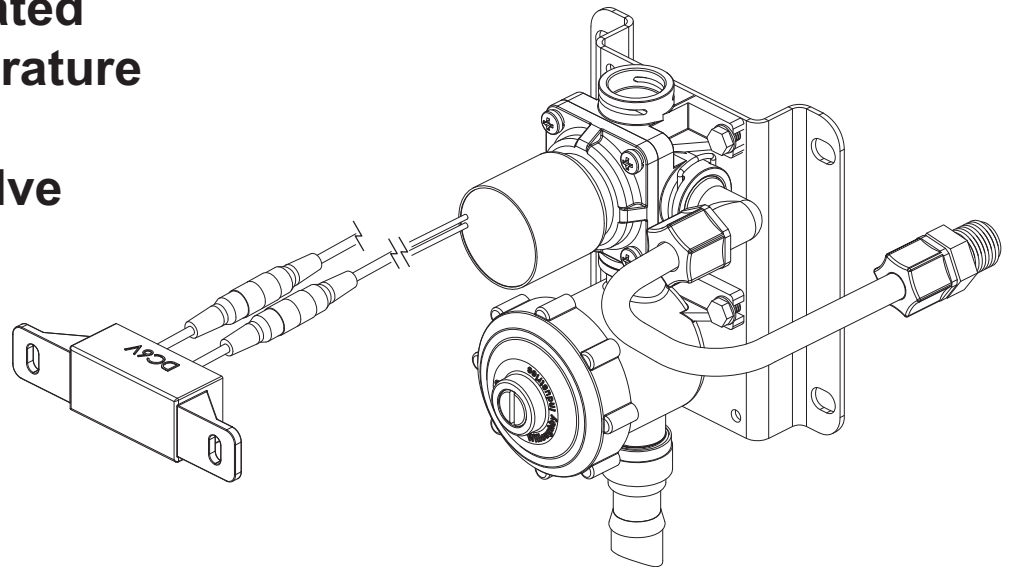
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# EBL1

## Battery Operated Single Temperature Lead-free Electronic Valve



### Recommended Specifications

Battery Operated, Single Temperature, Lead-free, Electronic Valve assembly shall be: Willoughby Model No. **EBL1**  
(Select from options list)

For washfountain use exclusively, the Battery Operated Electronic Valve assembly uses a 6V DC battery pack to power a latching valve coil solenoid controlled by an infrared sensor. The vandal-resistant infrared sensors shall be non-removable from the front of the fixture, each activating an independent valve assembly within 1-2 seconds of detection.

The plastic valve checkstop/strainers shall feature integral mounting points. Replaceable stainless steel strainer and optional 0.5 GPM flow control can be serviced without disturbing the supply line. Assembly shall use flexible tubing to connect to the spray-head/filler/bubbler. Water inlet is 1/2" MPT and is reversible for either top or bottom supply. A galvanized mounting plate is provided for mounting within the fixture.

Recommended operating pressure shall be 35-70 psi. Valve shall withstand pressures up to 90 psi. Cost-reducing manifolded valves shall consist of multiple valve assemblies served by a common supply line. Each 6V latching valve coil shall require an individual DC battery pack using (4) AA-type batteries for valve operation (supplied by manufacturer).

Valve complies with NSF-61 standard.

#### **Model Number:**

EBL1 Single Temp. Battery Operated

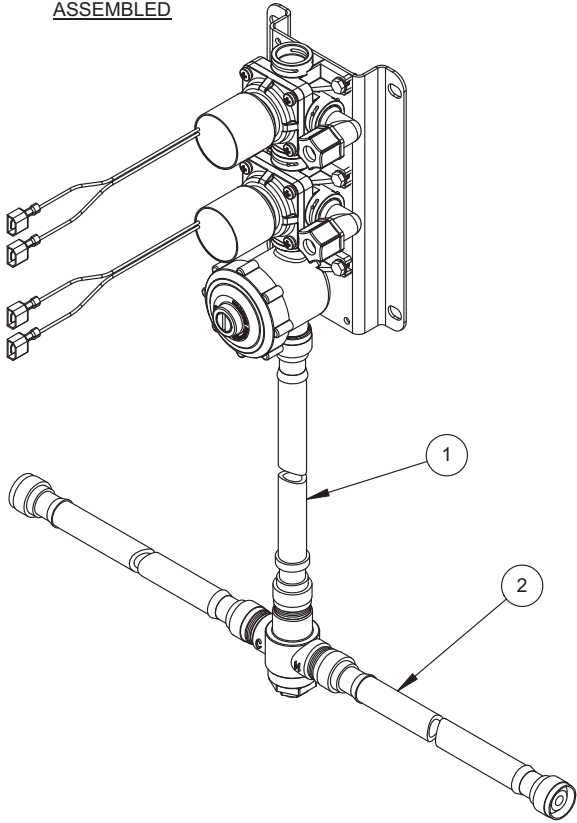
#### **Options:**

- MA2 (Double Manifold, no flow limitation)
- MA3 (Triple Manifold, 0.5 GPM flow only)
- MA4 (Quad Manifold, 0.5 GPM flow only)
- TMV In-line Thermostatic Mixing Valve

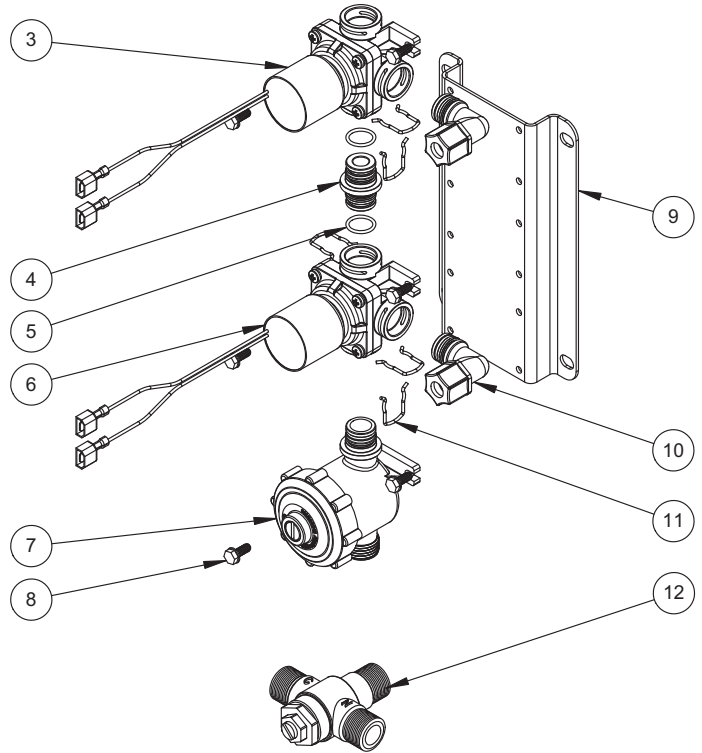


# EBL1 SINGLE TEMPERATURE BATTERY OPERATED VALVES

ASSEMBLED



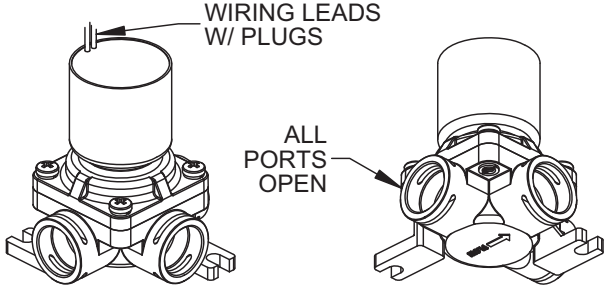
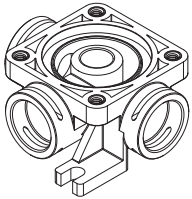
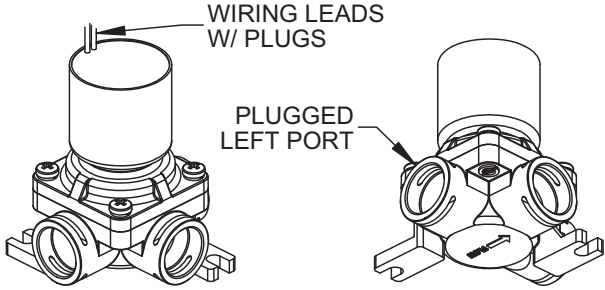
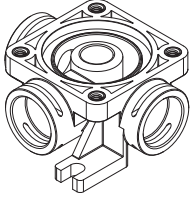
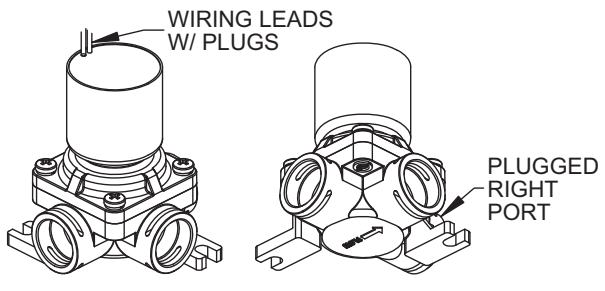
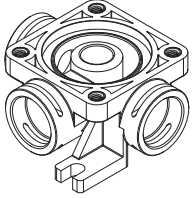
EXPLODED VIEW



ITEM #	PART NUMBER	DESCRIPTION	SEE CATALOG SECTION #:
1	980506	6" STAINLESS STEEL FLEX HOSE	1
2	980520	20" STAINLESS STEEL FLEX HOSE	1
3	980416PR	VALVE ASSY, 6VDC LATCHING, IR-BATT. OPER. RH, PLUGGED PORT	9
4	980197	PLASTIC VALVE COUPLING	1
5	980164	'O'-RING, #015	1
6	980416	VALVE ASSEMBLY, 6VDC LATCHING, IR-BATTERY OPERATED	9
7	980183	CHECKSTOP ASSEMBLY	11
8	800133	#10-16 SELF TAP TYPE B HEX HEAD SCREW	1
9	980501	PML11 VALVE MOUNTING BRACKET	---
	9805012	PML12 VALVE MOUNTING BRACKET	---
	9805013	PML13 VALVE MOUNTING BRACKET	---
	9805014	PML14 VALVE MOUNTING BRACKET	---
10	980600A	VALVE FITTING ASSEMBLY, 3/8" ELBOW	1
11	980140	SPRING CLIP, ROUND	1
12	700480ELF	MIXING VALVE, TMV, LEAD FREE, LF-E480	1
NOT SHOWN	320566	(OPTIONAL) CONNECTOR, 3/8" TUBE x 3/8" MPT	1
	320577	(OPTIONAL) ELBOW, 3/8" TUBE x 3/8" MPT	1

SEE NEXT PAGE FOR INDIVIDUAL (BO) VALVE ASSEMBLIES

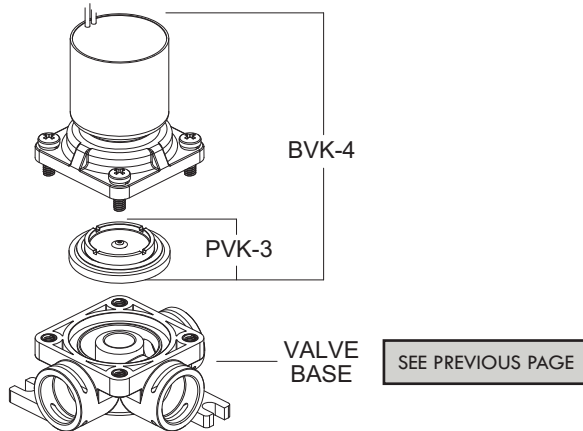
**EBL1** INDIVIDUAL (BO) VALVE ASSEMBLIES / BASES

	PART NUMBER	VALVE ASSEMBLY	BASE ONLY P/N
	<b>P/N: 980416</b> EBL1, ALL PORTS OPEN		<b>P/N: 980420</b> 
	<b>P/N: 980416PL</b> EBL1, PLUGGED LEFT PORT		<b>P/N: 980420L</b> 
	<b>P/N: 980416PR</b> EBL1, PLUGGED RIGHT PORT		<b>P/N: 980420R</b> 

SEE THE NEXT PAGE FOR **EBL1** VALVE ASSEMBLY COMPONENTS

**EBL1 VALVE ASSEMBLY COMPONENTS & KITS (BVKs/PVKs)**

**\*COMMON TO ALL EBL1 VALVES**

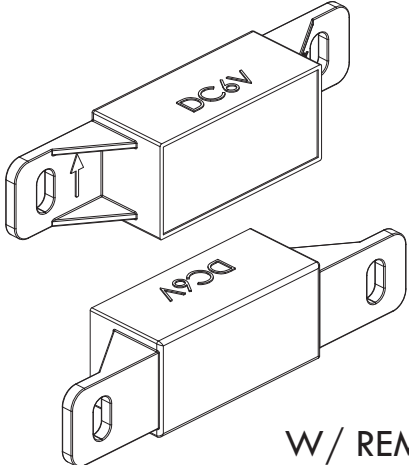
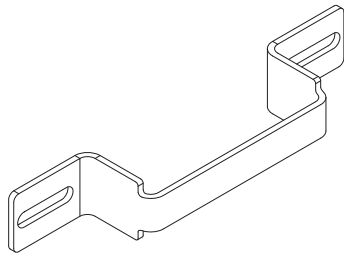
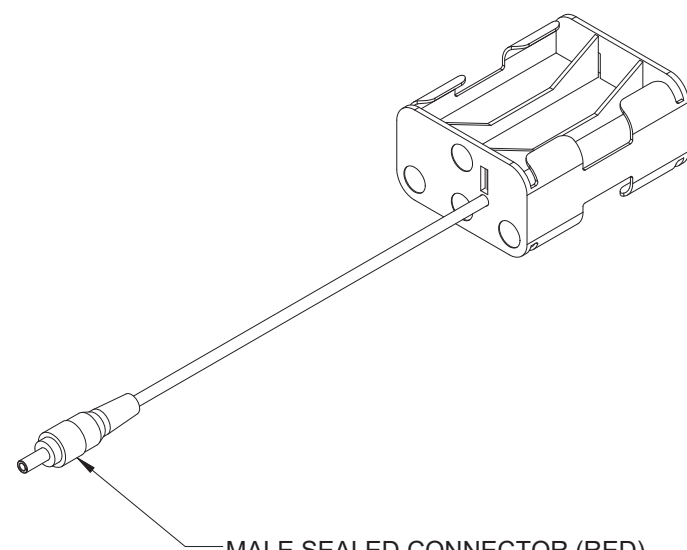


**NOTES:**

- PARTS LISTED IN **BVK/ PVK** COMPONENT KITS ARE NOT SOLD INDIVIDUALLY
- **BVK-4 & PVK-3** PARTS ARE AVAILABLE IN KIT FORM ONLY

	PART NUMBER	VALVE ASSEMBLY																												
	<p><b>P/N: BVK-4</b></p> <p>EBL1 COMPLETE REBUILD KIT</p>	<table border="1" data-bbox="971 1081 1458 1432"> <thead> <tr> <th>ITEM #</th> <th>PART #</th> <th>DESCRIPTION</th> <th>QTY.</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>980305</td> <td>WATER SIDE DIAPHRAGM/ADAPTOR ASSY.</td> <td>1</td> </tr> <tr> <td>2</td> <td>980114</td> <td>COIL ADAPTER, E1L VALVE</td> <td>1</td> </tr> <tr> <td>3</td> <td>980170A</td> <td>#8-32 x 1/2" SCREW W/SEMS SPLIT L/W</td> <td>4</td> </tr> <tr> <td>4</td> <td>980164</td> <td>O-RING, #015</td> <td>1</td> </tr> <tr> <td>5</td> <td>700255</td> <td>COIL ASSEMBLY, 6VDC LATCHING, IR-BATTERY OPERATED</td> <td>1</td> </tr> <tr> <td>6</td> <td>980680</td> <td>WASHER, NYLON, 0.75"ID, 1.00"OD</td> <td>1</td> </tr> </tbody> </table>	ITEM #	PART #	DESCRIPTION	QTY.	1	980305	WATER SIDE DIAPHRAGM/ADAPTOR ASSY.	1	2	980114	COIL ADAPTER, E1L VALVE	1	3	980170A	#8-32 x 1/2" SCREW W/SEMS SPLIT L/W	4	4	980164	O-RING, #015	1	5	700255	COIL ASSEMBLY, 6VDC LATCHING, IR-BATTERY OPERATED	1	6	980680	WASHER, NYLON, 0.75"ID, 1.00"OD	1
ITEM #	PART #	DESCRIPTION	QTY.																											
1	980305	WATER SIDE DIAPHRAGM/ADAPTOR ASSY.	1																											
2	980114	COIL ADAPTER, E1L VALVE	1																											
3	980170A	#8-32 x 1/2" SCREW W/SEMS SPLIT L/W	4																											
4	980164	O-RING, #015	1																											
5	700255	COIL ASSEMBLY, 6VDC LATCHING, IR-BATTERY OPERATED	1																											
6	980680	WASHER, NYLON, 0.75"ID, 1.00"OD	1																											
	<p><b>P/N: PVK-3</b></p> <p>WATER-SIDE DIAPHRAGM</p>	<div data-bbox="1011 1717 1471 1864" style="border: 1px solid black; padding: 5px;"> <p><b>NOTE: PVK-3 IS INCLUDED IN BVK-4</b></p> </div>																												

**EBL1** BATTERY OPERATED VALVE-SPECIFIC COMPONENTS

	P/N & DESCRIPTION	COMPONENT
	<p>(P/N: 700250)                      INFRARED ACTUATOR,                      BATTERY OPERATED VALVE                      (6V DIRECT CURRENT)</p>	 <p>PRESET 20"                      SENSOR RANGE                      (AJUSTABLE 1"-30"                      W/ REMOTE, P/N: 700155)</p>
	<p>(P/N: S301092)                      BRACKET, INFRARED                      SENSOR MOUNTING</p>	
	<p>(P/N: 700252)                      BATTERY OPERATED                      VALVE BATTERY PACK                      (REQUIRES (6)                      AA BATTERIES)</p>	 <p>MALE SEALED CONNECTOR (RED)</p>
	<p>(P/N: 700254)                      BATTERY, AA</p>	<p>BATTERY PACK REQUIRES                      (6) AA BATTERIES</p>

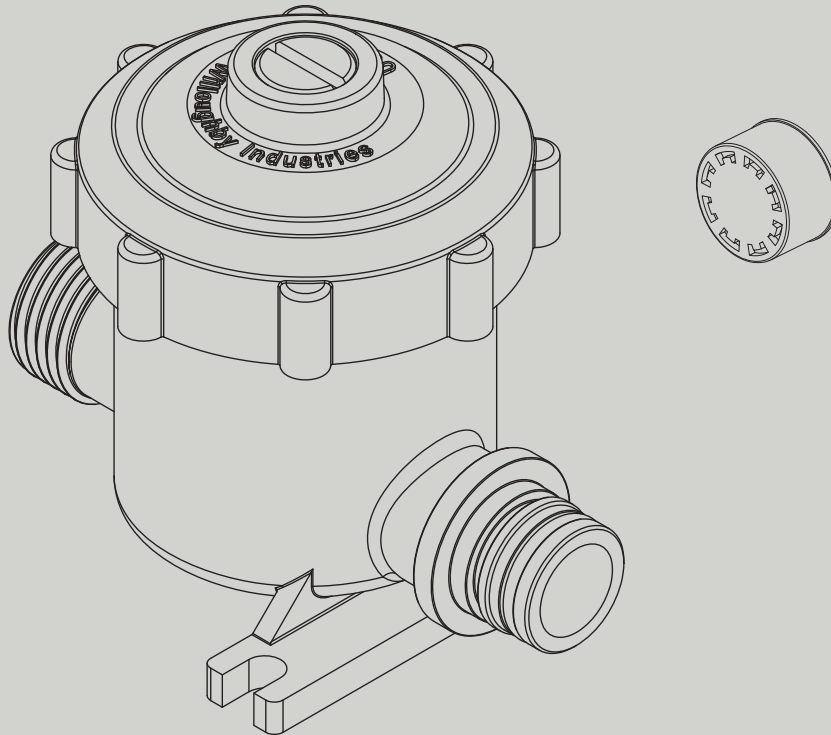
# PARTS AND ACCESSORIES CATALOG



WILLOUGHBY

SECTION

11



## CHECKSTOP ASSEMBLIES & FLOW CONTROL INSERTS

### **THESE ITEMS:**

CHECKSTOP ASSEMBLY & PARTS - LEAD-FREE \_\_\_\_\_

CHECKSTOP ASSEMBLY & PARTS - BRASS \_\_\_\_\_

FLOW CONTROL INSERTS & INLINE FLOW ASSEMBLY \_\_\_\_\_

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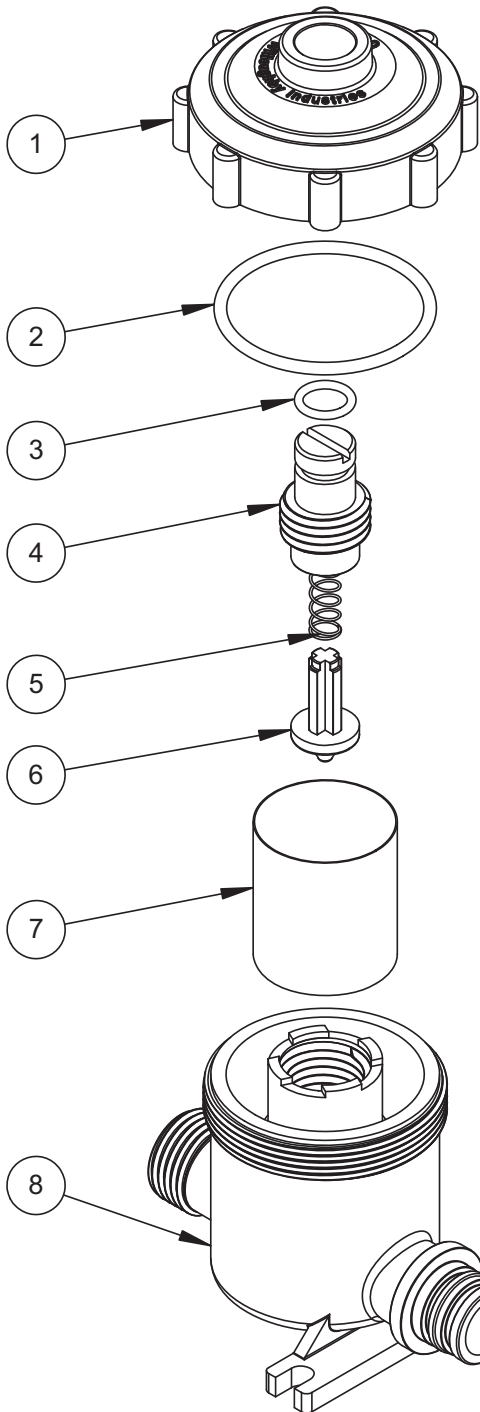
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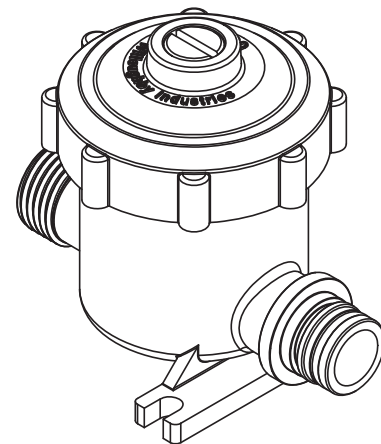
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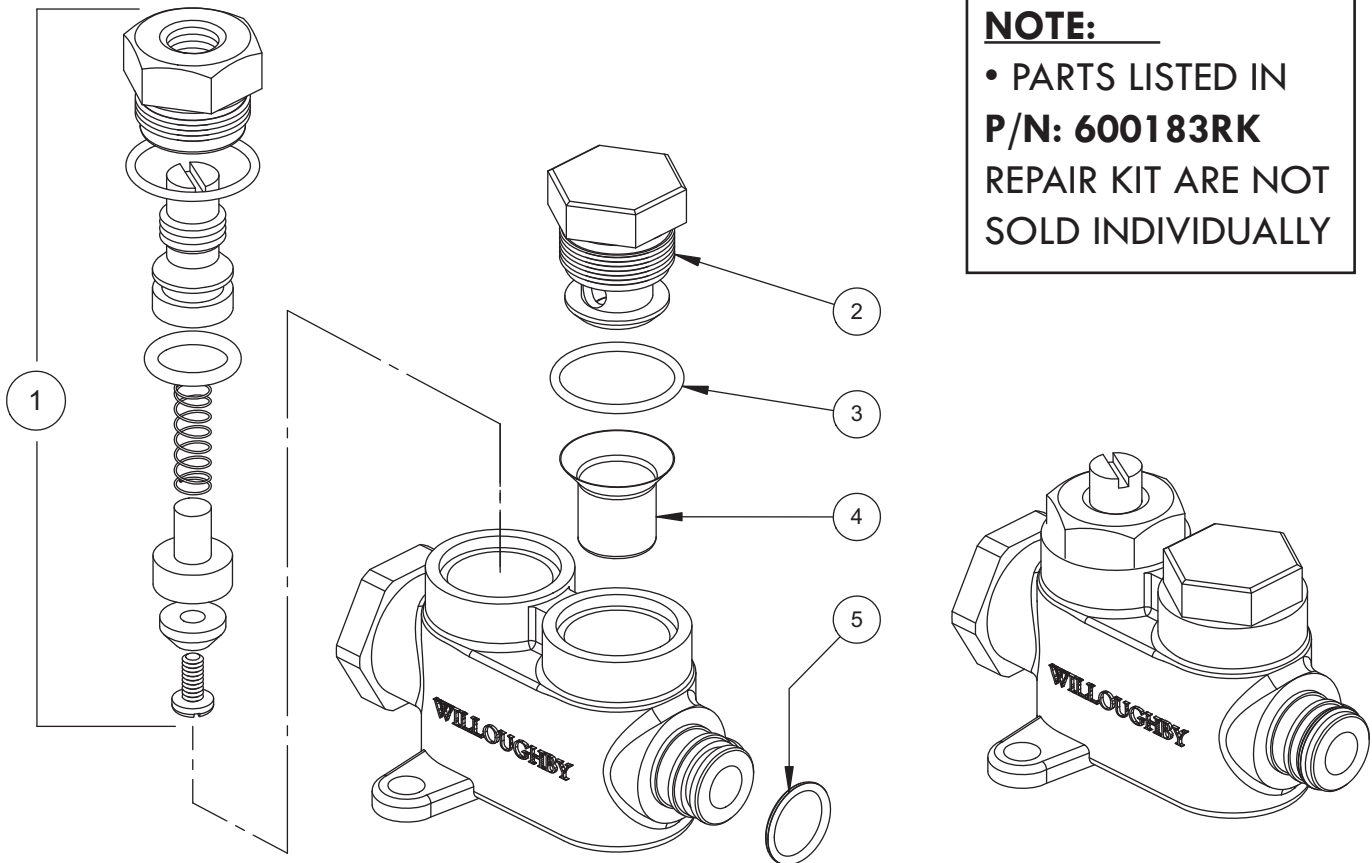
# CHECKSTOP STRAINER ASSEMBLY - LEAD FREE

**P/N: 980183 (COMMON TO ALL LEAD-FREE VALVES)**



ITEM #	PART #	DESCRIPTION	QTY.
1	980192	STRAINER CAP	1
2	980165	O-RING, #130	1
3	980163	O-RING, #012	1
4	980200	CHECKSTOP SCREW	1
5	980201	SPRING, CHECKSTOP/STRAINER	1
6	980194	STRAINER PLUNGER	1
7	980168	SCREEN, STRAINER	1
8	980580	CHECKSTOP BASE AND FLOW RESTRICTOR ASSY	1
9	980164	O-RING, #015	1







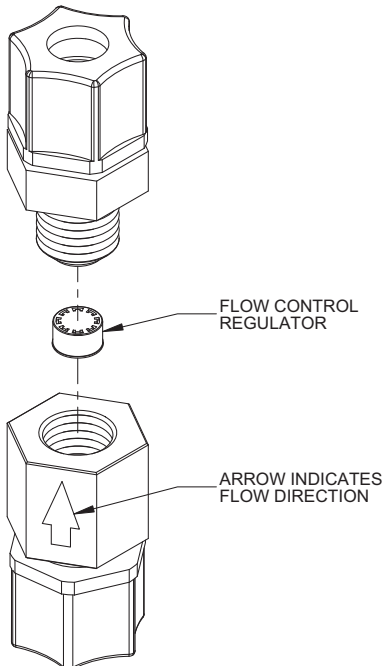
**CHECKSTOP STRAINER ASSEMBLY - BRASS BODIED****P/N: 600183 (COMMON TO MOST BRASS VALVES)****NOTE:**

- PARTS LISTED IN  
**P/N: 600183RK**  
REPAIR KIT ARE NOT  
SOLD INDIVIDUALLY

ITEM #	P/N	DESCRIPTION
1	600183RK	REPAIR KIT, CHECKSTOP STRAINER - BRASS
2	600099	STRAINER CAP, CHECKSTOP
3	600768	O-RING, #019
4	600181	STRAINER INSERT
5	600130	O-RING, SLIP JOINT, #014



## FLOW CONTROL INSERTS & INLINE FLOW ASSEMBLY

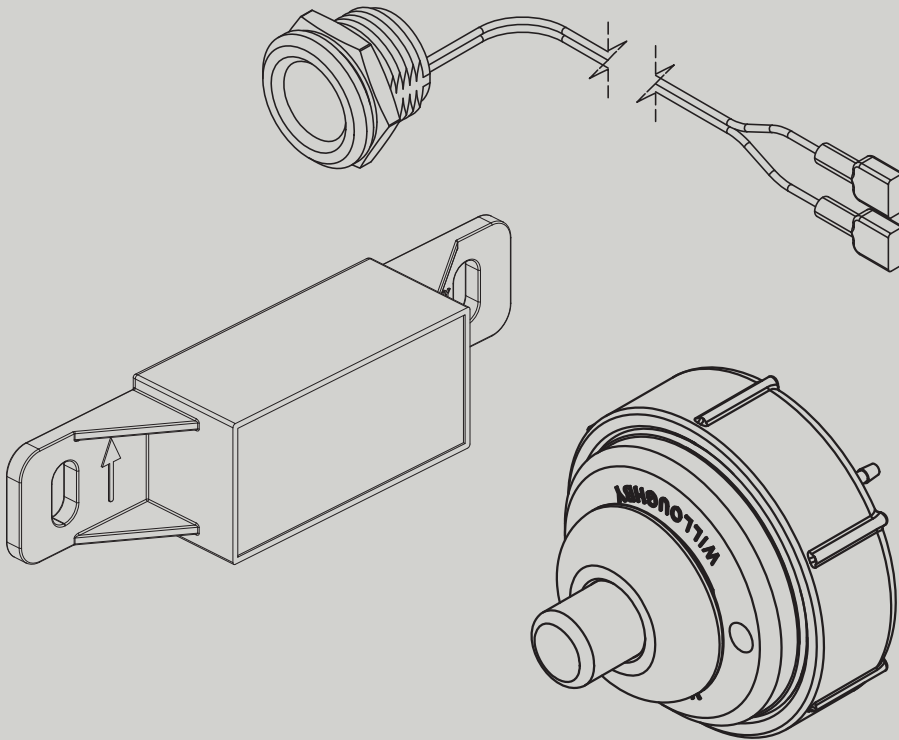
	P/N	DESCRIPTION	COMPONENT/ASSEMBLY
	<b>380138</b>	0.5 GPM FLOW CONTROL REGULATOR - MR03, RED	
	<b>380227</b>	1.0 GPM FLOW CONTROL REGULATOR - MR03, BLUE	
	<b>380228</b>	1.5 GPM FLOW CONTROL REGULATOR - MR03, GREEN	
	<b>380230</b>	2.0 GPM FLOW CONTROL REGULATOR - MR03, LILAC	
	<b>380142-05</b> (0.5 GPM)	<p>INLINE FLOW CONTROL ASSEMBLIES</p> <p>(Ø3/8" TUBING CONNECTIONS, INCLUDES FLOW CONTROL INSERT)</p>	 <p>FLOW CONTROL REGULATOR</p> <p>ARROW INDICATES FLOW DIRECTION</p>
	<b>380142-10</b> (1.0 GPM)		
	<b>380142-15</b> (1.5 GPM)		
	<b>380142-20</b> (2.0 GPM)		

# PARTS AND ACCESSORIES CATALOG



WILLOUGHBY

## SECTION 12



## PUSH BUTTONS & INFRARED ACTUATORS

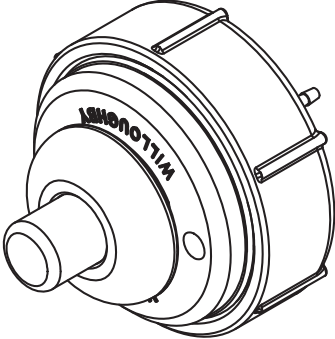
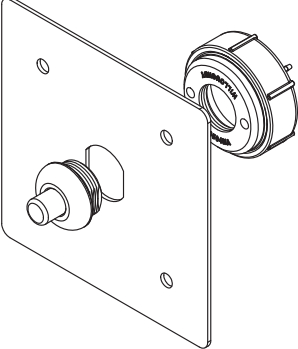
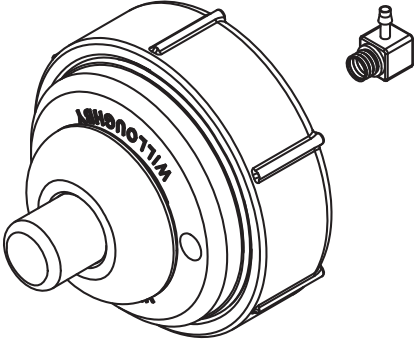
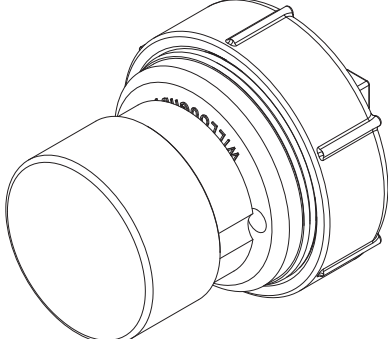
### **THESE ITEMS:**

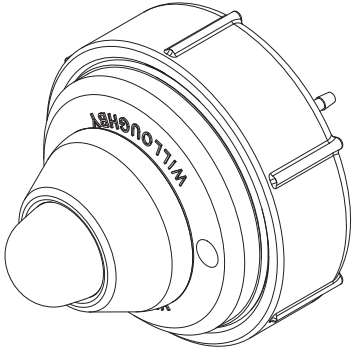
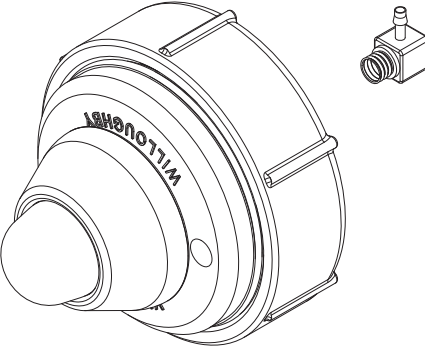
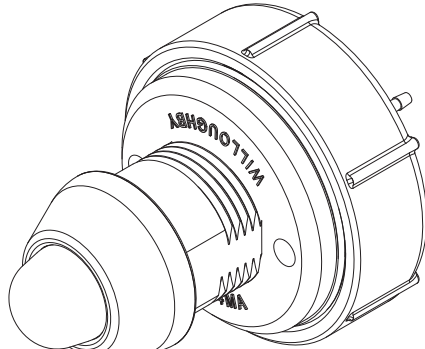
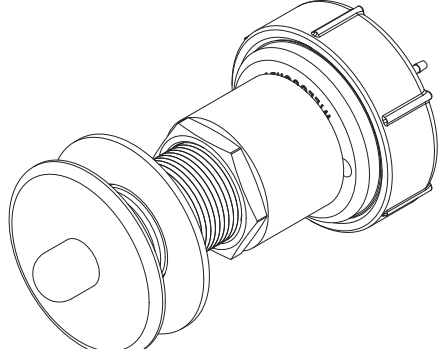
PNEUMATIC PUSH BUTTONS \_\_\_\_\_  
ELECTRONIC PUSH BUTTONS \_\_\_\_\_  
INFRARED ACTUATORS \_\_\_\_\_  
PUSH BUTTON COMPONENTS \_\_\_\_\_

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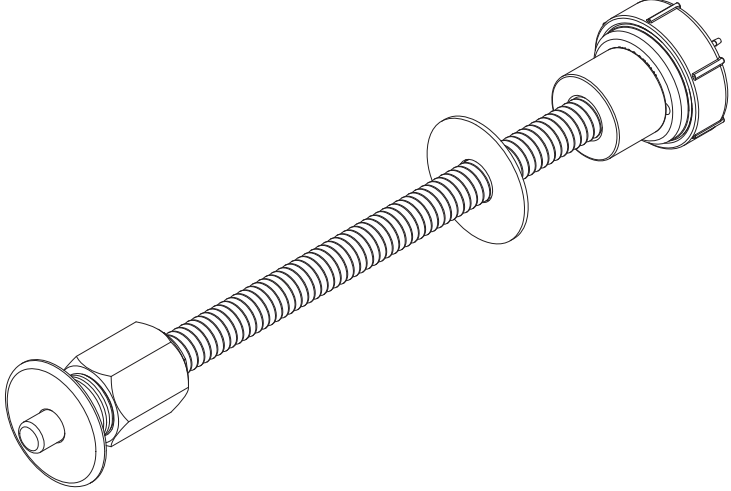
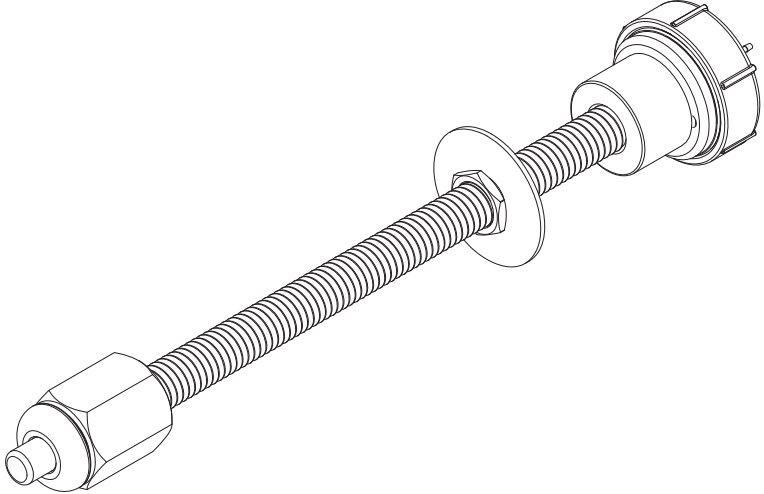
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**PNEUMATIC** PUSH BUTTONS

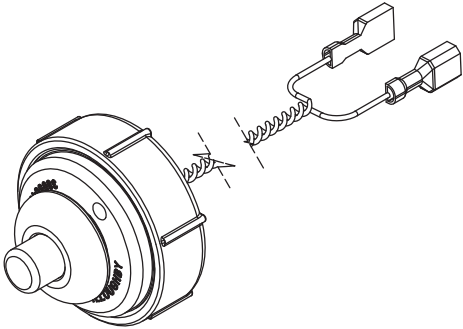
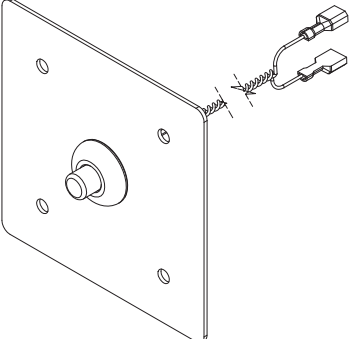
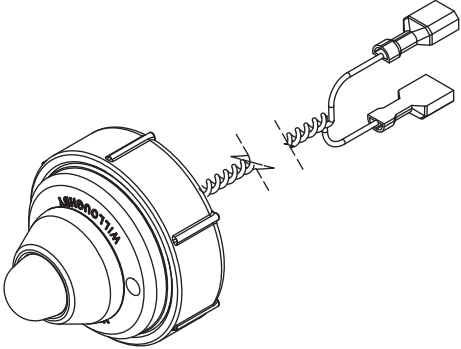
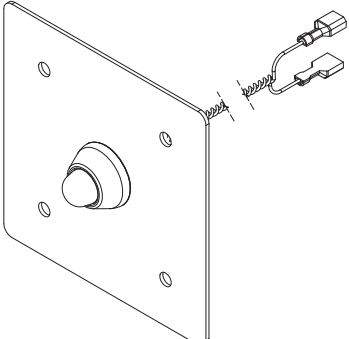
	P/N & DESCRIPTION	COMPONENT/ASSEMBLY
	<p><b>P/N: 600307</b></p> <p>(PPB) PNEUMATIC, STANDARD</p>	
	<p><b>P/N: 600307FA</b></p> <p>(PPB) PNEUMATIC, STANDARD, FRONT ACCESS (W/ PLATE)</p>	
	<p><b>P/N: 600308</b></p> <p>(PPB) PNEUMATIC, STANDARD, 90° HOSE-BARB</p>	
	<p><b>P/N: 600311</b></p> <p>(PLPB) PNEUMATIC, PALM/ FOOT-OPERATED</p>	

	P/N & DESCRIPTION	COMPONENT/ASSEMBLY
	<p><b>P/N: 600306LR</b></p> <p>(PBH) PNEUMATIC, LIGATURE-RESISTANT</p>	
	<p><b>P/N: 600305LR</b></p> <p>(PBH) PNEUMATIC, LIGATURE-RESISTANT, 90° HOSE-BARB</p>	
	<p><b>P/N: 600318LR</b></p> <p>(PBH-WBL) PNEUMATIC, LIGATURE-RESISTANT (FOR WBL-2320 LAV.)</p>	
	<p><b>P/N: 600312</b></p> <p>PUSH BUTTON, PNEUMATIC, CHINA LAVATORY</p>	

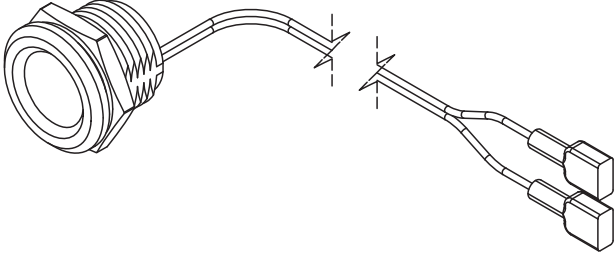
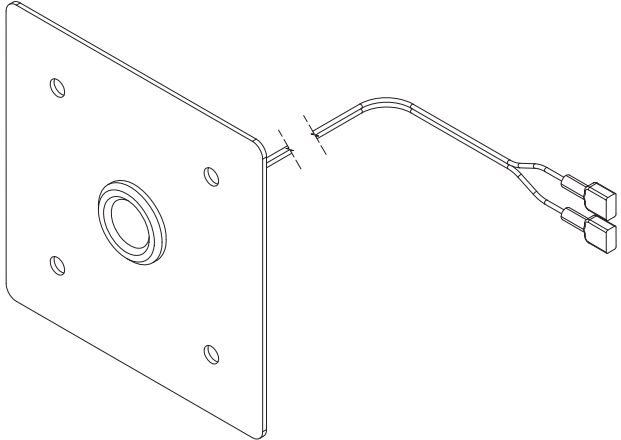
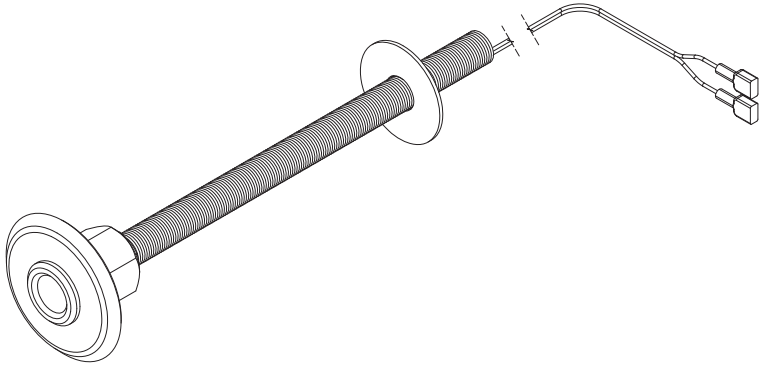
**PNEUMATIC** PUSH BUTTONS - RECESSED

	P/N & DESCRIPTION	COMPONENT/ASSEMBLY
	<p><b>P/N: 600381</b></p> <p>PUSH BUTTON ASSEMBLY, PNEUMATIC, CHINA LAV., THROUGH-WALL (RECESSED)</p>	
	<p><b>P/N: 600380</b></p> <p>PUSH BUTTON ASSEMBLY, PNEUMATIC, STAINLESS STEEL LAV., THROUGH-WALL (RECESSED)</p>	

**ELECTRONIC** PUSH BUTTONS

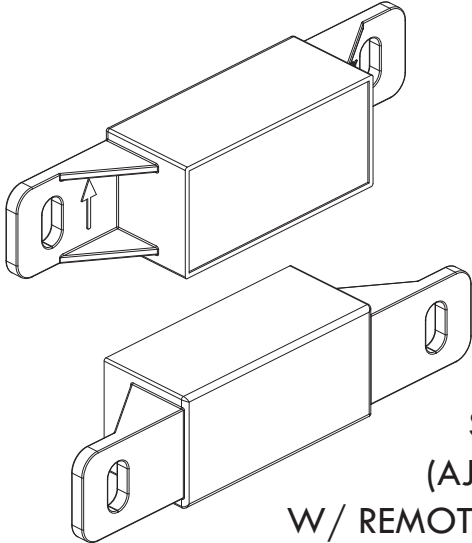
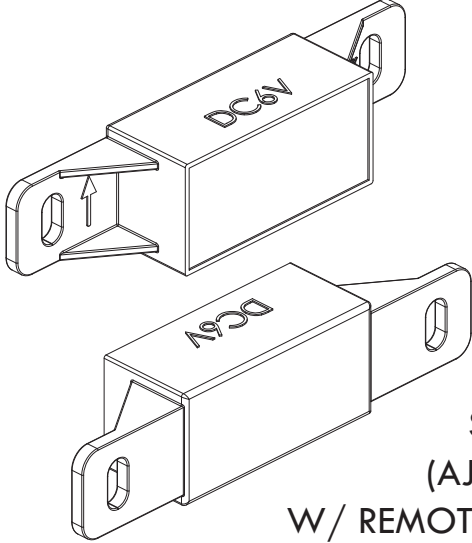
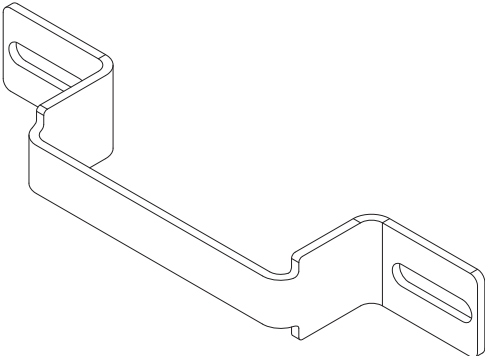
	P/N & DESCRIPTION	COMPONENT/ASSEMBLY
	<p><b>P/N: 600313</b></p> <p><b>(EPB) ELECTRONIC, STANDARD</b></p>	
	<p><b>P/N: 600313FA</b></p> <p><b>(EPB) ELECTRONIC, STANDARD, FRONT ACCESS (W/ PLATE)</b></p>	
	<p><b>P/N: 600314LR</b></p> <p><b>(EPBH) ELECTRONIC, LIGATURE-RESISTANT</b></p>	
	<p><b>P/N: 600314FA</b></p> <p><b>(EPBH) ELECTRONIC, LIGATURE-RESISTANT, FRONT ACCESS (W/ PLATE)</b></p>	

**ELECTRONIC** PUSH BUTTONS - PIEZO & RECESSED

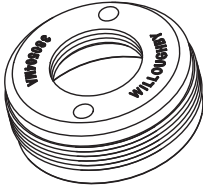
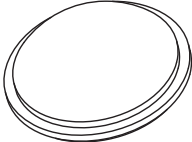
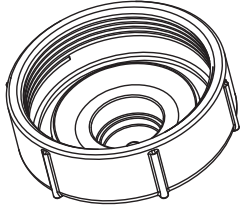
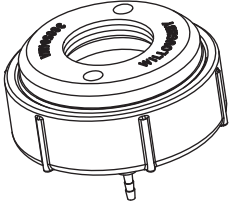
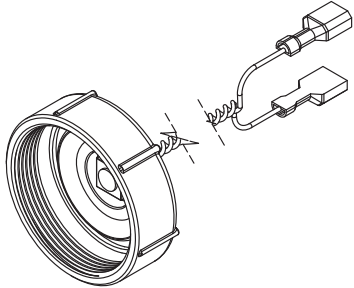
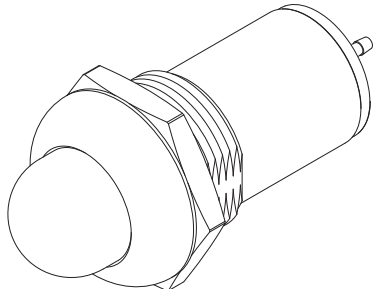
	P/N & DESCRIPTION	COMPONENT/ASSEMBLY
	<p><b>P/N: 701179C</b></p> <p><b>(PZPB) ELECTRONIC, PIEZO</b></p>	
	<p><b>P/N: 701179CFA</b></p> <p><b>(PZPB) ELECTRONIC, PIEZO, REMOTE FRONT ACCESS (W/ PLATE)</b></p>	
	<p><b>P/N: 600324</b></p> <p><b>(PZPB) ELECTRONIC, PIEZO, THROUGH-WALL (RECESSED)</b></p>	

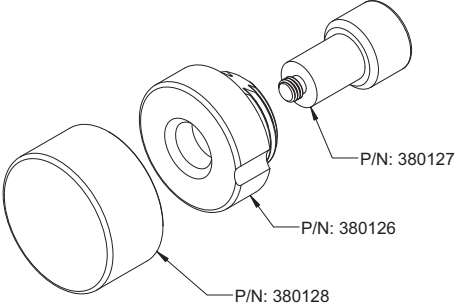
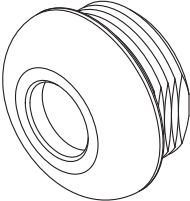
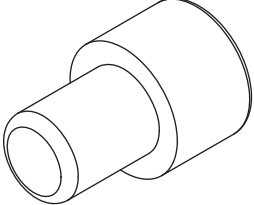
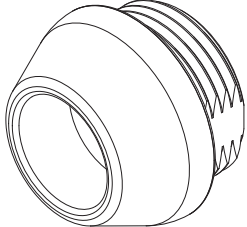
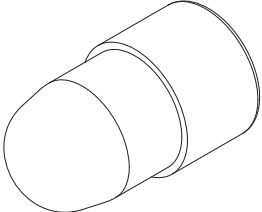


**INFRARED ACTUATORS**

	P/N & DESCRIPTION	COMPONENT
	<p><b>P/N: 700150</b></p> <p><b>(IR) INFRARED ACTUATOR, HARD WIRED POWER SUPPLY, 110VAC (ALT. CURRENT)</b></p>	 <p>PRESET 20" SENSOR RANGE (AJUSTABLE 1"-30" W/ REMOTE, P/N: 700155)</p>
	<p><b>P/N: 700250</b></p> <p><b>(BO) INFRARED ACTUATOR, BATTERY-OPERATED, 6V DIRECT CURRENT</b></p> <p><u>SEE SECTION 10 FOR FURTHER INFO</u></p>	 <p>PRESET 20" SENSOR RANGE (AJUSTABLE 1"-30" W/ REMOTE, P/N: 700155)</p>
	<p><b>P/N: S301092</b></p> <p><b>INFRARED SENSOR MOUNTING BRACKET</b></p>	

**PUSH BUTTON COMPONENTS**

	P/N & DESCRIPTION	COMPONENT/ASSEMBLY
	<b>P/N: 380504MA</b> DIAPHRAGM CAP (ELECTRIC & PNEUMATIC)	
	<b>P/N: 600201</b> DIAPHRAGM PUMP (ELECTRIC & PNEUMATIC)	
	<b>P/N: 380506MA</b> DIAPHRAGM BODY (ELECTRIC & PNEUMATIC)	
	<b>P/N: 600307RK</b> DIAPHRAGM REPAIR KIT (ELECTRIC & PNEUMATIC)	 <div data-bbox="1068 1102 1507 1270" style="border: 1px solid black; padding: 5px; display: inline-block;"> <b>INCLUDES: 380504MA</b>  <b>600201</b>  <b>380506MA</b> </div>
	<b>P/N: 600320</b> DIAPHRAGM BODY, ELECTRONIC (INCLUDES SWITCH, LEADS, & CONNECTORS)	
	<b>P/N: 600117</b> PUSH BUTTON, PUMP (CABINET SHOWER REPL.)	

	P/N & DESCRIPTION	COMPONENT/ASSEMBLY
	<p><b>P/N: 600311RK</b> REPAIR KIT, PALM/FOOT-OPERATED PUSH BUTTON</p>	
	<p><b>P/N: 380124</b> SLEEVE, STANDARD (ELECTRIC &amp; PNEUMATIC)</p>	
	<p><b>P/N: 600057</b> PUSH BUTTON, STANDARD (ELECTRIC &amp; PNEUMATIC)</p>	
	<p><b>P/N: 380119</b> SLEEVE, LIGATURE-RESISTANT (ELECTRIC &amp; PNEUMATIC)</p>	
	<p><b>P/N: 600046</b> PUSH BUTTON, LIGATURE-RESISTANT (ELECTRIC &amp; PNEUMATIC)</p>	

FOR PLATES, LOCKNUTS, POWER SUPPLY TRANSFORMERS, WIRING, PNEUMATIC TUBING, & OTHER COMPONENTS : SEE SECTION 1

# NOTES:

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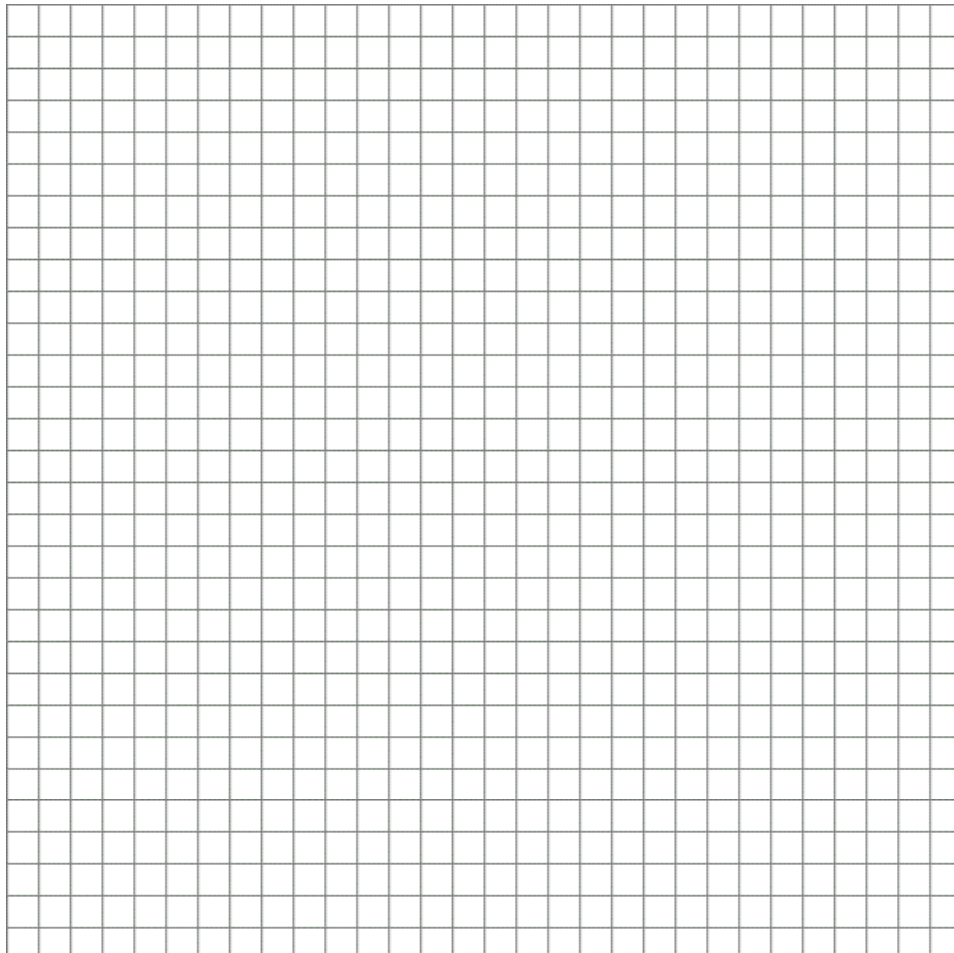
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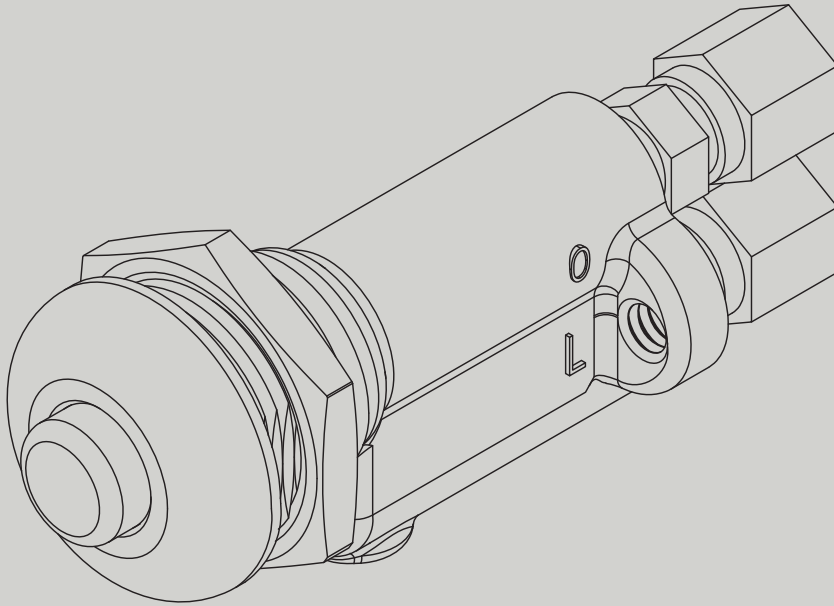
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# PARTS AND ACCESSORIES CATALOG



WILLOUGHBY



## SECTION 13

### FLUSH VALVE ACTUATORS

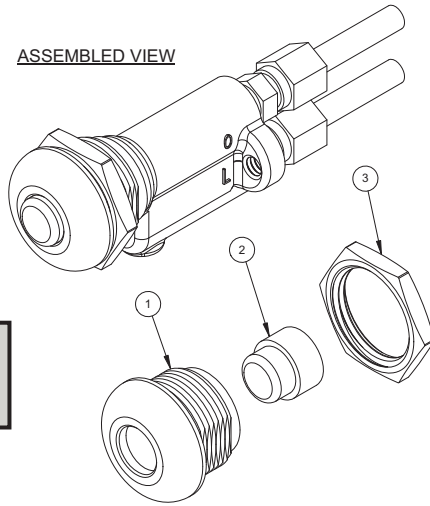
**THESE ITEMS:**

- WILLOUGHBY FLUSH VALVE ACTUATORS \_\_\_\_\_
- FLUSH VALVE ACTUATOR ADAPTER KIT \_\_\_\_\_
- SLOAN FLUSH VALVE ACTUATOR \_\_\_\_\_
- ELECTRONIC FLUSH VALVE ACTUATOR \_\_\_\_\_

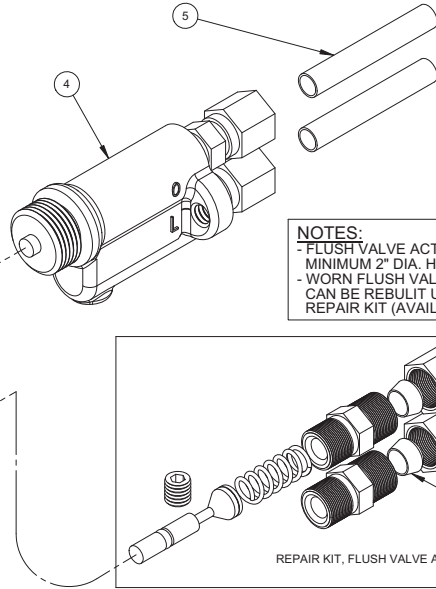
**BEGIN ON PAGE:**

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- 115
- 116
- 117

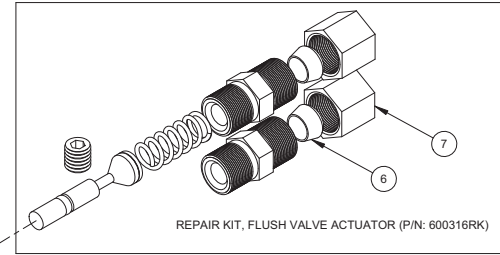
# PANEL MOUNTED FLUSH VALVE ACTUATOR



ASSEMBLED VIEW

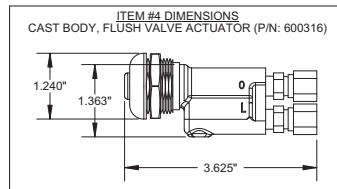


**NOTES:**  
 - FLUSH VALVE ACTUATOR REQUIRES MINIMUM 2" DIA. HOLE FOR CLEARANCE  
 - WORN FLUSH VALVE ACTUATORS CAN BE REBUILT USING P/N: 600316RK REPAIR KIT (AVAILABLE SEPARATELY)



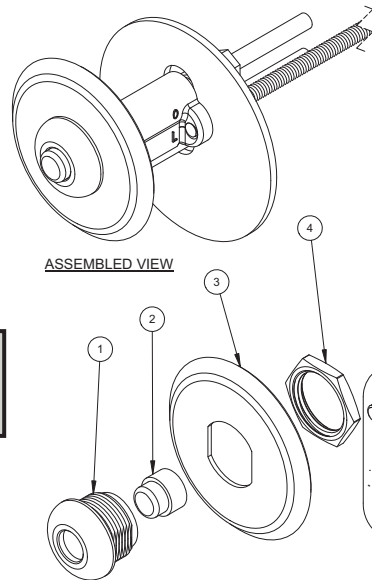
REPAIR KIT, FLUSH VALVE ACTUATOR (P/N: 600316RK)

**P/N: 600317PM**

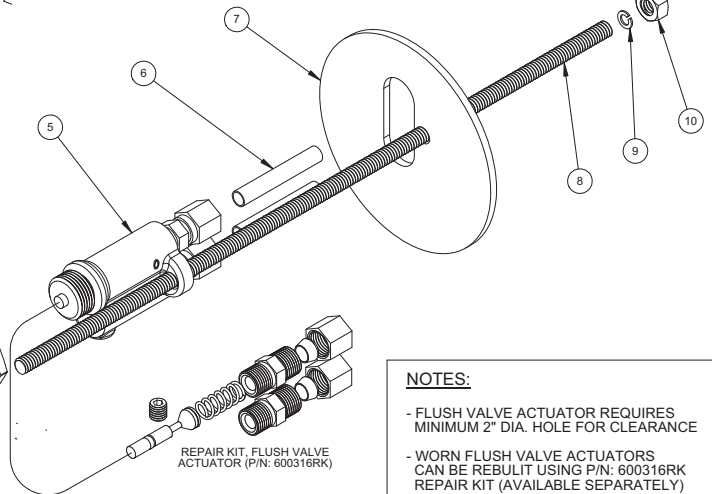


ITEM #	PART #	DESCRIPTION	QTY.
1	380162	SLEEVE	1
2	600063	PUSH BUTTON, FLUSH VALVE ACTUATOR	1
3	600612N	HEXNUT, 3/4"-14 NPSM	1
4	600316	CAST BODY, FLUSH VALVE ACTUATOR	1
5	390010	BLACK PLENUM TUBING, 1/4"OD X .170"ID X 4'	2
6	600316A	1/4" PLASTIC FERRALE	2
7	600316N	1/4" BRASS HEX NUT	2

# REAR MOUNTED FLUSH VALVE ACTUATOR



ASSEMBLED VIEW



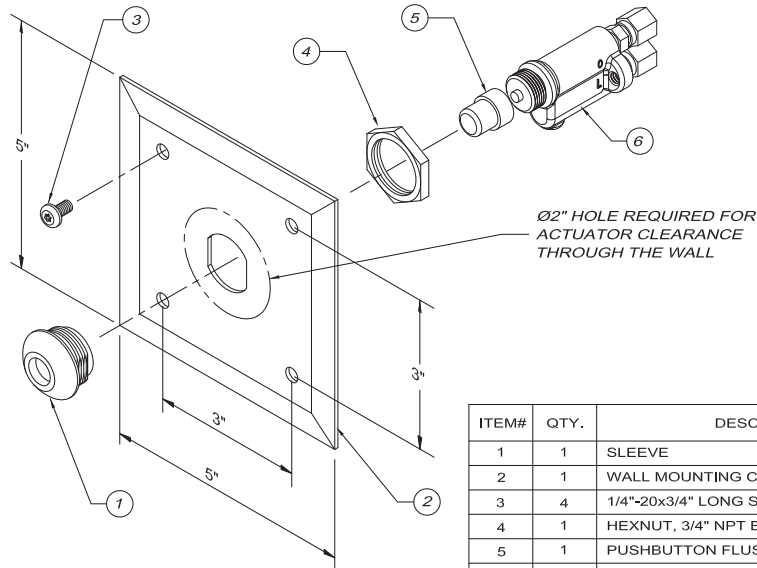
**NOTES:**  
 - FLUSH VALVE ACTUATOR REQUIRES MINIMUM 2" DIA. HOLE FOR CLEARANCE  
 - WORN FLUSH VALVE ACTUATORS CAN BE REBUILT USING P/N: 600316RK REPAIR KIT (AVAILABLE SEPARATELY)

**P/N: 600317RM**

ITEM #	PART #	DESCRIPTION	QTY.
1	380162	SLEEVE	1
2	600063	PUSH BUTTON, FLUSH VALVE ACTUATOR	1
3	600072	STAINLESS STEEL PLATE, 3" DIA.	1
4	600612N	HEXNUT, 3/4"-14 NPSM	1
5	600316	CAST BODY, FLUSH VALVE ACTUATOR	1
6	390010	BLACK PLENUM TUBING, 1/4"OD X .170"ID X 4'	2
7	600066	11 GA. GALV. WASHER, 3-1/2" DIA.	1
8	800118	ALL THREAD ROD, 1/4-20 X 12"	1
9	800111	1/4" LOCK WASHER	1
10	600613N	HEX NUT, 1/4"-20, STAINLESS STEEL	1

# FRONT MOUNTED FLUSH VALVE ACTUATOR

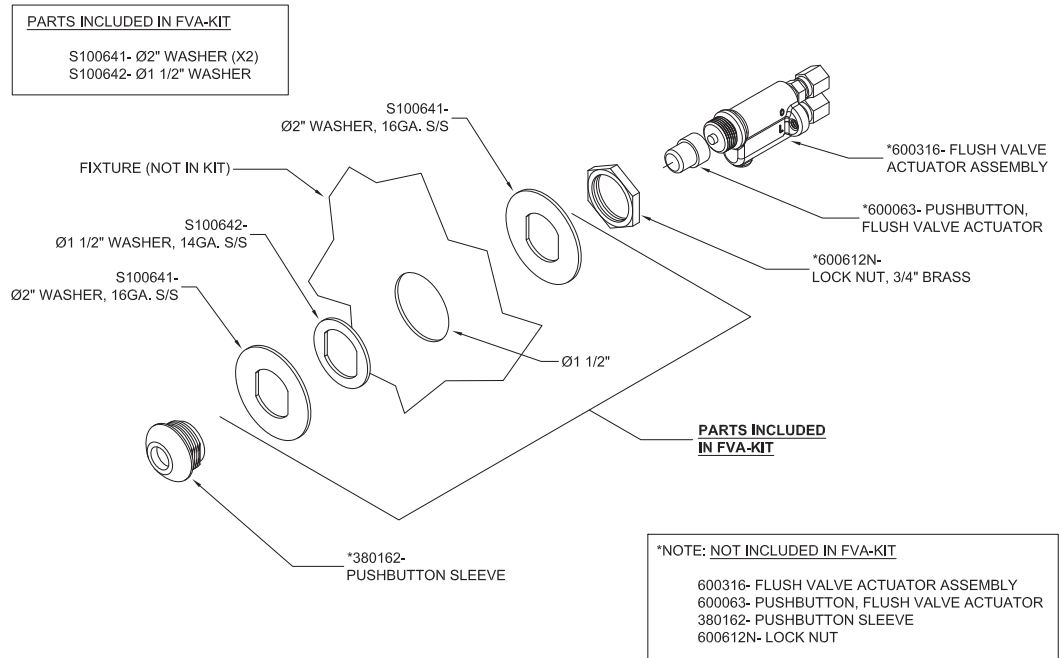
**P/N: 600317FA**



ITEM#	QTY.	DESCRIPTION	PART #
1	1	SLEEVE	380162
2	1	WALL MOUNTING COVER PLATE	S001872
3	4	1/4"-20x3/4" LONG S/S PIN TORX SCREWS	4502SSN
4	1	HEXNUT, 3/4" NPT BRASS	600612N
5	1	PUSHBUTTON FLUSH VALVE ACTUATOR	600063
6	1	FLUSH VALVE ACTUATOR ASSEMBLY	600316

# ADAPTER KIT FLUSH VALVE ACTUATOR

**P/N: FVA-KIT**





# SLOAN HY-72-A FLUSH VALVE ACTUATOR - P/N: 320592

**FOR USE WITH WILLOUGHBY PATIENT CARE UNITS (PCU)**



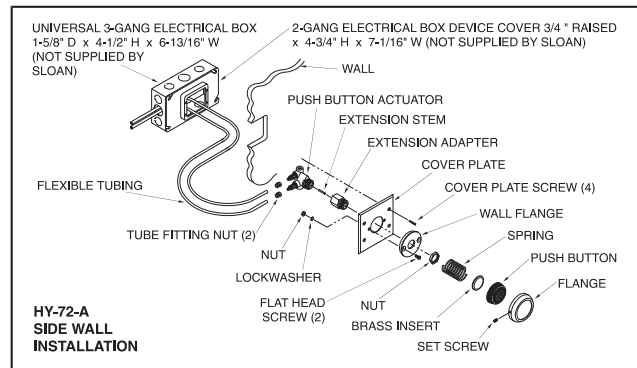
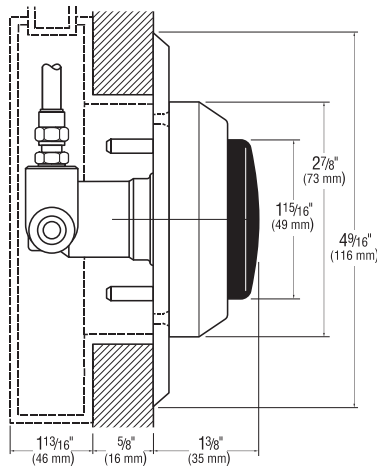
## Hydraulic Flushometer **HY-72-A** Push Button Actuator **Side Wall (SW Variation)**

**Description**  
Side Wall (SW) Push Button Assembly for use with Sloan Series 900 Hydraulic Flushometers. Recommended for installation where access behind the wall is not available. Installation requires electrical box with cover plate (not supplied by Sloan).

- Specifications**  
Hydraulically Operated Push Button Assembly that includes the following features:
- ADA Compliant Non-Hold-Open feature type Actuator
  - Large diameter, Spring Loaded Button
  - Mounting fasteners for installation on 2-gang electrical box cover plate
  - Two 84" (2.13 m) long flexible tubing for connection to Sloan Series 900 Hydraulic Flushometer

Installation requires 3-gang Electrical Box (6<sup>1</sup>/<sub>16</sub>" long x 4<sup>1</sup>/<sub>2</sub>" wide x 1<sup>5</sup>/<sub>8</sub>" deep) and 2-gang Cover Plate (3/4" raised max. x 4<sup>3</sup>/<sub>4</sub>" high x 7<sup>1</sup>/<sub>16</sub>" long) - NOT supplied by Sloan.

See Hydraulic Flushometer Specification pages in this section for details on Hydraulically Operated Flushometers.



Listed by I.A.P.M.O.

This space for Architect/Engineer approval

The information contained in this document is subject to change without notice.

**SLOAN**

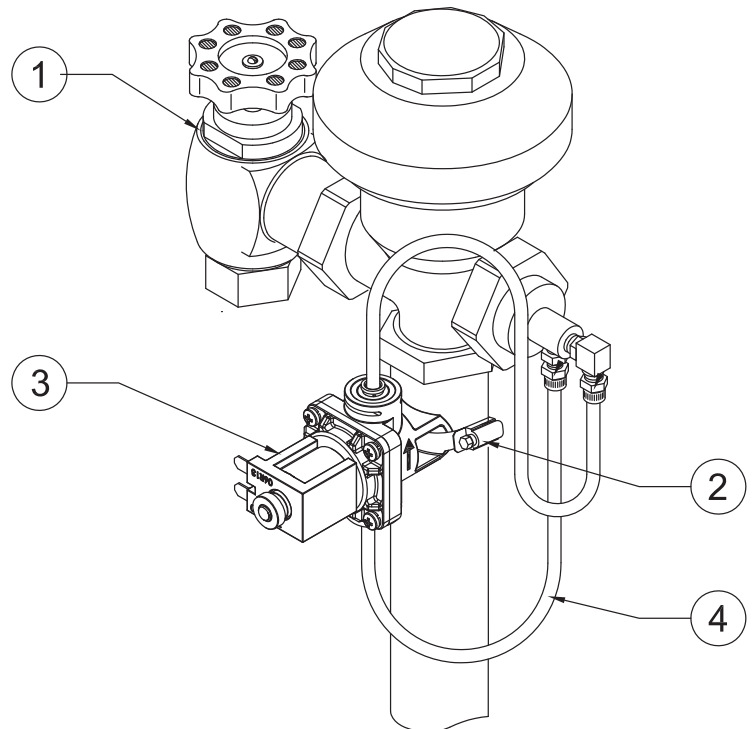
Made in the U.S.A.

SLOAN VALVE COMPANY • 10500 SEYMOUR AVE. • FRANKLIN PARK, IL 60131  
PHONE: 1-800 982-5839 • FAX: 1-800 447-8329 • <http://www.sloanvalve.com>

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**ELECTRONIC FLUSH VALVE ACTUATOR**

ITEM#	DESCRIPTION	PART#
1	FLUSHOMETER (SOLD SEPARATE)	N/A
2	HOSE CLAMP, STAINLESS STEEL	980617
3	VALVE ASSEMBLY, 24V EFV	980630
4	1/4" PLENUM TUBING, (2) 12" SECTIONS	390010

**P/N: 980635**

FOR POWER SUPPLY TRANSFORMERS AND WIRING: SEE SECTION 1  
 ELECTRONIC VALVE ASSEMBLIES: SEE SECTION 6  
 FOR PUSH BUTTONS: SEE SECTION 12

# NOTES:

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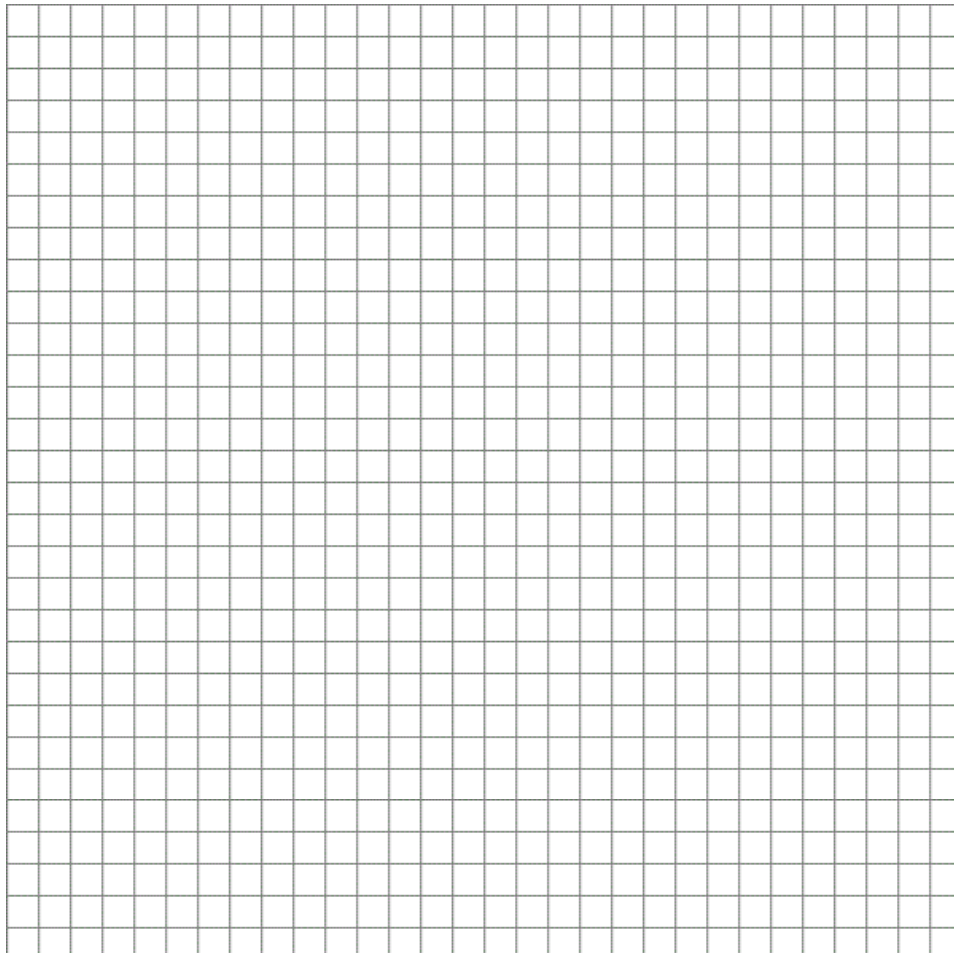
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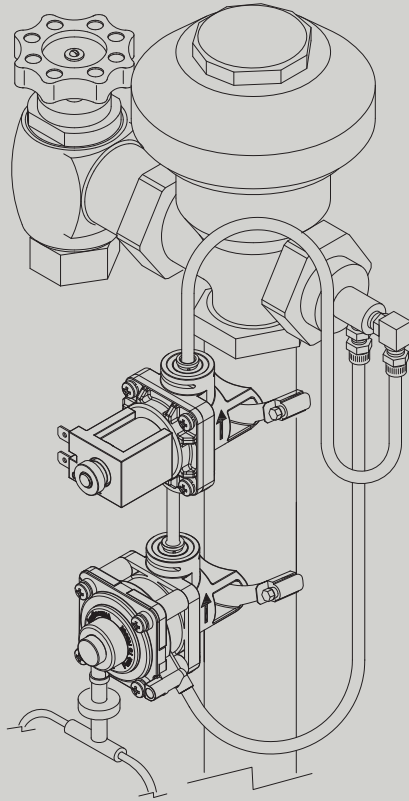
# PARTS AND ACCESSORIES CATALOG



WILLOUGHBY

SECTION

14



## TOILET OVERFLOW PREVENTER (TOP4) VALVE ASSEMBLIES

**THESE ITEMS:**

TOILET OVERFLOW PREVENTER (T4) \_\_\_\_\_

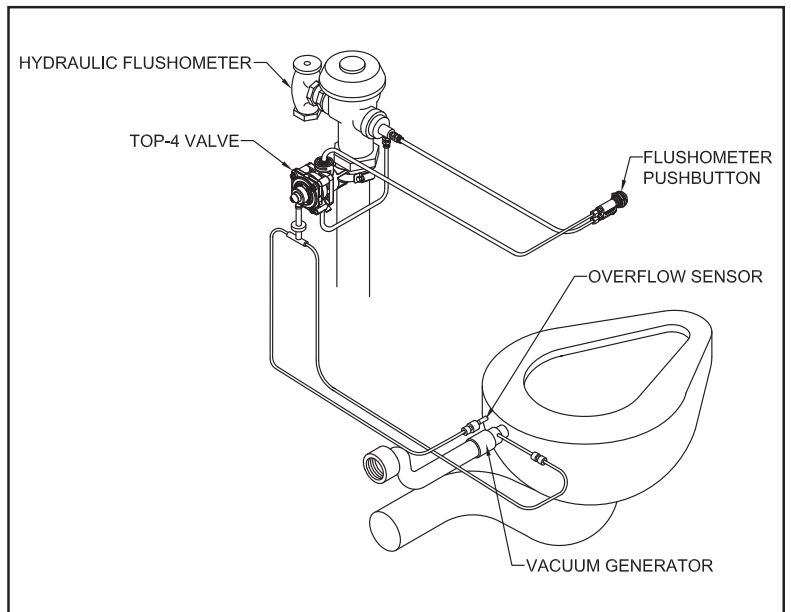
TOILET OVERFLOW PREVENTER - AUTO-RESET (T4A) \_\_\_\_\_

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## T4 Toilet Overflow Preventer



### Recommended Specifications

Toilet overflow preventer shall be: Willoughby Model No. **T4**

The toilet overflow preventer shall be installed on a Willoughby toilet or combination toilet/lavatory fixture to prevent overflow. The unit shall consist of a vacuum operated disabler, a vacuum generator and an overflow sensor.

The vacuum generator and overflow sensor shall be factory installed in all specially modified fixtures. The disabler valve shall be installed in the control circuit of a hydraulic flushometer. Vacuum connections between the disabler valve and the fixture shall be polyethylene tubing.

After a backup, the unit shall be manually reset by a push button on the disabler valve. The unit shall allow no overflow and require no outside power source.

### Applications

The toilet overflow preventer is recommended for facilities with high vandalism (prisons, parks, schools, etc.) and is normally used in conjunction with a back supply toilet or combination unit where an accessible pipe chase is provided.

### Operation

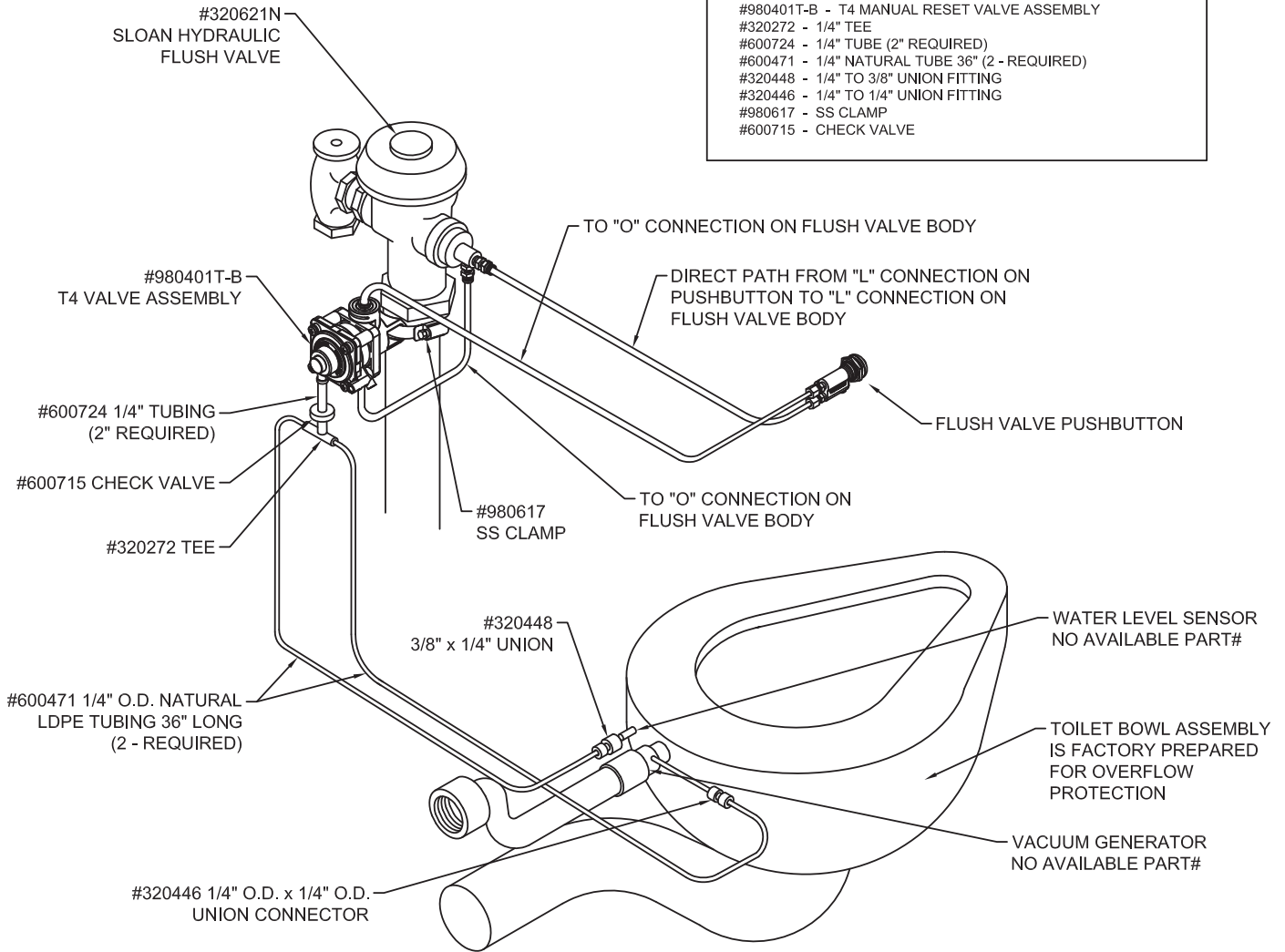
During each flush cycle, water flowing through the fixture produces a vacuum at the vacuum generator. Normally, this vacuum is drawn unrestricted through the overflow sensor.

Should the water level in the bowl rise due to intentional blocking of the drain or a clog downstream of the fixture, it will cover the opening of the sensor.

When water is drawn into the sensor, the majority of the vacuum will be redirected to the disabler valve. The disabler valve is normally open vacuum operated installed in the control circuit of a hydraulic flushometer. The vacuum closes the disabler valve thereby preventing any additional flushes until the unit is manually reset.

# T4 TOILET OVERFLOW PREVENTER

#980430-B	T4 MANUAL RESET KIT
#980401T-B	T4 MANUAL RESET VALVE ASSEMBLY
#320272	- 1/4" TEE
#600724	- 1/4" TUBE (2" REQUIRED)
#600471	- 1/4" NATURAL TUBE 36" (2 - REQUIRED)
#320448	- 1/4" TO 3/8" UNION FITTING
#320446	- 1/4" TO 1/4" UNION FITTING
#980617	- SS CLAMP
#600715	- CHECK VALVE



THE WILLOUGHBY "TOP-FOUR" TOILET OVERFLOW PREVENTER IS DESIGNED TO PREVENT A TOILET FROM OVERFLOWING. IT IS RECOMMENDED FOR FACILITIES WITH HIGH VANDALISM (PRISONS, PARKS, SCHOOLS, ETC...) AND IS NORMALLY USED IN CONJUNCTION WITH COMBINATION UNITS AND BACK SUPPLY TOILETS WHERE AN ACCESSIBLE PIPE CHASE IS PROVIDED. UNIT HAS MANUAL RESET BUTTON.

## T4A Toilet Overflow Preventer with Auto-Reset

### Recommended Specifications

Auto-reset toilet overflow preventer shall be:  
Willoughby Model No. **T4A**

The toilet overflow preventer shall be installed on a Willoughby toilet or combination toilet/lavatory fixture to prevent overflow.

The unit shall consist of a vacuum operated disabler, a vacuum generator, an overflow sensor and a float sensor canister. The vacuum generator and overflow sensor shall be factory installed in all specially modified fixtures. The disabler valve shall be installed in the control circuit of a hydraulic flushometer. Vacuum connections between the disabler valve and the fixture shall be polyethylene tubing.

After a backup, the unit shall automatically reset by the lowering of the water in the toilet bowl to normal level. The unit shall allow no overflow and require no outside power source.

### Applications

The toilet overflow preventer is recommended for facilities with high vandalism (prisons, parks, schools, etc.), and is normally used in conjunction with a back supply toilet or combination unit where an accessible pipe chase is provided.

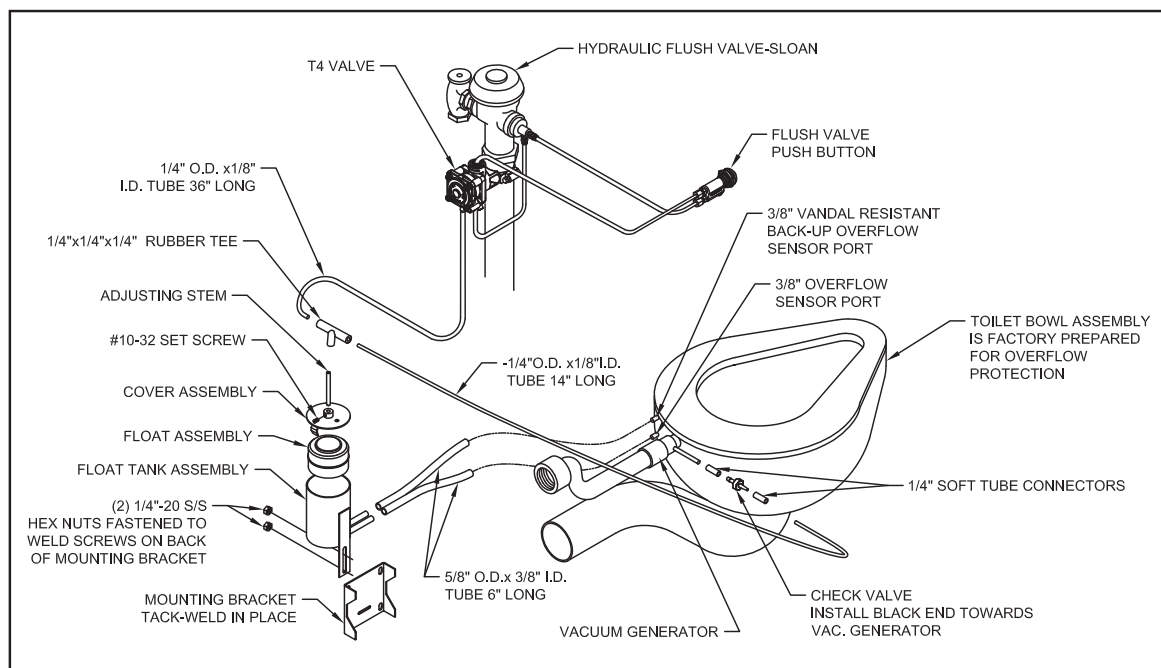
### Operation

During each flush cycle, water flowing through the fixture produces a vacuum at the vacuum generator. Normally, this vacuum is drawn unrestricted through the overflow sensor.

Should the water level in the bowl rise due to intentional blockage or down stream obstruction, water covers the overflow sensor port and fills the float canister. The float rises and directs the vacuum to the disabler valve.

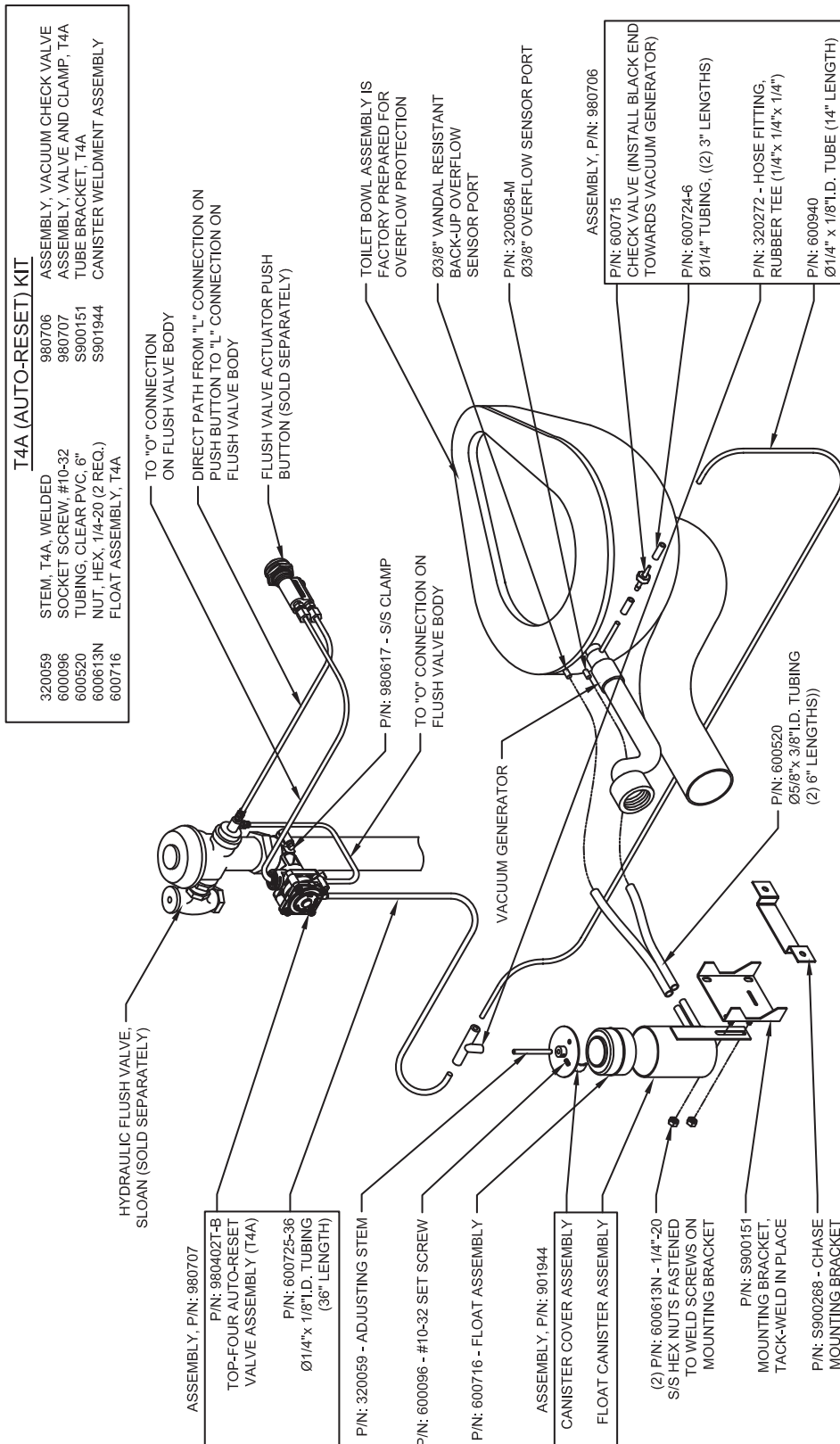
The disabler valve is normally open vacuum operated valve installed in the control circuit of a hydraulic flushometer. The vacuum closes the disabler valve thereby preventing any additional flushes until the water level in the toilet bowl returns to normal.

When the water level drops, the float canister drains back to the toilet bowl lowering the float. Once the float lowers to its normal position it permits air to enter the system which opens the disabler valve and allows normal flush operation.





# T4A TOILET OVERFLOW PREVENTER - AUTO-RESET



WILLOUGHBY "TOP-FOUR" TOILET OVERFLOW PREVENTERS ARE DESIGNED TO PREVENT A TOILET FROM OVERFLOWING. IT IS RECOMMENDED FOR FACILITIES WITH HIGH VANDALISM (PRISONS, PARKS, SCHOOLS, ETC...) AND IS NORMALLY USED IN CONJUNCTION WITH COMBINATION UNITS AND BACK SUPPLY TOILETS WHERE AN ACCESSIBLE PIPE CHASE IS PROVIDED. TOP-FOUR-B OVERFLOW PREVENTER UNIT HAS AN AUTOMATIC RESET.

# NOTES:

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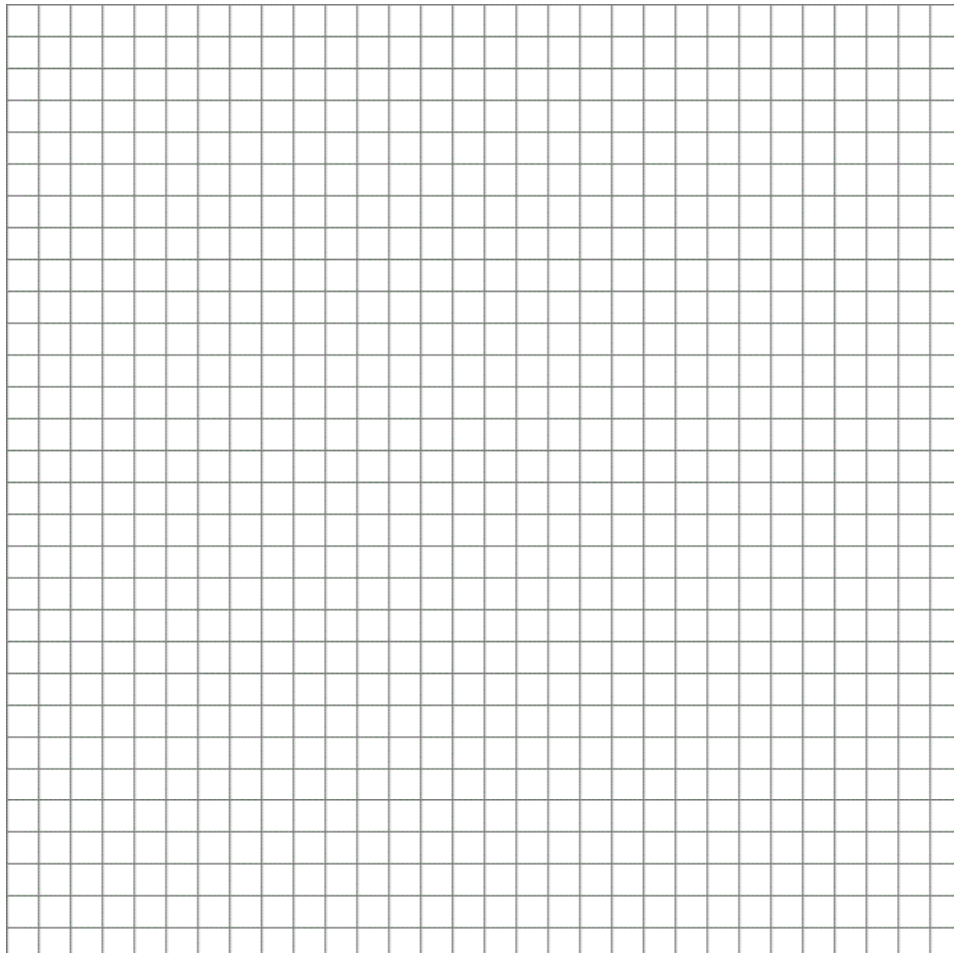
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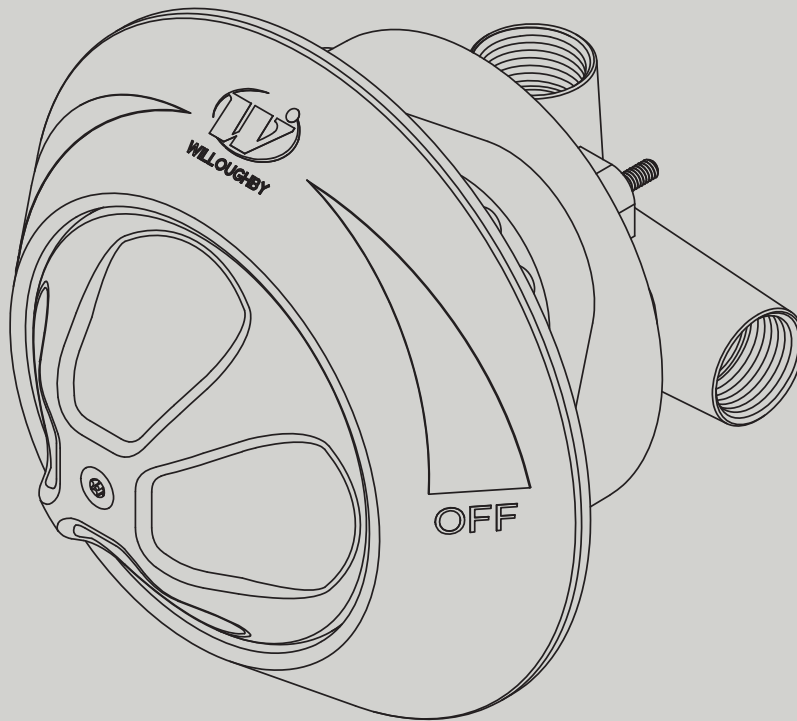
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# PARTS AND ACCESSORIES CATALOG



WILLOUGHBY



## SECTION 15

### SHOWER MIXING VALVES, DIVERter VALVES, & COMPRESSION VALVES

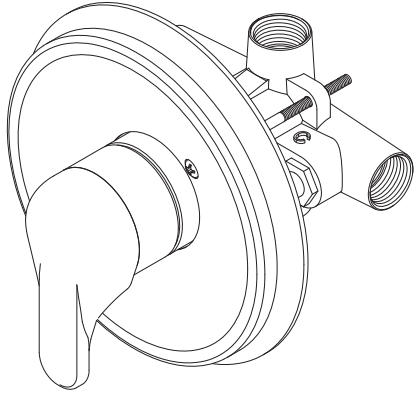
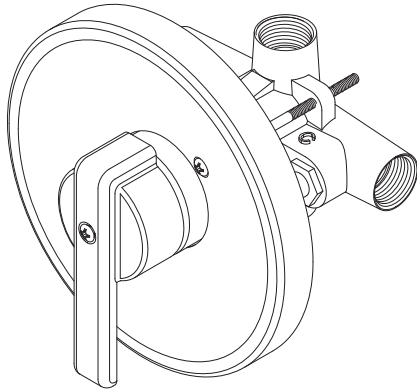
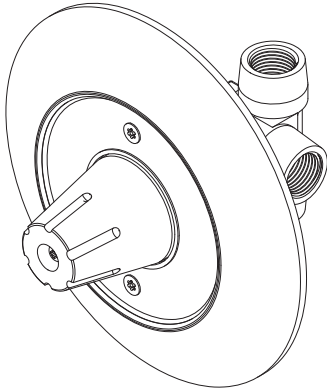
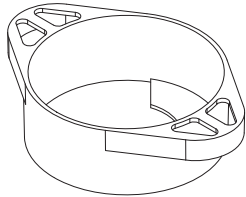
**THESE ITEMS:**

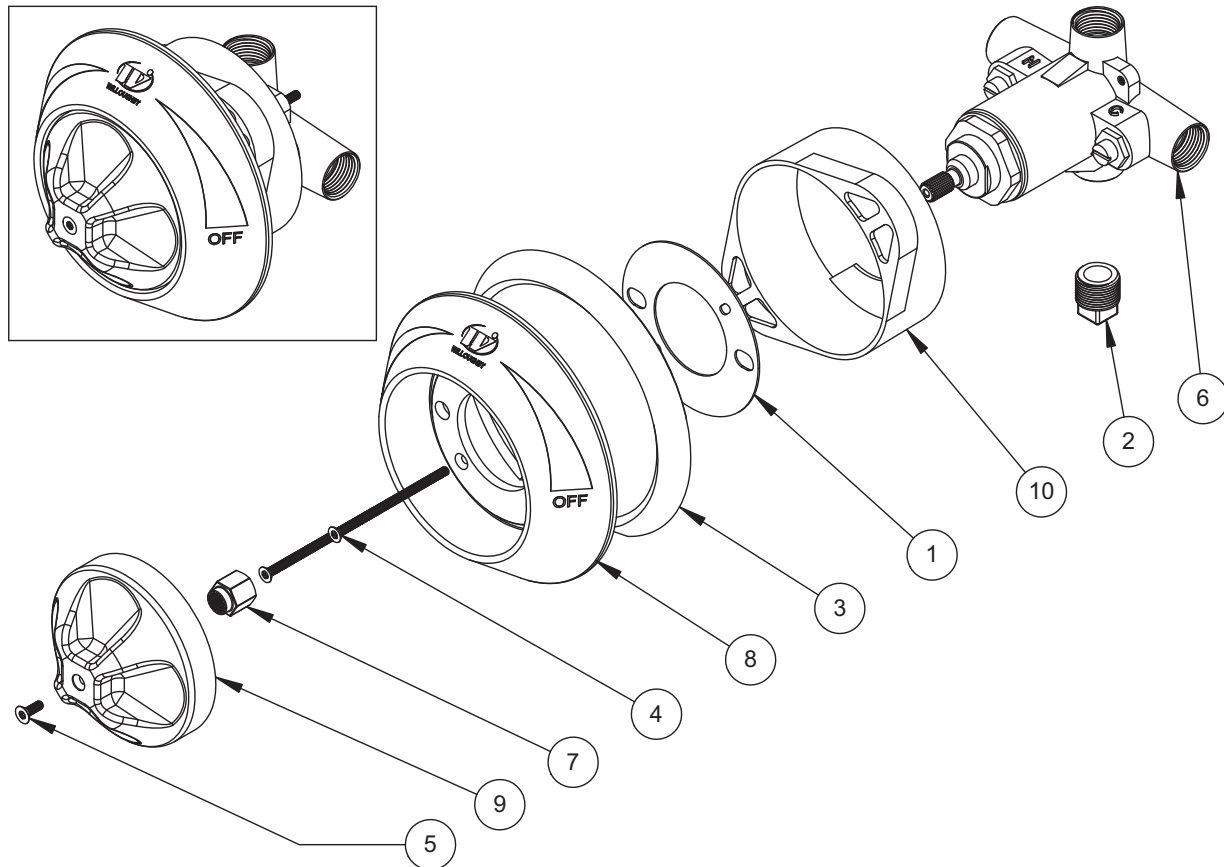
- SHOWER TEMPERATURE/PRESSURE-BALANCING &  
PRESSURE-BALANCING MIXING VALVES \_\_\_\_\_
- SHOWER DIVERter VALVES \_\_\_\_\_
- COMPRESSION SHOWER VALVES \_\_\_\_\_

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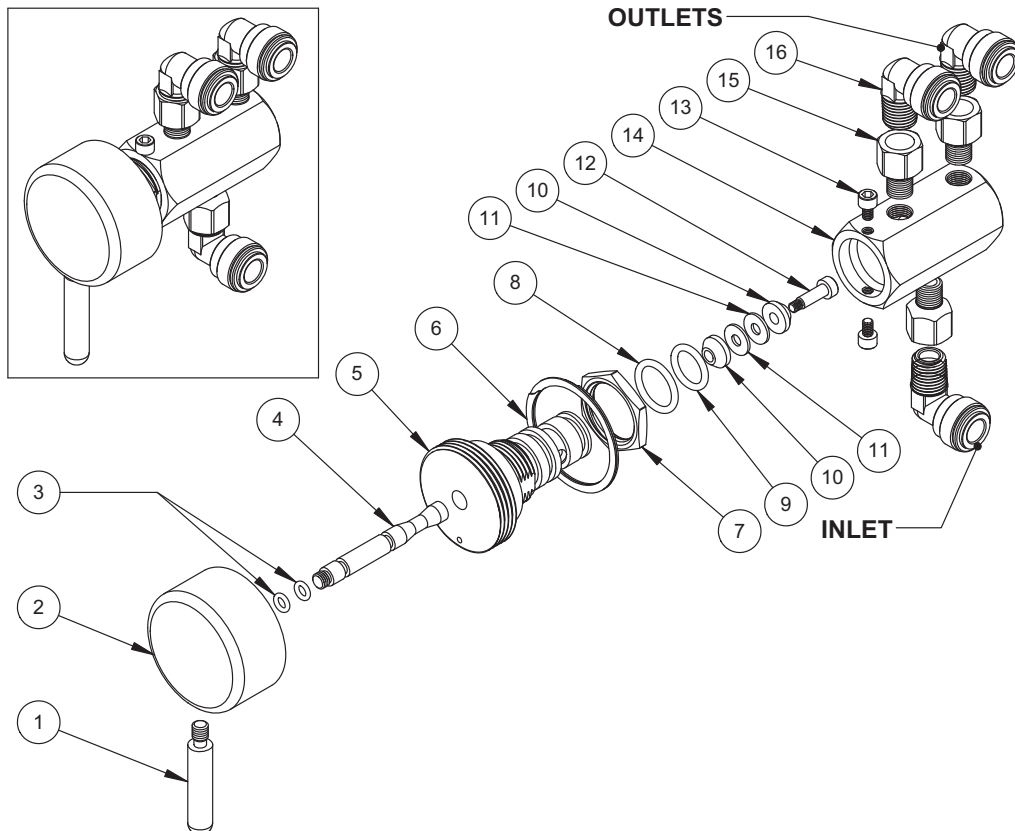
**MIXING VALVES ASSEMBLIES**

	P/N & DESCRIPTION	COMPONENT/ASSEMBLY
	<p><b>P/N: 700720</b></p> <p><b>(TPV) TEMPERATURE/ PRESSURE-BALANCING SHOWER MIXING VALVE</b></p>	
	<p><b>P/N: P902G</b></p> <p><b>(PBV) PRESSURE-BALANCING SHOWER MIXING VALVE</b></p>	
	<p><b>P/N: 700340</b></p> <p><b>(PBLR) LIGATURE-RESISTANT PRESSURE-BALANCING SHOWER MIXING VALVE</b></p>	
	<p><b>P/N: 900-119</b></p> <p><b>THIN-WALL MOUNTING BRACKET, (TPV) (TPLR)</b></p>	

**MIXING VALVES** WILLOUGHBY LIGATURE-RESISTANT**(TPLR) LIG-RES. TEMP./PRESSURE-BALANCING MIXING VALVE - P/N: 701500**

ITEM #	PART #	DESCRIPTION	QTY.
1	320016	GASKET, SHOWER HANDLE ESCUTCHEON	1
2	320260	PLUG, BRASS, 1/2 MPT	1
3	380058	GASKET, ADHESIVE BACK, NEOPRENE, 1/2" x 1/8"	1
4	4506SSN	8-32 X 3" SS FH SECURITY SCREW	2
5	4517SSN	SCREW, SECURITY, FH, #8-32 X 1/2", SS, PIN-TORX	1
6	701496	MIXING VALVE, E700 T/P, NPT 1/2" INLETS/OUTLETS	1
7	701497	INSERT, LIG. RESISTANT HANDLE SET, WILLOUGHBY	1
8	701498	DIAL PLATE, LIGATURE RESISTANT HANDLE SET, WILLOUGHBY	1
9	701499	SHOWER HANDLE, LIGATURE RESISTANT HANDLE SET, WILLOUGHBY	1
10	900-119	MOUNTING BRACKET, THIN WALL	1

FOR ELBOWS, TUBING, HOSES, OR OTHER COMPONENTS : SEE SECTION 1

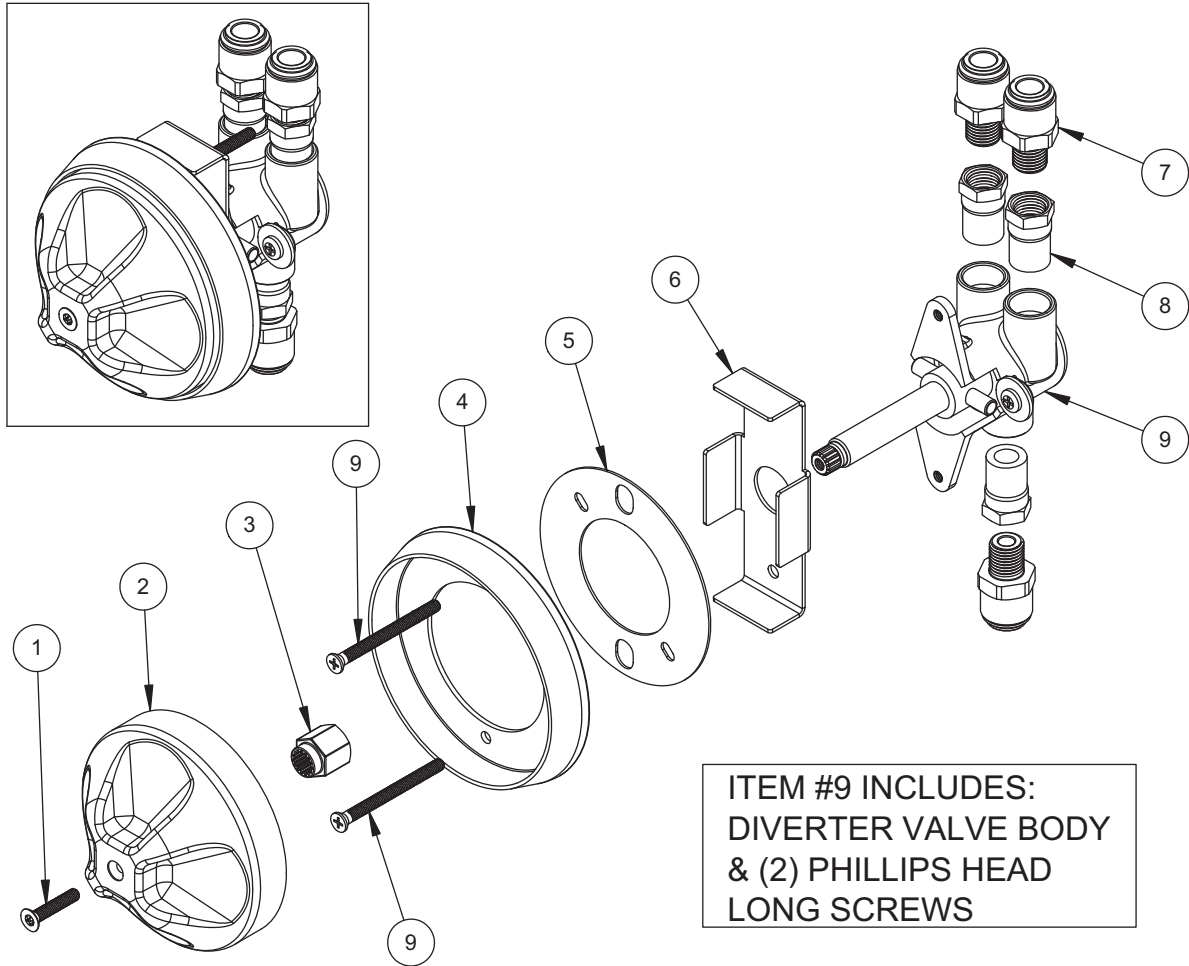
**DIVERter VALVES** WILLOUGHBY STANDARD**(DV) STANDARD SHOWER DIVERter VALVE - P/N: 920022**

ITEM #	PART #	DESCRIPTION	QTY.
1	200171	HANDLE, DIVERter VALVE S/S	1
2	200169	KNOB, DIVERter VALVE S/S	1
3	600115	O-RING (#008), .176ID X .070W, SELF LUBE	2
4	600034	STEM, WMDV MIX / DIVERter VALVE	1
5	600599	SLEEVE, WMDV MIX / DIVERter VALVE	1
6	380054	RING, SPIRAL RETAINING S/S, 1-3/4" INTERNAL	1
7	600612N	HEXNUT, 3/4"-14 NPSM	1
8	600114	O-RING (#115)	1
9	600113	O-RING (#113)	1
10	600175	WASHER, FAUCET- TAPERED "00"	2
11	600220	WASHER, TEFLON	2
12	540014	SCREW, SHOULDER SOCKET HEAD, #8-32 THREAD, S/S, 3/16" x 1/2"	1
13	540016	CAP SCREW, SOCKET HEAD, S/S, #8-32 X 5/16"	2
14	600607	VALVE BODY, WMDV MIX / DIVERter VALVE	1
15	320546	ADAPTER, 1/4" FPT x 1/8" MPT	3
16	320402	ELBOW, 1/4" NPTF MALE X 3/8" TUBE PUSH-TO-CONNECT	3

FOR ELBOWS, TUBING, HOSES, OR OTHER COMPONENTS : SEE SECTION 1

**DIVERter VALVES** WILLOUGHBY LIGATURE-RESISTANT

**(DVLR) LIGATURE-RESISTANT DIVERter VALVE - P/N: 701505**

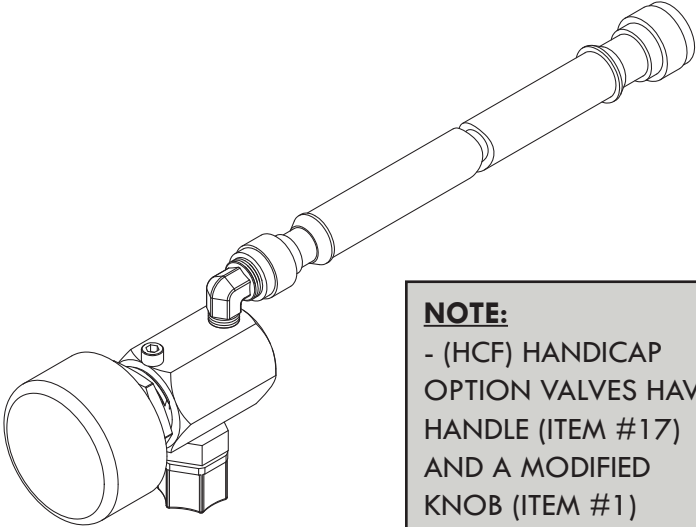


ITEM #	PART #	DESCRIPTION	QTY.
1	540013	SCREW #10-32 X 1" FH PIN TORX	1
2	701499	SHOWER HANDLE, LIGATURE RESISTANT HANDLE SET, WILLOUGHBY	1
3	701508	INSERT, BRASS, DVLR HANDLE	1
4	701510	ESCUTCHEON, DVLR, LIGATURE RESISTANT DIVERter VALVE	1
5	320016	GASKET, SHOWER HANDLE ESCUTCHEON	1
6	S901959	BRACKET, DVLR, DIVERter VALVE ASSM.	1
7	320429	TUBE FITTING, ADAPTOR, 3/8 TUBE X 1/4 MPT	3
8	701509	FITTING, SWEAT, 1/4-18 NPT X 1/2" TUBE	3
9	701506	DIVERter VALVE, POWERS 3-WAY, DVLR	1

FOR ELBOWS, TUBING, HOSES, OR OTHER COMPONENTS : SEE SECTION 1

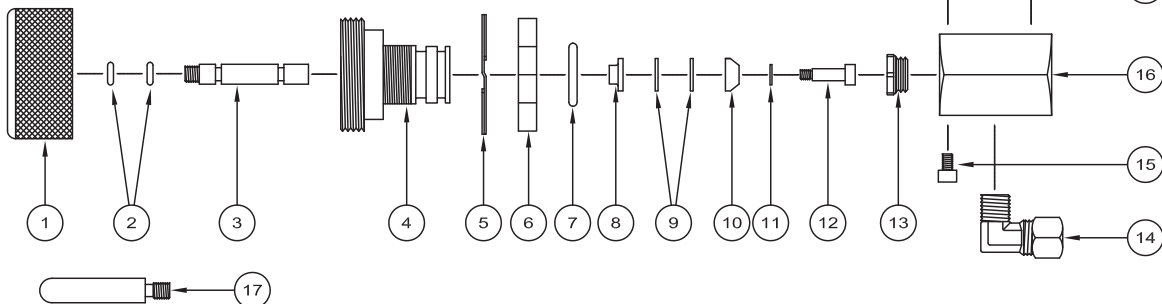
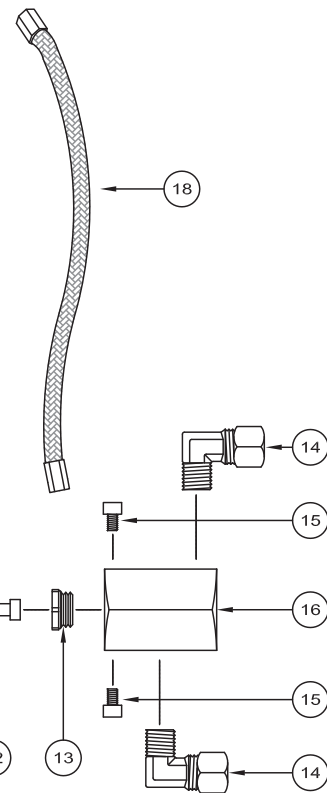


# COMPRESSION VALVES WILLOUGHBY STANDARD

	P/N & DESCRIPTION	COMPONENT/ASSEMBLY
	<p><b>P/N: WCV1F</b> COMPRESSION VALVE, SINGLE TEMP.</p>	
	<p><b>P/N: WCV2F</b> COMPRESSION VALVE, DUAL TEMP.</p>	
	<p><b>P/N: WCV1HCF</b> COMPRESSION VALVE, SINGLE TEMP, HANDICAP OPTION</p>	
	<p><b>P/N: WCV2HCF</b> COMPRESSION VALVE, DUAL TEMP, HANDICAP OPTION</p>	

**NOTE:**  
- (HCF) HANDICAP  
OPTION VALVES HAVE  
HANDLE (ITEM #17)  
AND A MODIFIED  
KNOB (ITEM #1)

#	QTY	UM	PART #	DESCRIPTION
1	1	EA	200167	KNOB, SECURITY VALVE, S/S
2	2	EA	600115	O-RING, SIZE #008, 0.176" ID x 0.070" W
3	1	EA	600033	STEM, WCV COMPRESSION VALVE, S/S
4	1	EA	600603	SLEEVE, WCV COMPRESSION VALVE, BRASS
5	1	EA	380054	RING, SPIRAL RETAINING, S/S
6	1	EA	600612N	LOCKNUT, 3/4" NPT, BRASS
7	1	EA	600114	O-RING, SIZE #115, 0.674" ID x 0.103" W
8	1	EA	600610	WASHER SPACER, WCV COMP. VALVE, S/S
9	2	EA	600220	WASHER, 3/16" I.D. x 1/2" O.D., TEFLON
10	1	EA	600175	WASHER, TAPERED FAUCET, RUBBER
11	1	EA	600218	WASHER, 3/16" I.D. x 5/16" O.D., NYLON
12	1	EA	540014	SCREW, 3/16" OD x 1/2" SHOULDER, S/S
13	1	EA	380897	VALVE SEAT, NYLON W/ O-RING
14	2	EA	320601	ELBOW, 3/8" COMP. x 1/8" MPT, BRASS
15	2	EA	540016	CAP SCREW, #8-32 x 5/16" SCKT HD, S/S
16	1	EA	600608	VALVE BODY, WCV COMP. VALVE, BRASS
17	1	EA	200171	HANDLE- DIVERTER VALVE
18	1	EA	320508	FLEX HOSE

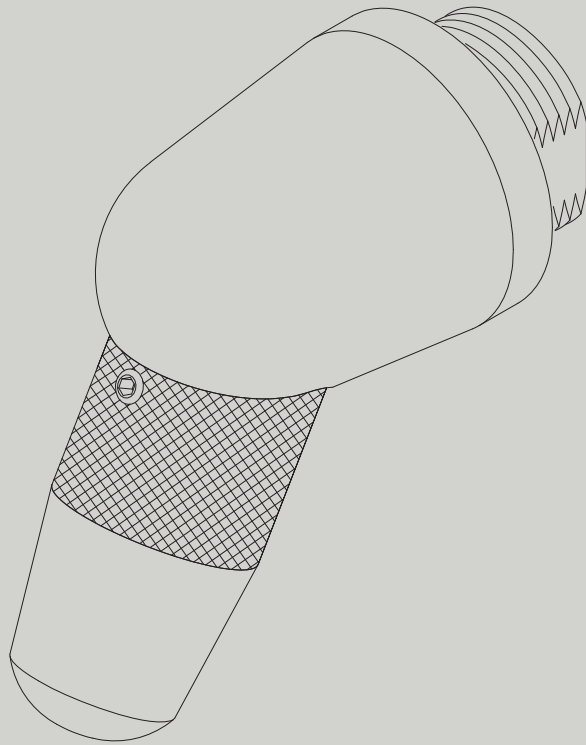


# PARTS AND ACCESSORIES CATALOG



WILLOUGHBY

## SECTION 16



## SHOWER HEAD ASSEMBLIES & PARTS

### THESE ITEMS:

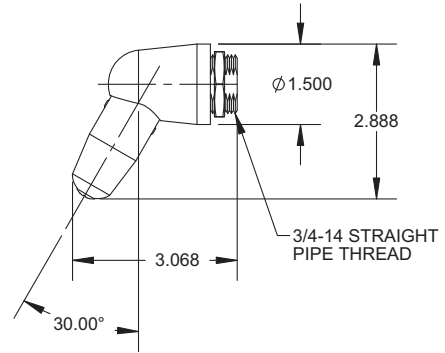
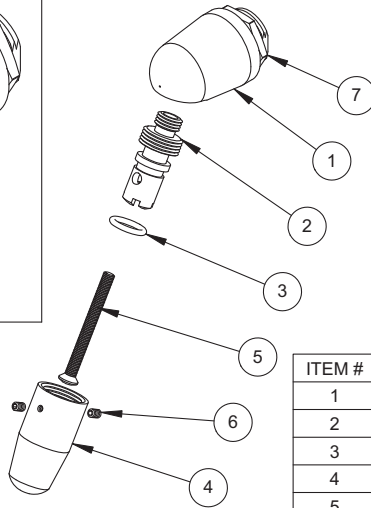
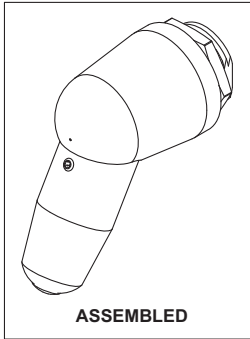
<b>APS</b>	USER ADJUSTABLE SHOWER HEADS _____
<b>NPS</b>	NON-USER ADJUSTABLE SHOWER HEADS _____
<b>CSH</b>	LIGATURE-RESISTANT SHOWER HEADS _____
<b>LBJ</b>	LOCKABLE BALL JOINT SHOWER HEADS _____
<b>UBJ</b>	UNIVERSAL BALL JOINT SHOWER HEADS _____
<b>FX</b>	HAND-HELD FLEXSHOWER HEAD ASSEMBLIES _____

### BEGIN ON PAGE:

<b>132</b>
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<b>135</b>
<b>136</b>
<b>136</b>
<b>137</b>

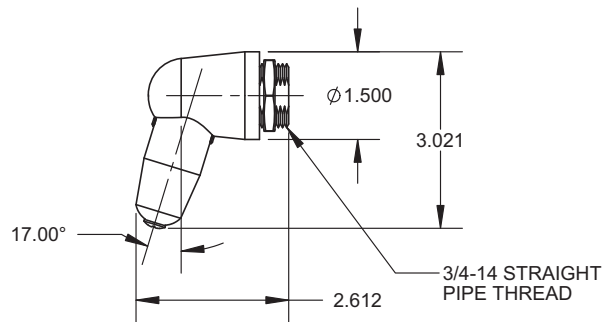
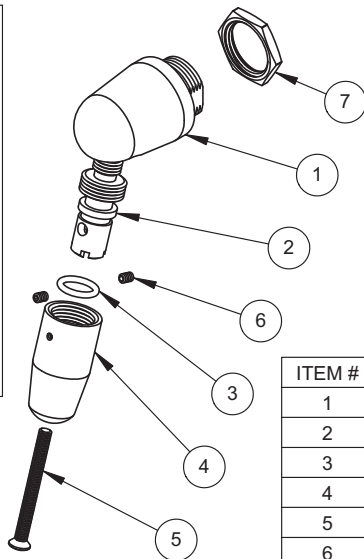
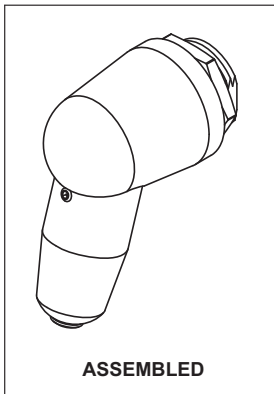
**APS USER ADJUSTABLE SHOWER HEADS (WSH-5D)**

**(APS) 30° SPRAY ANGLE - P/N: 380025**



ITEM #	PART #	DESCRIPTION	QTY.
1	380007	WSH-5D SHOWERHEAD BASE 30°	1
2	380018	NOZZLE ORIFICE, WSH-5	1
3	600120	O-RING (#111) #77035-R .142"ID	1
4	380013	SHOWERHEAD CAP, WSH-5	1
5	540012	SCREW, #8-32 X 2-1/2", STAINLESS STEEL	1
6	540010	#8-32 SET SCREW	2
7	600612N	HEXNUT, 3/4"-14 NPSM	1

**(APS17) 17° SPRAY ANGLE - P/N: 380026**

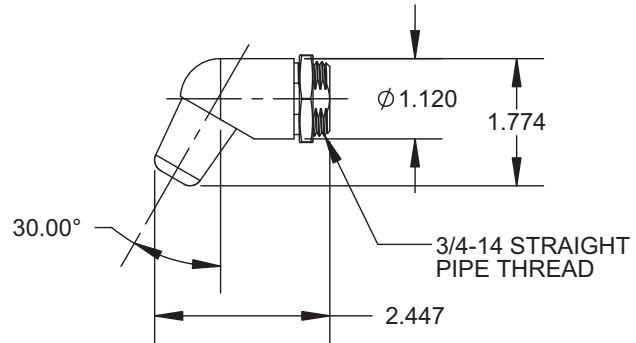
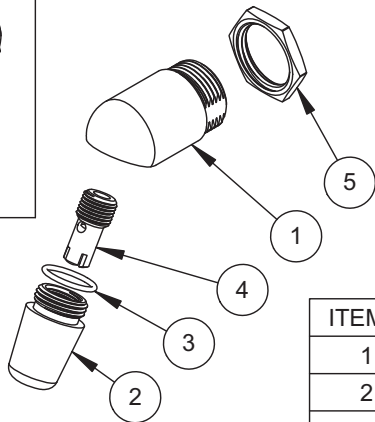
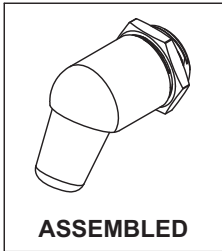


ITEM #	PART #	DESCRIPTION	QTY.
1	380008	WSH-5D SHOWERHEAD BASE 17°	1
2	380018	NOZZLE ORIFICE, WSH-5	1
3	600120	O-RING (#111) #77035-R .142"ID	1
4	380013	SHOWERHEAD CAP, WSH-5	1
5	540012	SCREW, #8-32 X 2-1/2", STAINLESS STEEL	1
6	540010	#8-32 SET SCREW	2
7	600612N	HEXNUT, 3/4"-14 NPSM	1

FOR ELBOWS, TUBING, NUTS, PLATES, OR OTHER COMPONENTS : SEE SECTION 1

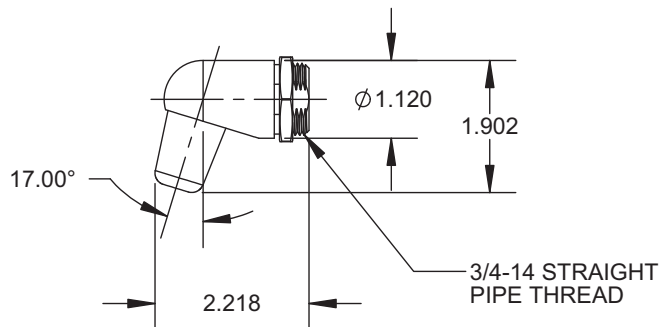
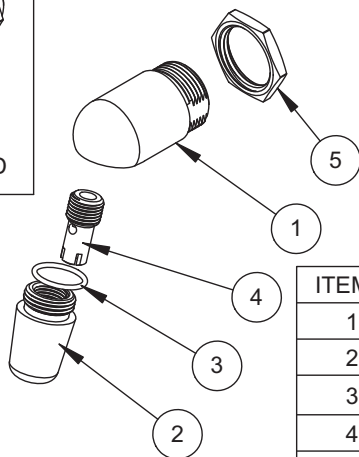
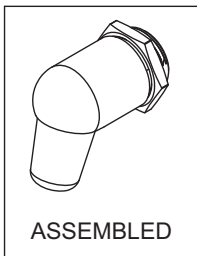
**NPS NON-USER ADJUSTABLE SHOWER HEADS (WSH-7)**

**(NPS) 30° SPRAY ANGLE - P/N: 370098**



ITEM #	PART #	DESCRIPTION	QTY.
1	380029	SHOWER HEAD BASE - 30 DEG.	1
2	380032	SHOWERHEAD CAP	1
3	600131	O-RING (#017) EPDM NSF61	1
4	380031	SHOWERHEAD INSERT	1
5	600612N	HEXNUT, 3/4"-14 NPSM	1

**(NPS17) 17° SPRAY ANGLE - P/N: 380011**



ITEM #	PART #	DESCRIPTION	QTY.
1	380010	SHOWER HEAD BASE - 17 DEGREE	1
2	380032	SHOWERHEAD CAP	1
3	600131	O-RING (#017) EPDM NSF61	1
4	380031	SHOWERHEAD INSERT	1
5	600612N	HEXNUT, 3/4"-14 NPSM	1

FOR ELBOWS, TUBING, NUTS, PLATES, OR OTHER COMPONENTS : SEE SECTION 1

**NPS NON-USER ADJUSTABLE SHOWER HEADS (WSH-7)**

**(CMSH) CEILING MOUNTED - P/N: 370098CM**

P/N: S005435 **(SEPARATE)**  
 MOUNTING PLATE, 14 GA.  
 STAINLESS STEEL, 5" x 5"  
 W/ (4) Ø5/16" MOUNTING  
 HOLES ON 3" CENTERS

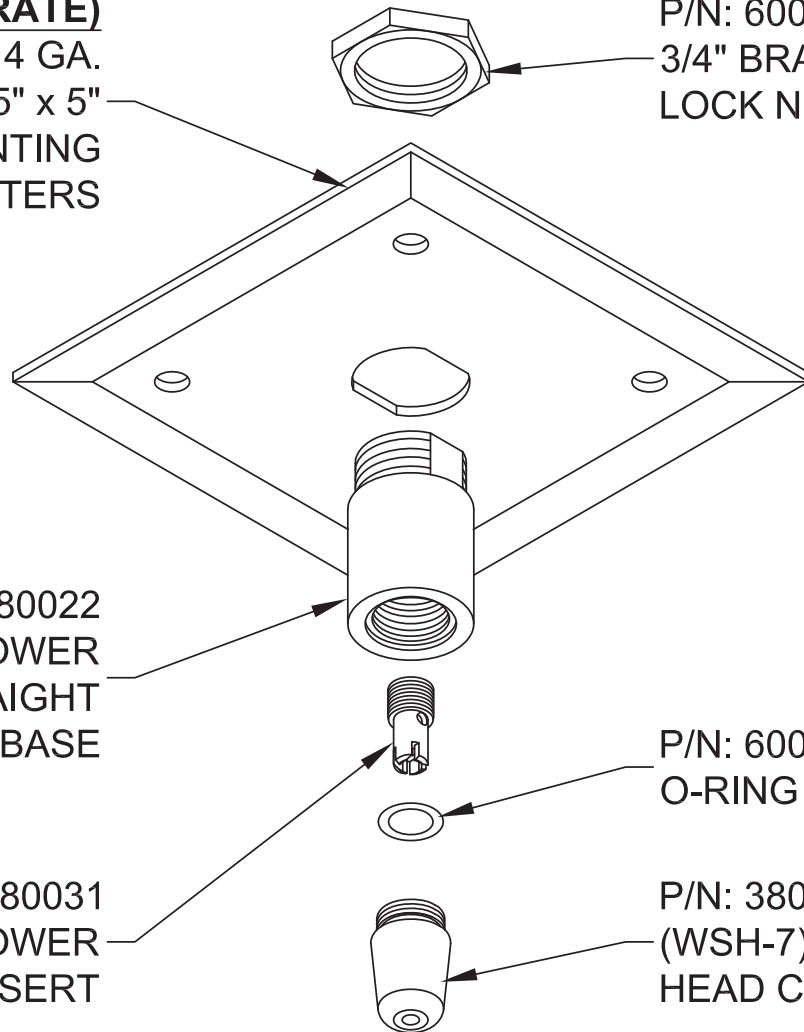
P/N: 600612N  
 3/4" BRASS  
 LOCK NUT

P/N: 380022  
 (WSH-7) SHOWER  
 HEAD W/ STRAIGHT  
 (NON-ANGLED) BASE

P/N: 600131  
 O-RING

P/N: 380031  
 (WSH-7) SHOWER  
 HEAD INSERT

P/N: 380032  
 (WSH-7) SHOWER  
 HEAD CAP



FOR ELBOWS, TUBING, NUTS, PLATES, OR OTHER COMPONENTS : SEE SECTION 1

**CSH** LIGATURE-RESISTANT HEMISPHERICAL SHOWER HEADS

**(CSH) 30° SPRAY ANGLE - P/N: 380069A**

ITEM #	PART #	DESCRIPTION	QTY.
1	380070	HEMISPHERIC SHOWERHEAD BASE, 30°	1
2	600129	O-RING, #013, BUNA N-70	1
3	380072	SHOWER HEAD INSERT	1
4	540013	SCREW #10-32 X 1" FH PIN TORX	1
5	600612N	HEXNUT, 3/4"-14 NPSM	1

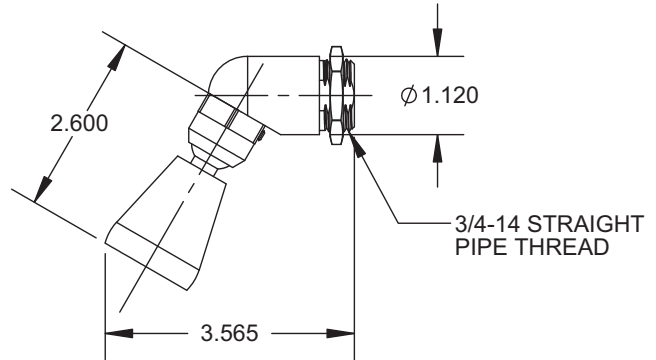
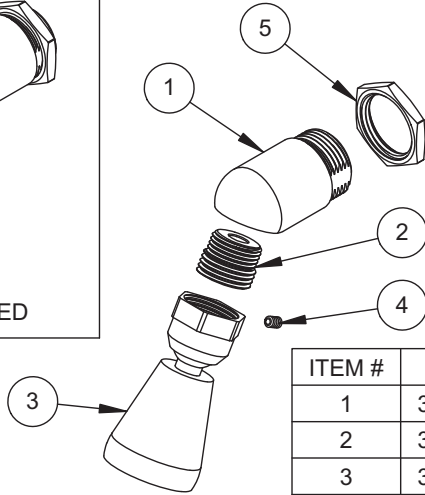
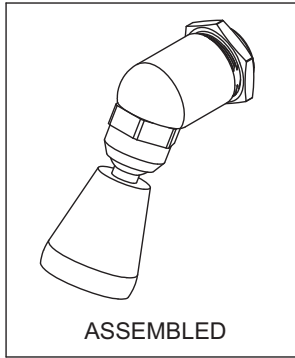
**(CSH17) 17° SPRAY ANGLE - P/N: 380024**

ITEM #	PART #	DESCRIPTION	QTY.
1	380064	HEMISPHERIC SHOWER HEAD 17	1
2	600129	O-RING, #013, BUNA N-70	1
3	380072	SHOWER HEAD INSERT	1
4	540013	SCREW #10-32 X 1" FH PIN TORX	1
5	600612N	HEXNUT, 3/4"-14 NPSM	1

FOR ELBOWS, TUBING, NUTS, PLATES, OR OTHER COMPONENTS : SEE SECTION 1

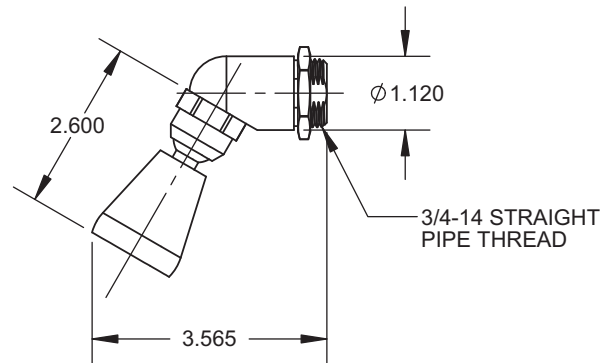
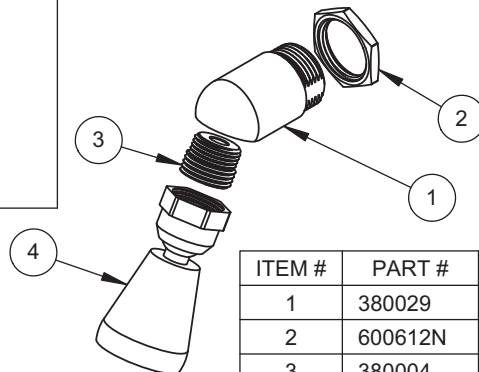
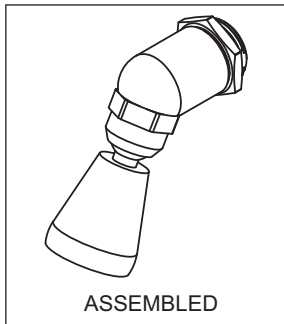
**LBJ / UBJ BALL JOINT SHOWER HEADS**

**(LBJ) LOCKABLE BALL JOINT - P/N: 380028**



ITEM #	PART #	DESCRIPTION	QTY.
1	380029	SHOWER HEAD BASE - 30 DEG.	1
2	380004	THREADED SWIVEL ADAPTER	1
3	380020	UNIVERSAL BALL JOINT SHOWERHEAD	1
4	540010	#8-32 SET SCREW	1
5	600612N	HEXNUT, 3/4"-14 NPSM	1

**(UBJ) UNIVERSAL BALL JOINT - P/N: 380027**



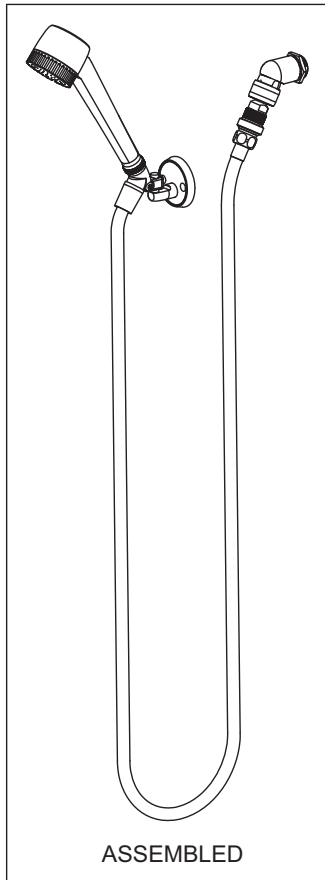
ITEM #	PART #	DESCRIPTION	QTY.
1	380029	SHOWER HEAD BASE - 30 DEG.	1
2	600612N	HEXNUT, 3/4"-14 NPSM	1
3	380004	THREADED SWIVEL ADAPTER	1
4	380020	UNIVERSAL BALL JOINT SHOWERHEAD	1

FOR ELBOWS, TUBING, NUTS, PLATES, OR OTHER COMPONENTS : SEE SECTION 1

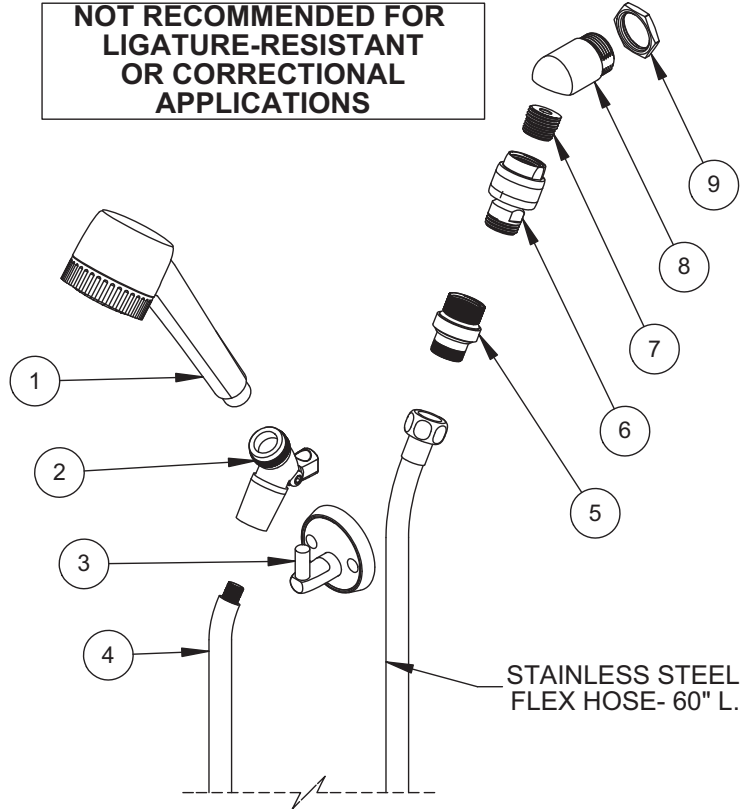


**FX HAND-HELD FLEXSHOWER HEAD ASSEMBLIES**

**(FX) WILLOUGHBY FLEXSHOWER ASSEMBLY - P/N: P981059D**



**NOT RECOMMENDED FOR  
LIGATURE-RESISTANT  
OR CORRECTIONAL  
APPLICATIONS**



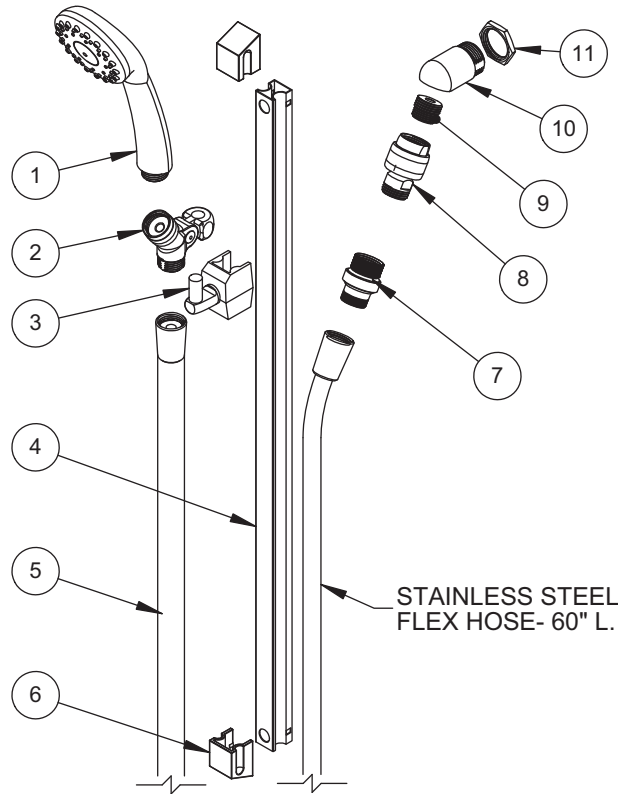
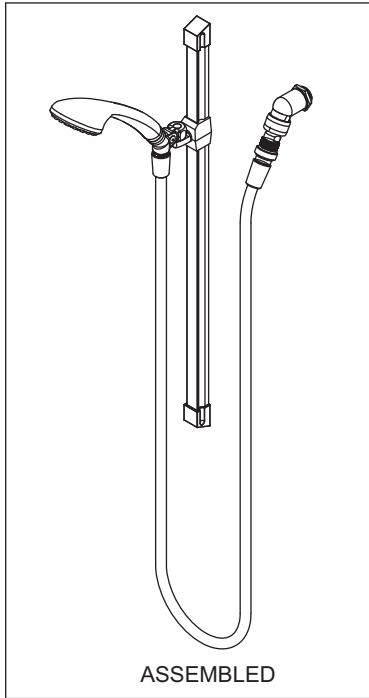
ITEM #'S 1, 2, 4, & 5, AVAILABLE AS P/N: 600684N  
HAND HELD FLEXSHOWER ASSEMBLY

ITEM #	PART #	DESCRIPTION	QTY.
1	600677	FIXED SPRAY HAND HELD SHOWER HEAD	1
2	600676	SWIVEL CONNECTOR HOOK	1
3	600681	WALL MOUNT FX HOOK	1
4	600680	STAINLESS STEEL FLEX HOSE FOR FLEXSHOWER	1
5	600679	QUICK CONNECT ADAPTER	1
6	600675	VACUUM BREAKER- FLEXSHOWER	1
7	380004	THREADED SWIVEL ADAPTER	1
8	380029	SHOWER HEAD BASE - 30 DEG.	1
9	600612N	HEXNUT, 3/4"-14 NPSM	1
N/A	600684N	HAND-HELD FLEXSHOWER HANDLE ASSEMBLY	

**SEE NEXT PAGE FOR (FX)-(SLB24) SLIDE BAR OPTION FLEXSHOWER**

**FX HAND-HELD FLEXSHOWER HEAD ASSEMBLIES**

**(FX)-(SLB24) SLIDE BAR OPTION FLEXSHOWER - P/N: P051016A**



**NOT RECOMMENDED FOR  
LIAGTURE-RESISTANT  
OR CORRECTIONAL  
APPLICATIONS**

ITEM #'S 1-6 INCLUDED IN P/N: 600674  
24" SLIDE BAR AND FLEXSHOWER KIT

ITEM# 3 AVAILABLE SEPARATELY AS  
P/N: 600470

ITEM #	PART #	DESCRIPTION	QTY.
1	600674	SPRAY HEAD	1
2		SWIVEL CONNECTOR HOOK	1
3		SLIDE BAR HOOK	1
4		24" FLEXSHOWER SLIDE BAR	1
5		STAINLESS STEEL FLEX HOSE FOR FLEXSHOWER	1
6		SLIDE BAR END CAP	2
7	600679	QUICK CONNECTOR	1
8	600675	VACUUM BREAKER- FLEXSHOWER	1
9	380004	THREADED SWIVEL ADAPTER	1
10	380029	SHOWER HEAD BASE - 30 DEG.	1
11	600612N	HEXNUT, 3/4"-14 NPSM	1

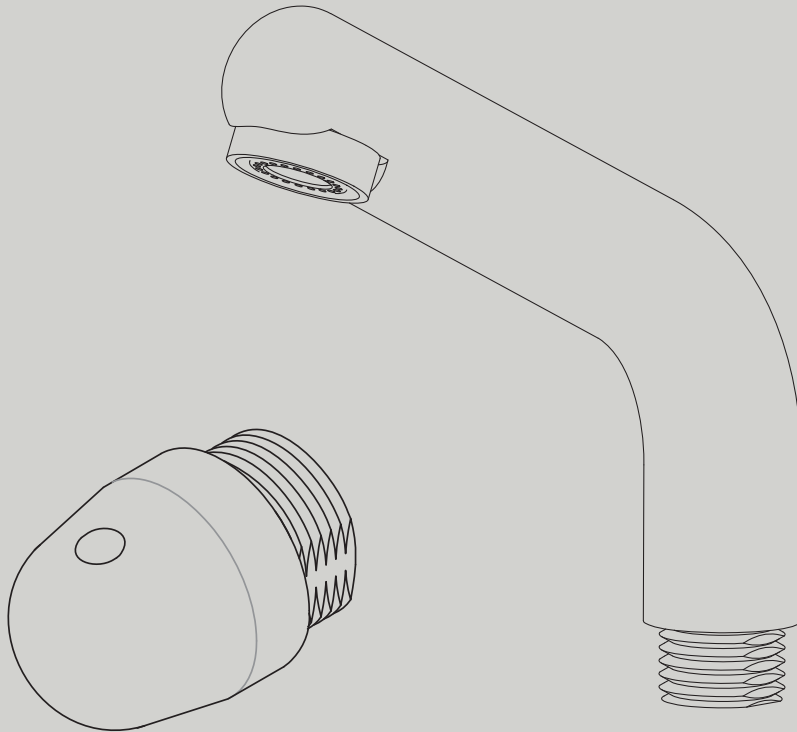
**SEE PREVIOUS PAGE FOR (FX) WILLOUGHBY FLEXSHOWER**

# PARTS AND ACCESSORIES CATALOG



WILLOUGHBY

## SECTION 17



### BUBBLERS & SPOUTS

**THESE ITEMS:**

BUBBLERS/FILLERS VERTICAL MOUNTING \_\_\_\_\_

BUBBLERS/FILLERS DECK & ANGLED MOUNTING \_\_\_\_\_

SERVICE SINK SPOUTS \_\_\_\_\_

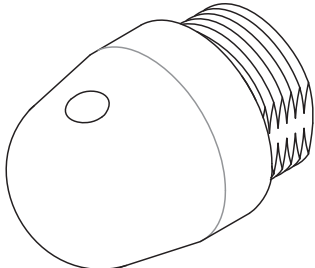
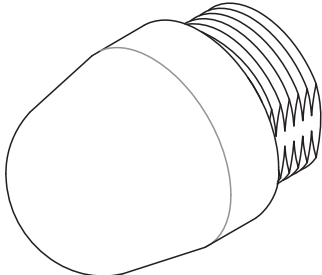
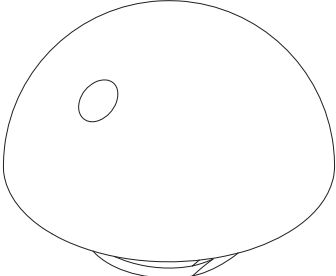
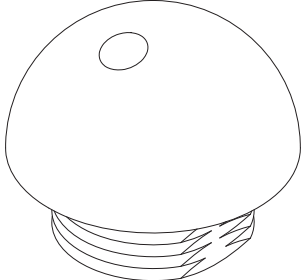
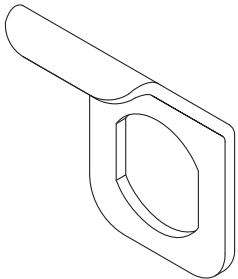
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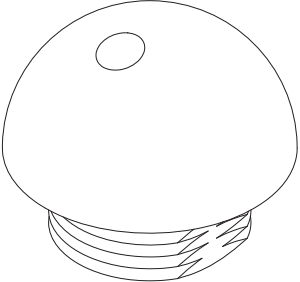
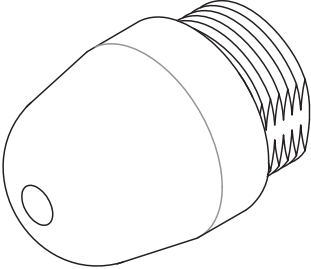
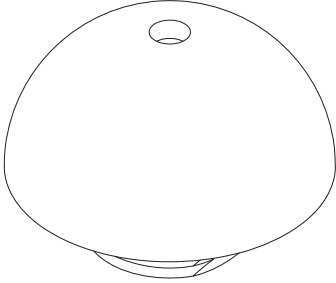
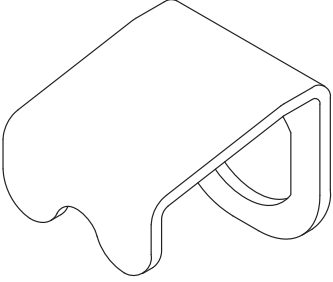
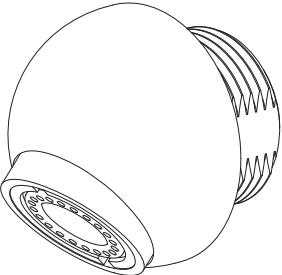
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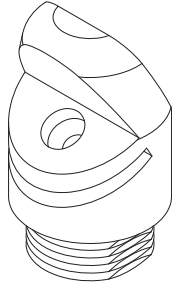
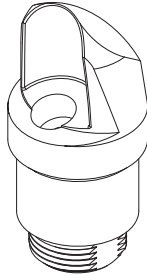
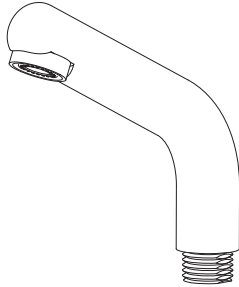
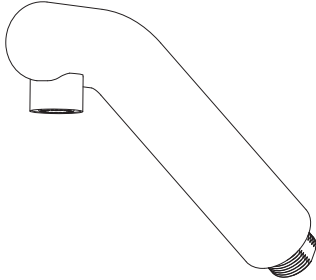
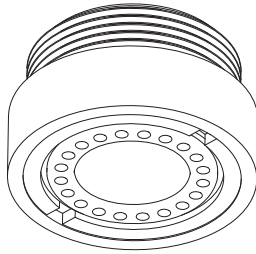
**BUBBLERS/FILLERS** VERTICAL MOUNTING

	P/N & DESCRIPTION	COMPONENT/ASSEMBLY
	<p><b>P/N: 380045</b></p> <p><b>(BP) LAVATORY BUBBLER/ FILLER</b></p>	
	<p><b>P/N: 380042</b></p> <p><b>(FL) LAVATORY FILLER</b></p>	
	<p><b>P/N: 380068</b></p> <p><b>(BPH) LIGATURE-RESISTANT LAVATORY BUBBLER</b></p>	
	<p><b>P/N: 380074</b></p> <p><b>(FLH) LIGATURE-RESISTANT LAVATORY FILLER</b></p>	
	<p><b>P/N: 500021</b></p> <p><b>(BC) CODE BUBBLER MOUTH GUARD (USE W/ P/N: 380045)</b></p>	

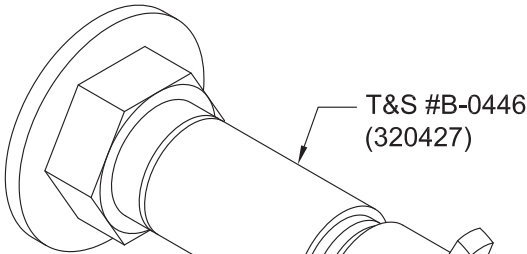
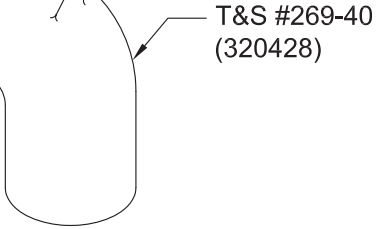
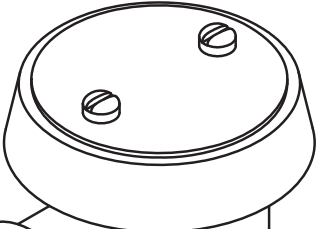
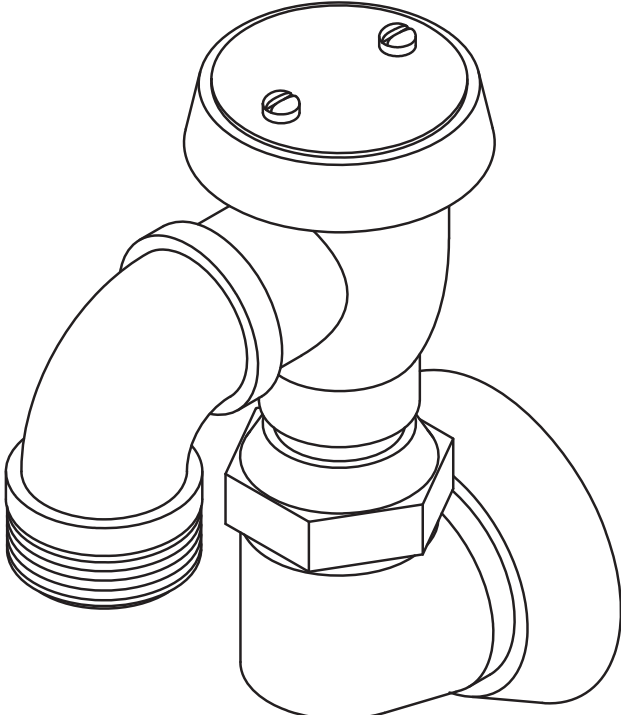
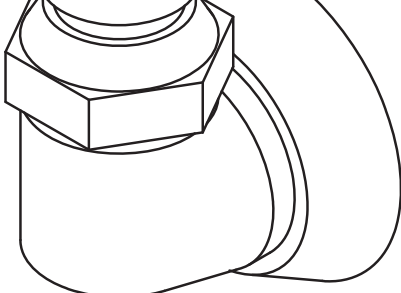
**BUBBLERS/FILLERS** DECK & ANGLED MOUNTING

	P/N & DESCRIPTION	COMPONENT/ASSEMBLY
	<p><b>P/N: 380074</b></p> <p><b>(DMBH)</b> LIGATURE-RESISTANT DECK MOUNTED FILLER</p>	
	<p><b>P/N: 380046</b></p> <p><b>(SBP)</b> LAVATORY BUBBLER/ FILLER, ANGLED MOUNTING</p>	
	<p><b>P/N: 380067</b></p> <p><b>(SBPH)</b> LIGATURE-RESISTANT CENTER HOLE LAVATORY BUBBLER/FILLER</p>	
	<p><b>P/N: 500021SBP</b></p> <p><b>(BC)</b> ANGLED CODE BUBBLER MOUTH GUARD (USE W/ <b>P/N: 380046</b>)</p>	
	<p><b>P/N: 320157A-ASMB</b></p> <p>WASHFOUNTAIN SPRAY HEAD</p>	

**BUBBLERS & SPOUTS** DECK MOUNTED

	P/N & DESCRIPTION	COMPONENT/ASSEMBLY
	<p><b>P/N: 600601</b></p> <p><b>(DB) DECK MOUNTED DRINKING FOUNTAIN BUBBLER</b></p>	
	<p><b>P/N: 600601HE</b></p> <p><b>(CDB) COMMERCIAL DECK MOUNTED DRINKING FOUNTAIN BUBBLER</b></p>	
	<p><b>P/N: 320424</b></p> <p><b>(DMS) DECK MOUNTED SPOUT (INCLUDES P/N: 320157A)</b></p>	
	<p><b>P/N: 320426</b></p> <p><b>(BMS) ANGLED BACKSPLASH MOUNTED SPOUT (INCLUDES P/N: 320157A)</b></p>	
	<p><b>P/N: 320157A</b></p> <p><b>SPRAY HEAD, 0.5 GPM</b></p>	

## SERVICE SINK SPOUTS

	P/N & DESCRIPTION	COMPONENT/ASSEMBLY
	<p><b>P/N: 320427</b></p> <p><b>(SE) SPOUT FOR SERVICE SINK</b></p>	
	<p><b>P/N: 320428</b></p> <p><b>(SE) PLAIN END FOR SERVICE SINK</b></p>	
	<p><b>P/N: 320422</b></p> <p><b>(SHVB) SPOUT W/ VACUUM BREAKER FOR SERVICE SINK, WITHOUT HOSE END</b></p>	
	<p><b>P/N: 320422N</b></p> <p><b>(SHVB) SPOUT W/ VACUUM BREAKER FOR SERVICE SINK, WITH HOSE END (SHOWN)</b></p>	
	<p><b>P/N: 380005</b></p> <p><b>SERVICE SINK HOSE END ONLY</b></p>	



# NOTES:

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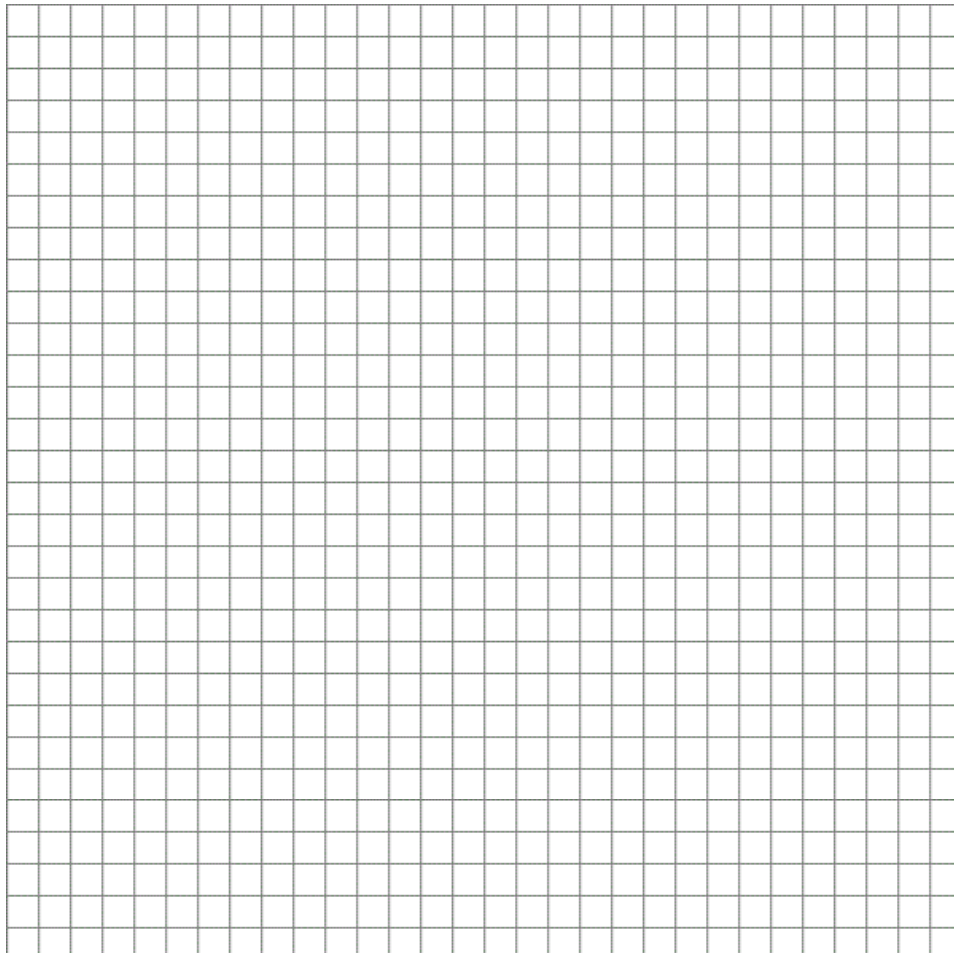
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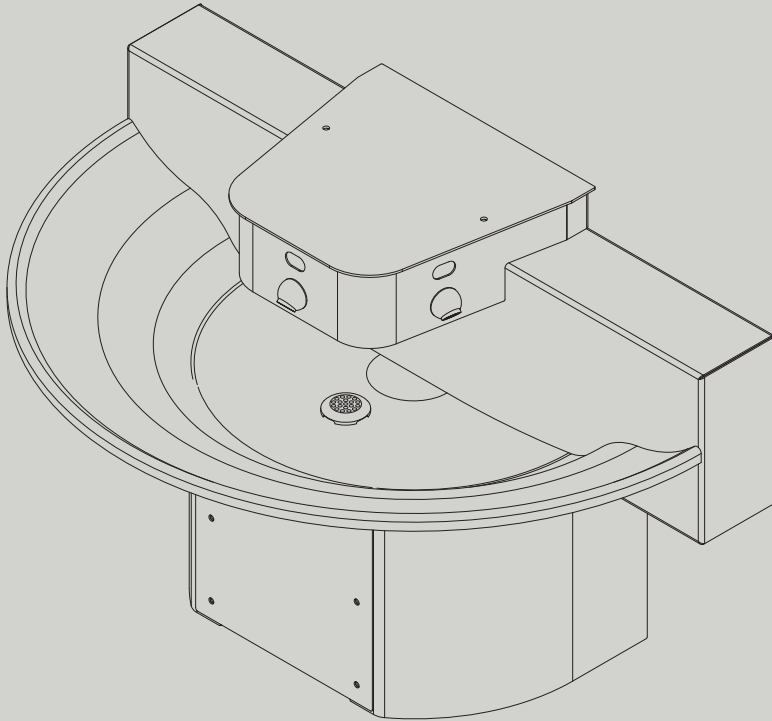
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# PARTS AND ACCESSORIES CATALOG



WILLOUGHBY



SECTION

18

## WASHFOUNTAIN & LAVATORY SYSTEM PARTS

### **THESE ITEMS:**

SPRAY HEAD ASSEMBLY \_\_\_\_\_  
WASHFOUNTAIN DRAIN ASSEMBLIES \_\_\_\_\_  
WASHFOUNTAIN-SPECIFIC VALVE ASSEMBLIES \_\_\_\_\_  
LIQUID SOAP DISPENSER COMPONENTS \_\_\_\_\_

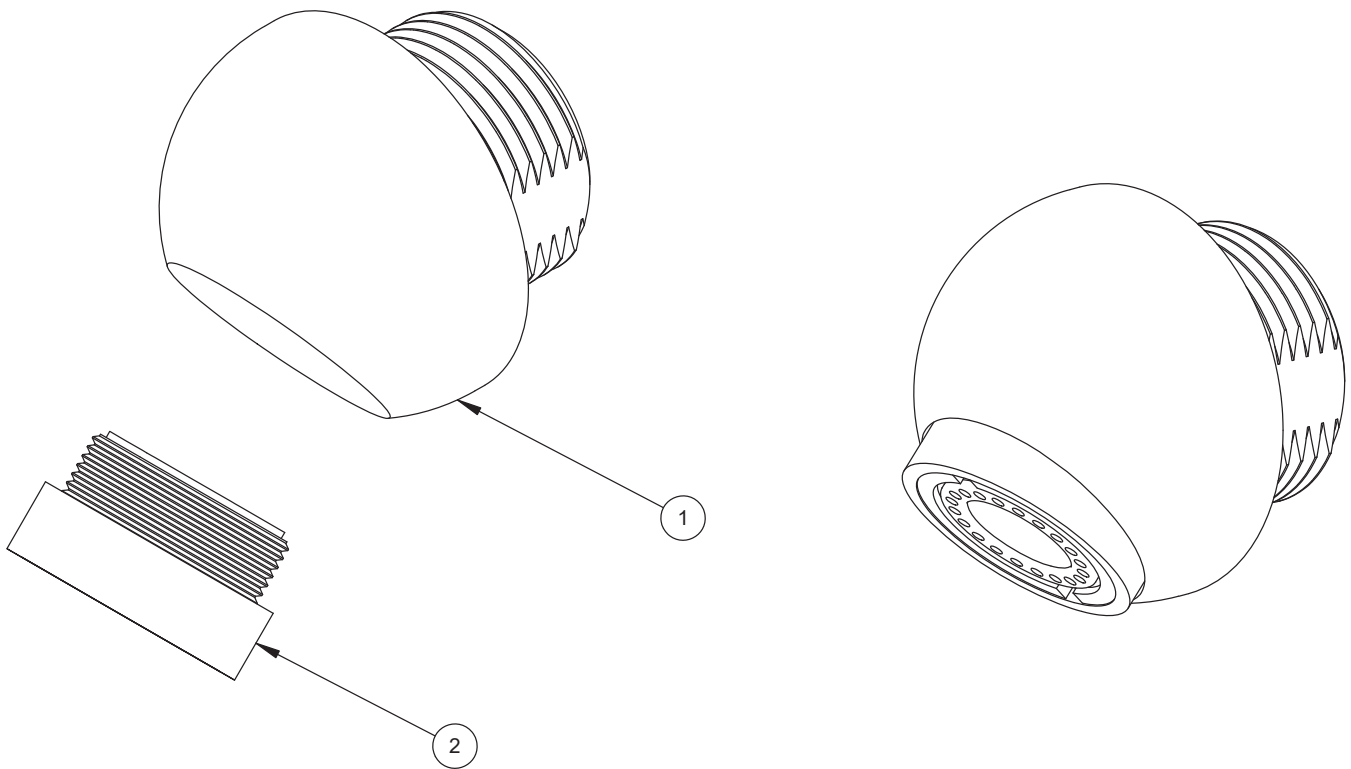
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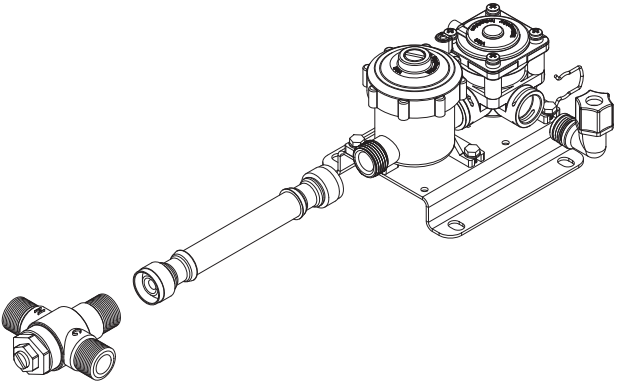
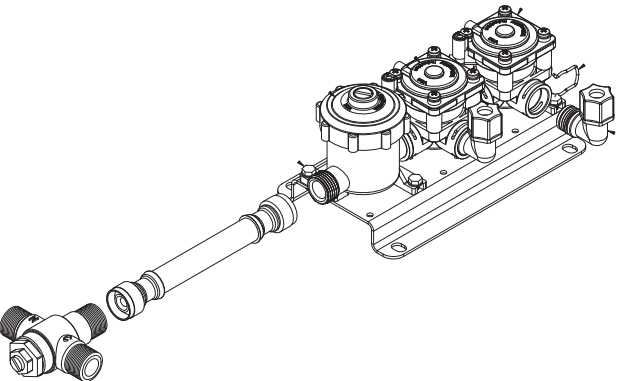
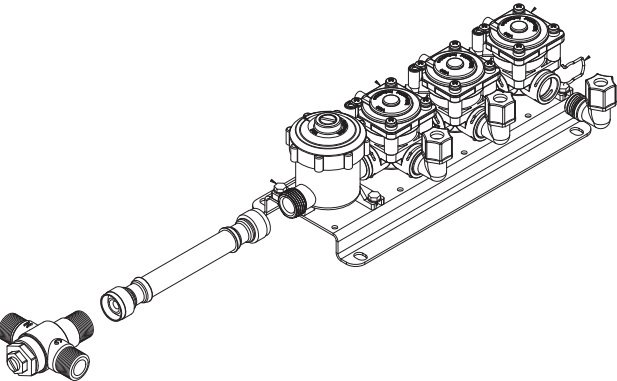
**SPRAY HEAD ASSEMBLY 0.5 GPM****WASHFOUNTAIN SPRAY HEAD - P/N: 320157A-ASMB**

	ITEM #	P/N	DESCRIPTION
	1	800001	SPRAY HEAD BASE, 45 DEG, S/S
	2	320157A	SPRAY HEAD, 0.5 GPM, NON-AERATED

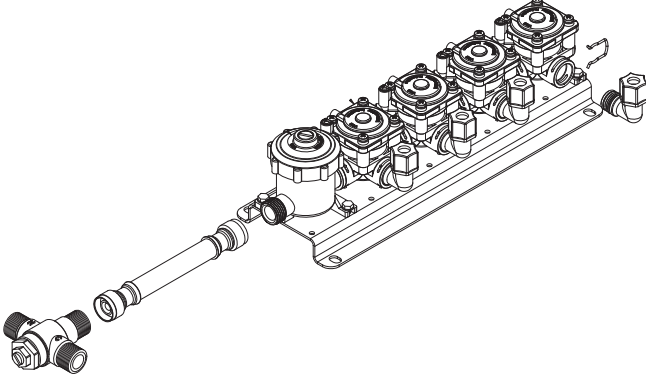
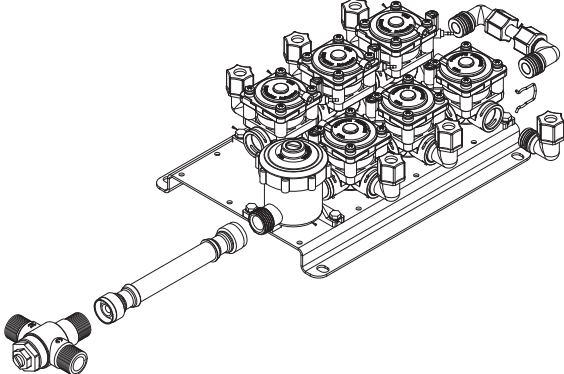
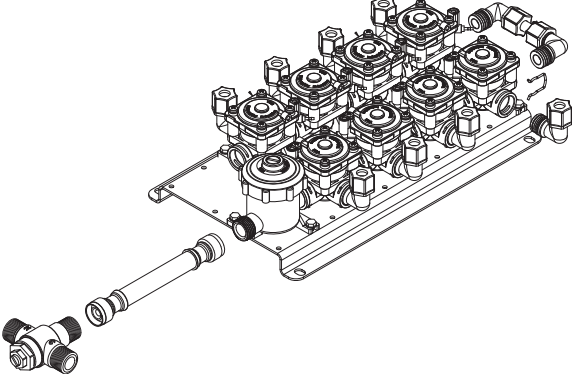
# WASHFOUNTAIN DRAIN ASSEMBLIES

	P/N & DESCRIPTION	COMPONENT/ASSEMBLY
	<p><b>P/N: 380283</b>  <b>STAINLESS STEEL</b>            DRAIN</p>	
	<p><b>P/N: 380274</b>  <b>STAINLESS STEEL</b>            RUBBER DRAIN WASHER</p>	
	<p><b>P/N: 380273</b>  <b>STAINLESS STEEL</b>            STEEL DRAIN WASHER</p>	
	<p><b>P/N: 600043</b>  <b>STAINLESS STEEL</b>            BRASS LOCKNUT</p>	
	<p><b>P/N: 380281</b>  <b>SOLID SURFACE</b>            WASHFOUNTAIN AND LAV.            SYSTEM DRAIN ASSEMBLY</p>	
	<p><b>P/N: 800083</b>  <b>WAF-2200 WASHFOUNTAIN</b>            DRAIN COVER</p>	
	<p><b>P/N: 800043B</b>  <b>WAF-2200 WASHFOUNTAIN</b>            DRAIN ASSEMBLY</p>	

# WASHFOUNTAIN-SPECIFIC VALVE ASSEMBLIES

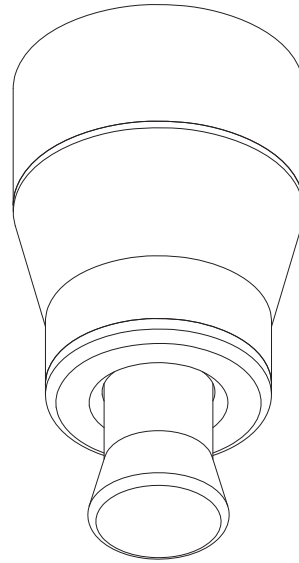
	P/N & DESCRIPTION	COMPONENT/ASSEMBLY
	<b>P/N: 803105-1PW</b> 1-VALVE METERING PNEU.	 <p data-bbox="954 808 1291 846"><b>(803105-1PW SHOWN)</b></p>
	<b>P/N: 803105-1SW</b> 1-VALVE NON-METERING PN.	
	<b>P/N: 803105-1EW</b> 1-VALVE ELECTRONIC	
	<b>P/N: 803105-1BW</b> 1-VALVE BATTERY OP.	
	<b>P/N: 803105-2PW</b> 2-VALVE METERING PNEU.	 <p data-bbox="954 1249 1291 1287"><b>(803105-2PW SHOWN)</b></p>
	<b>P/N: 803105-2SW</b> 2-VALVE NON-METER. PNEU.	
	<b>P/N: 803105-2EW</b> 2-VALVE ELECTRONIC	
	<b>P/N: 803105-2BW</b> 2-VALVE BATTERY OP.	
	<b>P/N: 803105-3PW</b> 3-VALVE METERING PNEU.	 <p data-bbox="954 1690 1291 1728"><b>(803105-3PW SHOWN)</b></p>
	<b>P/N: 803105-3SW</b> 3-VALVE NON-METER. PNEU.	
	<b>P/N: 803105-3EW</b> 3-VALVE ELECTRONIC	
	<b>P/N: 803105-3BW</b> 3-VALVE BATTERY OP.	

FOR PNEUMATIC VALVE ASSEMBLY DETAILS: [SEE SECTION 3](#)  
 FOR ELECTRONIC VALVE ASSEMBLY DETAILS: [SEE SECTION 7](#)  
 FOR PUSH BUTTONS & ACTUATORS: [SEE SECTION 12](#)

	P/N & DESCRIPTION	COMPONENT/ASSEMBLY
	<b>P/N: 803105-4PW</b> 4-VALVE METERING PNEU.	 <p data-bbox="938 810 1268 842"><b>(803105-4PW SHOWN)</b></p>
	<b>P/N: 803105-4SW</b> 4-VALVE NON-METERING PN.	
	<b>P/N: 803105-4EW</b> 4-VALVE ELECTRONIC	
	<b>P/N: 803105-4BW</b> 4-VALVE BATTERY OP.	
	<b>P/N: 803105-6PW</b> 6-VALVE METERING PNEU.	 <p data-bbox="938 1251 1268 1283"><b>(803105-6PW SHOWN)</b></p>
	<b>P/N: 803105-6SW</b> 6-VALVE NON-METER. PNEU.	
	<b>P/N: 803105-6EW</b> 6-VALVE ELECTRONIC	
	<b>P/N: 803105-6BW</b> 6-VALVE BATTERY OP.	
	<b>P/N: 803105-8PW</b> 8-VALVE METERING PNEU.	 <p data-bbox="938 1692 1268 1724"><b>(803105-8PW SHOWN)</b></p>
	<b>P/N: 803105-8SW</b> 8-VALVE NON-METER. PNEU.	
	<b>P/N: 803105-8EW</b> 8-VALVE ELECTRONIC	
	<b>P/N: 803105-8BW</b> 8-VALVE BATTERY OP.	

FOR PNEUMATIC VALVE ASSEMBLY DETAILS: [SEE SECTION 3](#)  
 FOR ELECTRONIC VALVE ASSEMBLY DETAILS: [SEE SECTION 7](#)  
 FOR PUSH BUTTONS & ACTUATORS: [SEE SECTION 12](#)

## LSD Liquid Soap Dispenser



### Recommended Specifications

Liquid soap dispenser system shall be:  
Willoughby Model: **LSD**

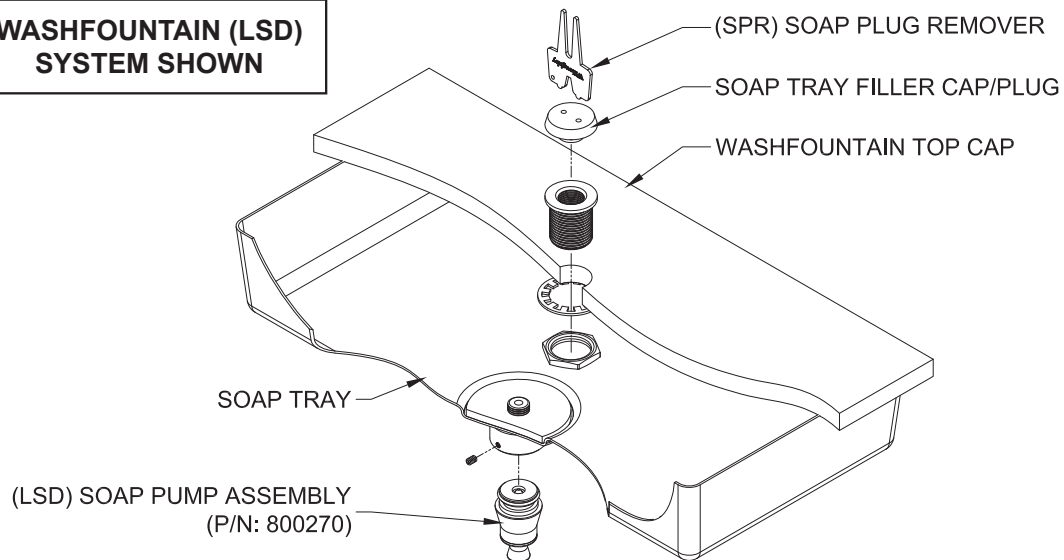
Using a combination gravity-feed/pump system, the Willoughby (LSD) liquid soap dispenser delivers a metered amount of soap from an internal soap tray (liquid soap reservoir) each time the plunger is depressed.

The machined solid stainless steel soap pump assembly (P/N: 800270) is vandal-resistant and features stainless steel springs, stainless steel metering pin, and leak-less O-rings.

The dispenser system is designed for use with vegetable oil base liquid soap with anhydrous content between 7.5-15%. Soap plug remover (SPR) keys are included with all fixtures, allowing maintenance personnel to easily refill the vandal-resistant soap tray.

The (LSD) liquid soap dispenser system option is available factory-installed on several different washfountain and shower fixtures. (LSD) systems are recommended for general wash-room and shower room use.

#### WASHFOUNTAIN (LSD) SYSTEM SHOWN

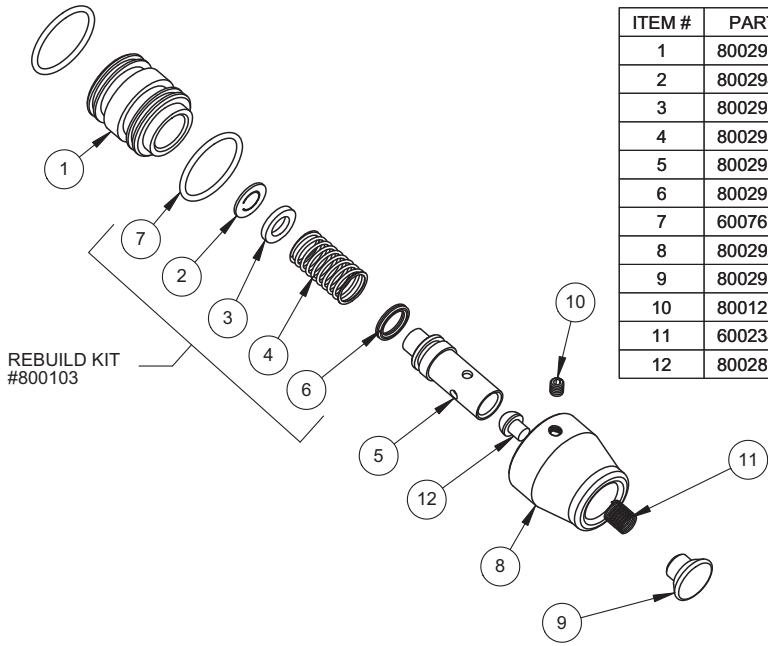


CONTACT YOUR WILLOUGHBY REPRESENTATIVE FOR SOAP TRAY REPLACEMENT  
OR WASHFOUNTAIN TOP CAP REPLACEMENT



**LIQUID SOAP DISPENSER ASSEMBLY & COMPONENTS**

**PUMP ASSEMBLY - P/N: 800270C (REBUILD KIT- P/N: 800103)**



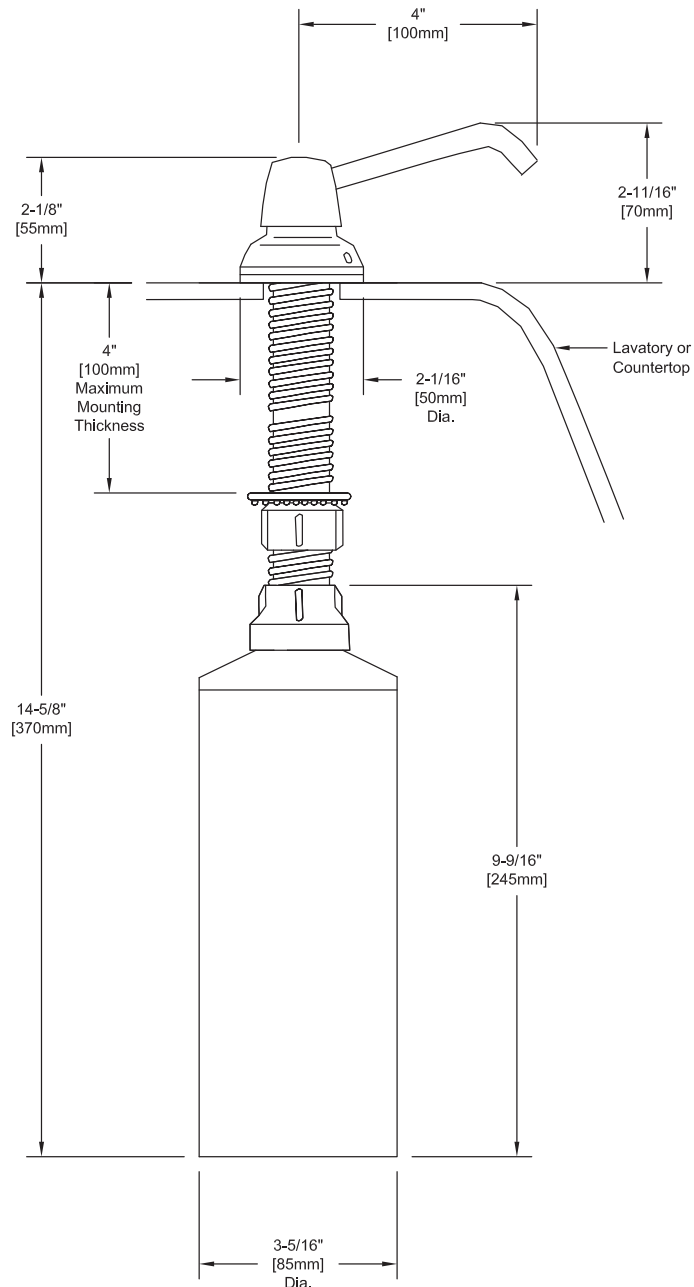
ITEM #	PART #	DESCRIPTION	QTY.
1	800290	SOAP PUMP BASE, GEN II	1
2	800294	RUBBER FLAPPER VALVE, SOAP PUMP	1
3	800295	SOAP PUMP SPRING SEAT	1
4	800298	SOAP PUMP PISTON SPRING	1
5	800291	SOAP PUMP PISTON, GEN II	1
6	800299	O-RING (2-012) PISTON	1
7	600768	O-RING (#019)	2
8	800292	SOAP PUMP BODY, GEN II	1
9	800293	SOAP PUMP PLUNGER, GEN II	1
10	800128	SCREW #8-32 x 3/16" SCKT SET S/S	1
11	600234	SPRING FOR CHECKSTOP	1
12	800289	BUMPER-SOAP PUMP CHECK VALVE	1

NOTE: REBUILD KIT, P/N: 800103  
CONTAINS THE FOLLOWING:  
(2) 600768  
(1) 800294  
(1) 800295  
(1) 800298  
(1) 800299

P/N & DESCRIPTION	COMPONENT/ASSEMBLY
<b>P/N: 800269</b> SOAP TRAY FILLER CAP, S/S	
<b>P/N: 800268VE</b> SOAP TRAY FILLER CAP, S/S	
<b>P/N: SPR</b> SOAP CAP (PLUG) REMOVER TOOL	

## LIQUID SOAP DISPENSER DECK MOUNTED

## BOBRICK B-822 SOAP DISPENSER - P/N: 800822



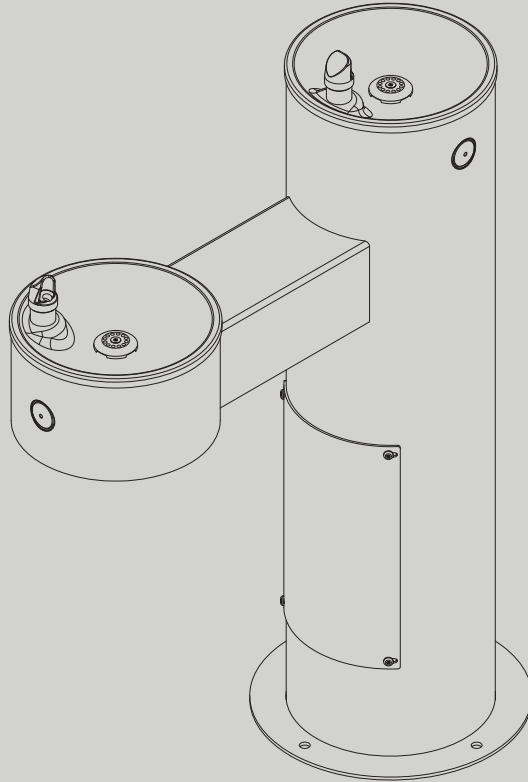
SOLD COMPLETE, NO PARTS AVAILABLE FROM WILLOUGHBY

# PARTS AND ACCESSORIES CATALOG



WILLOUGHBY

## SECTION 19



## PARKS & RECREATION FIXTURE PARTS

### **THESE ITEMS:**

ACCESS COVERS & BODY PANELS \_\_\_\_\_

FOUNTAIN BASINS & DRAIN ASSEMBLIES \_\_\_\_\_

VALVES, PUSH BUTTONS, & FITTINGS \_\_\_\_\_

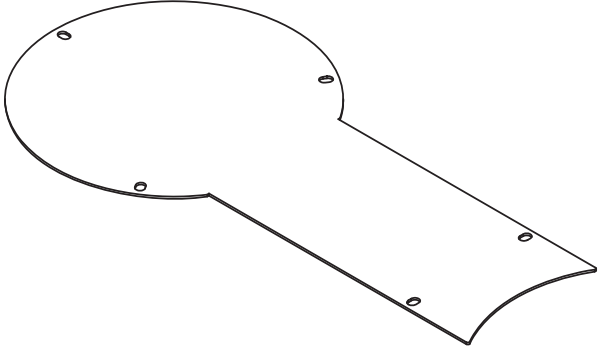
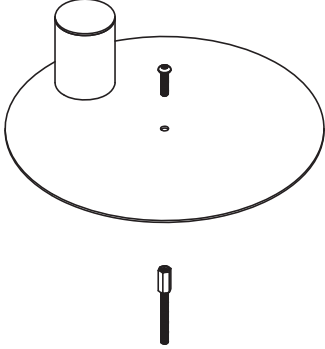
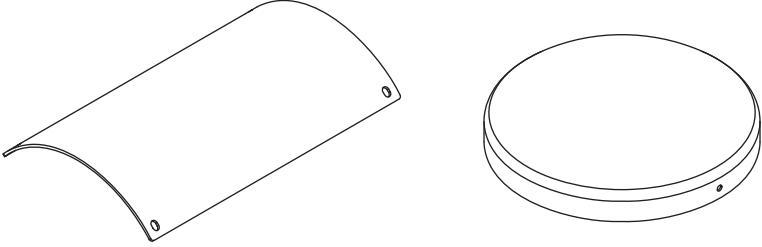
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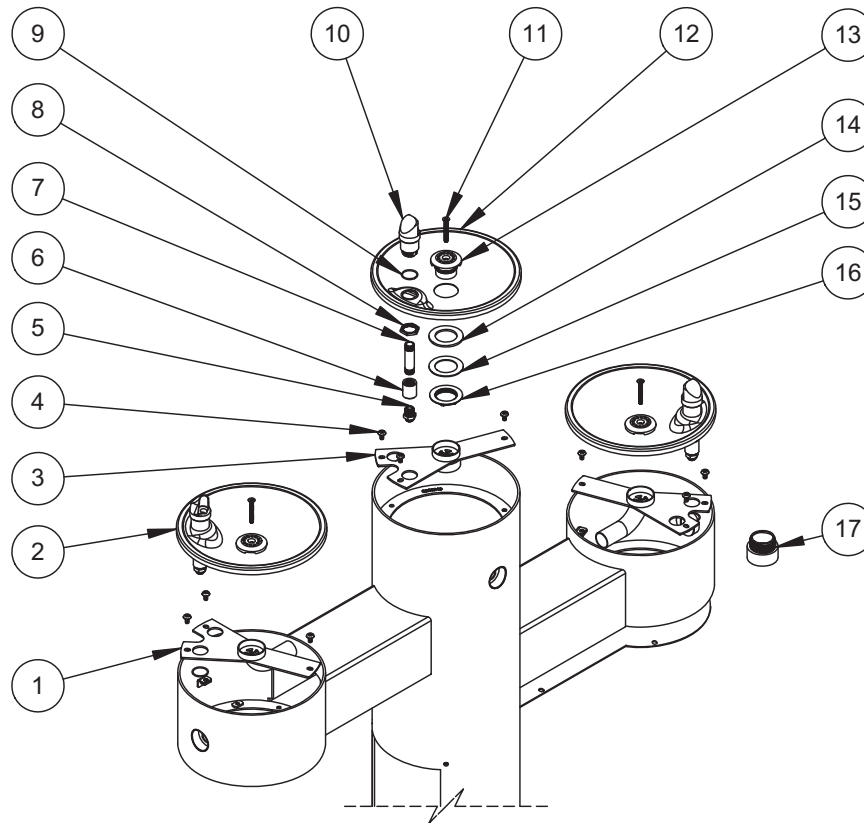
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## ACCESS COVERS & BODY PANELS

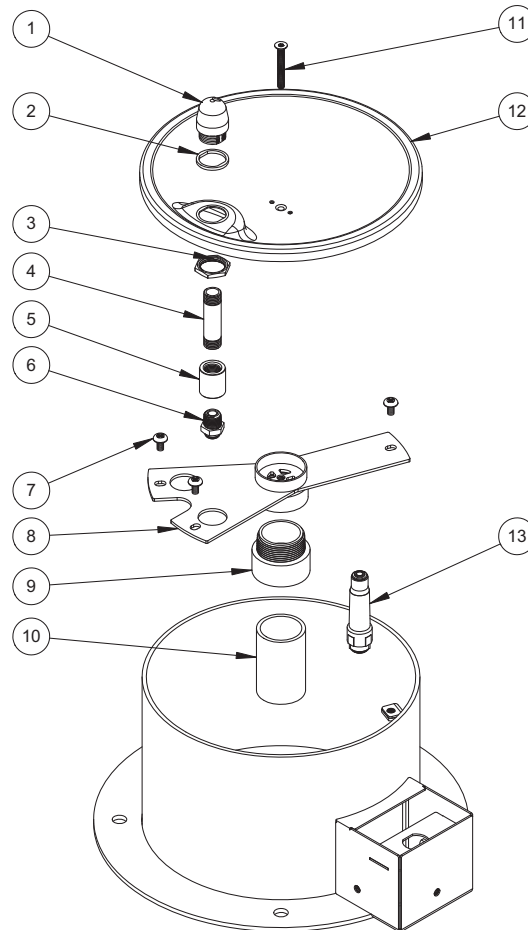
	P/N & DESCRIPTION	COMPONENT/ASSEMBLY
	<p><b>P/N: S200075</b></p> <p>OUTER BOTTOM COVER- OUTDOOR DRINKING FOUNTAIN</p>	
	<p><b>P/N: S200200</b></p> <p>(WODF-SCV) OUTDOOR DRINKING FOUNTAIN- SEASONAL VALVE COVER</p>	
	<p><b>FOR PARKS &amp; REC FIXTURE REPLACEMENT PANELS:</b> PLEASE CONTACT YOUR WILLOUGHBY REPRESENTATIVE</p>	

# FOUNTAIN BASIN & DRAIN ASSEMBLIES

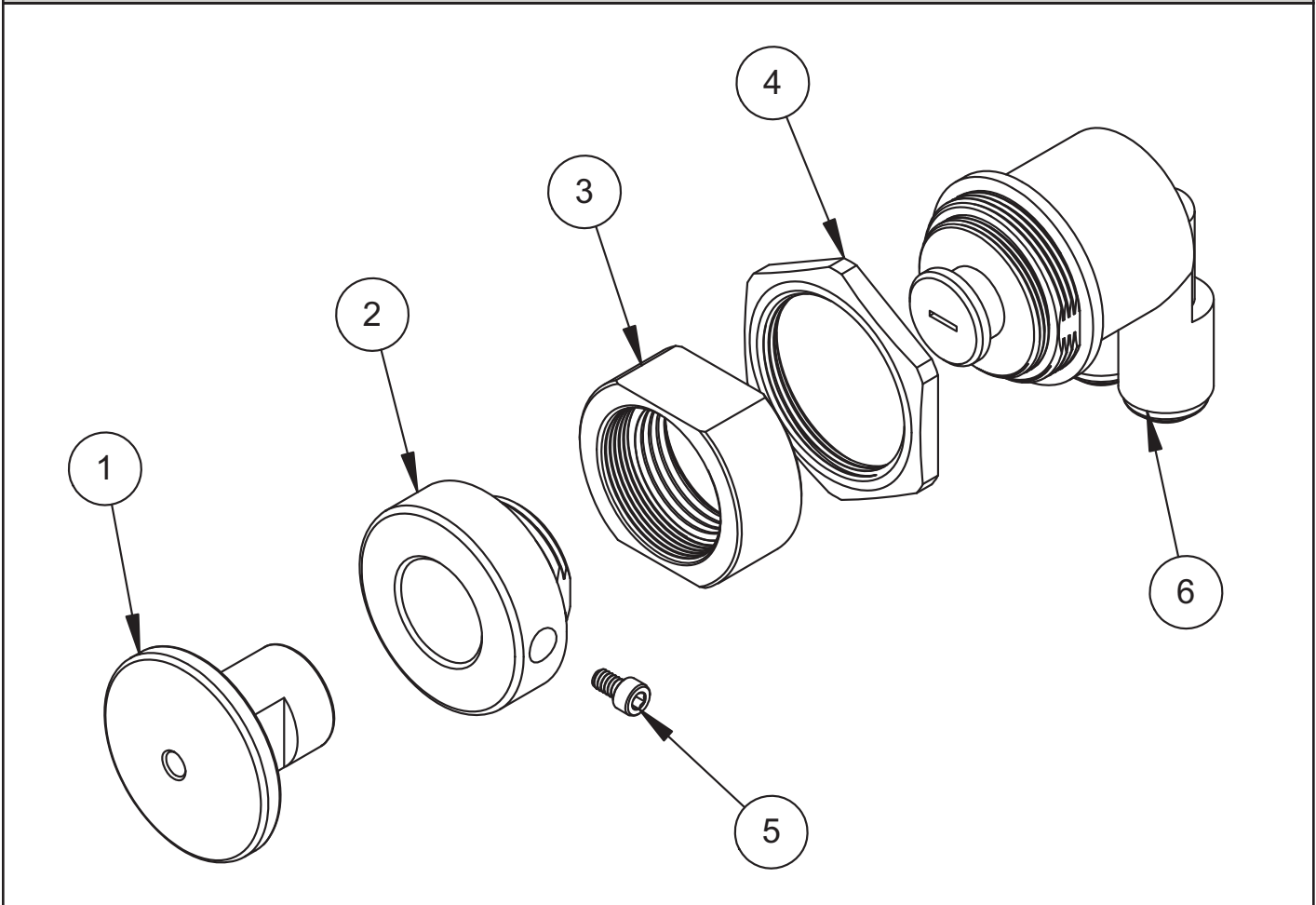
## WODF - DRINKING FOUNTAIN BASINS & DRAINS



ITEM #	PART NUMBER	DESCRIPTION	QTY:
1	S200034	RECEPTOR SUPPORT ASSEMBLY w/DRAIN ELBOW	2
2	S200033	ADA BOWL, 40-DEG, 1-3/4" DEPTH	2
3	S200031	RECEPTOR SUPPORT ASSEMBLY	1
4	800144	1/4-20 X 1/2" PHILLIPS TRUSS HEAD SCREW	9
5	320437	ADAPTER, 3/8" NPTF MALE X 1/4" TUBE PUSH-TO-CONNECT	3
6	320091	COUPLING, 3/8" FPT STAINLESS STEEL	3
7	320469	NIPPLE, 3/8" NPT X 2.5" LONG	3
8	600612N	HEXNUT, 3/4"-14 NPSM	3
9	600116	O-RING, #023, BUNA N-70	3
10	600601HE	(CDB) DECK MOUNTED DRINKING FOUNTAIN BUBBLER	3
11	4509SSN	1/4"-20 x 2" FH SECURITY SCREW	3
12	S200032	STANDARD BOWL, STRAIGHT DOUBLE-D - 1-3/4" DEPTH	1
13	380284	DRAIN, 1-1/2" TUBE, MACHINED, S/S	3
14	380274	GASKET, 1-1/2" DRAIN	3
15	380273	DRAIN WASHER, 1-5/8"	3
16	600043	NUT, 1 5/8"-12 THD FOR 1-1/2" DRAIN	3
17	320284	PVC THREADED ADAPTER, 1-1/2"	1

**FOUNTAIN BASIN & DRAIN ASSEMBLIES (CONT.)****WODF-1-PET - PET DRINKING FOUNTAIN BASIN & DRAIN**

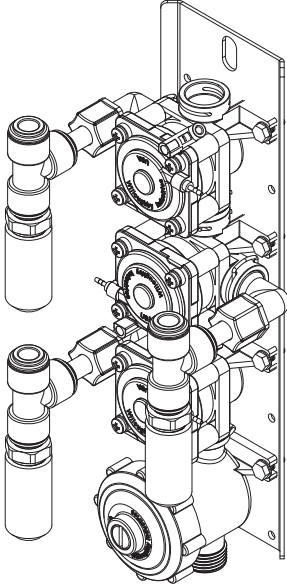
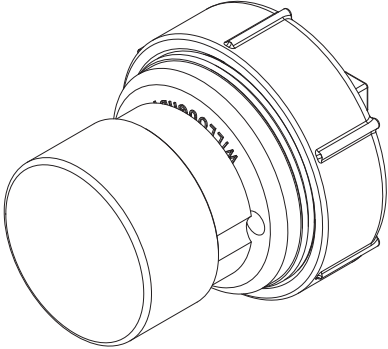
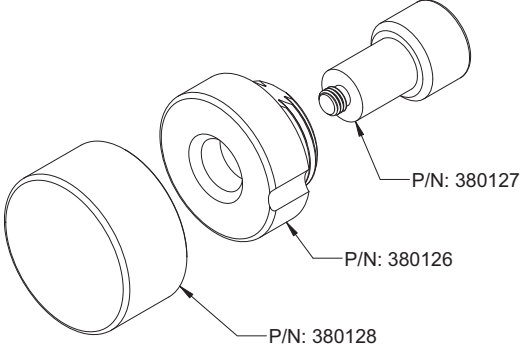
ITEM #	PART NUMBER	DESCRIPTION	QTY:
1	380056	(PBB) 30 DEG. PET BOWL BUBBLER	1
2	S200290	SPACER, BUBBLER MOUNTING	1
3	600612N	HEXNUT, 3/4"-14 NPSM	2
4	320469	NIPPLE, 3/8" NPT X 2.5" LONG	1
5	320091	COUPLING, 3/8" FPT STAINLESS STEEL	1
6	320437	ADAPTER, 3/8" NPTF MALE X 1/4" TUBE PUSH-TO-CONNECT	1
7	800144	1/4-20 X 1/2" PHILLIPS TRUSS HEAD SCREW	3
8	S200031	RECEPTOR SUPPORT ASSEMBLY	1
9	320284	PVC THREADED ADAPTER, 1-1/2"	1
10	320280	PVC PIPE, 1-1/2" SCHED. 40 X 2-15/16" LONG	1
11	4509SSN	1/4"-20 x 2" FH SECURITY SCREW	1
12	S200237	PET BOWL - 1-3/4" DEPTH	1
13	980632	STRAINER, IN-LINE, 1/4 TO 3/8 PRESS LOCK	1

**ADJUSTABLE PUSH BUTTON VALVE ASSEMBLY****VALVE ASSEMBLY, ADJUSTABLE - P/N: 600315**

	ITEM #	P/N	DESCRIPTION
	1	380110	PUSH PIN, ADJUSTABLE PUSH BUTTON VALVE
	2	380111	SLEEVE, ADJUSTABLE PUSH BUTTON VALVE
	3	380062	SLEEVE, ADAPTER TO ELKAY PLASTIC SELF-CLOSING VALVE
	4	600286	NUT, CARTRIDGE MOUNTING
	5	800157	6-32 x 1/4" SH CAP SCREW
	6	600285	SELF-CLOSING CARTRIDGE, 1.0 GPM

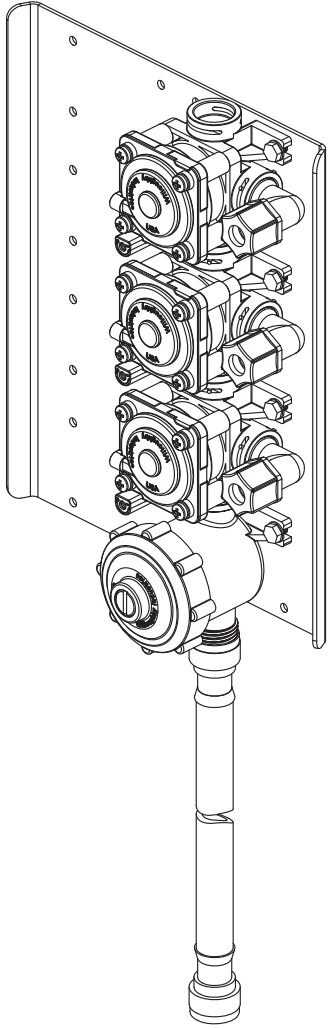
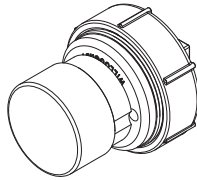


**FREEZE RESISTANT VALVE ASSEMBLIES & PUSH BUTTON**

	P/N & DESCRIPTION	COMPONENT/ASSEMBLY
	<p><b>P/N: 980615-1</b></p> <p>FRV-1 ASSEMBLY</p>	
	<p><b>P/N: 980615-2</b></p> <p>FRV-2 ASSEMBLY</p>	
	<p><b>P/N: 980615-3</b></p> <p>FRV-3 ASSEMBLY (SHOWN)</p>	
	<p><b>P/N: 600311</b></p> <p>(PLPB) PNEUMATIC, PALM PUSH BUTTON</p>	
	<p><b>P/N: 600311RK</b></p> <p>REPAIR KIT, PNEUMATIC PALM PUSH BUTTON</p>	


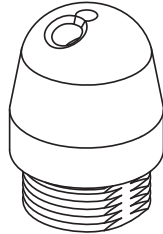
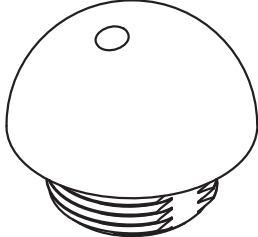
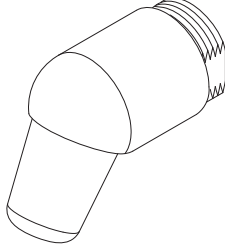
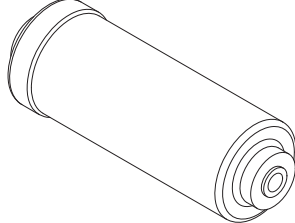
FOR PNEUMATIC VALVE ASSEMBLY DETAILS: SEE SECTION 3

**OUTDOOR SHOWER VALVE ASSEMBLIES**

	P/N & DESCRIPTION	COMPONENT/ASSEMBLY
	<p><b>P/N: 803110-1</b></p> <p>WODS 1-VALVE ASSEMBLY</p>	 <p>(803110-3: 3-VALVE ASSEMBLY SHOWN)</p>
	<p><b>P/N: 803110-2</b></p> <p>WODS 2-VALVE ASSEMBLY</p>	
	<p><b>P/N: 803110-3</b></p> <p>WODS 3-VALVE ASSEMBLY</p>	
	<p><b>P/N: 803110-4</b></p> <p>WODS 4-VALVE ASSEMBLY</p>	
	<p><b>P/N: 803110-5</b></p> <p>WODS 5-VALVE ASSEMBLY</p>	
	<p><b>P/N: 803110-6</b></p> <p>WODS 6-VALVE ASSEMBLY</p>	
	<p>(PLPB) PNEUMATIC, PALM PUSH BUTTON</p>	 <p><u>SEE PREVIOUS PAGE</u></p>

FOR PNEUMATIC VALVE ASSEMBLY DETAILS: SEE SECTION 3

**PLUMBING FITTINGS AND ACCESSORIES**

	P/N & DESCRIPTION	COMPONENT/ASSEMBLY
	<p><b>P/N: 600601HE</b></p> <p><b>(CDB) COMMERCIAL DECK MOUNTED DRINKING FOUNTAIN BUBBLER</b></p>	
	<p><b>P/N: 380056</b></p> <p><b>(PBB) 30 DEG. PET BOWL BUBBLER</b></p>	
	<p><b>P/N: 380063</b></p> <p><b>HEMISPHERIC BOTTLE FILLER BUBBLER</b></p>	
	<p><b>P/N: 370098</b></p> <p><b>(NPS) 30° SPRAY ANGLE SHOWER HEAD (SEE SECTION 16)</b></p>	
	<p><b>P/N: 980440</b></p> <p><b>CHARCOAL FILTER, 3/8" TUBING CONNECTIONS</b></p>	

FOR PLATES, LOCKNUTS, TUBING, & OTHER COMPONENTS : SEE SECTION 1

FOR PUSH BUTTON & ACTUATOR DETAILS: SEE SECTION 12

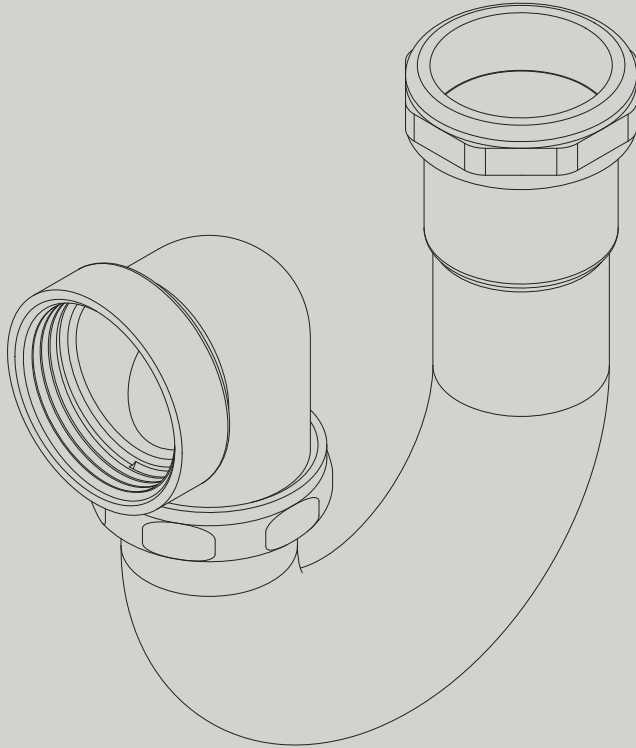
FOR BUBBLER & SHOWER HEAD DETAILS: SEE SECTIONS 16 & 17

# PARTS AND ACCESSORIES CATALOG



WILLOUGHBY

## SECTION 20



## DRAIN FITTINGS & WASTE FITTINGS

### **THESE ITEMS:**

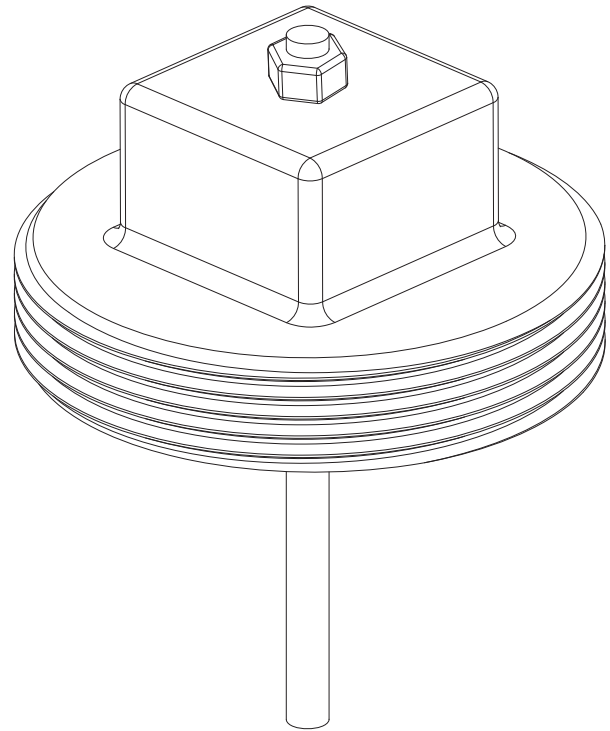
CLEAN-OUT PLUGS / CLEAN-OUT HOOKS \_\_\_\_\_  
TWC NO-HUB TOILET WASTE COUPLINGS \_\_\_\_\_  
"TW"-PREFIX TOILET WASTE OPTION ASSEMBLIES \_\_\_\_\_  
REMOVABLE P-TRAP FITTINGS \_\_\_\_\_  
(FVT) FLUSH VALVE CONNECTIONS \_\_\_\_\_

### **BEGIN ON PAGE:**

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165  
166  
168  
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## PC Series Pinned Clean-out Plug

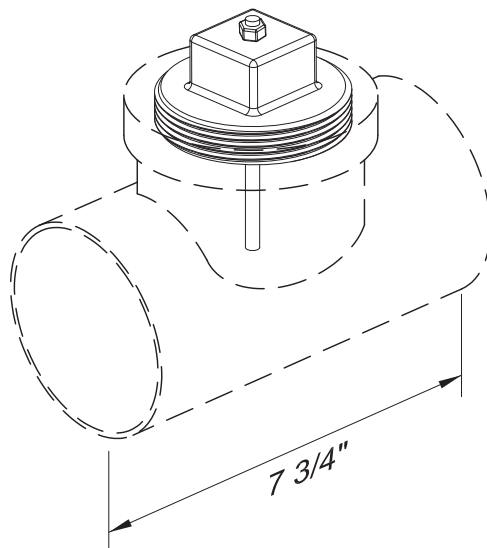
✓	PLUG TYPE	MODEL NUMBER
	3" PVC	PC3
	3" BRASS	PCB3
	4" PVC	PC4
	4" BRASS	PCB4



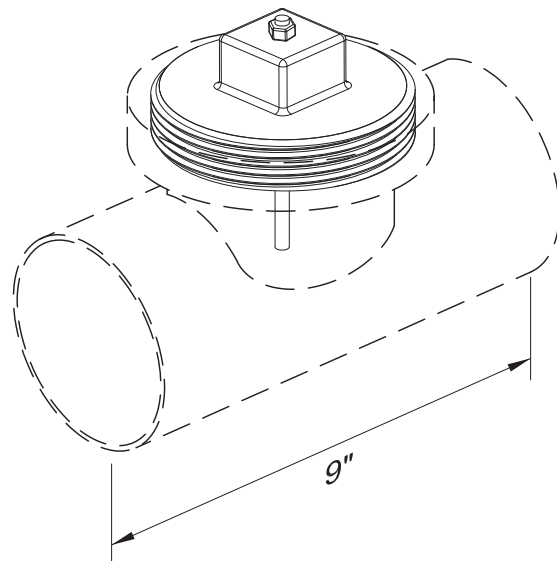
Pinned clean-out plug shall be:  
Willoughby Model No. **PC**\_\_\_\_\_

This option requires the use of a clean-out tee (SOLD SEPARATELY). The PVC or brass plug has a permanent stainless steel pin which extends downward to catch large objects passing through the waste piping.

PC3



PC4

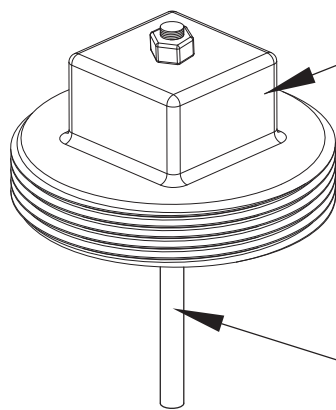


# CLEAN-OUT PLUGS

## 3" CLEAN-OUT PLUGS (REF. P991014A)

(3" RAISED SQUARE HEAD PLUG W/ STAINLESS STEEL PIN ATTACHED AS SHOWN)

✓	PLUG	STYLE	PART NO.
	3" PVC	W/PIN	PC3
	3" BRASS	W/PIN	PCB3
	3" PVC	LESS PIN	320308
	3" BRASS	LESS PIN	320303



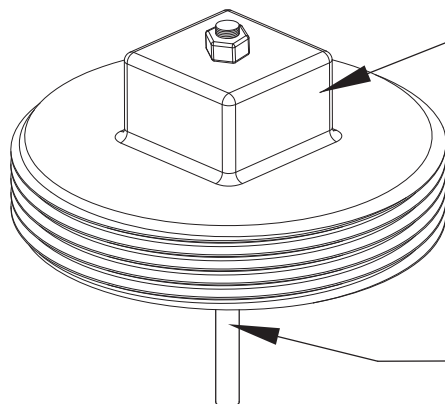
SQUARE HEAD CLEAN-OUT PLUG (P/N: 320308 SHOWN)

4" STAINLESS STEEL PIN (P/N: 113809 SHOWN)

## 4" CLEAN-OUT PLUGS (REF. P991019A)

(4" RAISED SQUARE HEAD PLUG W/ STAINLESS STEEL PIN ATTACHED AS SHOWN)

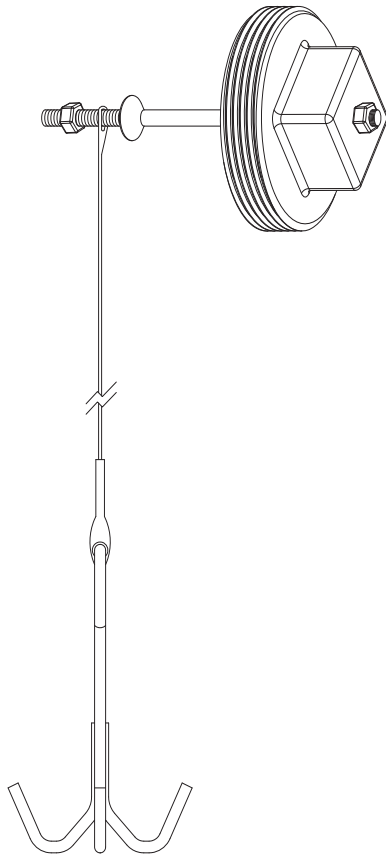
✓	PLUG	STYLE	PART NO.
	4" PVC	W/PIN	PC4
	4" BRASS	W/PIN	PCB4
	4" PVC	LESS PIN	320309
	4" BRASS	LESS PIN	320304



SQUARE HEAD CLEAN-OUT PLUG (P/N: 320309 SHOWN)

5" STAINLESS STEEL PIN (P/N: 113808 SHOWN)

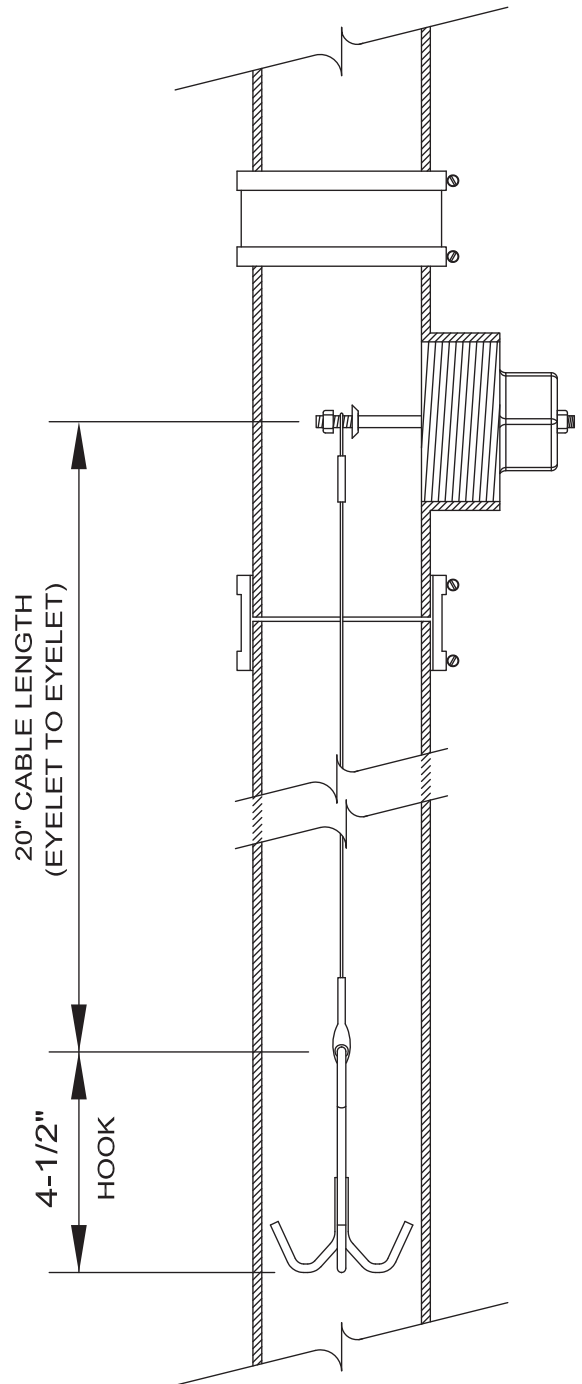
# COH Series Clean-out Hook




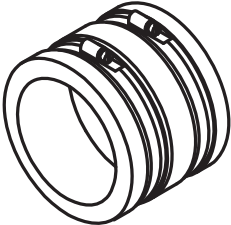
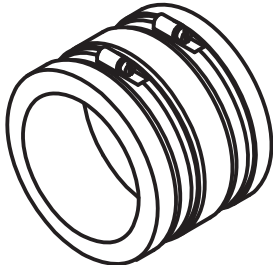
✓	PLUG TYPE	MODEL NUMBER
	4" PVC	COH4
	4" BRASS	COHB4

Clean-out hook shall be:  
Willoughby Model No. **COH** \_\_\_\_\_

This option requires the use of a vertically mounted clean-out tee (SOLD SEPARATELY). The PVC or brass plug has a permanent stainless steel pin with stainless steel cable and stainless steel 3-pronged hook which extends downward to catch large objects passing through the waste piping.



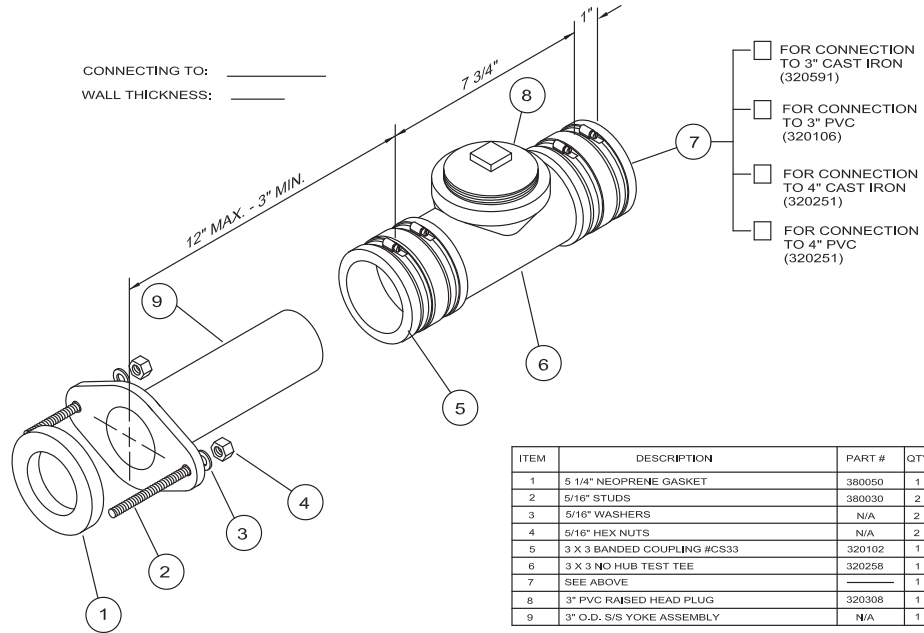
**TWC NO-HUB TOILET WASTE COUPLINGS**

	P/N & DESCRIPTION	COMPONENT/ASSEMBLY
	<b>P/N: 320114</b> Ø2-1/8" TO Ø3" CAST IRON	<b>FOR: 1.28 GPF (Ø2-1/8" O.D.)</b>
	<b>P/N: 320115</b> Ø2-1/8" TO Ø4" CAST IRON	
	<b>P/N: 320116</b> Ø2-1/8" TO Ø3" PVC	
	<b>P/N: 320117</b> Ø2-1/8" TO Ø4" PVC	
	<b>P/N: 320108</b> Ø2-1/2" TO Ø3" CAST IRON	
	<b>P/N: 320109</b> Ø2-1/2" TO Ø4" CAST IRON	
	<b>P/N: 320112</b> Ø2-1/2" TO Ø3" PVC	
	<b>P/N: 320113</b> Ø2-1/2" TO Ø4" PVC	
	<b>P/N: 320102</b> Ø3" TO Ø3" CAST IRON	
	<b>P/N: 320107</b> Ø3" TO Ø4" CAST IRON	
	<b>P/N: 320103</b> Ø3" TO Ø3" PVC	
	<b>P/N: 320104</b> Ø3" TO Ø4" PVC	

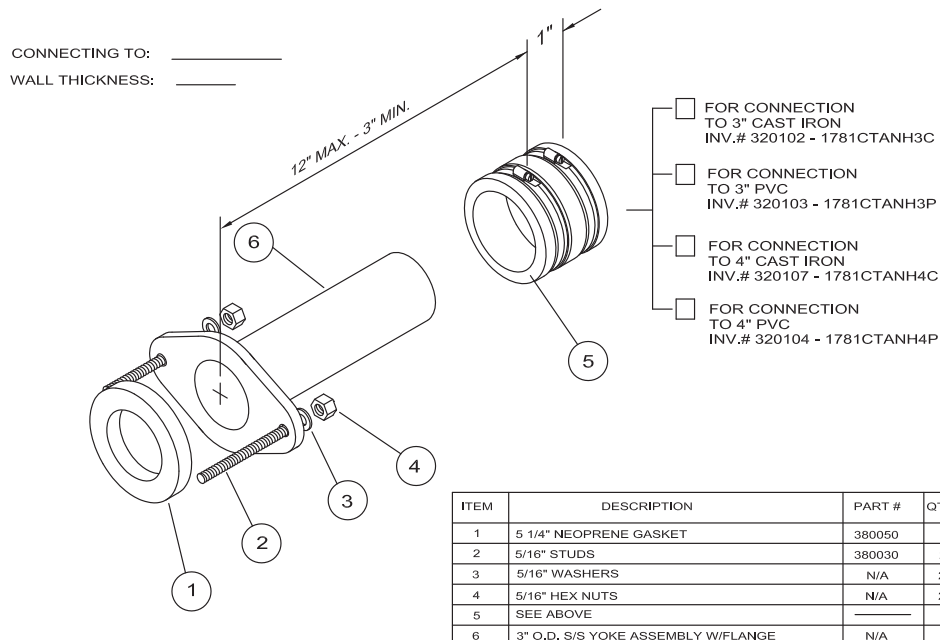


# "TW"-PREFIX TOILET WASTE OPTION ASSEMBLIES

## (TW1) NO-HUB WASTE WITH CLEAN-OUT - P/N: 1780CTANH\_\_



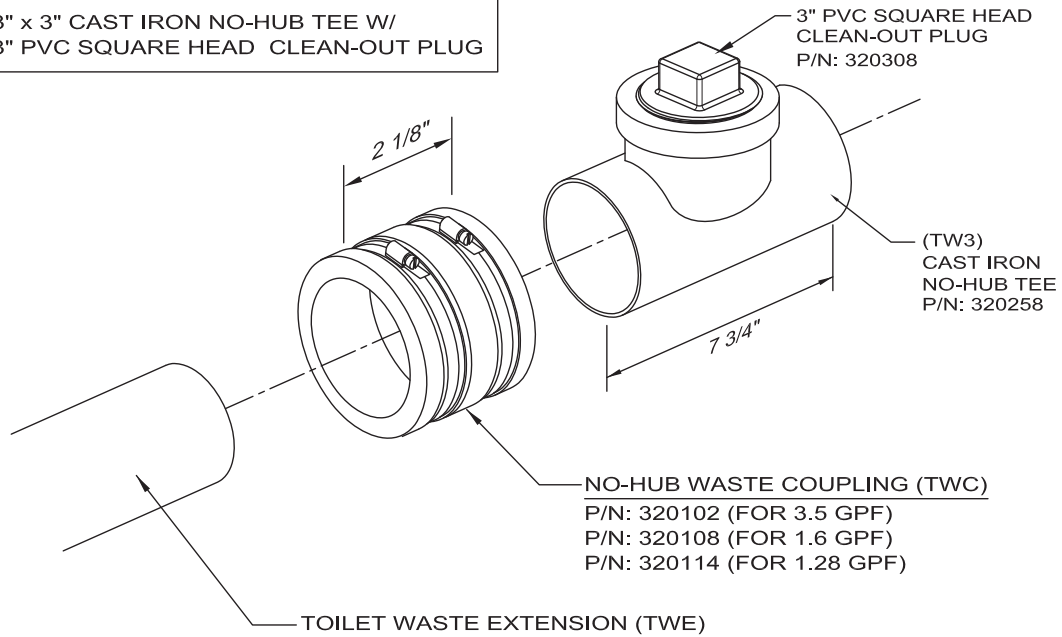
## (TW2) NO-HUB WASTE WITHOUT CLEAN-OUT - P/N: 1781CTANH\_\_



**"TW"-PREFIX TOILET WASTE OPTION ASSEMBLIES**

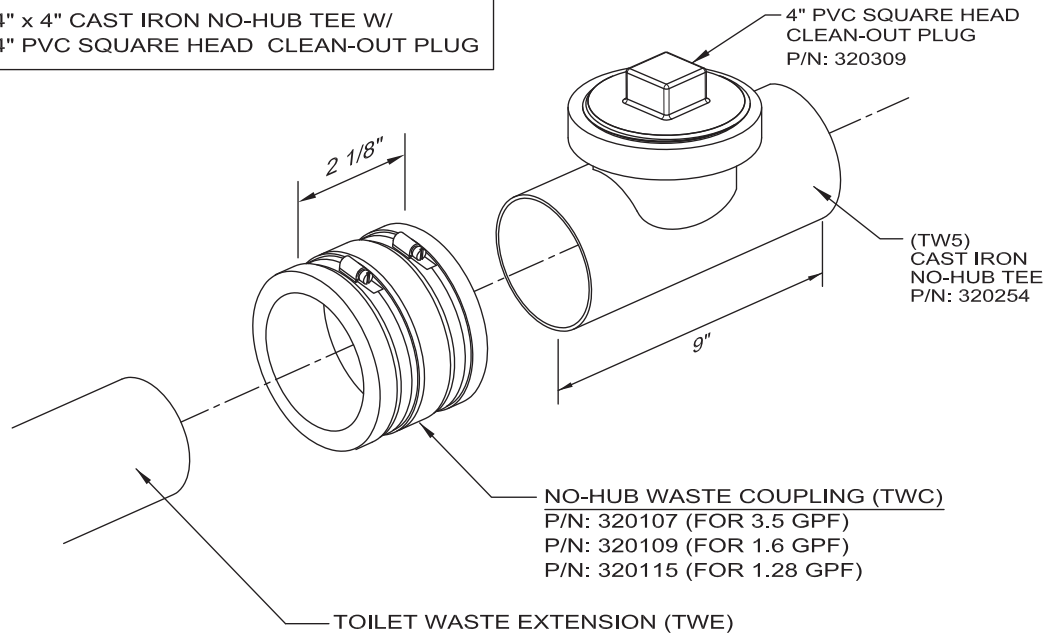
**(TW3) 3" WASTE WITH CLEAN-OUT/PLUG - P/N: 1782CTA\_\_**

3" x 3" CAST IRON NO-HUB TEE W/  
3" PVC SQUARE HEAD CLEAN-OUT PLUG



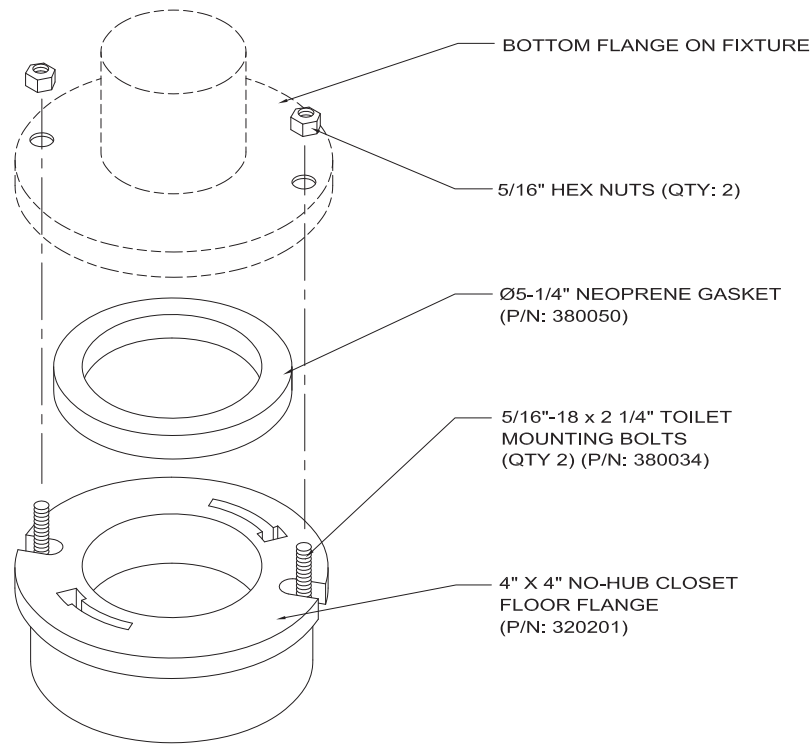
**(TW5) 4" WASTE WITH CLEAN-OUT/PLUG - P/N: 1783CTA\_\_**

4" x 4" CAST IRON NO-HUB TEE W/  
4" PVC SQUARE HEAD CLEAN-OUT PLUG



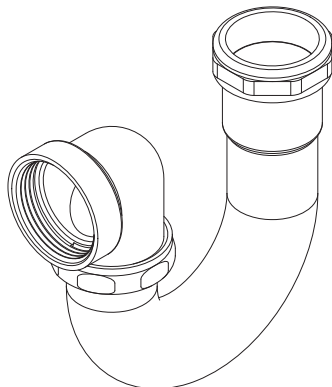
# "TW"-PREFIX TOILET WASTE OPTION ASSEMBLIES

## (TW4) FLOOR OUTLET WASTE CONNECTION - P/N: 1785CTA

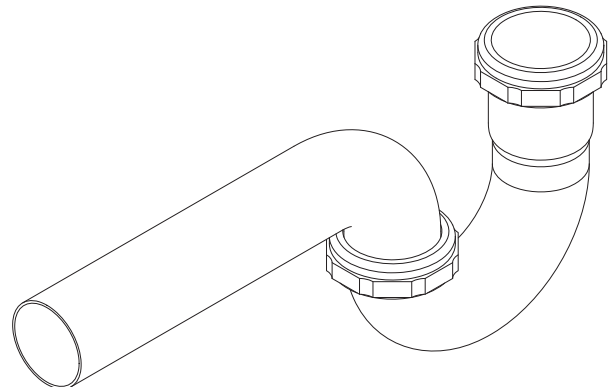


# REMOVABLE P-TRAP LAVATORY WASTE FITTINGS

## (RPT) REMOVABLE P-TRAP - P/N: 380286

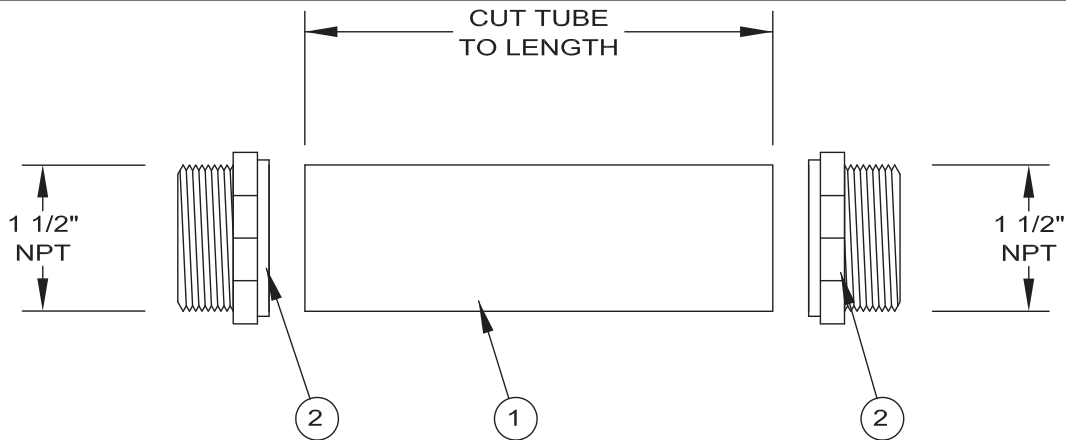


## (TT) CHROME REMOVABLE P-TRAP - P/N: 380287



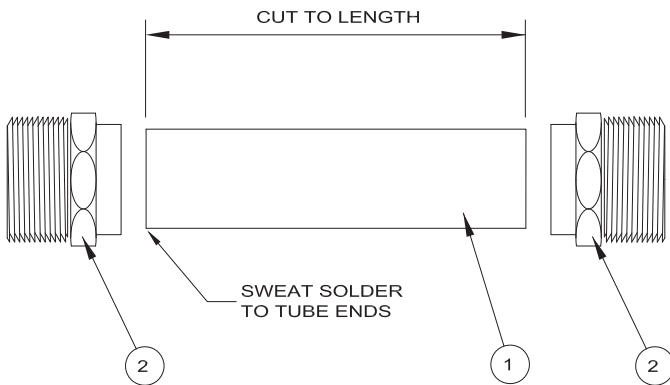
**(FVT) FLUSH VALVE CONNECTIONS THROUGH-WALL**

**(FVT) FLUSH VALVE CONNECTION, 1-1/2" NPT - P/N: 2895CTA**



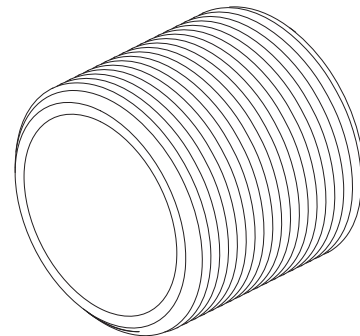
ITEM	DESCRIPTION	PART #	QTY.
1	Ø1-1/2" COPPER TUBE, CUT TO LENGTH	115170	1
2	1-1/2" SLEEVE	380147	2

**(FVT) FLUSH VALVE CONNECTION, 3/4" MIP (URINAL) - P/N: 2897CTA**



ITEM	DESCRIPTION	PART #	QTY.
1	3/4" COPPER TUBE	115190	1
2	3/4" M.I.P. ADAPTOR	320244	2

**(FVT) 1-1/2" NPT CLOSE (FOR STEEL WALL) - P/N: 320488**



# NOTES:

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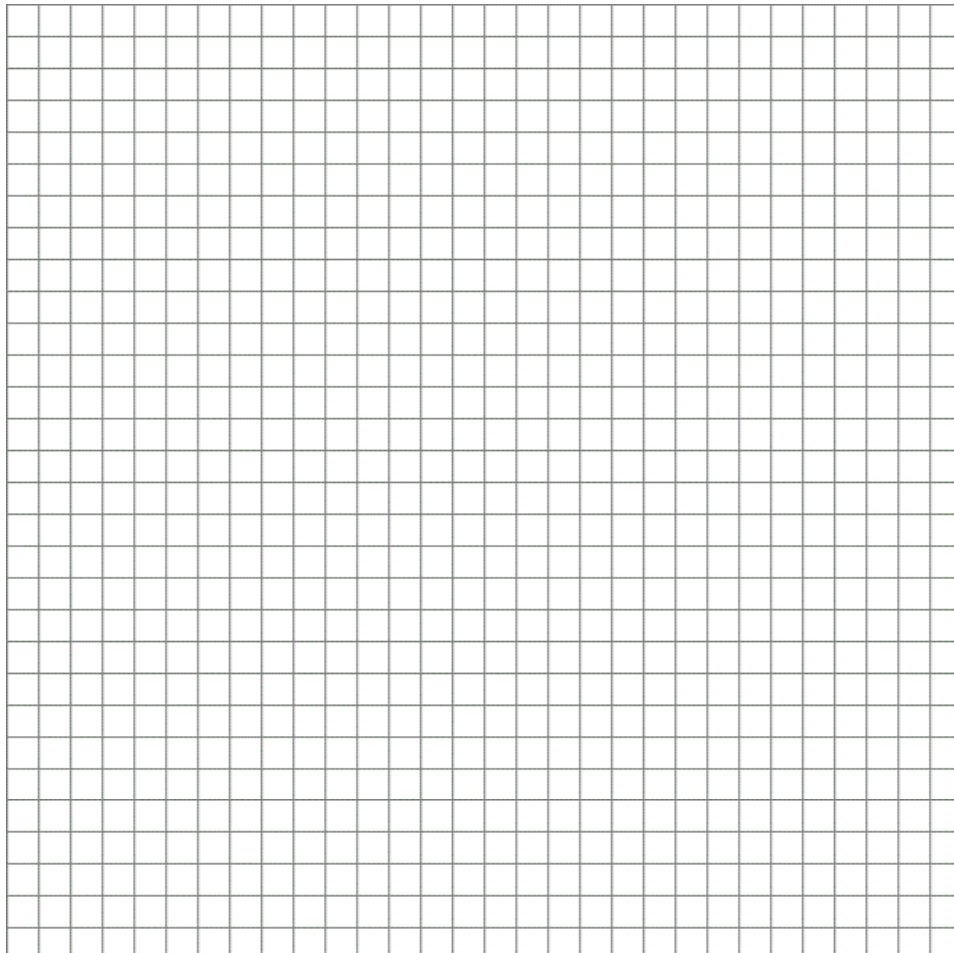
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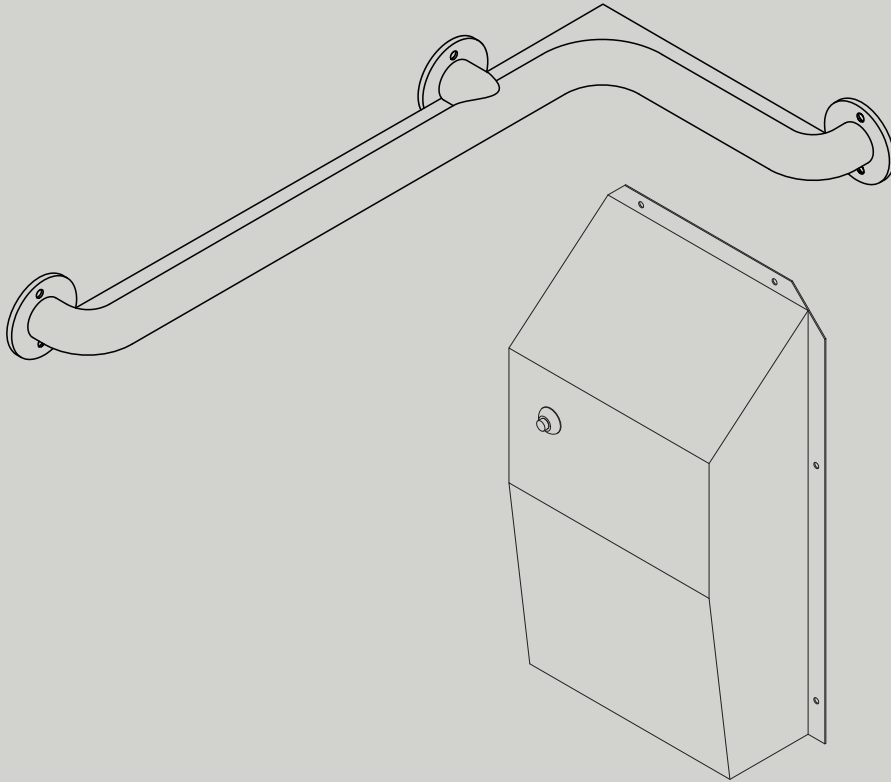
# PARTS AND ACCESSORIES CATALOG



WILLOUGHBY

SECTION

21



## SECURITY ACCESSORIES

### **THESE ITEMS:**

TISSUE HOLDERS, SOAP DISHES, MIRRORS \_\_\_\_\_  
TOWEL HOOKS, SHELVES \_\_\_\_\_  
GRAB BARS \_\_\_\_\_  
FOLDING SHOWER SEATS \_\_\_\_\_  
FLUSH VALVE COVERS \_\_\_\_\_

### **BEGIN ON PAGE:**

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# RTH1 Rear Mounted Tissue Holder

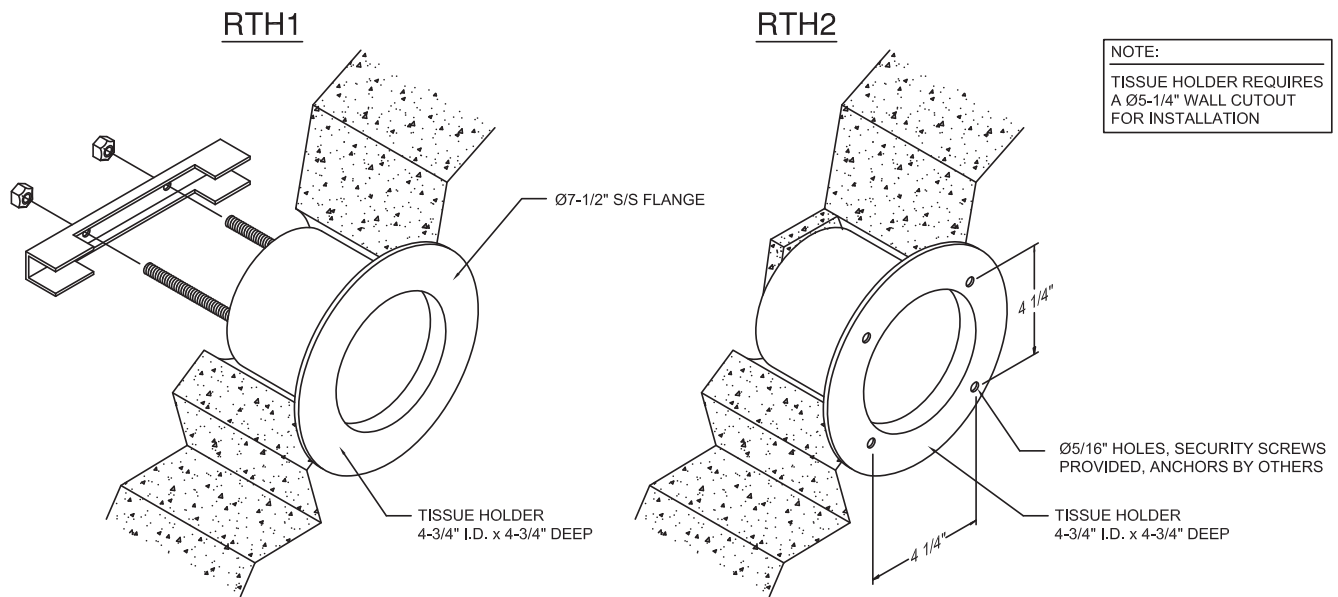
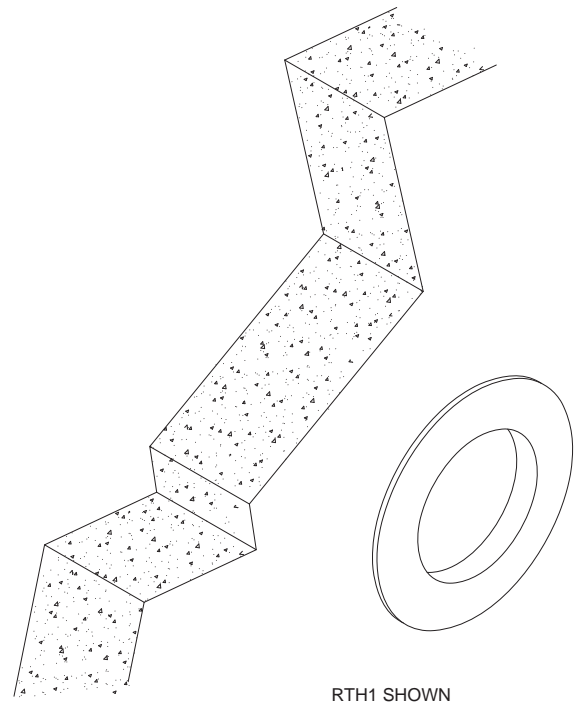
RTH1 recessed toilet tissue holder shall be die-formed of 14 gauge, type 304 stainless steel with an 18 gauge type 304 S/S #4 satin finish exposed flange. Flange edge to be turned back providing a tight fit to wall. Holder shall accommodate a standard roll of tissue, measuring 4-3/4" in diameter and 4-3/4" deep, providing no free area for the concealment of contraband.

Mounting hardware supplied with the tissue holder.

# RTH2 Front Mounted Tissue Holder

RTH2 recessed toilet tissue holder shall be die-formed of 14 gauge, type 304 stainless steel with an 18 gauge type 304 s/s #4 satin finish exposed flange. Flange edge to be turned back providing a tight fit to wall. Holder shall accommodate a standard roll of tissue, measuring 4-3/4" in diameter and 4-3/4" deep, providing no free area for the concealment of contraband. Mounting shall be from the front.

Stainless steel security screws provided, wall anchors by others.

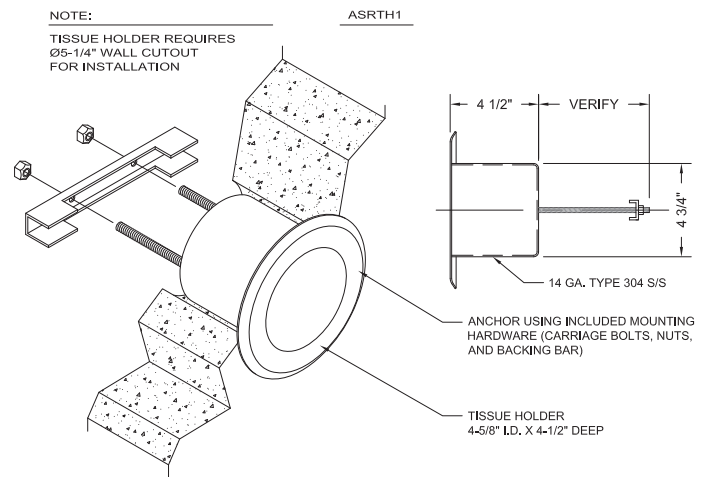


NOTE:  
TISSUE HOLDER REQUIRES  
A Ø5-1/4" WALL CUTOUT  
FOR INSTALLATION

## ASRTH Series Ligature-Resistant Tissue Holder

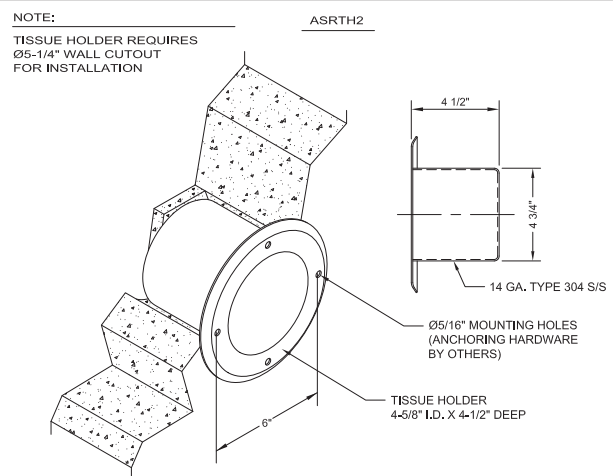
### ASRTH1 Rear Mounted Ligature-Resistant Tissue Holder

ASRTH1 recessed toilet tissue holder shall be die-formed of 14 GA., Type 304 stainless steel with a 16 GA Type 304 S/S #4 satin finish exposed flange. Flange edge to be turned back providing a tight fit to wall. Holder shall accommodate a standard roll of tissue, measuring 4-5/8" in diameter and 4-1/2" deep. Interior shall be seamless and ligature-resistant, providing no free area for the concealment of contraband and no interior exposed flange edge. Mounting shall be from the rear using S/S mounting hardware provided (verify wall thickness).



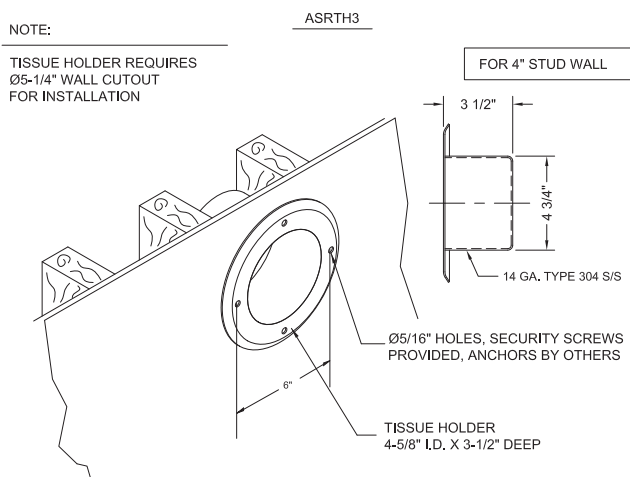
### ASRTH2 Front Mounted Ligature-Resistant Tissue Holder

ASRTH2 recessed toilet tissue holder shall be die-formed of 14 GA., Type 304 stainless steel with a 16 GA Type 304 S/S #4 satin finish exposed flange. Flange edge to be turned back providing a tight fit to wall. Holder shall accommodate a standard roll of tissue, measuring 4-5/8" in diameter and 4-1/2" deep. Interior shall be seamless and ligature-resistant, providing no free area for the concealment of contraband and no interior exposed flange edge. Mounting shall be from the front. Stainless steel security screws provided, wall anchors by others.



### ASRTH3 Front Mounted Ligature-Resistant Tissue Holder (For 4" Stud Wall)

ASRTH3 recessed toilet tissue holder shall be die-formed of 14 GA., Type 304 stainless steel with a 16 GA Type 304 S/S #4 satin finish exposed flange. Flange edge to be turned back providing a tight fit to wall. Holder shall accommodate a standard roll of tissue, measuring 4-3/4" in diameter and 3-1/2" deep. Interior shall be seamless and ligature-resistant, providing no free area for the concealment of contraband and no interior exposed flange edge. Mounting shall be from the front. Stainless steel security screws provided, wall anchors by others.





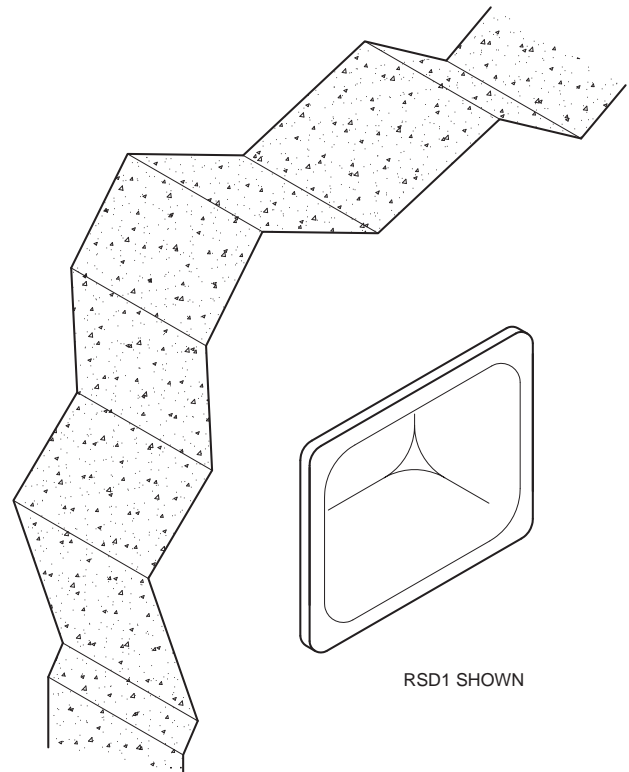
# RSD1 Rear Mounted Recessed Soap Dish

RSD1 recessed soap dish shall be 16 gauge, type 304 stainless steel. Unit is one piece construction, tamper-resistant with all exposed surfaces polished to a #4 satin finish. Wide radius corners assure cleanliness.

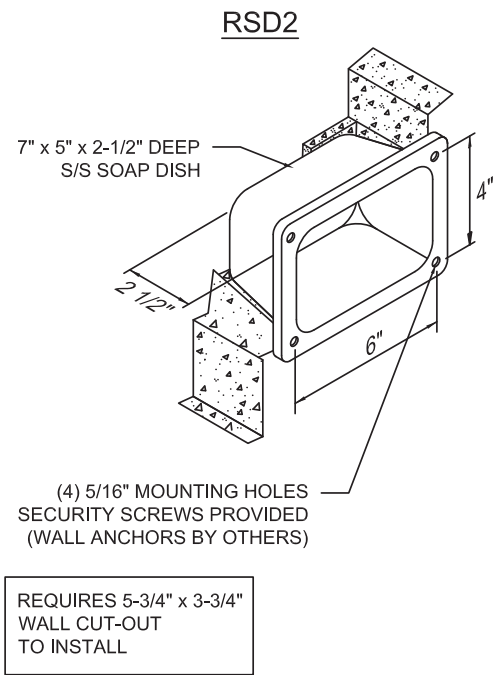
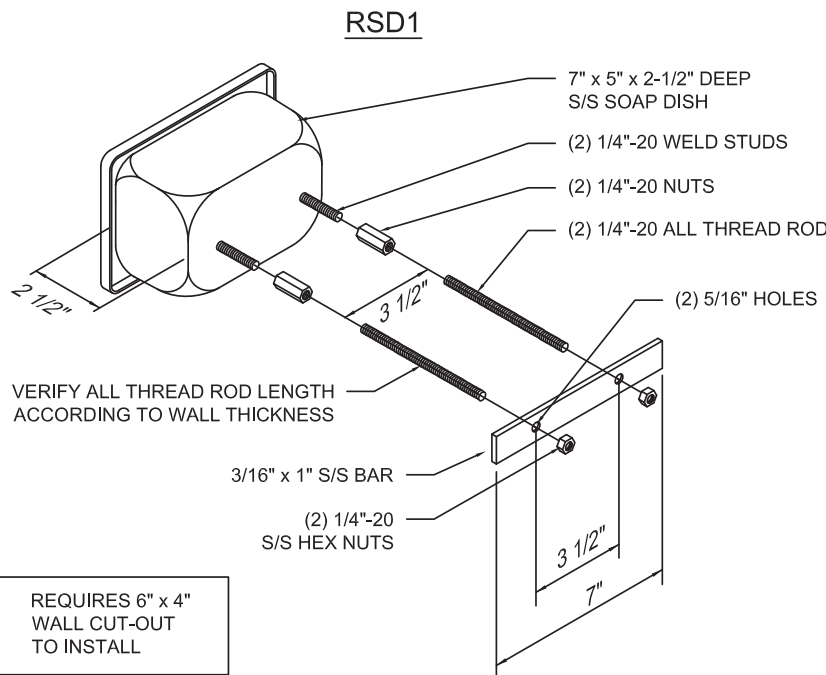
# RSD2 Front Mounted Recessed Soap Dish

RSD2 recessed soap dish shall be 16 gauge, type 304 stainless steel. Unit is one piece construction, tamper-resistant with all exposed surfaces polished to a #4 satin finish. Wide radius corners assure cleanliness. Mounting shall be from the front.

Stainless steel security screws provided, wall anchors by others.

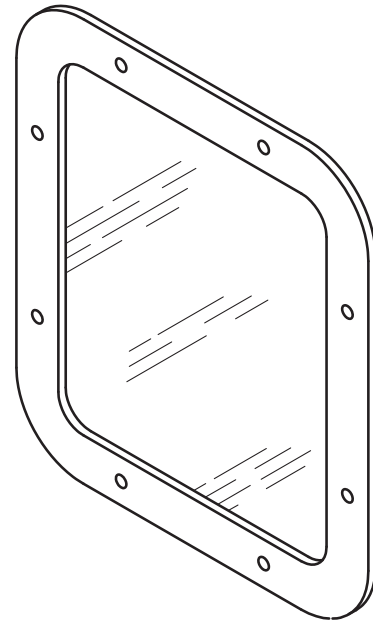


RSD1 SHOWN



# MR Series Front Access Security Mirror

✓	MODEL NUMBER	HEIGHT	WIDTH
	MR1	12"	10 1/2"
	MR2	16 1/2"	12 1/2"
	EM1 (OPTIONAL)	MOUNTING FRAME FOR MR1	
	EM2 (OPTIONAL)	MOUNTING FRAME FOR MR2	

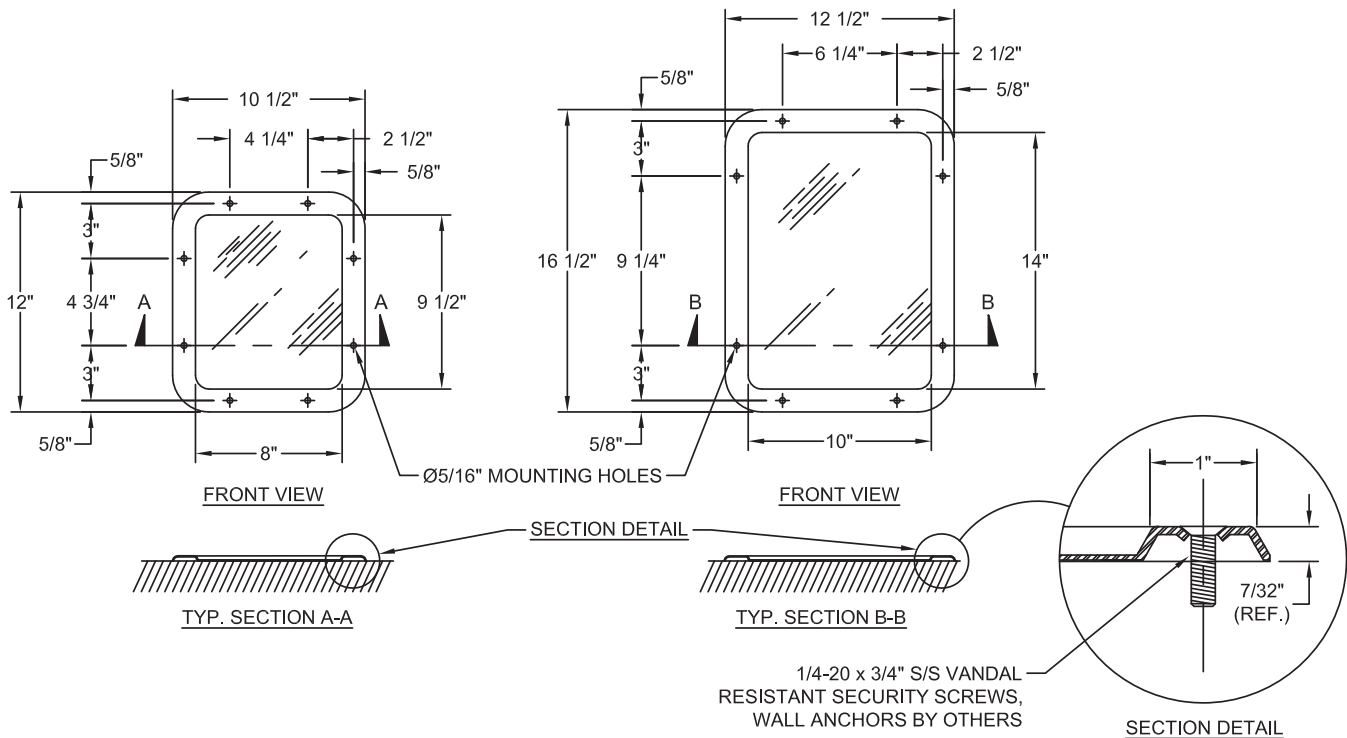


MR \_\_\_ mirror with integral frame shall be die formed 16 gauge 304 series stainless steel, polished to a #8 non-directional mirror finish. Anchoring shall be by standard 8-point mounting. Vandal-resistant security screws provided with the mirror. Wall anchors provided by others.

Optional in-wall embedded mounting plate is available. For optional embedded mounting plate, specify EM1 or EM2 to correspond with above mirror size.

**MR1**

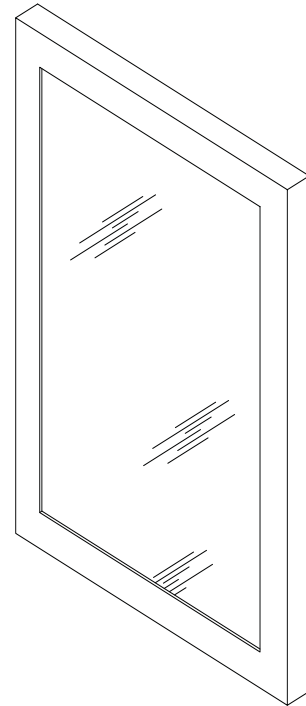
**MR2**



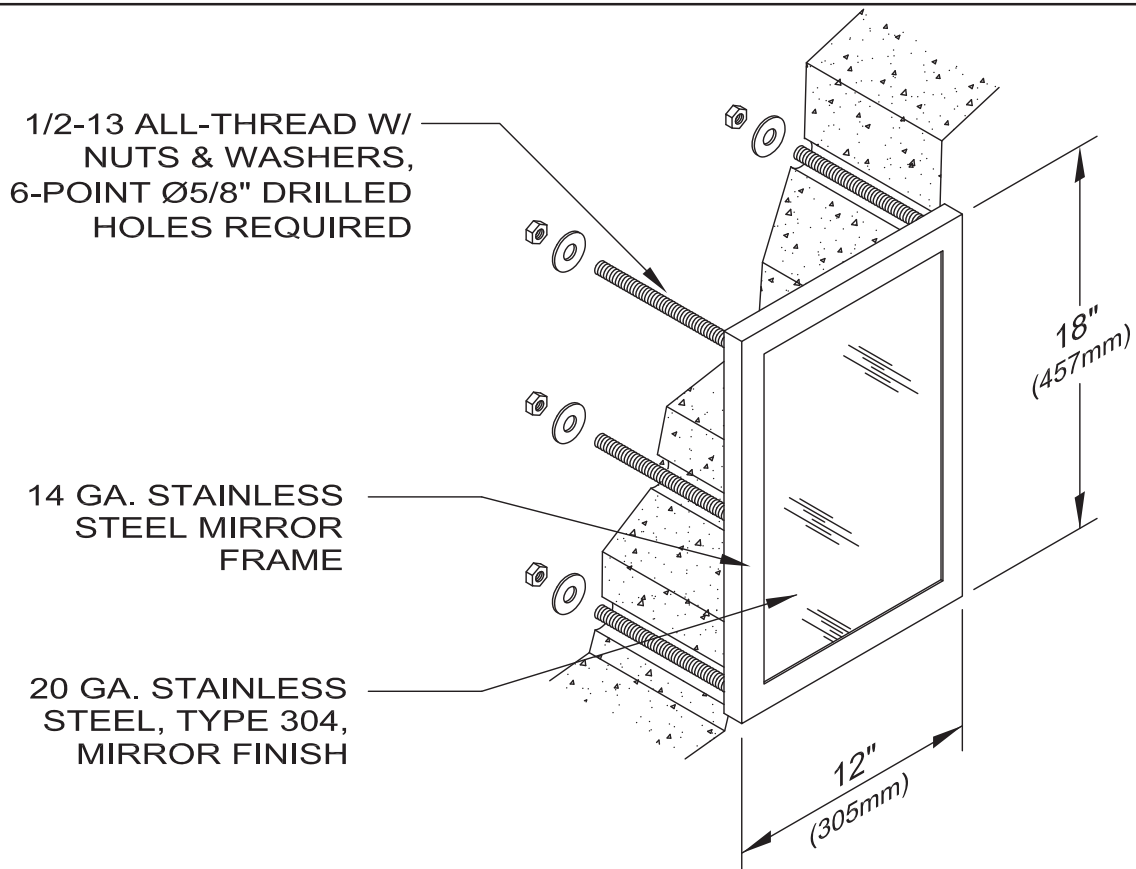
# FMR1

## Framed Security Mirror

### Rear Mounted

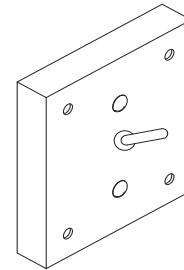


**FMR1** framed security mirror to be 16 GA, Type 304 stainless steel, polished to a #8 non-directional mirror finish. Mirror shall be reinforced with 1/2" fiberboard backing. Anchoring shall be by a 6-point system: threaded rods, nuts and washers furnished for walls up to 8" thick. Unit requires chase for installation.

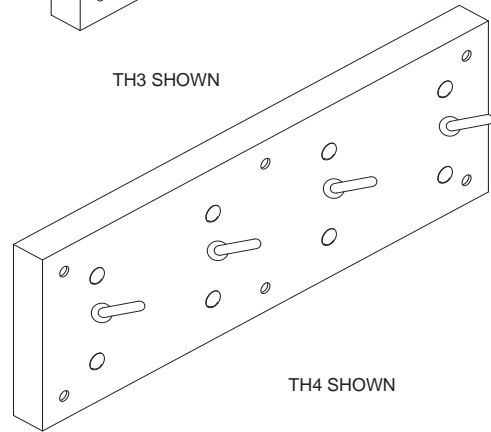


# TH Series Release Towel Hook

✓	MODEL NUMBER	NUMBER OF HOOKS
	TH3	1
	TH4	4



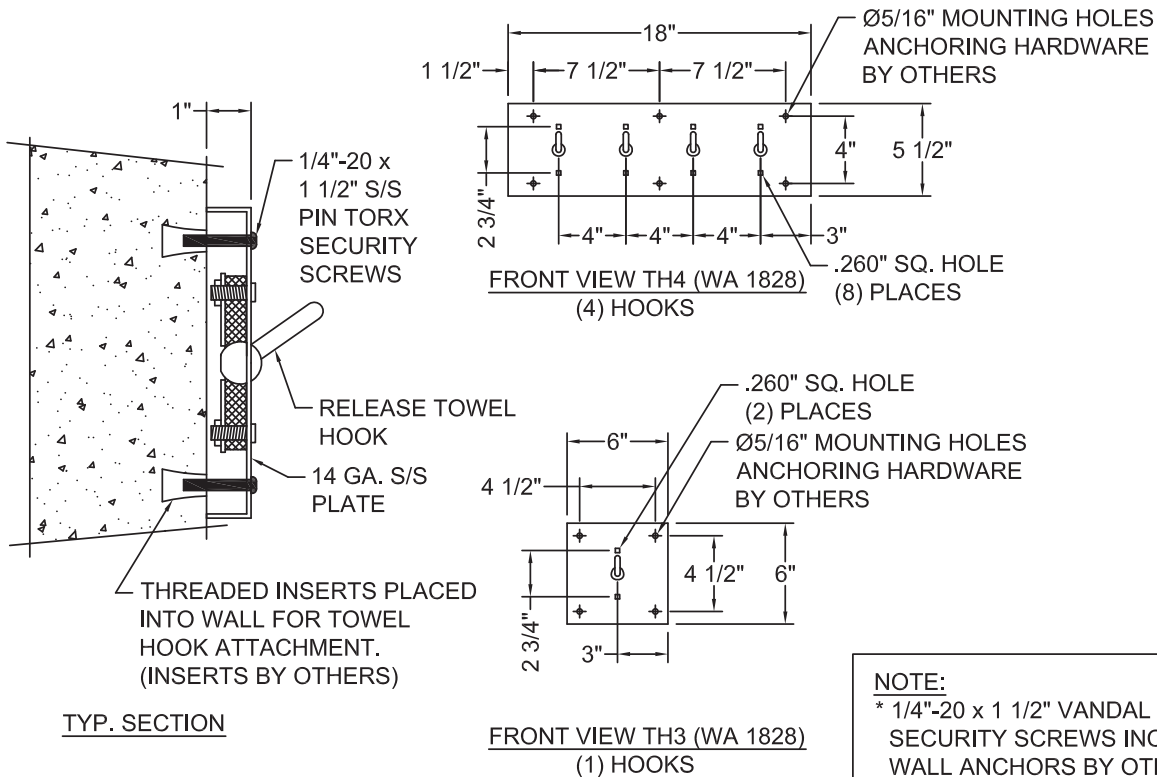
TH3 SHOWN



TH4 SHOWN

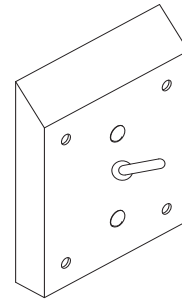
TH \_\_\_\_ release towel hook assembly shall be fabricated from type 304 stainless steel. Exposed stainless steel surfaces shall be polished to a #4 satin finish. Pressure activated release towel hook(s) will support light clothing and towel loads, however, excessive hook loads will cause downward hook release.

Hook assemblies supplied with vandal-resistant stainless steel security screws. Wall anchors by others.

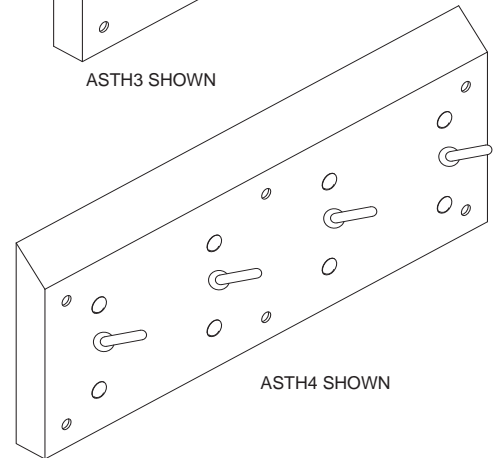


# ASTH Series Ligature-resistant Release Towel Hook

✓	MODEL NUMBER	NUMBER OF HOOKS
	ASTH3	1
	ASTH4	4



ASTH3 SHOWN

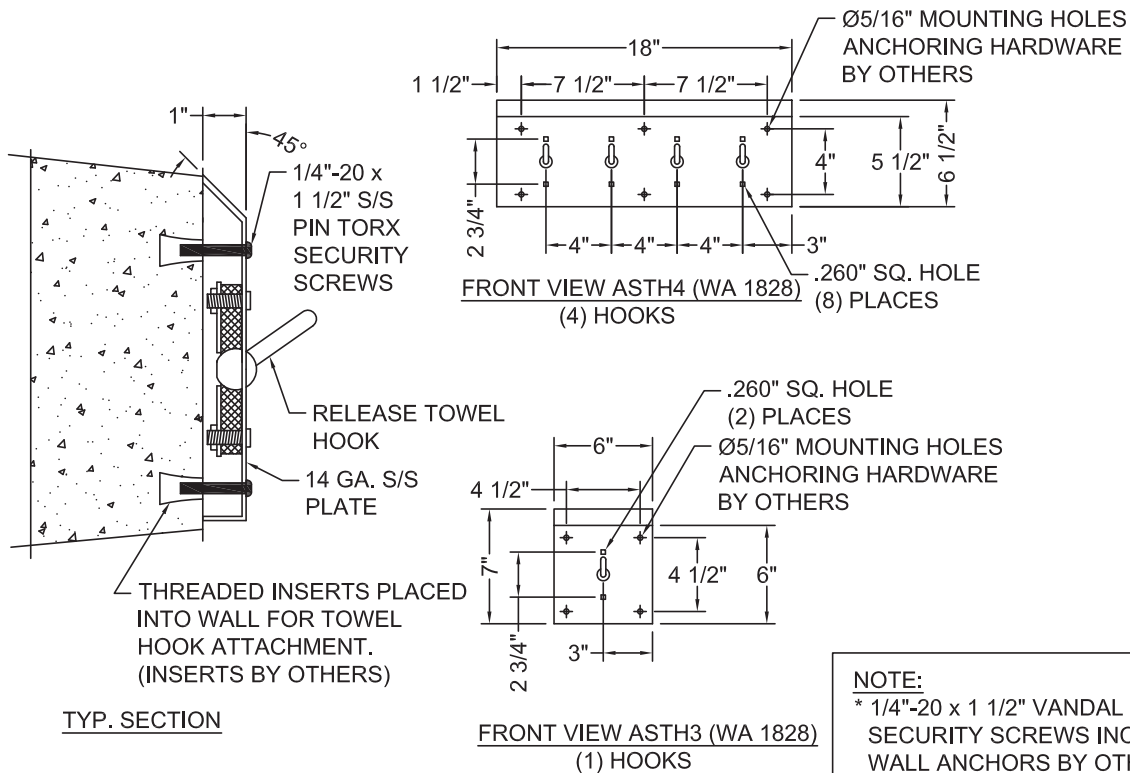


ASTH4 SHOWN

**ASTH** \_\_\_\_\_ ligature-resistant release towel hook assembly shall be fabricated from type 304 stainless steel. Exposed stainless steel surfaces shall be polished to a #4 satin finish. Pressure activated release towel hook(s) will support light clothing and towel loads, however, excessive hook loads will cause downward hook release.

Towel hook assembly shall have a ligature-resistant sloped top in addition to the pressure activated release towel hooks.

Hook assemblies supplied with vandal-resistant stainless steel security screws. Wall anchors by others.



TYP. SECTION

FRONT VIEW ASTH3 (WA 1828)  
(1) HOOKS

**NOTE:**  
\* 1/4"-20 x 1 1/2" VANDAL RESISTANT SECURITY SCREWS INCLUDED, WALL ANCHORS BY OTHERS

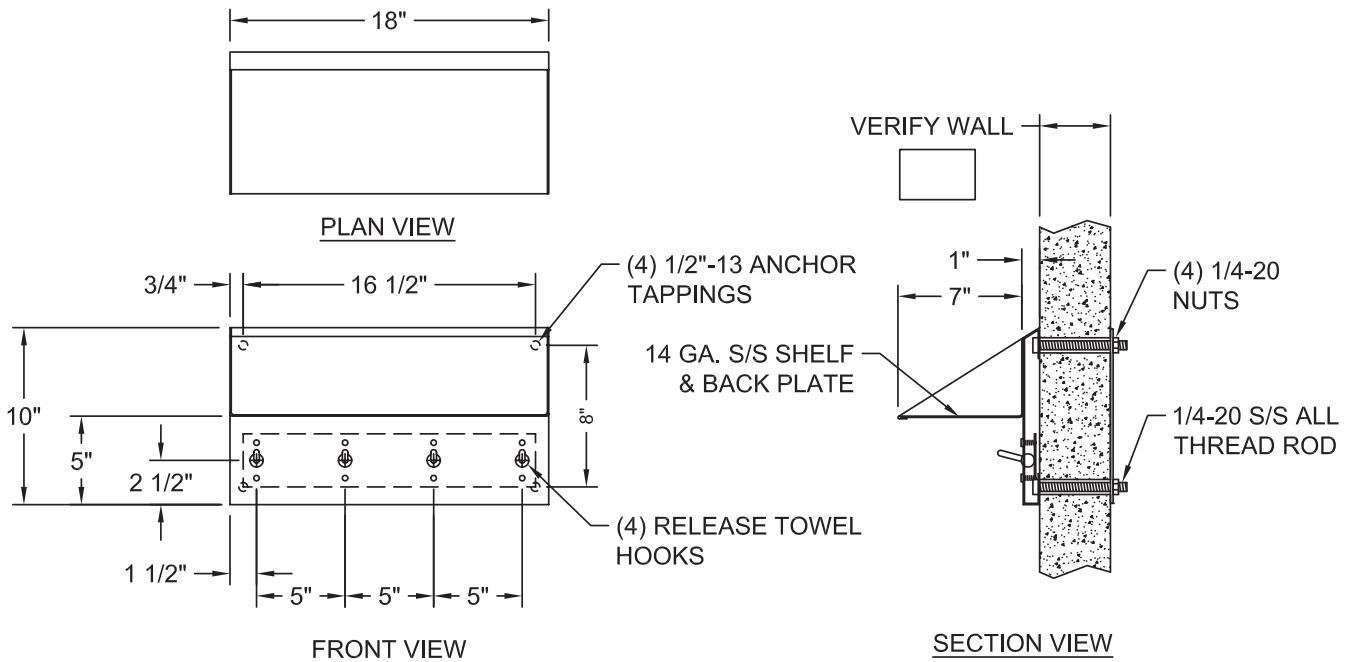
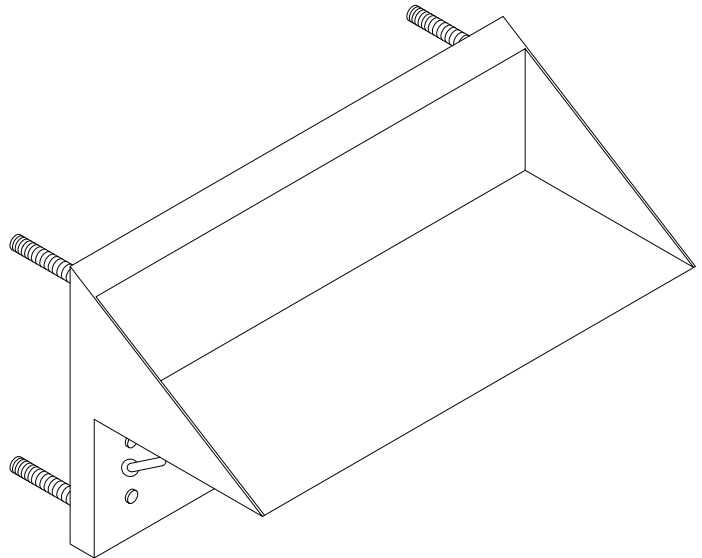
# WA-1824 Release Towel Hook w/ Integral Shelf Rear Mounted

✓	MODEL NUMBER	NUMBER OF HOOKS
	WA-1824	4

**WA-1824** release towel hook assembly with integral shelf shall be fabricated from type 304 stainless steel. Exposed stainless steel surfaces shall be polished to a #4 satin finish.

Pressure activated release towel hook(s) will support light clothing and towel loads, however, excessive hook loads will cause downward hook release.

WA-1824 hook assembly supplied with all thread rod, nuts and washers.



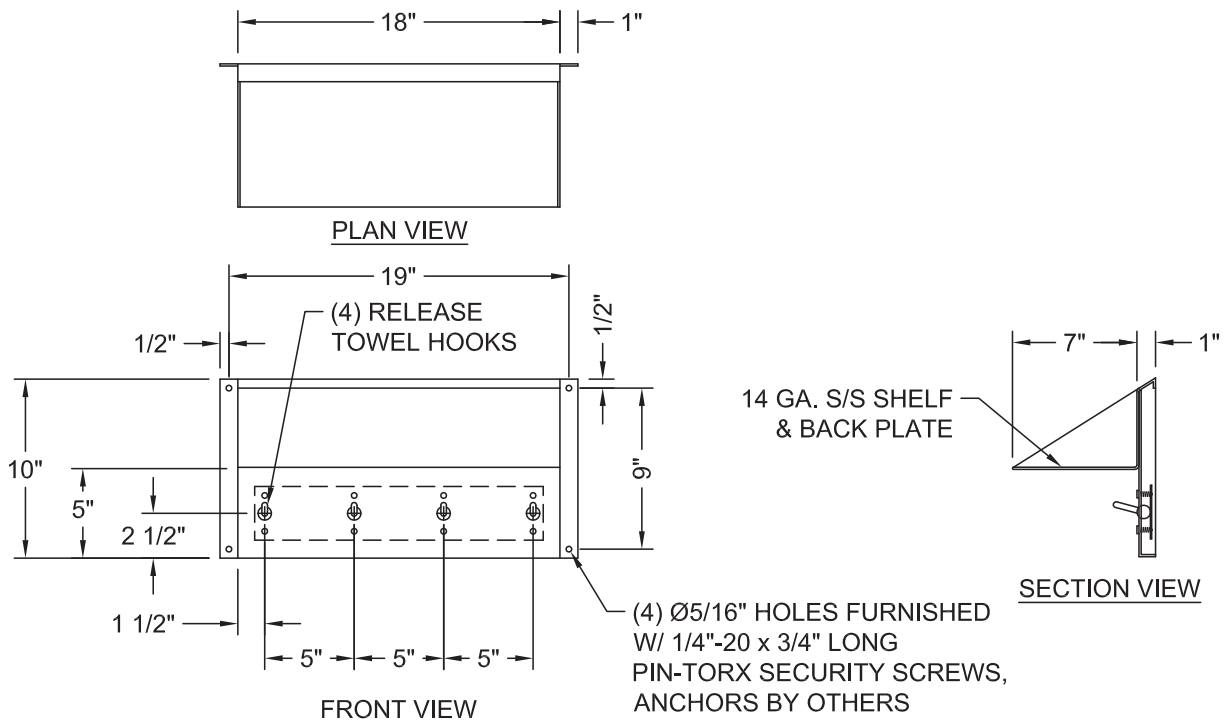
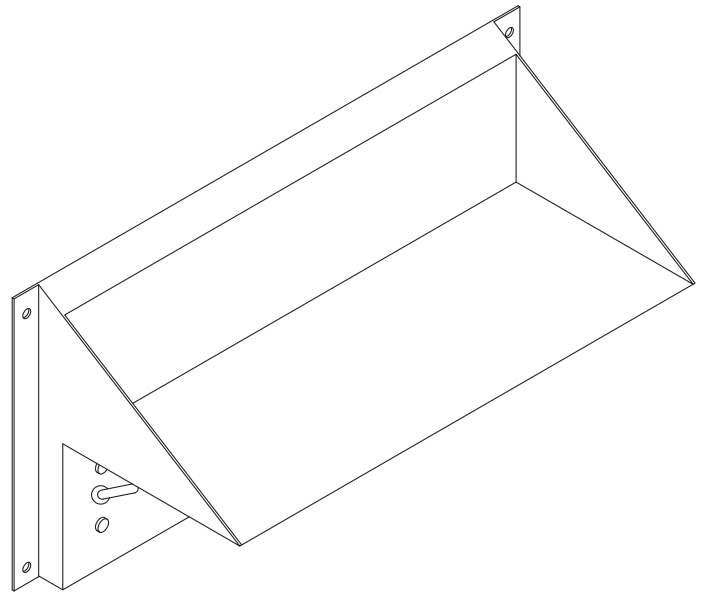
# WA-1824-FA Release Towel Hook w/ Integral Shelf Front Mounted

✓	MODEL NUMBER	NUMBER OF HOOKS
	WA-1824-FA	4

**WA-1824-FA** release towel hook assembly with integral shelf shall be fabricated from type 304 stainless steel. Exposed stainless steel surfaces shall be polished to a #4 satin finish.

Pressure activated release towel hook(s) will support light clothing and towel loads, however, excessive hook loads will cause downward hook release.

WA-1824-FA hook assembly supplied with vandal-resistant stainless steel security screws. Wall anchors by others.



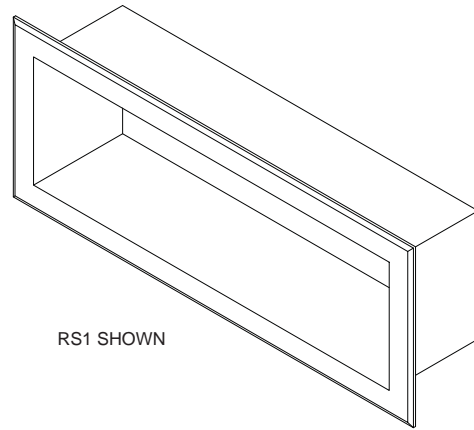
# RS Series Recessed Shelf

✓	MODEL NUMBER	MOUNTING CONFIGURATION
	RS1	REAR MOUNTED
	RS2	FRONT MOUNTED

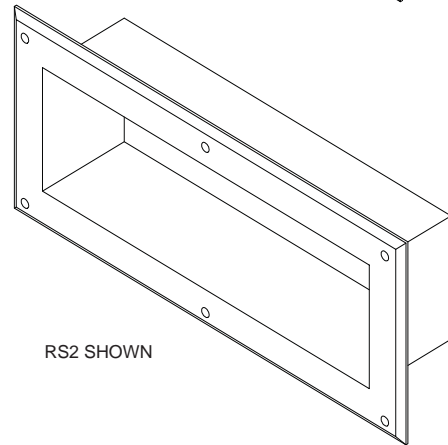
RS \_\_\_ recessed shelf shall be fabricated entirely of 16 gauge, type 304 stainless steel. Exposed flange surfaces are polished to a #4 satin finish. Shelf is available in both rear mounting (RM) or flange mounting (FM) configuration.

Shelf assembly (RS1) supplied with anchoring hardware.

Shelf assembly (RS2) supplied with vandal-resistant security screws, wall anchors by others.

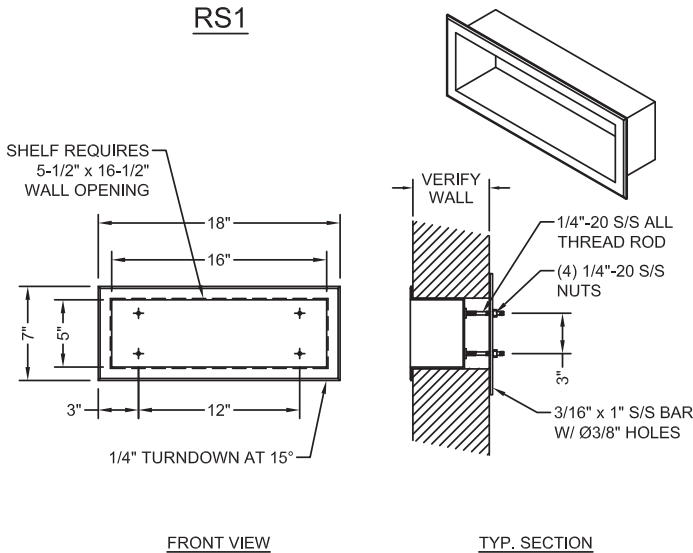


RS1 SHOWN

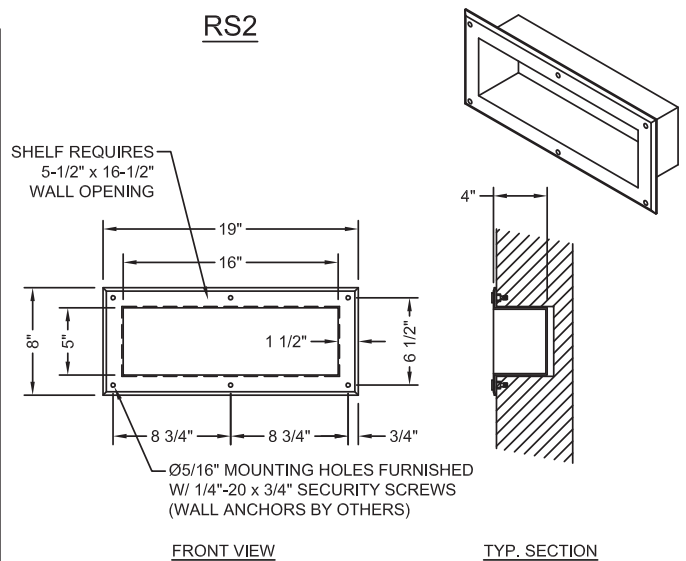


RS2 SHOWN

### RS1



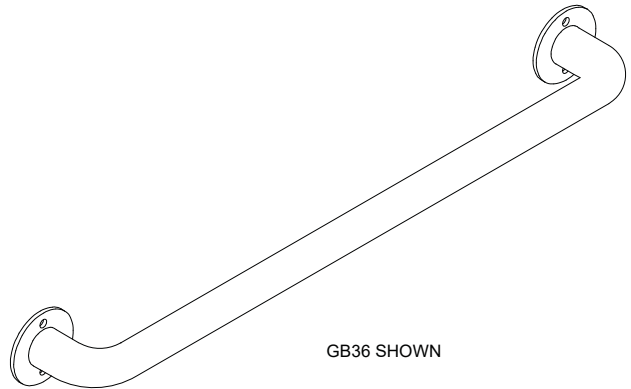
### RS2





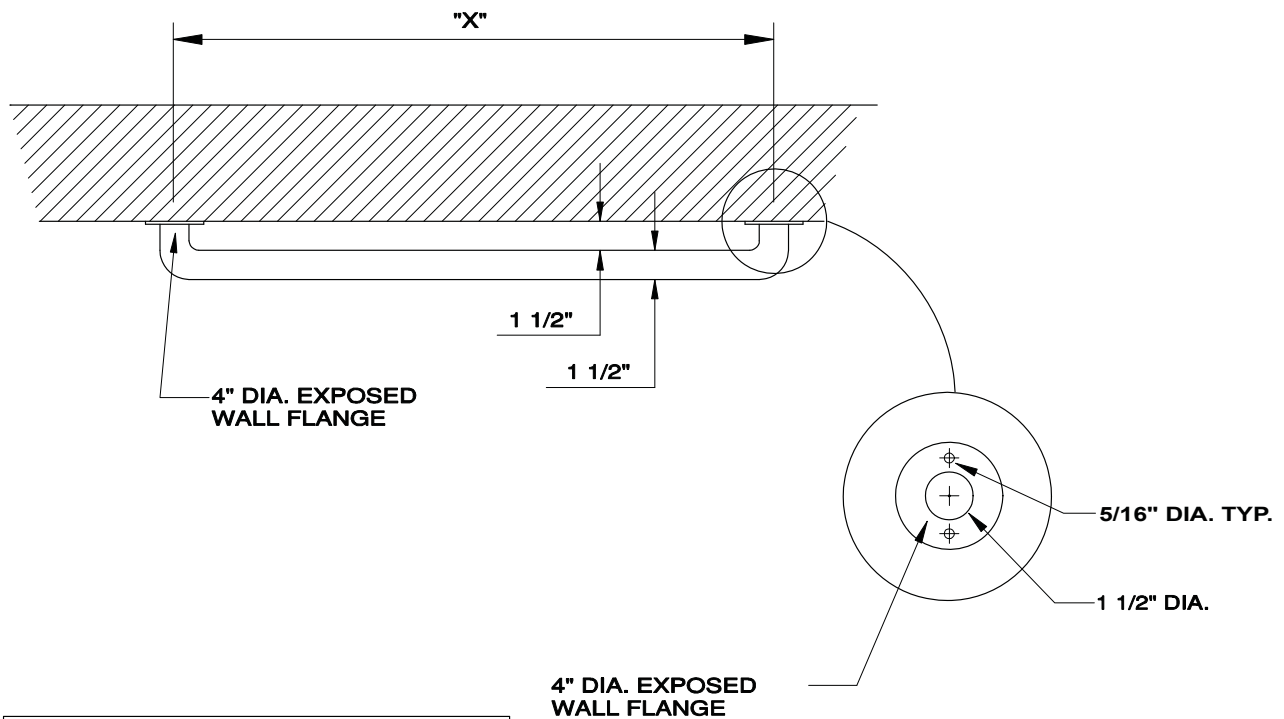
# GB Series Grab Bars

✓	MODEL NUMBER	GRAB BAR LENGTH ("X")
	GB18	18"
	GB24	24"
	GB30	30"
	GB36	36"
	GB42	42"
	GB48	48"
	GB3318	33" X 18"



**GB** \_\_\_\_ grab bars shall be fabricated from Type 304 stainless steel. Exposed stainless steel surfaces shall be polished to a #3 satin finish. Standard flange configuration is exposed. Grab bar fasteners and wall anchors by others.

Various configurations are available.



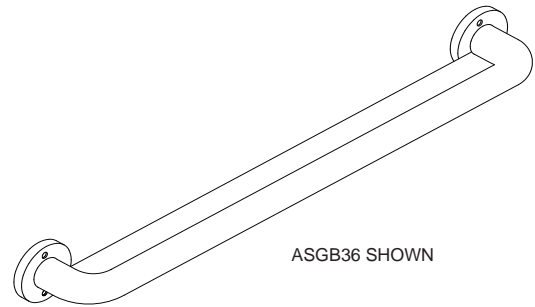
ANCHORING MATERIAL BY OTHERS

visit our website at [www.willoughby-ind.com](http://www.willoughby-ind.com)  
 5105 West 79th Street • Indianapolis, IN 46269

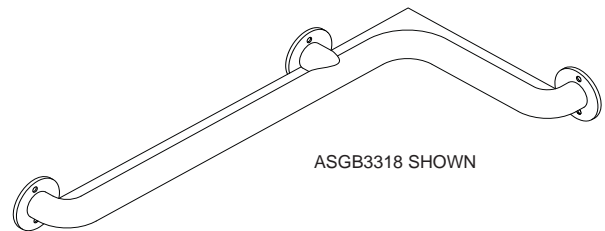


# ASGB Series Ligature-resistant Grab Bars

✓	MODEL NUMBER	GRAB BAR LENGTH ("X")
	ASGB18	18"
	ASGB24	24"
	ASGB30	30"
	ASGB36	36"
	ASGB42	42"
	ASGB48	48"
	ASGB3318	33" X 18"



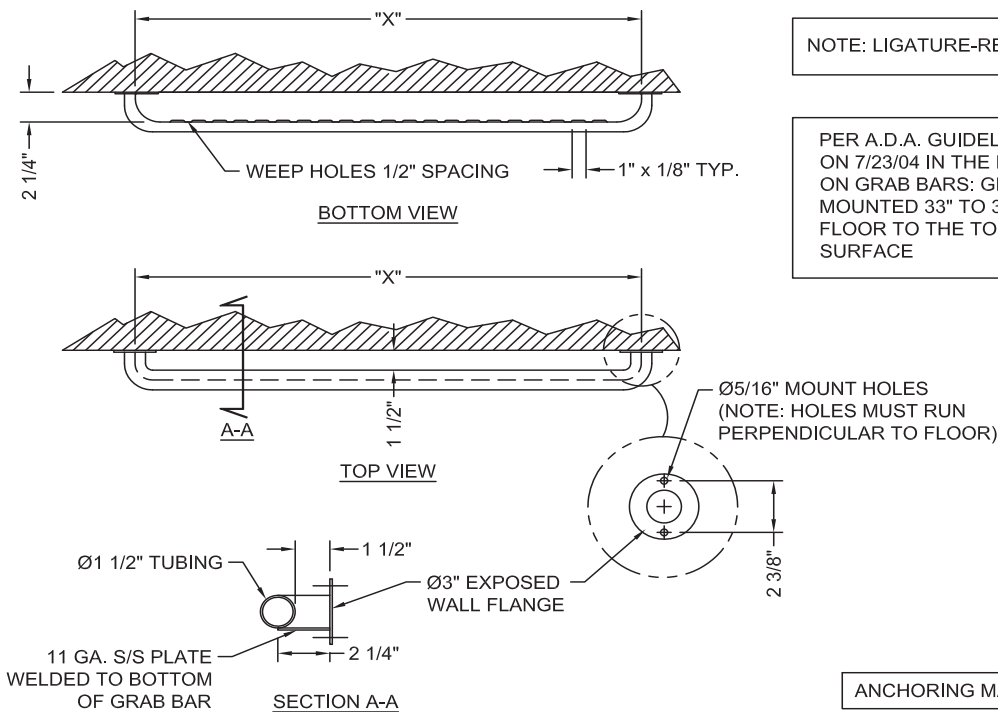
ASGB36 SHOWN



ASGB3318 SHOWN

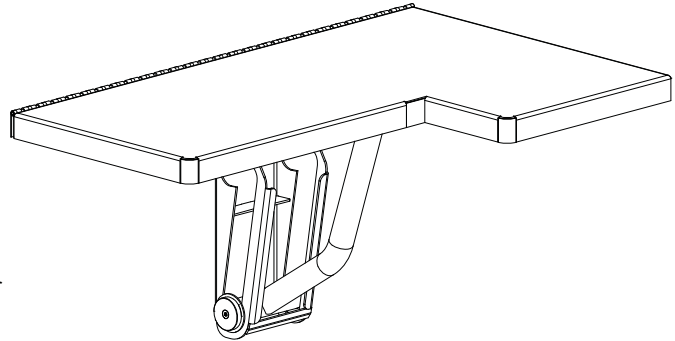
**ASGB** \_\_\_\_\_ Ligature-resistant grab bars shall be fabricated from type 304 stainless steel. Exposed stainless steel surfaces shall be polished to a #4 satin finish. Grab bar shall have 11 gauge stainless steel plate welded to bottom to give fixture a ligature-resistant design. Standard flange configuration is exposed. Grab bar fasteners and wall anchors by others.

Various configurations are available.



# FSS Series Folding Shower Seat

✓	MODEL NUMBER	SEAT CONFIGURATION
	FSSR	RIGHT HAND
	FSSL	LEFT HAND



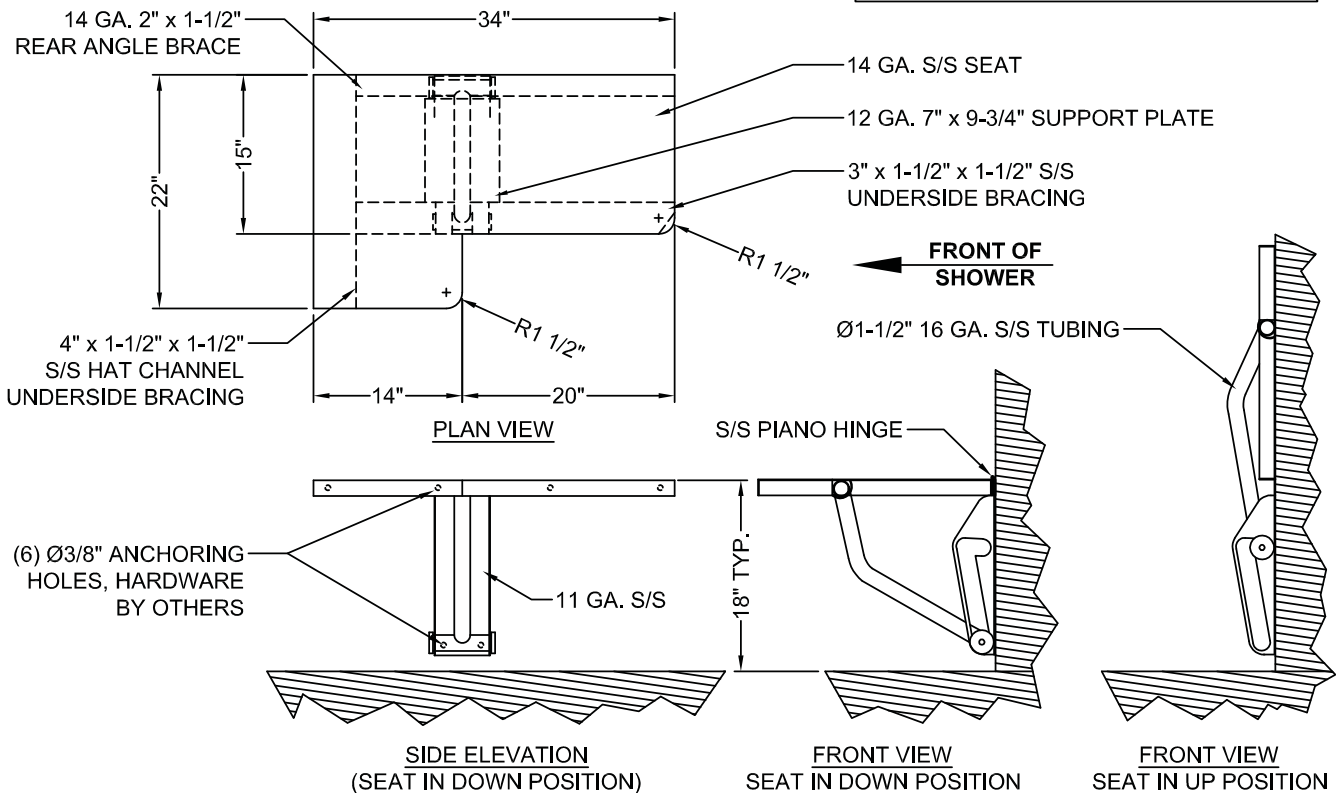
**FSS** \_\_\_\_ folding shower seat shall be fabricated from Type 304 stainless steel. Seating surface and flanges polished to a #3 satin finish. Folding shower seat provides sturdy seating for users of handicapped shower facilities and can be easily folded up when not in use.

Wall anchors and fasteners by others.



RIGHT HAND SHOWN; LEFT HAND IS SYMMETRICALLY OPPOSITE

NOTE: FOLDING SEAT MUST MOUNT 1" OUT FROM BACK WALL TO AVOID GRAB BAR INTERFERENCE



# ASFVC

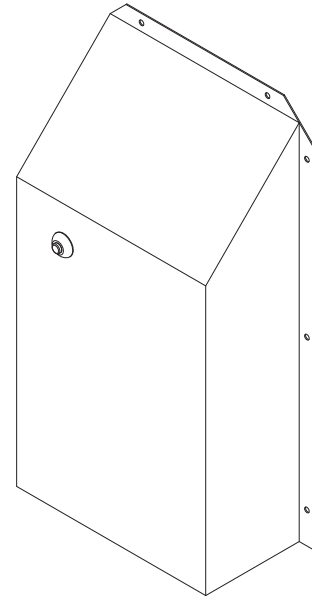
## Ligature-resistant Flush Valve Cover

Stainless steel ligature-resistant flush valve cover shall be:  
Willoughby Option No. **ASFVC**

Flush valve cover shall be fabricated from 14 gauge, type 304 stainless steel with exposed stainless steel surfaces polished to a #4 satin finish. Flush valve cover is supplied with 5/16" diameter mounting holes, anchoring hardware is provided by others. Flush valve cover shall have a ligature-resistant sloped top.

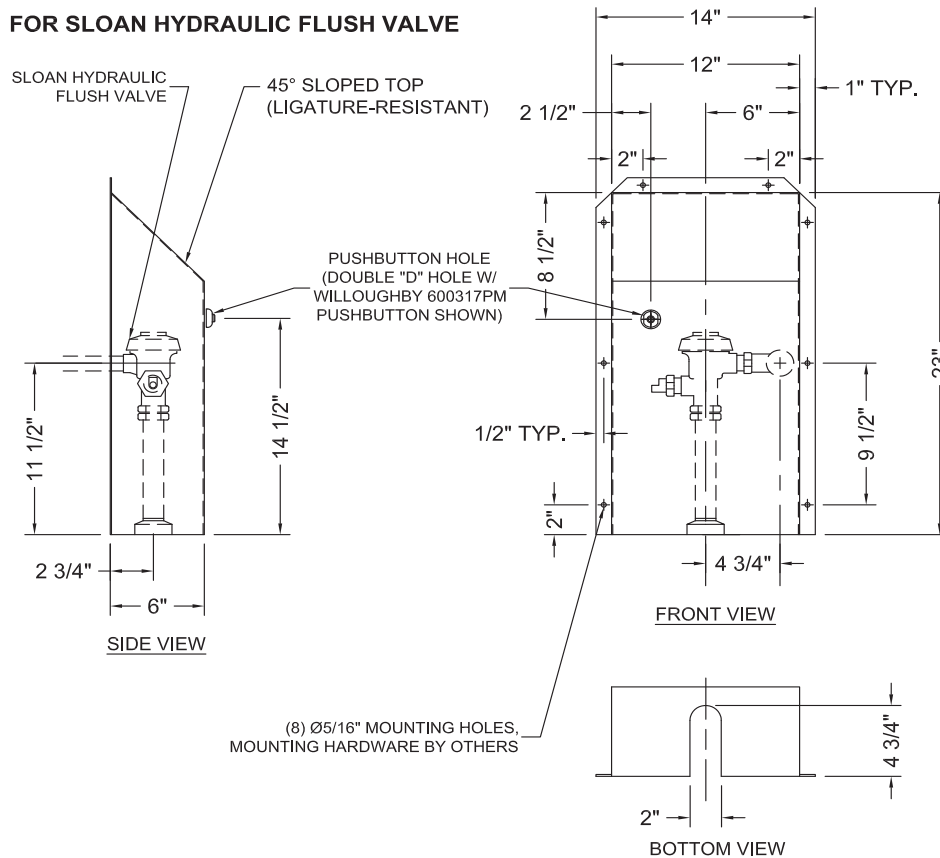
**Options:**

- DC Decorator Color (Fixture exterior only- White)
- For use with Willoughby push button actuator (double 'D' hole required)
- For use with Sloan push button actuator (1 1/2" diameter hole required)
- For use with another push button actuator (specify hole size: \_\_\_\_\_)



SHOWN WITH WILLOUGHBY 600317PM PUSHBUTTON

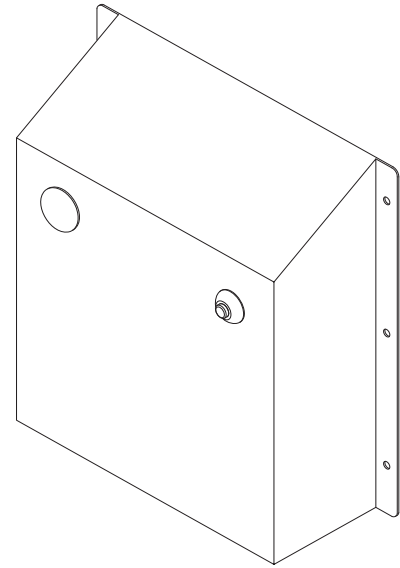
**FOR SLOAN HYDRAULIC FLUSH VALVE**



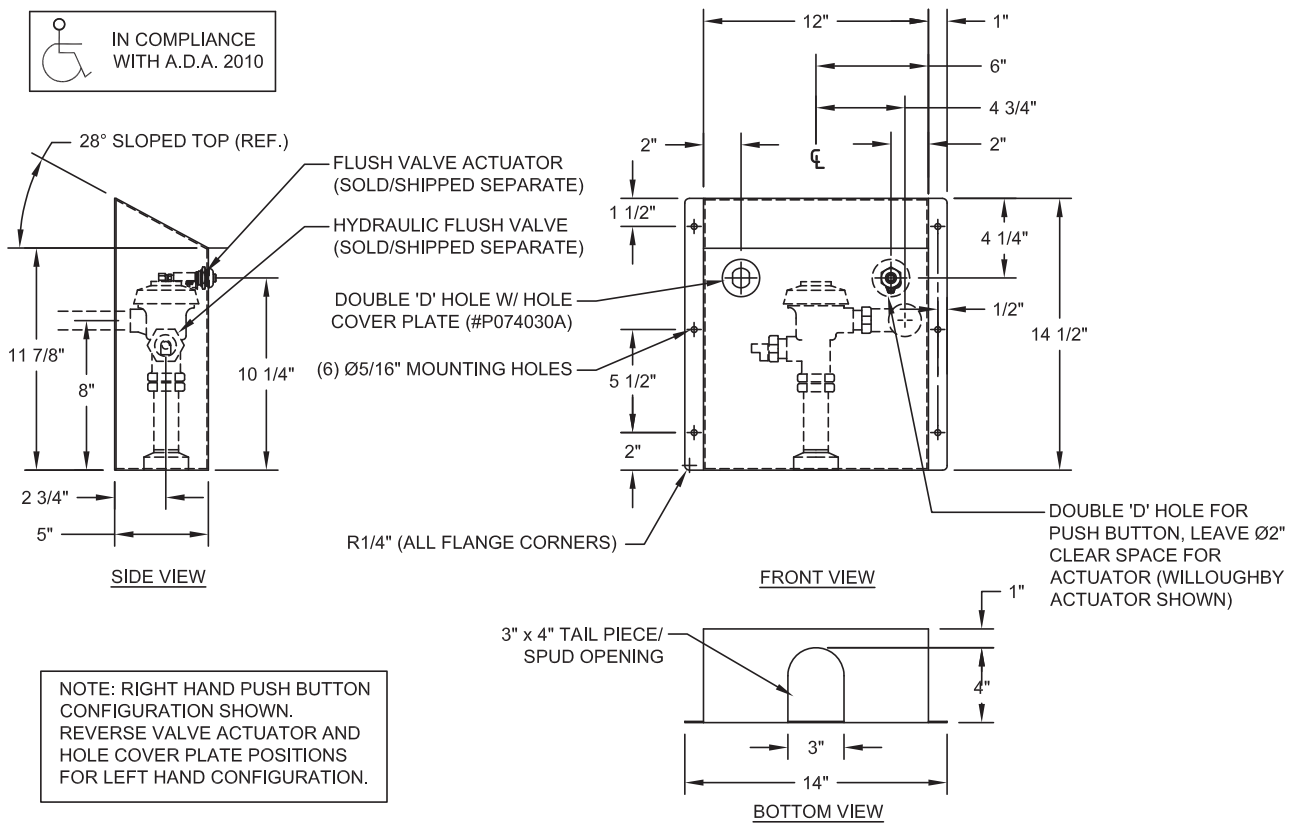
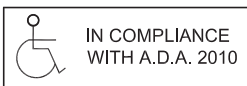
# ASFVCADA Ligature-resistant ADA Compliant Flush Valve Cover

Stainless steel ligature-resistant ADA compliant flush valve cover shall be: Willoughby Option No. **ASFVCADA**

Flush valve cover shall be fabricated from 14 gauge, type 304 stainless steel with exposed stainless steel surfaces polished to a #4 satin finish. Flush valve cover is supplied with 5/16" diameter mounting holes, anchoring hardware is provided by others. Flush valve cover shall have a ligature-resistant sloped top, (2) flush valve push button holes for a right hand or a left hand toilet and one stainless steel hole cover plate to cover the unused push button hole.



- Options:**
- DC Decorator Color (Fixture exterior only- White)
  - For use with Willoughby push button actuator (double 'D' hole required)
  - For use with Sloan push button actuator (1 1/2" diameter hole required)
  - For use with another push button actuator (specify hole size: \_\_\_\_\_)



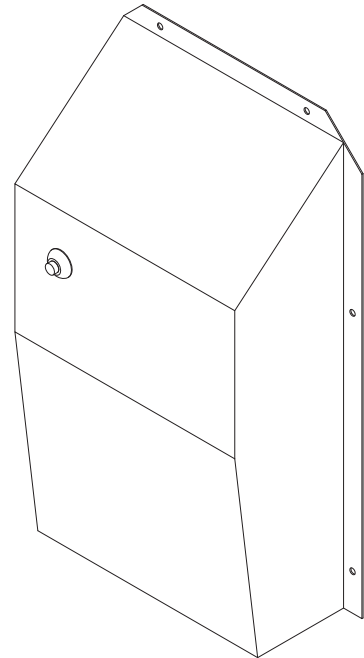
NOTE: RIGHT HAND PUSH BUTTON CONFIGURATION SHOWN. REVERSE VALVE ACTUATOR AND HOLE COVER PLATE POSITIONS FOR LEFT HAND CONFIGURATION.

# ASUFVC

## Ligature-resistant Urinal Flush Valve Cover

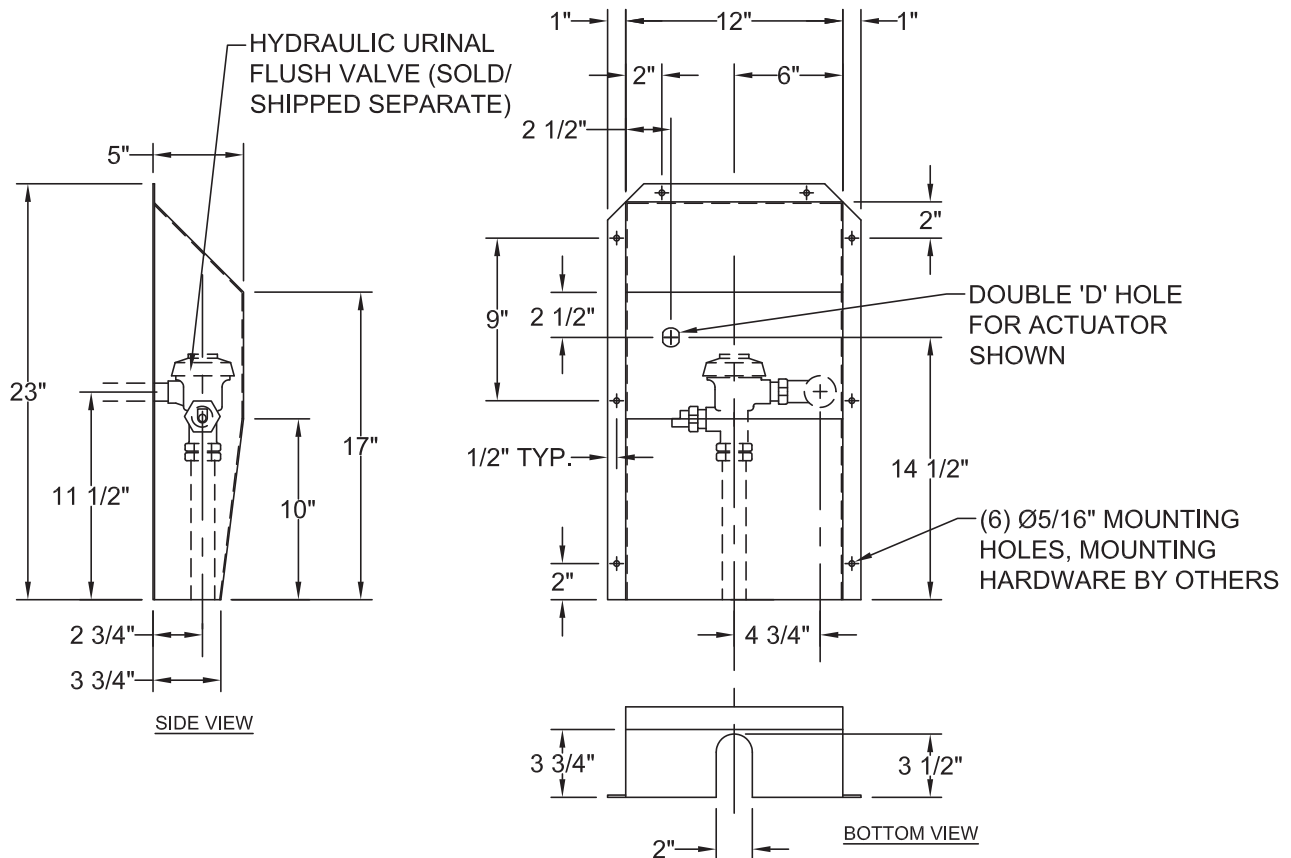
Stainless steel ligature-resistant urinal flush valve cover shall be:  
Willoughby Option No. **ASUFVC**

Urinal flush valve cover shall be fabricated from 14 GA, Type 304 stainless steel with exposed stainless steel surfaces polished to a #3 satin finish. Flush valve cover is supplied with Ø5/16" mounting holes, anchoring hardware is provided by others. Flush valve cover shall have ligature-resistant sloped top and bottom.



**Options:**

- DC Decorator Color (Fixture exterior only- White)
- For use with Willoughby push button actuator (double 'D' hole required)
- For use with Sloan push button actuator (Ø1-1/2" hole required)
- For use with another push button actuator (specify hole size: \_\_\_\_\_)



# NOTES:

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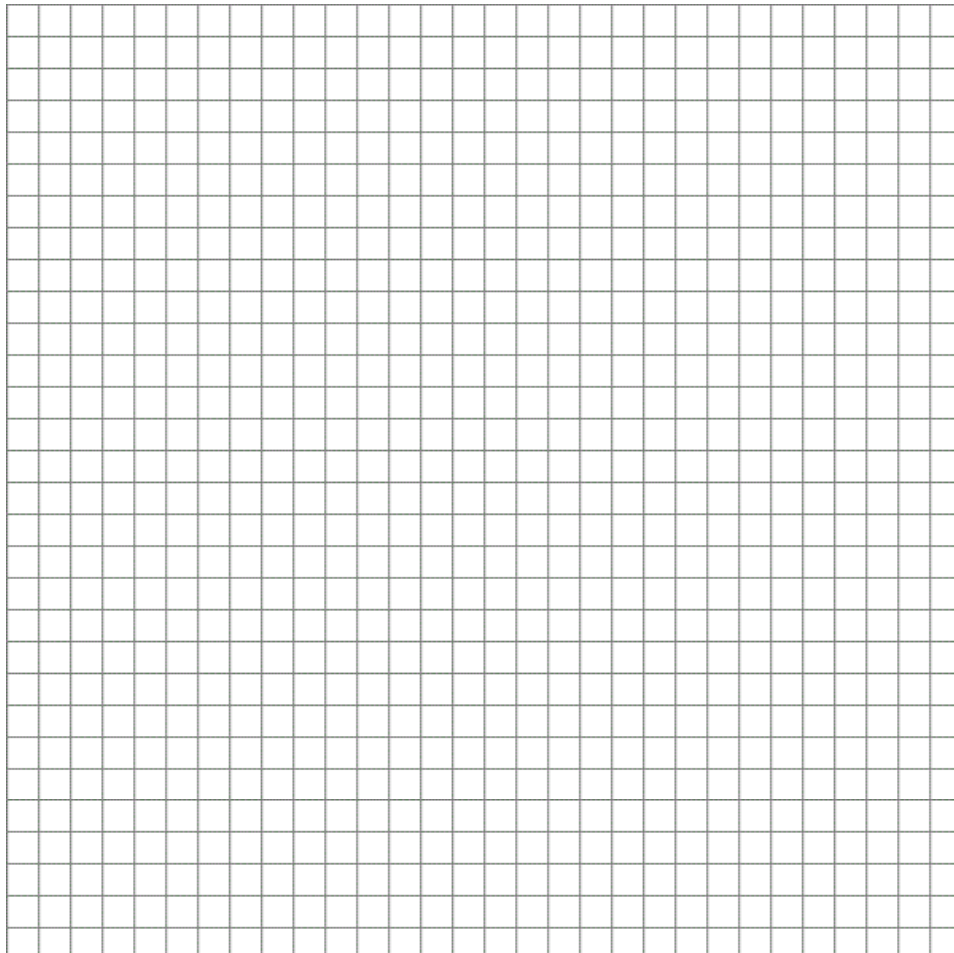
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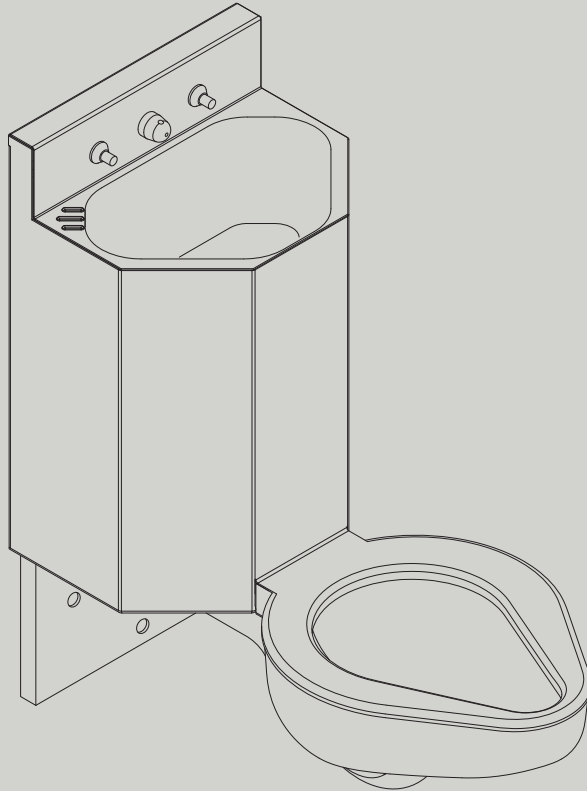


# PARTS AND ACCESSORIES CATALOG



WILLOUGHBY

## SECTION 22



### REPLACEMENT PLUMBING FIXTURES

**THESE ITEMS:**

REPLACEMENT TOILETS \_\_\_\_\_

REPLACEMENT LAVATORIES \_\_\_\_\_

REPLACEMENT COMBIS \_\_\_\_\_

**BEGIN ON PAGE:**

191

199

203



# NOTES:

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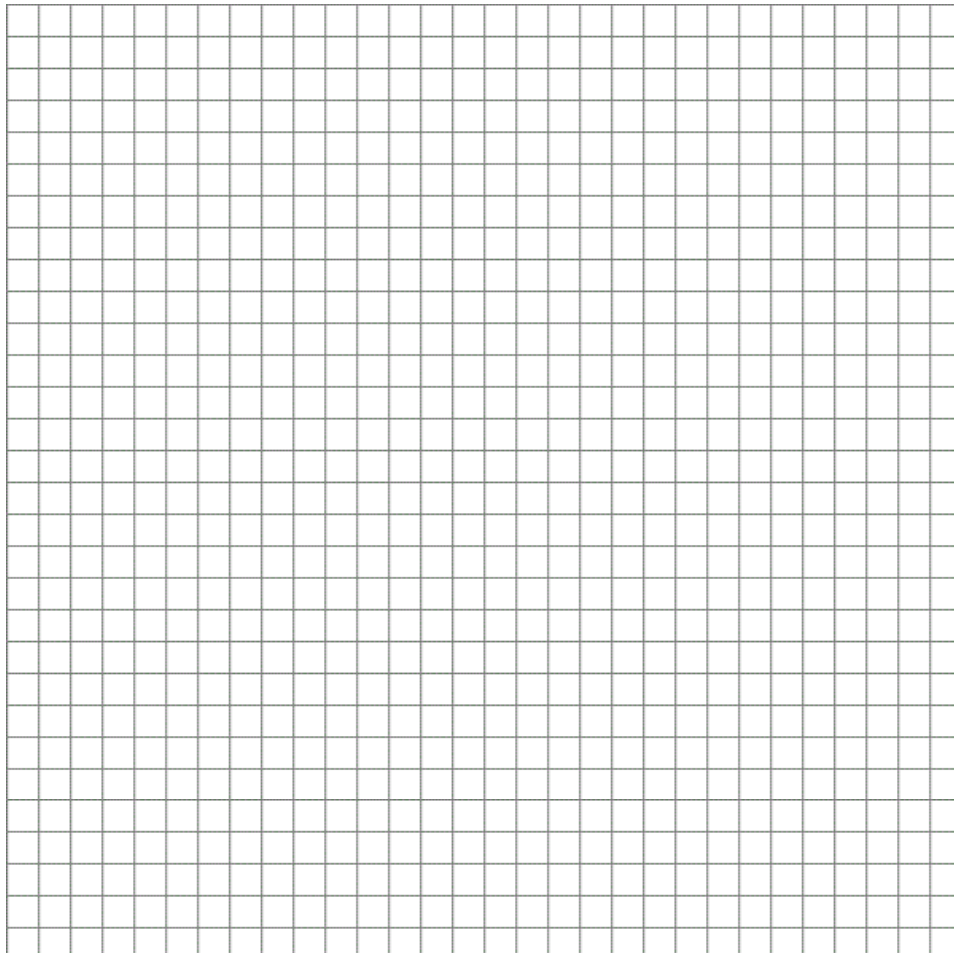
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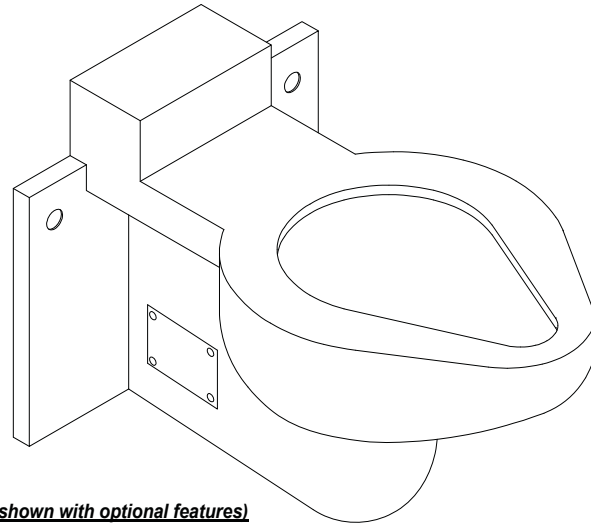
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# ETW-1490-CM-RPF

## Replacement Carrier Mounted Blowout Series Water Closet



### Recommended Specifications

*(Unit may be shown with optional features)*

Replacement, Carrier Mounted, Blowout Series Toilet shall be: Willoughby Model No. **ETW-1490-CM-RPF**

Fixture shall be fabricated from 14 GA, Type 304 stainless steel. The construction shall be an all welded, with exposed stainless surfaces polished to a #3 satin finish.

Standard toilet shall include: elongated toilet bowl with contoured seat, integral crevice-free self-draining flushing rim with positive afterfill and fully enclosed 3" O.D. trap which shall maintain a minimum 2" seal and pass a 2-5/8" ball.

Toilet shall be blowout type which requires 35 psi minimum flushing pressure.

Fixture shall withstand loadings up to 2,000 lbs. with no measurable deflection and loadings up to 5,000 lbs. with no permanent damage.

Anchoring shall be by standard 3-bolt blowout carrier (carrier and fasteners by others). Back spud unit shall require chase area for installation and maintenance.

Note: For 1.6 gallon flush, unit will pass a 2-1/8" ball.

*On back to back fixture installations, do not use standard cross type waste fittings: cross flow may result due to blowout jet action. Use sanitary or offset type waste fittings.*

✓	MANUFACTURER	MODEL #	V	W	X	Y	Z
	AMERICAN STANDARD	2509.057	3-1/2"	11-1/4"	11-3/4"	15 1/4"	5"
		2510.048	3-1/2"	11-1/4"	11-3/4"	15 1/4"	N/A
		2511.012	3-1/2"	11-1/4"	11-3/4"	15 1/4"	5"
		2512.010	3-1/2"	11-1/4"	11-3/4"	15 1/4"	N/A
		2513.018	3-1/2"	11-1/4"	11-3/4"	15 1/4"	5"
		2515.013	3-1/2"	11-1/4"	11-3/4"	15 1/4"	5"
	CRANE	3-460	3-1/2"	11-1/4"	12-1/4"	15 3/4"	N/A
		3-462	3-1/2"	11-1/4"	12-1/4"	15 3/4"	4-3/4"
		3-462E	3-1/2"	11-1/4"	12-1/4"	15 3/4"	4-3/4"
		3-464	3-1/2"	11-1/4"	12-1/4"	15 3/4"	4-3/4"
		3-464E	3-1/2"	11-1/4"	12-1/4"	15 3/4"	4-3/4"
	ELGER	111-0355	3-1/2"	11-1/4"	11-1/2"	15"	N/A
		111-0365	3-1/2"	11-1/4"	11-1/2"	15"	5"
		111-0377	3-1/2"	11-1/4"	11-1/2"	15"	5"
	KOHLER	K-4450-ET	3-1/2"	11-1/4"	11"	14-1/2"	N/A
		K-4460-ER	3-1/2"	11-1/4"	11"	14-1/2"	5 1/2"
		K-4475-ER	3-1/2"	11-1/4"	11"	14-1/2"	5 1/2"
		K-4450-C	4"	11-3/4"	11"	15"	N/A
		K-4460-C	4"	11-3/4"	11"	15"	5 1/2"
		K-4475-C	4"	11-3/4"	11"	15"	5 1/2"
	SUPER SECUR	A-300	3-1/2"	11-1/4"	11-1/4"	14-3/4"	5-1/4"

**MODEL NUMBER AND OPTIONS:**

**1.) Base Model Number:**

- ETW-1490-CM-RPF Replacement, Carrier Mounted, Blowout Series Toilet

**2.) Inlet Location:**

- BS Back Spud
- TS Top Spud

**3.) Flush Valve GPF (Must Specify):**

- 1.28 GPF HET
- 1.6 GPF ULF (Standard)
- 3.5 GPF (3" waste tube required)

**4.) Toilet Waste:**

- GWC Gasketed Waste Connection (Standard)

**5.) Other Options:**

- T4 Manual Reset Toilet Overflow Preventer, Requires: (FV) Hydraulic Flush Valve and Accessible Chase
- T4A Auto Reset Toilet Overflow Preventer, Requires: (FV) Hydraulic Flush Valve and Accessible Chase
- ET4 Electronic Toilet Overflow Preventer\*, Requires: (EFV) Electronic Flush Valve and Accessible Chase
- FV Hydraulic Flush Valve (Includes Actuator)
- EFV Electronic Flush Valve (Pick Control)\*
- EFVP Electronic Flush Valve w/ (PZPB) Piezo Push Button (Pick Control)\*
- FVT Flush Valve Connection (Back Spud Only)

**[Other Options CONTINUED:]**

- ASFVC Flush Valve Cover (Ligature-resistant, Top Spud Only)
- ASFVCADA Ligature-resistant ADA Flush Valve Cover (Top Spud Only)
- AP Flush Valve Access Panel (Allows access to chase-mounted flush valve from fixture side)
- HS Hinged White Plastic Seat (No Cover, not recommended for Maximum Security/Ligature-resistant use)
- DC Decorator Color (Fixture exterior only - White)
- TF24 Transformer, 110V to 24V\*
- HPS High Polish Seat
- TSC Toilet Shipping Cover
- RTH1 Wall Mounted Recessed Tissue Holder (Rear Mounted, Requires Accessible Chase)
- RTH2 Wall Mounted Recessed Tissue Holder (Front Mounted, 4-1/2" Depth)
- Other \_\_\_\_\_
- Other \_\_\_\_\_

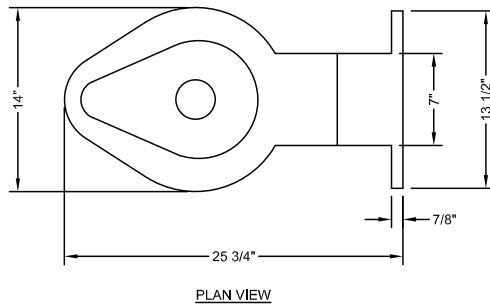
**6.) Electronic Controls\* (Must Use Electronic Flush Valve):**

- WUFC-4000  Pneutronic  WMSII
- WUCC-3010 (Select WUCC-3010 Control if pairing a Toilet with a Lavatory)

\*(Req. 110V power through ground fault interrupter (GFCI) receptacle)

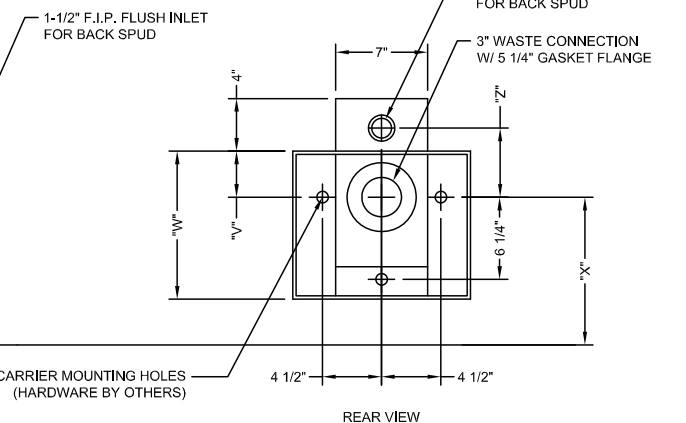
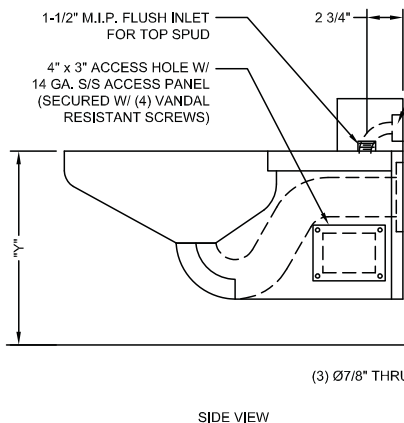
**[CONTINUED IN NEXT COLUMN:]**

Approved For Manufacturing By: \_\_\_\_\_ Date: \_\_\_\_\_ Company: \_\_\_\_\_  
 Wall Thickness: \_\_\_\_\_ Wall Type: \_\_\_\_\_



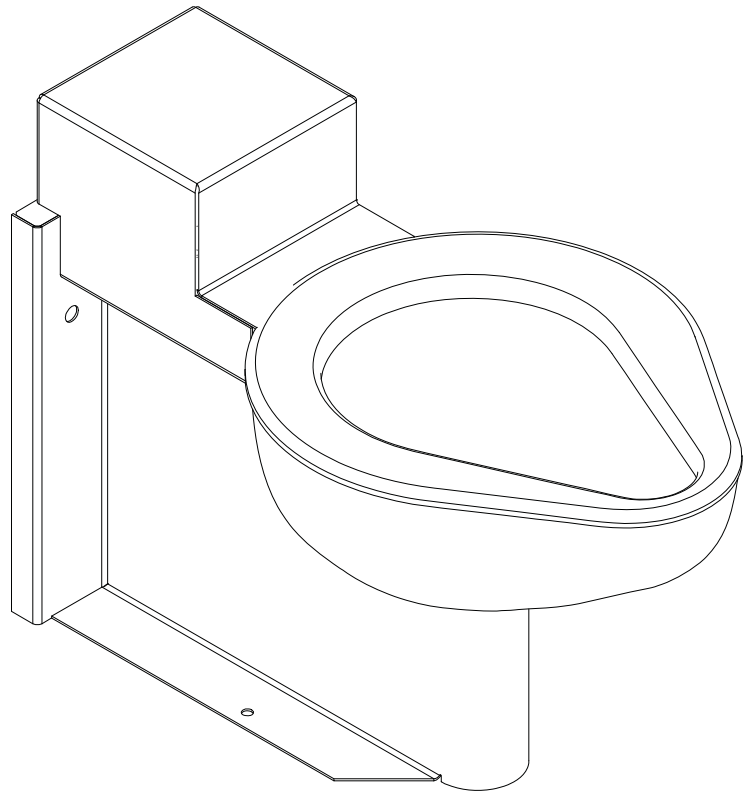
3.5 GPF UNIT SHOWN  
 NOTE: 1.6 GPF UNIT WILL HAVE 2-1/2" O.D. WASTE TUBE

**VERIFY ALL DIMENSIONS WITH FACTORY PRIOR TO ROUGH-IN**  
 WILLOUGHBY RESERVES THE RIGHT TO MAKE CHANGES IN DESIGN AND DIMENSIONS WITHOUT FORMAL NOTICE AND WITHOUT INCURRING OBLIGATION.



# ETW-1490-FM-RPF

## Replacement Floor Mounted Blowout Series Water Closet



### Recommended Specifications

*(Unit may be shown with optional features)*

Replacement, Floor Mounted, Blowout Series Toilet shall be: Willoughby Model No. **ETW-1490-FM-RPF**

Fixture shall be fabricated from 14 GA, Type 304 stainless steel. The construction shall be an all welded, with exposed stainless surfaces polished to a #3 satin finish.

Standard toilet shall include: elongated toilet bowl with contoured seat, integral crevice-free self-draining flushing rim with positive afterfill and fully enclosed 3" O.D. trap which shall maintain a minimum 2" seal and pass a 2-5/8" ball. Toilet shall be blowout type which requires 35 psi minimum flushing pressure.

Fixture shall withstand loadings up to 2,000 lbs. with no measurable deflection and loadings up to 5,000 lbs. with no permanent damage.

Anchoring shall be through the front and through the floor (anchoring hardware provided by others). Back spud unit shall require chase area for installation and maintenance.

Note: For 1.6 gallon flush, unit will pass a 2-1/8" ball.

*On back to back fixture installations, do not use standard cross type waste fittings: cross flow may result due to blowout jet action. Use sanitary or offset type waste fittings.*

✓	MANUFACTURER	MODEL #	A	B	C	D
	KOHLER	4480ER	11"	5-1/2"	9"	6-1/2"
	AMERICAN STANDARD	2516.037	10-1/4"	6"	10"	6-3/4"
	SUPER SECUR	A-100	10-1/4"	6-1/4"	10"	6-3/4"
	ELJER	111-0580	10"	6"	10"	6-3/4"
	CRANE	3-487	11"	5-1/2"	S	S

S = SPECIFY

**MODEL NUMBER AND OPTIONS:**

**1.) Base Model Number:**

- ETW-1490-FM-RPF Replacement, Floor Mounted, Blowout Series Toilet

**2.) Inlet Location:**

- BS Back Spud
- TS Top Spud

**3.) Flush Valve GPF (Must Specify):**

- 1.28 GPF HET
- 1.6 GPF ULF (Standard)
- 3.5 GPF (3" waste tube required)

**4.) Toilet Waste:**

- GWC Gasketed Waste Connection (Standard)

**5.) Other Options:**

- T4 Manual Reset Toilet Overflow Preventer, Requires: (FV) Hydraulic Flush Valve and Accessible Chase
- T4A Auto Reset Toilet Overflow Preventer, Requires: (FV) Hydraulic Flush Valve and Accessible Chase
- ET4 Electronic Toilet Overflow Preventer\*, Requires: (EFV) Electronic Flush Valve and Accessible Chase
- FV Hydraulic Flush Valve (Includes Actuator)
- EFV Electronic Flush Valve (Pick Control)\*
- EFVP Electronic Flush Valve w/ (PZPB) Piezo Push Button (Pick Control)\*
- FVT Flush Valve Connection (Back Spud Only)

**[CONTINUED IN NEXT COLUMN:]**

**[Other Options CONTINUED:]**

- ASFVC Flush Valve Cover (Ligature-resistant, Top Spud Only)
- ASFVCADA Ligature-resistant ADA Flush Valve Cover (Top Spud Only)
- AP Flush Valve Access Panel (Allows access to chase mounted flush valve from fixture side)
- HS Hinged White Plastic Seat (No Cover, not recommended for Maximum Security/Ligature-resistant use)
- DC Decorator Color (Fixture exterior only - White)
- TF24 Transformer, 110V to 24V\*
- HPS High Polish Seat
- TSC Toilet Shipping Cover
- RTH1 Wall Mounted Recessed Tissue Holder (Rear Mounted, Requires Accessible Chase)
- RTH2 Wall Mounted Recessed Tissue Holder (Front Mounted, 4-1/2" Depth)
- Other \_\_\_\_\_
- Other \_\_\_\_\_

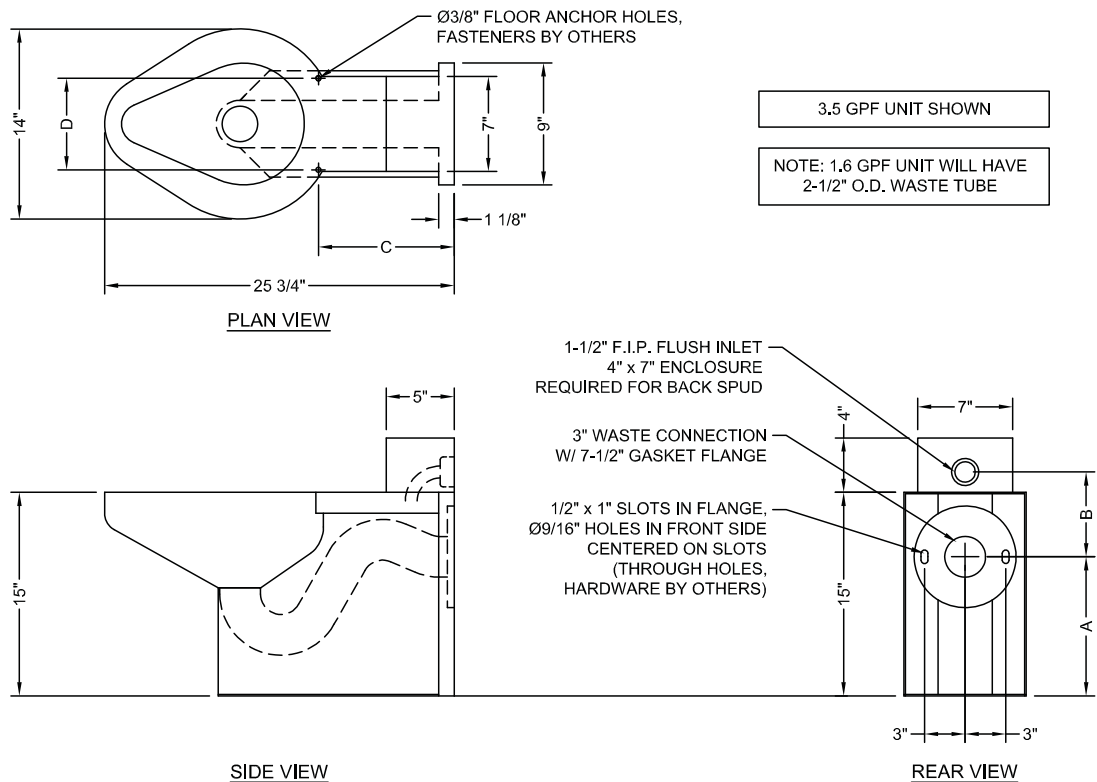
**6.) Electronic Controls\* (Must Use Electronic Flush Valve):**

- WUFC-4000  Pneutronic  WMSII
- WUCC-3010 (Select WUCC-3010 Control if pairing a Toilet with a Lavatory)

\*(Req. 110V power through ground fault interrupter (GFCI) receptacle)

Approved For Manufacturing By: \_\_\_\_\_ Date: \_\_\_\_\_ Company: \_\_\_\_\_  
 Wall Thickness: \_\_\_\_\_ Wall Type: \_\_\_\_\_

**VERIFY ALL DIMENSIONS WITH FACTORY PRIOR TO ROUGH-IN**  
 WILLOUGHBY RESERVES THE RIGHT TO MAKE CHANGES IN DESIGN AND DIMENSIONS WITHOUT FORMAL NOTICE AND WITHOUT INCURRING OBLIGATION.

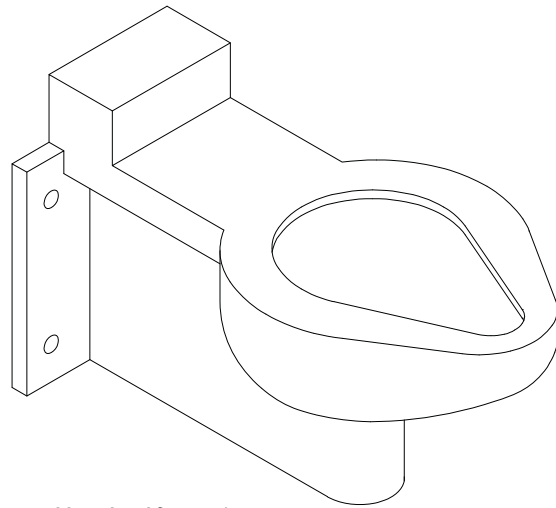


3.5 GPF UNIT SHOWN

NOTE: 1.6 GPF UNIT WILL HAVE 2-1/2" O.D. WASTE TUBE

# ETWS-1490-CM-RPF

## Replacement Carrier Mounted Siphon Jet Series Water Closet



### Recommended Specifications

*(Unit may be shown with optional features)*

Replacement, Carrier Mounted, Siphon Jet Series Toilet shall be: Willoughby Model No. **ETWS-1490-CM-RPF**

Fixture shall be fabricated from 14 GA, Type 304 stainless steel. The construction shall be an all welded, with exposed stainless surfaces polished to a #3 satin finish.

Standard toilet shall include: elongated toilet bowl with contoured seat, integral crevice-free self-draining flushing rim with positive afterfill and fully enclosed 3" O.D. trap which shall maintain a minimum 2" seal and pass a 2-5/8" ball. Toilet shall be siphon jet type which requires 35 psi minimum flushing pressure.

Fixture shall withstand loadings up to 2,000 lbs. with no measurable deflection and loadings up to 5,000 lbs. with no permanent damage.

Anchoring shall be by standard 4 bolt siphon jet carrier (carrier and fasteners by others).

Note: For 1.6 gallon flush, unit will pass a 2-1/8" ball.

*On back to back fixture installations, do not use standard cross type waste fittings: cross flow may result due to blowout jet action. Use sanitary or offset type waste fittings.*

✓	MANUFACTURER	MODEL #	X	Y	Z	
	AMERICAN STANDARD	2093.100	4-1/8"	14-1/2"	N/A	
		2254.127	5-1/4"	15"	11"	
		2256.194	5-1/4"	15"	—	
		2257.103	5-1/4"	15"	—	
		2258.125	5-1/4"	15"	11"	
		2294.011	5-1/4"	16-1/8"	N/A	
		2296.019	5-1/4"	16-1/8"	N/A	
		2324.100	—	—	—	
		2477.016	5-1/4"	14-3/4"	—	
		2478.014	5-1/4"	14-3/4"	11"	
		2500.015	5-1/4"	14-3/4"	11"	
		2502.011	5-1/4"	14-3/4"	—	
		ELJER	111-1405	5-1/4"	14-3/4"	—
			111-1405E	5-1/4"	15"	—
	111-1413E		5-1/4"	15"	—	
	111-1425		5-1/4"	14-3/4"	7-3/4"	
	111-1425E		5-1/4"	15"	7-3/4"	
	111-1455		5-1/4"	14-3/4"	—	
	111-1475		5-1/4"	14-3/4"	7-3/4"	
	111-1505		5-1/4"	15"	—	
	111-1513		5-1/4"	15"	—	
	111-2105		5-1/4"	15"	—	
	111-2110		5-1/4"	15"	7-3/4"	
	111-2113		5-1/4"	15"	—	
	111-2118		5-1/4"	15"	7-3/4"	
	111-2405E		5-1/4"	15"	—	
	111-2425E	5-1/4"	15"	11-3/4"		
	CRANE	3-217	4"	16-1/2"	—	
		3-446	5-1/2"	14-3/4"	—	
		3-446E	5-1/2"	15-1/2"	—	
		3-449	5-1/2"	14-3/4"	9"	
		3-449E	5-1/2"	15-1/2"	—	
		3-445	5-1/2"	17"	—	
		3H-445	5-1/2"	17"	—	
		3H-722E	5-1/2"	15-3/8"	—	
		K-4430-ET	5"	14-3/4"	—	
	KOHLER	K-4432-ER	5"	15"	10"	
		K-4330	5"	15"	—	

**MODEL NUMBER AND OPTIONS:**

**1.) Base Model Number:**

- ETWS-1490-CM-RPF Replacement, Carrier Mounted, Siphon Jet Series Toilet

**2.) Inlet Location:**

- BS Back Spud
- TS Top Spud

**3.) Flush Valve GPF (Must Specify):**

- 1.28 GPF HET
- 1.6 GPF ULF (Standard)
- 3.5 GPF (3" waste tube required)

**4.) Toilet Waste:**

- GWC Gasketed Waste Connection (Standard)

**5.) Other Options:**

- T4 Manual Reset Toilet Overflow Preventer, Requires: (FV) Hydraulic Flush Valve and Accessible Chase
- T4A Auto Reset Toilet Overflow Preventer, Requires: (FV) Hydraulic Flush Valve and Accessible Chase
- ET4 Electronic Toilet Overflow Preventer\*, Requires: (EFV) Electronic Flush Valve and Accessible Chase
- FV Hydraulic Flush Valve (Includes Actuator)
- EFV Electronic Flush Valve (Pick Control)\*
- EFVP Electronic Flush Valve w/ (PZPB) Piezo Push Button (Pick Control)\*
- FVT Flush Valve Connection (Back Spud Only)

**[CONTINUED IN NEXT COLUMN:]**

**[Other Options CONTINUED:]**

- ASFVC Flush Valve Cover (Ligature-resistant, Top Spud Only)
- ASFVCADA Ligature-resistant ADA Flush Valve Cover (Top Spud Only)
- AP Flush Valve Access Panel (Allows access to chase-mounted flush valve from fixture side)
- HS Hinged White Plastic Seat (No Cover, not recommended for Maximum Security/Ligature-resistant use)
- DC Decorator Color (Fixture exterior only - White)
- TF24 Transformer, 110V to 24V\*
- HPS High Polish Seat
- TSC Toilet Shipping Cover
- RTH1 Wall Mounted Recessed Tissue Holder (Rear Mounted, Requires Accessible Chase)
- RTH2 Wall Mounted Recessed Tissue Holder (Front Mounted, 4-1/2" Depth)
- Other \_\_\_\_\_
- Other \_\_\_\_\_

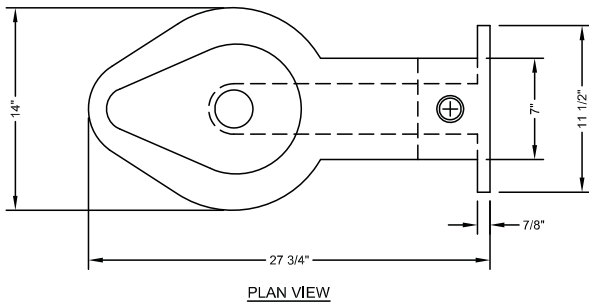
**6.) Electronic Controls\* (Must Use Electronic Flush Valve):**

- WUFC-4000     Pneutronic     WMSII
- WUCC-3010 (Select WUCC-3010 Control if pairing a Toilet with a Lavatory)

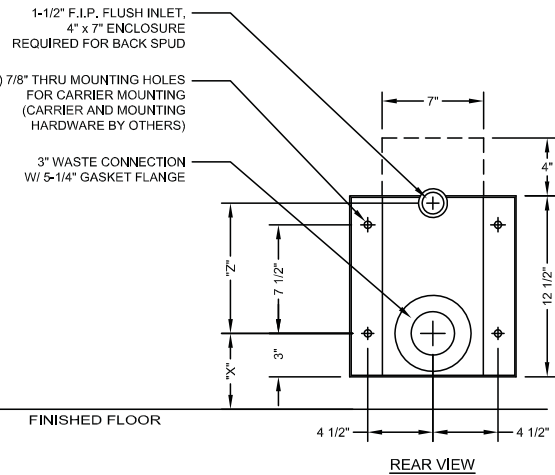
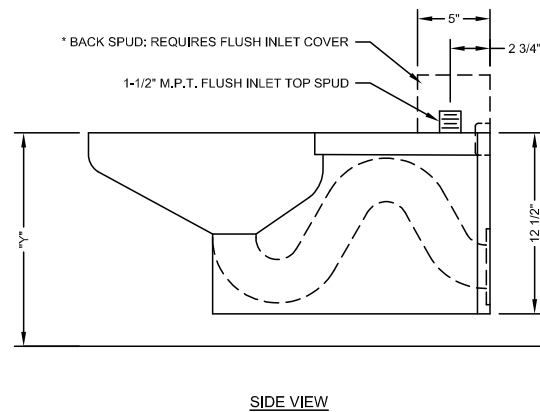
\* (Req. 110V power through ground fault interrupter (GFCI) receptacle)

Approved For Manufacturing By: \_\_\_\_\_ Date: \_\_\_\_\_ Company: \_\_\_\_\_  
 Wall Thickness: \_\_\_\_\_ Wall Type: \_\_\_\_\_

**VERIFY ALL DIMENSIONS WITH FACTORY PRIOR TO ROUGH-IN**  
 WILLOUGHBY RESERVES THE RIGHT TO MAKE CHANGES IN DESIGN AND DIMENSIONS WITHOUT FORMAL NOTICE AND WITHOUT INCURRING OBLIGATION.

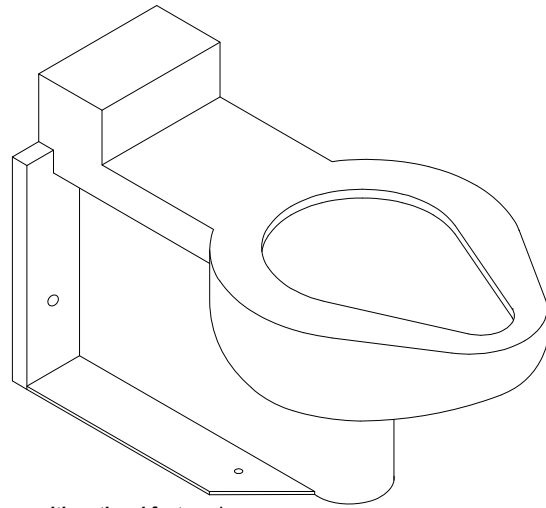


3.5 GPF UNIT SHOWN  
 NOTE: 1.6 GPF UNIT WILL HAVE 2-1/2" O.D. WASTE TUBE



# ETWS-1490-FM-RPF

## Replacement Floor Mounted Siphon Jet Series Water Closet



### Recommended Specifications

*(Unit may be shown with optional features)*

Replacement, Floor Mounted, Siphon Jet Series Toilet shall be: Willoughby Model No. **ETWS-1490-FM-RPF**

Fixture shall be fabricated from 14 GA, Type 304 stainless steel. The construction shall be an all welded, with exposed stainless surfaces polished to a #3 satin finish.

Standard toilet shall include: elongated toilet bowl with contoured seat, integral crevice-free self-draining flushing rim with positive afterfill and fully enclosed 3" O.D. trap which shall maintain a minimum 2" seal and pass a 2-5/8" ball. Toilet shall be siphon jet type which requires 35 psi minimum flushing pressure.

Fixture shall withstand loadings up to 2,000 lbs. with no measurable deflection and loadings up to 5,000 lbs. with no permanent damage.

Anchoring shall be through the front and through the floor (anchoring hardware provided by others). Back spud unit shall require chase area for installation and maintenance.

Note: For 1.6 gallon flush, unit will pass a 2-1/8" ball.

*On back to back fixture installations, do not use standard cross type waste fittings: cross flow may result due to siphon jet action. Use sanitary or offset type waste fittings.*

	MANUFACTURER	MODEL #	A	B	C	D
	KOHLER	K4398	4-1/2"	13-1/8"	14"	6-1/2"
		K4486-ET	4-1/2"	—	14"	6-1/2"
		K4498-ER	4-1/2"	13"	14"	6-1/2"
	CRANE	3-480	4-1/2"	—	11-3/4"	8"
		3-480E	4-1/2"	—	—	—
		3-481	4-1/2"	13"	11-3/4"	8"
		3-481E	4-1/2"	13"	—	—
		3-484E	4-1/2"	13"	—	—
		AMERICAN STANDARD	2529.014	4-1/4"	—	10-3/8"
		2530.012	4-1/4"	13-1/8"	10-3/8"	5-1/2"
		2320.100	4"	N/A	12-3/4"	6"
		2529.016	4-1/4"	—	10-1/2"	5-1/2"
		2530.016	4-1/4"	13-1/8"	10-1/2"	5-1/2"
		2531.016	4-1/4"	13-1/8"	10-1/2"	5-1/2"
	ELJER	111-0505	4-1/2"	—	TOE CLAMPS	
		111-0505E	4-1/2"	—	TOE CLAMPS	
		111-0515	4-1/2"	13"	TOE CLAMPS	
		111-0515E	4-1/2"	—	TOE CLAMPS	
	SUPER SECUR	A-104	4-1/4"	14-1/2"	18"	6-3/4"



**MODEL NUMBER AND OPTIONS:**

**1.) Base Model Number:**

- ETWS-1490-FM-RPF Replacement, Floor Mounted, Siphon Jet Series Toilet

**2.) Inlet Location:**

- BS Back Spud
- TS Top Spud

**3.) Flush Valve GPF (Must Specify):**

- 1.28 GPF HET
- 1.6 GPF ULF (Standard)
- 3.5 GPF (3" waste tube required)

**4.) Toilet Waste:**

- GWC Gasketed Waste Connection (Standard)

**5.) Other Options:**

- T4 Manual Reset Toilet Overflow Preventer, Requires: (FV) Hydraulic Flush Valve and Accessible Chase
- T4A Auto Reset Toilet Overflow Preventer, Requires: (FV) Hydraulic Flush Valve and Accessible Chase
- ET4 Electronic Toilet Overflow Preventer\*, Requires: (EFV) Electronic Flush Valve and Accessible Chase
- FV Hydraulic Flush Valve (Includes Actuator)
- EFV Electronic Flush Valve (Pick Control)\*
- EFVP Electronic Flush Valve w/ (PZPB) Piezo Push Button (Pick Control)\*
- FVT Flush Valve Connection (Back Spud Only)

**[CONTINUED IN NEXT COLUMN:]**

**[Other Options CONTINUED:]**

- ASFVC Flush Valve Cover (Ligature-resistant, Top Spud Only)
- ASFVCADA Ligature-resistant ADA Flush Valve Cover (Top Spud Only)
- AP Flush Valve Access Panel (Allows access to chase-mounted flush valve from fixture side)
- HS Hinged White Plastic Seat (No Cover, not recommended for Maximum Security/Ligature-resistant use)
- DC Decorator Color (Fixture exterior only - White)
- TF24 Transformer, 110V to 24V\*
- HPS High Polish Seat
- TSC Toilet Shipping Cover
- RTH1 Wall Mounted Recessed Tissue Holder (Rear Mounted, Requires Accessible Chase)
- RTH2 Wall Mounted Recessed Tissue Holder (Front Mounted, 4-1/2" Depth)
- Other \_\_\_\_\_
- Other \_\_\_\_\_

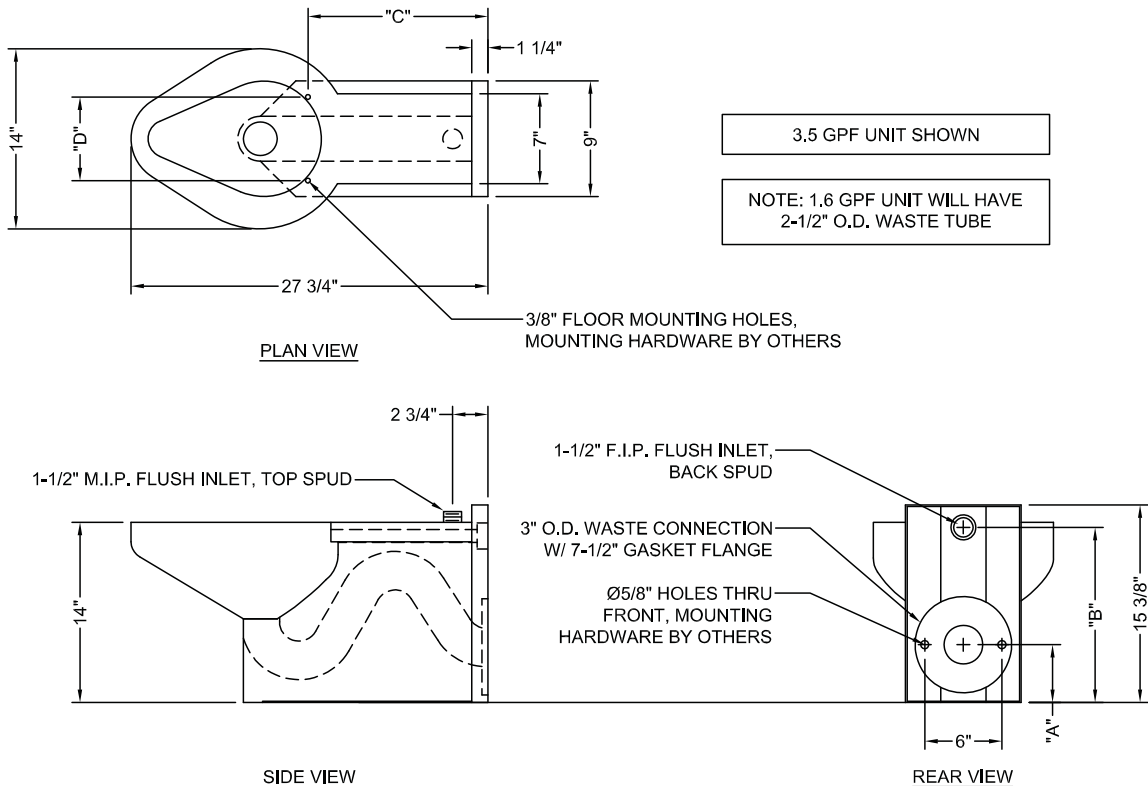
**6.) Electronic Controls\* (Must Use Electronic Flush Valve):**

- WUFC-4000  Pneutronic  WMSII
- WUCC-3010 (Select WUCC-3010 Control if pairing a Toilet with a Lavatory)

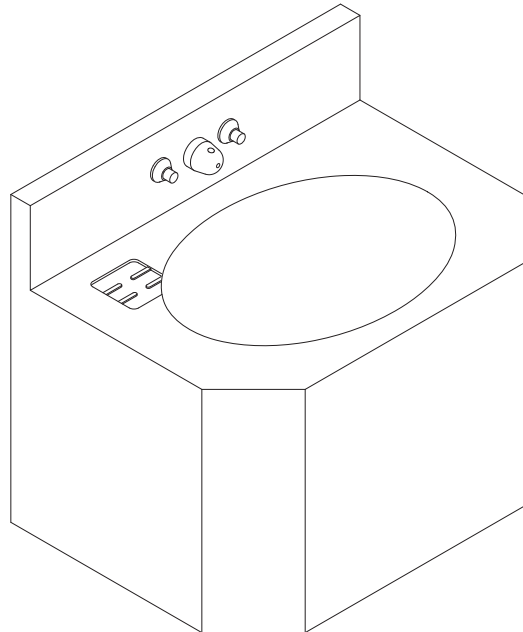
\*(Req. 110V power through ground fault interrupter (GFCI) receptacle)

Approved For Manufacturing By: \_\_\_\_\_ Date: \_\_\_\_\_ Company: \_\_\_\_\_  
 Wall Thickness: \_\_\_\_\_ Wall Type: \_\_\_\_\_

**VERIFY ALL DIMENSIONS WITH FACTORY PRIOR TO ROUGH-IN**  
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# HS-1013-96-RPF Replacement 18" Wide Lavatory



*(Unit may be shown with optional features)*

## Recommended Specifications

Replacement 18" Wide Lavatory shall be:  
Willoughby Model No. **HS-1013-96-RPF**

Fixture shall be fabricated from 14 GA, Type 304 stainless steel. The construction shall be all welded, with exposed stainless surfaces polished to a #3 satin finish.

Standard lavatory shall include: oval-shaped bowl, 13" x 9-1/2" x 6" deep, stainless steel penal filler/bubbler, fast drain with air vent, elbow waste (1-1/2" F.I.P.) and self-draining soap dish.

Cabinet interior shall be sound deadened with fire-resistant material.

Anchoring shall be by standard 4-point system: threaded rods, nuts and washers shall be furnished for walls up to 8" thick. Unit shall require chase area for installation and maintenance.

✓	MANUFACTURER	MODEL #	X	Y
	AMERICAN STANDARD	0420.018	6-1/2"	11-3/4"
		0420.026	6-1/2"	11-3/4"
		0420.034	3-1/4" A	11-3/4"
		0420.067	6-1/2"	11-3/4"
		0420.075	3-1/4" A	11-3/4"
		0421.025	6-1/2"	11-3/4"
		0421.026	6-1/2"	11-3/4"
		0421.067	6-1/2"	11-3/4"
		0430.025	6-1/2"	11-3/4" B
		0430.033	3-1/4" A	11-3/4" B
		0430.041	6-1/2"	11-3/4" B
		0430.058	3-1/4" A	11-3/4" B
		0430.066	6-1/2"	11-3/4" B
		0431.041	6-1/2"	11-3/4"
		CRANE	I-604	7"
	I-605		3-1/2" A	11"
	ELJER	051-3436	7"	9-3/8"
		051-3437	7"	9-3/8" B
	KOHLER	K-2475	6-1/2"	11-5/8"
		K-2476	3-1/4" A	11-5/8"
	SUPER SECUR	M-50	6-3/4"	11-5/8"
		A-50	6-3/4"	12" P
A = FIXTURE HAS COLD ONLY				
B = ORIGINAL FIXTURE HAS STOPPER DRAIN				
P = FIXTURE HAS P-TRAP, ADD 3-1/2" TO HEIGHT				

**MODEL NUMBER AND OPTIONS:**

**1.) Base Model Number:**

- HS-1013-96-RPF Replacement 18" Wide Lavatory

**2.) Bubbler or Spout Selection:**

- BP Penal Bubbler/Filler
- BC Code Bubbler/Filler
- BPH Ligature-resistant Bubbler/Filler
- FL Lavatory Filler
- FLH Ligature-resistant Lavatory Filler

**3.) Lavatory Valve Selection:**

- NV No Valve (Select Hole Punching if needed)
- PSL1 Single Temp. Pneumatic Non-metering
- PSL2 Dual Temp. Pneumatic Non-metering
- PML1 Single Temp. Pneumatic Metering
- PML2 Dual Temp. Pneumatic Metering
- E1L1 Single Temp. Electronic (pick control)\*
- E1L2 Dual Temp. Electronic (pick control)\*

**Valve Manifold Options:**

- Pneumatic or Electronic Only:*
- MA2  MA3  MA4

**4.) Lavatory Valve Actuation:**

- PPB Pneumatic Push Buttons
- PBH Ligature-resistant Push Buttons
- EPB Electronic Push Buttons\*
- EPBH Ligature-resistant Electronic Push Buttons\*
- PZPB Piezo Push Buttons\*

**5.) Electronic Controls\* (Must Use Electronic Push Button):**

- WUCC-3010  Pneutronic  WMSII
- (The WUCC-3010 Control can be used to pair a Sink with a Toilet)

**6.) Push Button Hole Punching:**

If Less-Lavatory Valve, please specify push button hole sizes and locations on fixture backplash:  
 SP: \_\_\_\_\_

**7.) Lavatory Waste:**

- EB Elbow Waste (Standard)
- PT Integral 'P'-Trap
- LWE Lavatory Waste Extension
- SLOW Slow Drain
- LW1 Thru-Wall Extension, 'P'-Trap
- LW2 Thru-Wall Extension and Clean-Out (Use w/"PT" Option)

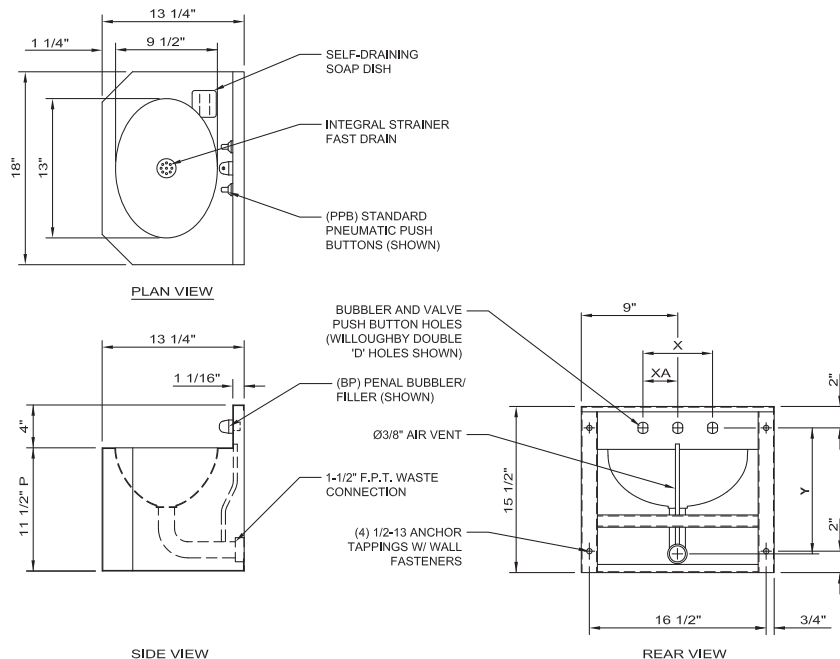
**8.) Options:**

- MT Wall Template
- TB1 Single Toothbrush Holder
  - Right  Left
- TB2 Dual Toothbrush Holder
  - Right  Left
- TH1 Single Towel Hook
  - Right  Left
- TH2 Dual Towel Hook
  - Right  Left
- ISH Integral Shelf
- VG Ventilation Grille (Specify Location and Free Area)
- TF24 Transformer, 110V to 24V\*
- Other: \_\_\_\_\_
- Other: \_\_\_\_\_

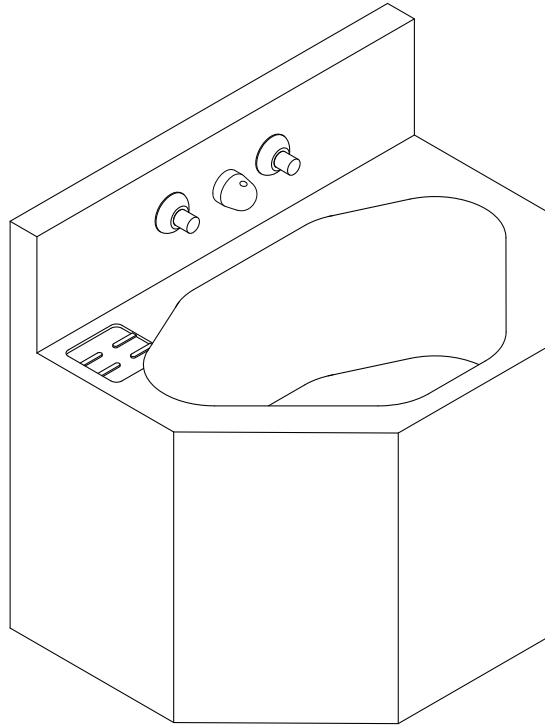
\* (Req. 110V power through ground fault interrupter (GFCI) receptacle)

Approved For Manufacturing By: \_\_\_\_\_ Date: \_\_\_\_\_ Company: \_\_\_\_\_  
 Wall Thickness: \_\_\_\_\_ Wall Type: \_\_\_\_\_

**VERIFY ALL DIMENSIONS WITH FACTORY PRIOR TO ROUGH-IN**  
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## HS-1013-46-15-RPF Replacement 15" Wide Lavatory



*(Unit may be shown with optional features)*

### Recommended Specifications

Replacement 15" Wide Lavatory shall be:  
Willoughby Model No. **HS-1013-46-15-RPF**

Fixture shall be fabricated from 14 GA., Type 304 stainless steel. The construction shall be all welded, with exposed surfaces polished to a #3 satin finish.

Standard lavatory shall include:

- Multi-sided bowl, 12-3/4" x 8-1/4" x 5" deep
- Stainless steel penal bubbler/filler
- Fast drain with air vent
- Elbow waste (1-1/2" F.I.P.)
- Self-draining soap dish

Cabinet interior shall be sound deadened with fire-resistant material.

Anchoring shall be by standard 4-point system: threaded rods, nuts and washers shall be furnished for walls up to 8" thick. Unit shall require chase area for installation and maintenance.

**MODEL NUMBER AND OPTIONS:**

**1.) Base Model Number:**

HS-1013-46-15-RPF Replacement 15" Wide Lavatory

**2.) Bubbler or Spout Selection:**

- BP Penal Bubbler/Filler
- BC Code Bubbler/Filler
- BPH Ligature-resistant Bubbler/Filler
- FL Lavatory Filler
- FLH Ligature-resistant Lavatory Filler

**3.) Lavatory Valve Selection:**

- NV No Valve (Select Hole Punching if needed)
- PSL1 Single Temp. Pneumatic Non-metering
- PSL2 Dual Temp. Pneumatic Non-metering
- PML1 Single Temp. Pneumatic Metering
- PML2 Dual Temp. Pneumatic Metering
- E1L1 Single Temp. Electronic (pick control)\*
- E1L2 Dual Temp. Electronic (pick control)\*

**Valve Manifold Options:**

*Pneumatic or Electronic Only:*

- MA2  MA3  MA4

**4.) Lavatory Valve Actuation:**

- PPB Pneumatic Push Buttons
- PBH Ligature-resistant Push Buttons
- EPB Electronic Push Buttons\*
- EPBH Ligature-resistant Electronic Push Buttons\*
- PZPB Piezo Push Buttons\*

**5.) Electronic Controls\* (Must Use Electronic Push Button):**

- WUCC-3010  Pneutronic  WMSII
- (The WUCC-3010 Control can be used to pair a Sink with a Toilet)

**6.) Push Button Hole Punching:**

If Less-Lavatory Valve, please specify push button hole sizes and locations on fixture backsplash:  
SP: \_\_\_\_\_

**7.) Lavatory Waste:**

- EB Elbow Waste (Standard)
- PT Integral 'P'-Trap
- LWE Lavatory Waste Extension
- SLOW Slow Drain
- LW1 Thru-Wall Extension, 'P'-Trap
- LW2 Thru-Wall Extension and Clean-Out (Use w/"PT" Option)

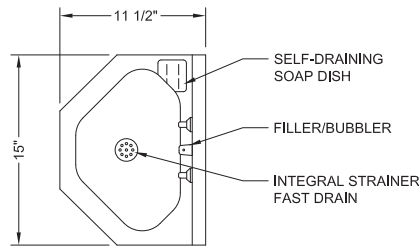
**8.) Options:**

- MT Wall Template
- TB1 Single Toothbrush Holder
  - Right  Left
- TB2 Dual Toothbrush Holder
  - Right  Left
- TH1 Single Towel Hook
  - Right  Left
- TH2 Dual Towel Hook
  - Right  Left
- ISH Integral Shelf
- VG Ventilation Grille (Specify Location and Free Area)
- TF24 Transformer, 110V to 24V\*
- Other: \_\_\_\_\_
- Other: \_\_\_\_\_

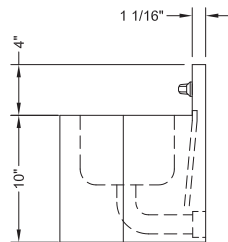
\*(Req. 110V power through ground fault interrupter (GFCI) receptacle)

Approved For Manufacturing By: \_\_\_\_\_ Date: \_\_\_\_\_ Company: \_\_\_\_\_  
Wall Thickness: \_\_\_\_\_ Wall Type: \_\_\_\_\_

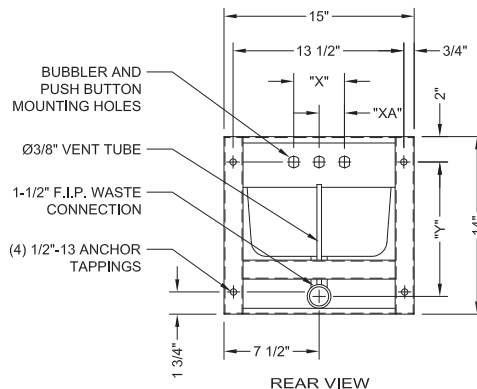
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PLAN VIEW



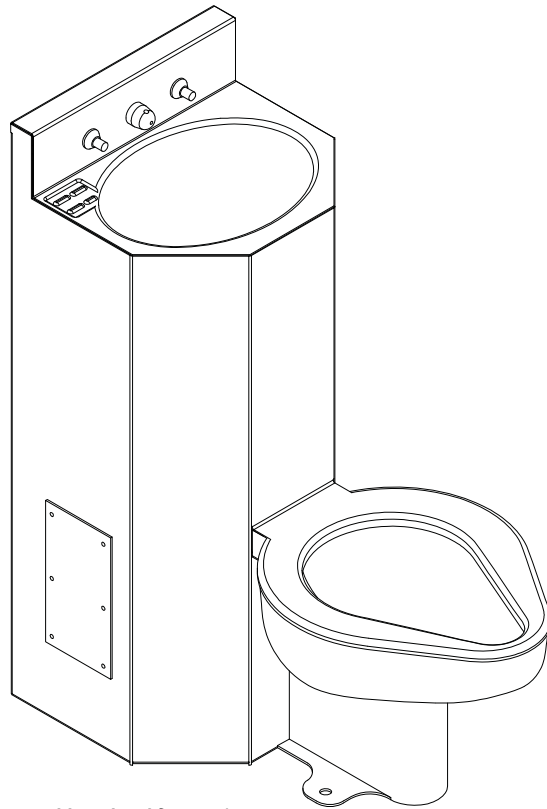
SIDE VIEW



REAR VIEW

**SPECIFY X, XA, Y, & HOLE Ø DIMENSIONS AS NEEDED FOR PUSH BUTTON HOLE PUNCHING**

## ECF-1546-150-RPF Floor Mounted Floor Outlet Replacement Combination For Super Secur A-150



### Recommended Specifications

*(Unit may be shown with optional features)*

Floor Mounted, Floor Outlet, Replacement Combination lavatory/toilet (for Super Secur A-150) shall be: Willoughby Model No. **ECF-1546-150-RPF** (Designed to replace the discontinued **Super Secur A-150**)

Fixture shall be fabricated from 14 GA, Type 304 stainless steel. The construction shall be all welded, with exposed stainless surfaces polished to a #3 satin finish.

Standard toilet shall include: elongated toilet bowl with contoured seat, integral crevice-free self-draining flushing rim with positive afterfill and fully enclosed 3" O.D. trap which shall maintain a minimum 2" seal and pass a 2-5/8" ball. Toilet shall be blowout type which requires 35 psi minimum flushing pressure.

Standard lavatory shall include: oval shaped bowl, 13" x 9-1/2" x 6" deep, stainless steel penal filler/bubbler, fast drain with air vent, combined waste w/ cleanout\* and self-draining soap dish.

Fixture shall withstand loadings up to 2,000 lbs. with no measurable deflection and loadings up to 5,000 lbs. with no permanent damage.

Cabinet interior shall be sound deadened with fire-resistant material.

Anchoring hardware by others. Unit shall require chase area for installation and maintenance.

***On back to back fixture installations, do not use standard cross type waste fitting: cross flow may result due to blowout jet action. Use sanitary or offset type waste fittings.***

Note: For 1.6 gallon flush, unit will pass a 2-1/8" ball.

***\* Check applicable plumbing code for acceptability.***

**MODEL NUMBER AND OPTIONS:**

**1.) Base Model Number:**

- ECF-1546-150-RPF Floor Mounted, Floor Outlet, Replacement Combination for Super Secur A-150

**2.) Toilet Orientation:**

- C Centered

**3.) Fixture Mounting:**

- ON On-Floor

**4.) Bubblers Selection:**

- BP Penal Bubbler/Filler (Standard)
- BC Code Bubbler/Filler (w/ Mouth Guard)
- BPH Ligature-resistant Bubbler/Filler
- FL Penal Lav. Filler
- FLH Ligature-resistant Lav. Filler

**5.) Flush Valve GPF'S (Must Specify):**

- 1.28 GPF HET
- 1.6 GPF ULF (Standard)
- 3.5 GPF (3" waste tube required)

**6.) Lavatory Valve Selection:**

- NV No Valve
- PSL1 Single Temp. Pneumatic Non-metering
- PSL2 Dual Temp. Pneumatic Non-metering
- PML1 Single Temp. Pneumatic Metering
- PML2 Dual Temp. Pneumatic Metering
- E1L1 Single Temp. Electronic (Pick Control)\*
- E1L2 Dual Temp. Electronic (Pick Control)\*

**Valve Manifold Options:**

*Pneumatic or Electronic Only:*

- MA2  MA3  MA4

**7.) Lavatory Valve Actuation:**

- PPB Pneumatic Push Buttons
- PBH Ligature-resistant Push Buttons
- EPB Electronic Push Buttons\*
- EPBH Ligature-resistant Electronic Push Buttons\*
- PZPB Piezo Push Buttons\*

**8.) Electronic Controls\***

**(Must Use Electronic Lavatory & Flush Valves):**

- WUCC-3010  Pneumatic  WMSII

**9.) Lavatory Waste:**

- EB Elbow Waste (1-1/2" F.I.P.)
- PT Integral 'P'-Trap (1-1/2" F.I.P.)
- LWE Lavatory Waste Extension
- OV Lavatory Overflow
- CW1 Combined Waste w/o Clean-out
- CW2 Combined Waste w/ Clean-out (Standard)
- SLOW Slow Drain

**10.) Toilet Waste:**

- GWC Gasketed Waste Connection (Standard)

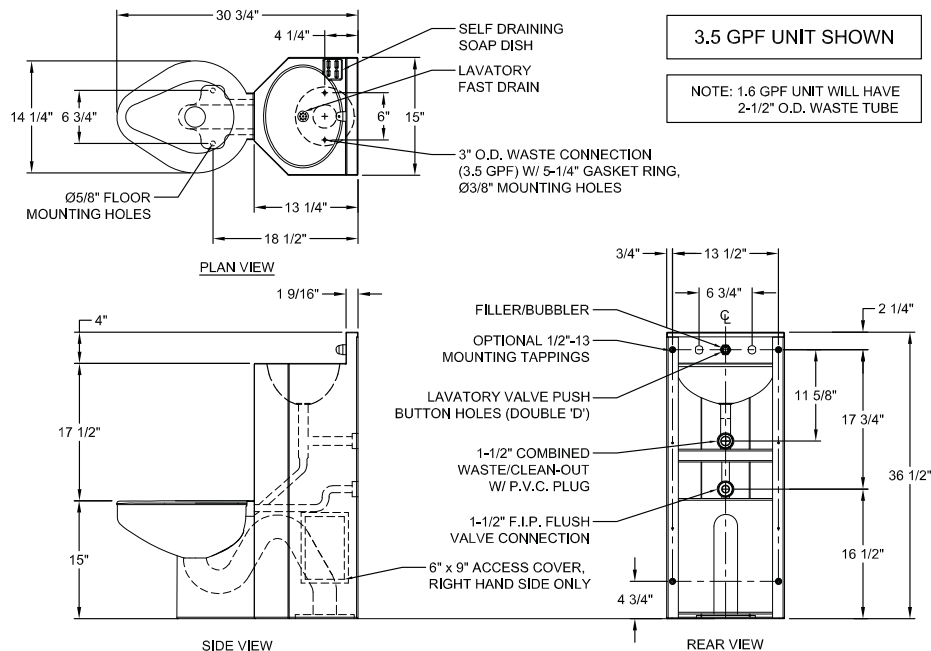
**11.) Options**

- T4 Manual Reset Toilet Overflow Preventer, Req. (FV) Flush Valve and Accessible Chase
- T4A Auto Reset Toilet Overflow Preventer, Req. (FV) Flush Valve and Accessible Chase
- ET4 Electronic Toilet Overflow Preventer\*, Req. (EFV) Electronic FV and Accessible Chase Hydraulic Flush Valve (Includes Push Button) Electronic Flush Valve (Pick Control)\*
- EFVP Electronic Flush Valve w/ (PZPB) (Pick Control)\*
- TFE Toilet Flush Extension
- FVT Flush Valve Connection
- HS Hinged White Plastic Seat (No Cover, not recommended for Maximum Security/Ligature-resistant use)
- RTH\_ Recessed Tissue Holder
  - L  LF  C  RF  R
- TB1\_ Single Toothbrush Holder
  - L  R
- TB2\_ Dual Toothbrush Holder
  - L  R
- TH1\_ Single Towel Hook
  - L  LF  C  RF  R
- TH2\_ Dual Towel Hook
  - L  LF  C  RF  R
- DC Decorator Color (Fixture exterior only - White)
- TF24 Transformer, 110V to 24V\*
- HPS High Polish Seat
- VG Vent Grille, 6-1/2" x 9-1/2" (13-3/4 in<sup>2</sup> free area)
  - L  LF  RF  R
- SK Ligature-resistant Toilet Skirt, (ON) On-Floor Only
- TG 12 Gauge Cabinet
- TSC Toilet Shipping Cover
- Other \_\_\_\_\_
- Other \_\_\_\_\_

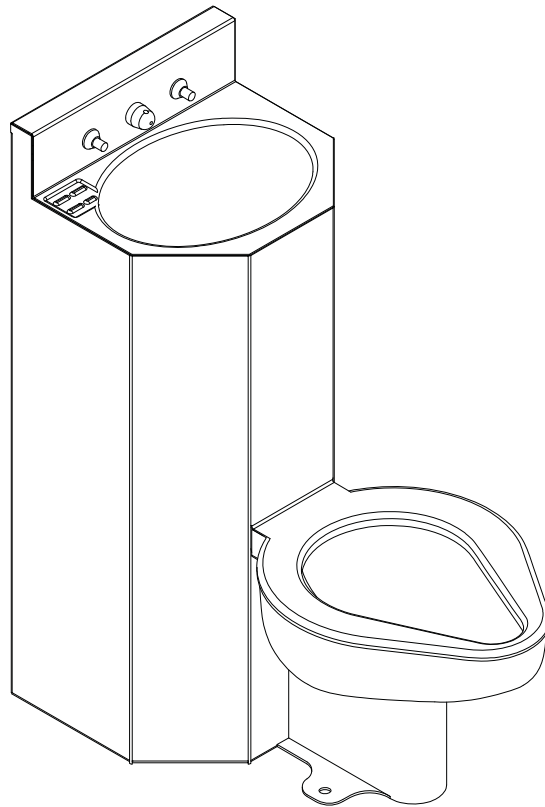
\*(Req. 110V power through ground fault interrupter (GFCI) receptacle)

Approved For Manufacturing By: \_\_\_\_\_ Date: \_\_\_\_\_ Company: \_\_\_\_\_  
 Wall Thickness: \_\_\_\_\_ Wall Type: \_\_\_\_\_

**VERIFY ALL DIMENSIONS WITH FACTORY PRIOR TO ROUGH-IN**  
 WILLOUGHBY RESERVES THE RIGHT TO MAKE CHANGES IN DESIGN AND DIMENSIONS WITHOUT FORMAL NOTICE AND WITHOUT INCURRING OBLIGATION.



# ECW-1546-150-RPF Floor Mounted Wall Outlet Replacement Combination For Super Secur A-150



## Recommended Specifications

*(Unit may be shown with optional features)*

Floor Mounted, Wall Outlet, Replacement Combination lavatory/toilet (for Super Secur A-150) shall be: Willoughby Model No. **ECW-1546-150-RPF** (Designed to replace the discontinued **Super Secur A-150**)

Fixture shall be fabricated from 14 GA, Type 304 stainless steel. The construction shall be all welded, with exposed stainless surfaces polished to a #3 satin finish.

Standard toilet shall include: elongated toilet bowl with contoured seat, integral crevice-free self-draining flushing rim with positive afterfill and fully enclosed 3" O.D. trap which shall maintain a minimum 2" seal and pass a 2-5/8" ball. Toilet shall be blowout type which requires 35 psi minimum flushing pressure.

Standard lavatory shall include: oval shaped bowl, 13" x 9-1/2" x 6" deep, stainless steel penal filler/bubbler, fast drain with air vent, combined waste w/ cleanout\* and self-draining soap dish.

Fixture shall withstand loadings up to 2,000 lbs. with no measurable deflection and loadings up to 5,000 lbs. with no permanent damage.

Cabinet interior shall be sound deadened with fire-resistant material.

Anchoring hardware by others. Unit shall require chase area for installation and maintenance.

***On back to back fixture installations, do not use standard cross type waste fitting: cross flow may result due to blowout jet action. Use sanitary or offset type waste fittings.***

Note: For 1.6 gallon flush, unit will pass a 2-1/8" ball.

***\* Check applicable plumbing code for acceptability.***



**MODEL NUMBER AND OPTIONS:**

**1.) Base Model Number:**

- ECW-1546-150-RPF Floor Mounted, Wall Outlet, Replacement Combination for Super Secur A-150

**2.) Toilet Orientation:**

- C Centered

**3.) Fixture Mounting:**

- ON On-Floor

**4.) Bubbler Selection:**

- BP Penal Bubbler/Filler (Standard)
- BC Code Bubbler/Filler (w/ Mouth Guard)
- BPH Ligature-resistant Bubbler/Filler
- FL Penal Lav. Filler
- FLH Ligature-resistant Lav. Filler

**5.) Flush Valve GPF'S (Must Specify):**

- 1.28 GPF HET
- 1.6 GPF ULF (Standard)
- 3.5 GPF (3" waste tube required)

**6.) Lavatory Valve Selection:**

- NV No Valve
- PSL1 Single Temp. Pneumatic Non-metering
- PSL2 Dual Temp. Pneumatic Non-metering
- PML1 Single Temp. Pneumatic Metering
- PML2 Dual Temp. Pneumatic Metering
- E1L1 Single Temp. Electronic (Pick Control)\*
- E1L2 Dual Temp. Electronic (Pick Control)\*

**Valve Manifold Options:**

- Pneumatic or Electronic Only:*
- MA2  MA3  MA4

**7.) Lavatory Valve Actuation:**

- PPB Pneumatic Push Buttons
- PBH Ligature-resistant Push Buttons
- EPB Electronic Push Buttons\*
- EPBH Ligature-resistant Electronic Push Buttons\*
- PZPB Piezo Push Buttons\*

**8.) Electronic Controls\***

- (Must Use Electronic Lavatory & Flush Valves):**
- WUCC-3010  Pneutronic  WMSII

**9.) Lavatory Waste:**

- EB Elbow Waste (1-1/2" F.I.P.)
- PT Integral 'P'-Trap (1-1/2" F.I.P.)
- LWL Lavatory Waste Extension
- OV Lavatory Overflow
- CW1 Combined Waste w/o Clean-out
- CW2 Combined Waste w/ Clean-out (Standard)
- LW1 Thru-Wall Extension, 'P' Trap
- LW2 Thru-Wall Extension & Clean-Out
- SLOW Slow Drain

**10.) Toilet Waste:**

- TWE Toilet Waste Extension
- TW3 3" Clean-Out for (TWE)
- TW5 4" Clean-Out for (TWE)
- PC3 Pinned Clean-Out Plug PVC-3"
- PCB3 Pinned Clean-Out Plug Brass-3"
- PC4 Pinned Clean-Out Plug PVC-4"
- PCB4 Pinned Clean-Out Plug Brass-4"
- GWC Gasketed Waste Connection (Standard)

**11.) Toilet Waste Coupling For (TWE):**

- TWC3P Connecting to 3" PVC
- TWC3C Connecting to 3" Cast Iron
- TWC4P Connecting to 4" PVC
- TWC4C Connecting to 4" Cast Iron

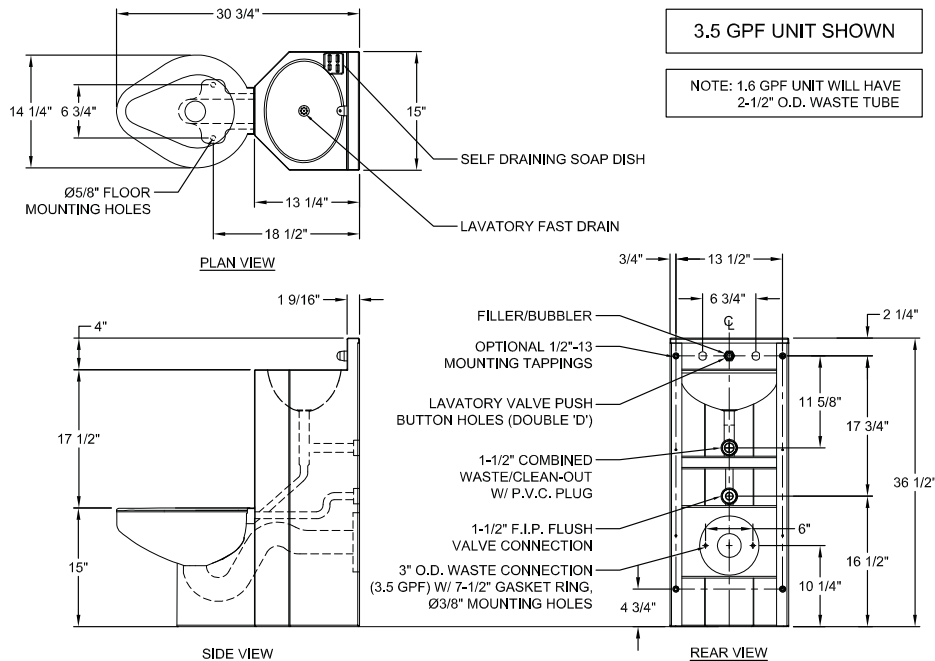
**12.) Options**

- T4 Manual Reset Toilet Overflow Preventer, Req. (FV)
- T4A Auto Reset Toilet Overflow Preventer, Req. (FV)
- ET4 Electronic Toilet Overflow Preventer\*, Req. (EFV)
- FV Hydraulic Flush Valve (Includes Push Button)
- EFV Electronic Flush Valve (Pick Control)\*
- EFVP Electronic Flush Valve w/ (PZPB) (Pick Control)\*
- TFE Toilet Flush Extension
- FVT Flush Valve Connection
- HS Hinged White Plastic Seat (No Cover, not recommended for Maximum Security/Ligature-resistant use)
- RTH Recessed Tissue Holder
  - L  LF  C  RF  R
- TB1 Single Toothbrush Holder
  - L  R
- TB2 Dual Toothbrush Holder
  - L  R
- TH1 Single Towel Hook
  - L  LF  C  RF  R
- TH2 Dual Towel Hook
  - L  LF  C  RF  R
- DC Decorator Color (Fixture exterior only - White)
- TF24 Transformer, 110V to 24V\*
- HPS High Polish Seat
- VG Vent Grille, 6-1/2" x 9-1/2" (13-3/4 in<sup>2</sup> free area)
  - L  LF  RF  R
- SK Ligature-resistant Toilet Skirt, (ON) On-Floor Only
- TG 12 Gauge Cabinet
- TSC Toilet Shipping Cover
- Other \_\_\_\_\_
- Other \_\_\_\_\_

\*(Req. 110V power through ground fault interrupter (GFCI) receptacle)

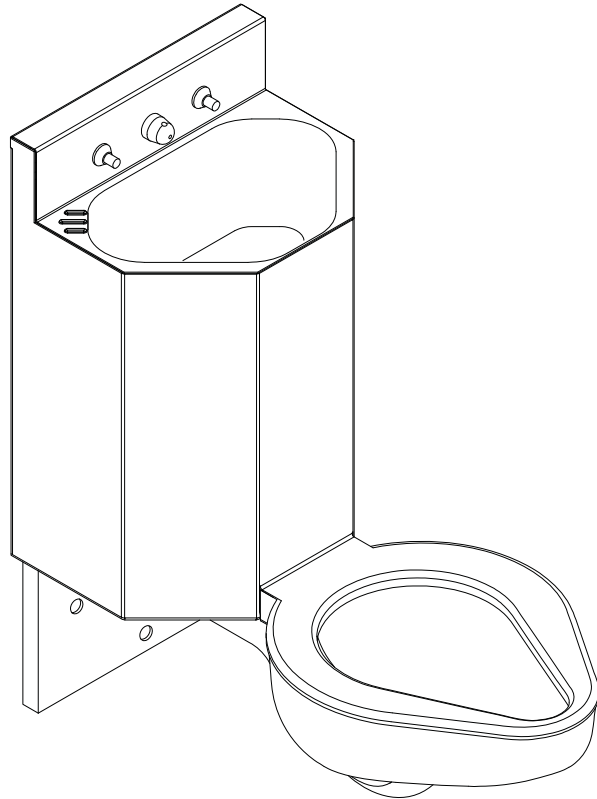
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 Wall Thickness: \_\_\_\_\_ Wall Type: \_\_\_\_\_

**VERIFY ALL DIMENSIONS WITH FACTORY PRIOR TO ROUGH-IN**  
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# ECW-1546-350-RPF

## Wall Mounted Wall Outlet Replacement Combination For Super Secur A-350



### Recommended Specifications

*(Unit may be shown with optional features)*

Wall Mounted, Wall Outlet, Replacement Combination lavatory/toilet (for Super Secur A-350) shall be: Willoughby Model No. **ECW-1546-350-RPF** (Designed to replace the discontinued **Super Secur A-350**)

Fixture shall be fabricated from 14 GA, Type 304 stainless steel. The construction shall be all welded, with exposed stainless surfaces polished to a #3 satin finish.

Standard toilet shall include: elongated toilet bowl with contoured seat, integral crevice-free self-draining flushing rim with positive afterfill and fully enclosed 3" O.D. trap which shall maintain a minimum 2" seal and pass a 2-5/8" ball. Toilet shall be blowout type which requires 35 psi minimum flushing pressure.

Standard lavatory shall include: multi-sided shaped bowl, 12-3/4" x 8-3/4" x 5" deep, stainless steel penal filler/bubbler, fast drain with air vent, combined waste w/ cleanout\* and self-draining soap dish.

Fixture shall withstand loadings up to 2,000 lbs. with no measurable deflection and loadings up to 5,000 lbs. with no permanent damage.

Cabinet interior shall be sound deadened with fire-resistant material.

Anchoring hardware by others. Unit shall require chase area for installation and maintenance.

***On back to back fixture installations, do not use standard cross type waste fitting: cross flow may result due to blowout jet action. Use sanitary or offset type waste fittings.***

Note: For 1.6 gallon flush, unit will pass a 2-1/8" ball.

**\* Check applicable plumbing code for acceptability.**

**MODEL NUMBER AND OPTIONS:**

**1.) Base Model Number:**

- ECW-1546-350-RPF Wall Mounted, Wall Outlet, Replacement Combination for Super Secur A-350

**2.) Toilet Orientation:**

- C Centered

**3.) Fixture Mounting:**

- OF Off-Floor

**4.) Bubbler Selection:**

- BP Penal Bubbler/Filler (Standard)
- BC Code Bubbler/Filler (w/ Mouth Guard)
- BPH Ligature-resistant Bubbler/Filler
- FL Penal Lav. Filler
- FLH Ligature-resistant Lav. Filler

**5.) Flush Valve GPF'S (Must Specify):**

- 1.28 GPF HET
- 1.6 GPF ULF (Standard)
- 3.5 GPF (3" waste tube required)

**6.) Lavatory Valve Selection:**

- NV No Valve
- PSL1 Single Temp. Pneumatic Non-metering
- PSL2 Dual Temp. Pneumatic Non-metering
- PML1 Single Temp. Pneumatic Metering
- PML2 Dual Temp. Pneumatic Metering
- E1L1 Single Temp. Electronic (Pick Control)\*
- E1L2 Dual Temp. Electronic (Pick Control)\*

**Valve Manifold Options:**

*Pneumatic or Electronic Only:*

- MA2  MA3  MA4

**7.) Lavatory Valve Actuation:**

- PPB Pneumatic Push Buttons
- PBH Ligature-resistant Push Buttons
- EPB Electronic Push Buttons\*
- EPBH Ligature-resistant Electronic Push Buttons\*
- PZPB Piezo Push Buttons\*

**8.) Electronic Controls\***

**(Must Use Electronic Lavatory & Flush Valves):**

- WUCC-3010  Pneutronic  WMSII

**9.) Lavatory Waste:**

- EB Elbow Waste (1-1/2" F.I.P.)
- PT Integral 'P'-Trap (1-1/2" F.I.P.)
- LWL Lavatory Waste Extension
- OV Lavatory Overflow
- CW1 Combined Waste w/o Clean-out
- CW2 Combined Waste w/ Clean-out (Standard)
- LW1 Thru-Wall Extension, 'P' Trap
- LW2 Thru-Wall Extension & Clean-Out
- SLOW Slow Drain

**10.) Toilet Waste:**

- TWE Toilet Waste Extension
- TW3 3" Clean-Out for (TWE)
- TW5 4" Clean-Out for (TWE)
- PC3 Pinned Clean-Out Plug PVC-3"
- PCB3 Pinned Clean-Out Plug Brass-3"
- PC4 Pinned Clean-Out Plug PVC-4"
- PCB4 Pinned Clean-Out Plug Brass-4"
- GWC Gasketed Waste Connection (Standard)

**11.) Toilet Waste Coupling For (TWE):**

- TWC3P Connecting to 3" PVC
- TWC3C Connecting to 3" Cast Iron
- TWC4P Connecting to 4" PVC
- TWC4C Connecting to 4" Cast Iron

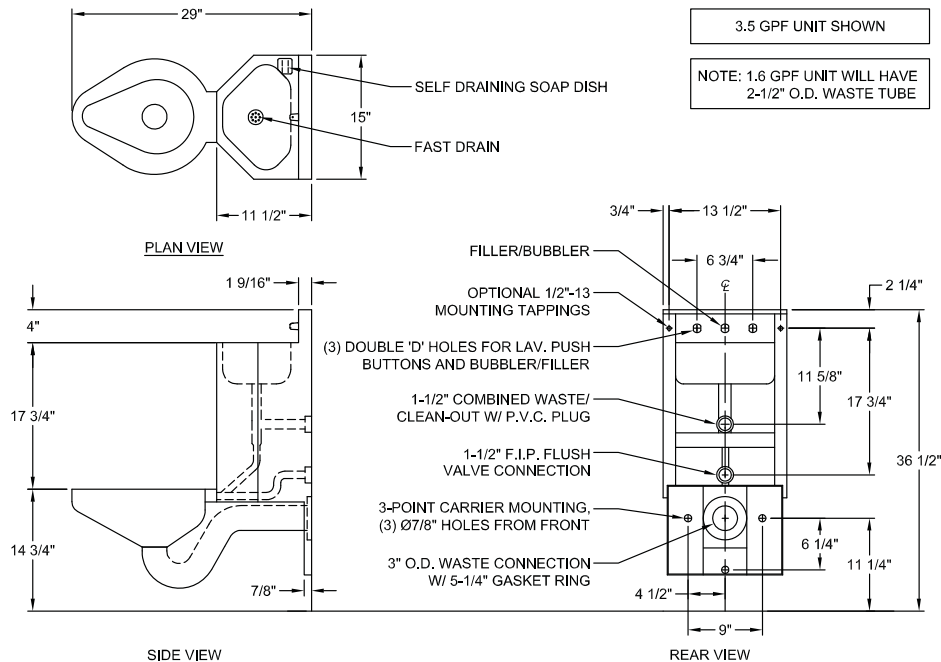
**12.) Options**

- T4 Manual Reset Toilet Overflow Preventer, Req.(FV)
- T4A Auto Reset Toilet Overflow Preventer, Req. (FV)
- ET4 Electronic Toilet Overflow Preventer\*, Req. (EFV)
- FV Hydraulic Flush Valve (Includes Push Button)
- EFV Electronic Flush Valve (Pick Control)\*
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  - L  LF  C  RF  R
- DC Decorator Color (Fixture exterior only - White)
- TF24 Transformer, 110V to 24V\*
- HPS High Polish Seat
- VG Vent Grille, 6-1/2"x 9-1/2" (13-3/4 in<sup>2</sup> free area)
  - L  LF  RF  R
- TG 12 Gauge Cabinet
- TSC Toilet Shipping Cover
- Other \_\_\_\_\_
- Other \_\_\_\_\_

\*(Req. 110V power through ground fault interrupter (GFCI) receptacle)

Approved For Manufacturing By: \_\_\_\_\_ Date: \_\_\_\_\_ Company: \_\_\_\_\_  
 Wall Thickness: \_\_\_\_\_ Wall Type: \_\_\_\_\_

**VERIFY ALL DIMENSIONS WITH FACTORY PRIOR TO ROUGH-IN**  
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# NOTES:

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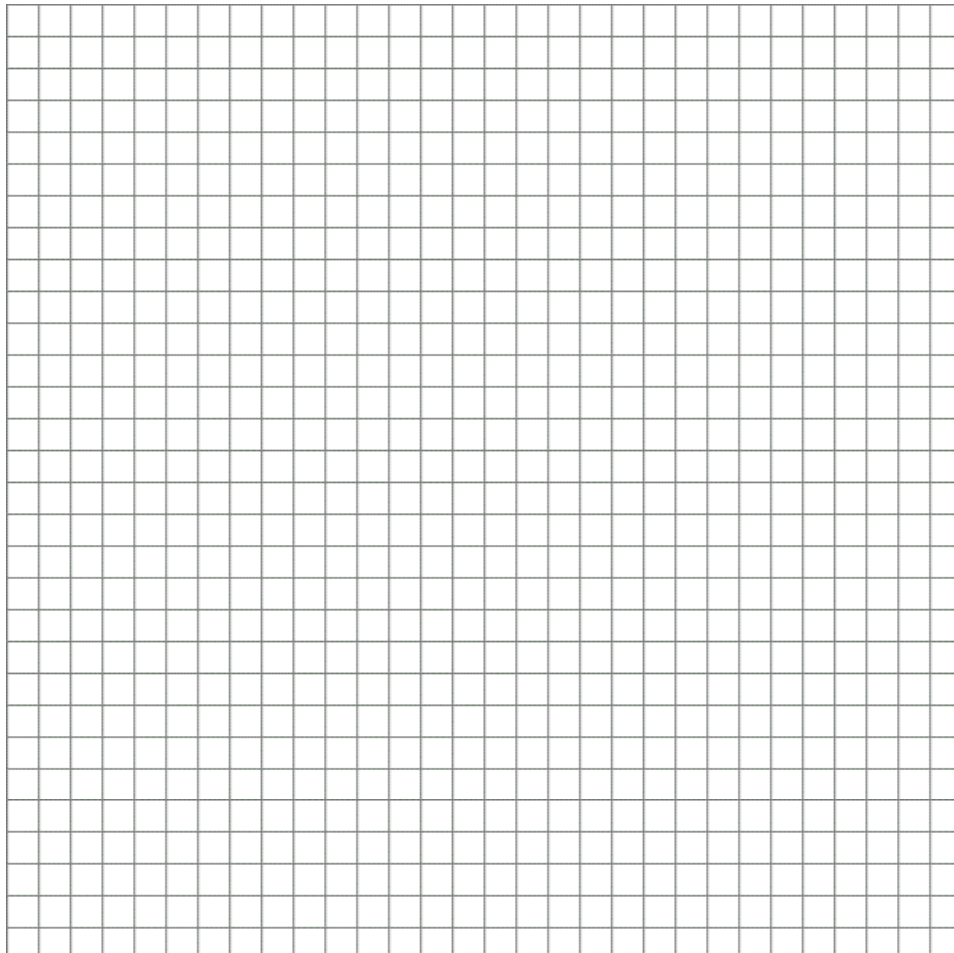
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