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CENTRAL PARK RESTROOMS

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davisplumbingco@yahoo.com

22-0000 Plumbing O&M



Jul 8, 2026



CENTRAL PARK- NEW RESTROOM BUILDING (COVINGTON, GA)

MATT DAVIS PLUMBING
1994-A OLD COVINGTON RD
CONYERS, GA 30013

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GCO GRADE CLEANOUT		
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SWVT SIDE WALL VENT TERMINAL		
Watts	FRESH AIR INLET	N/A
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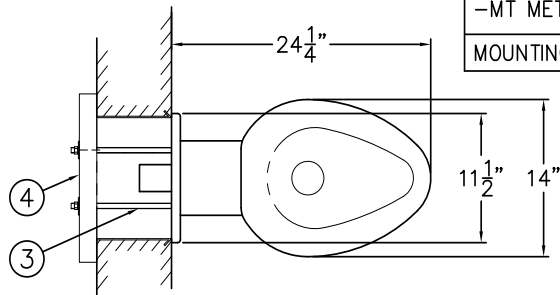
VENDOR	DESCRIPTION	PAGE
Acorn	Penal-ware 1675 Series Blowout Jet Toilet - Off-floor	5
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PENAL-WARE FIXTURES

INSTALLATION INSTRUCTIONS



REFERENCE DRAWINGS		
-SW WALL SLEEVE / -MT METAL TEMPLATE	-W WALL SUPPLY	9925-236-001
	-T TOP SUPPLY	9925-237-001
MOUNTING HARDWARE		9957-900-001

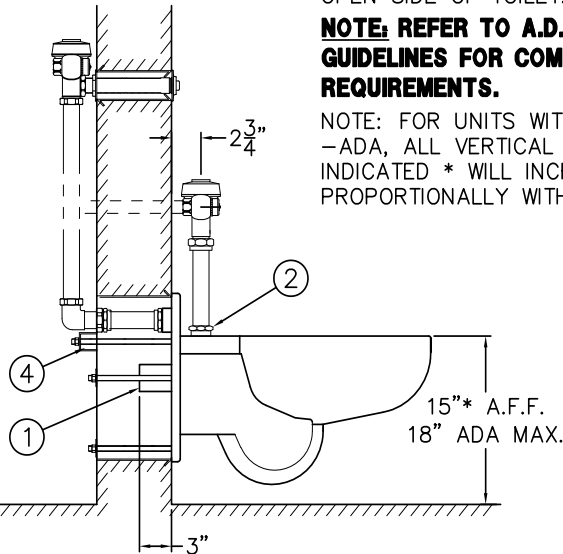


TOP VIEW

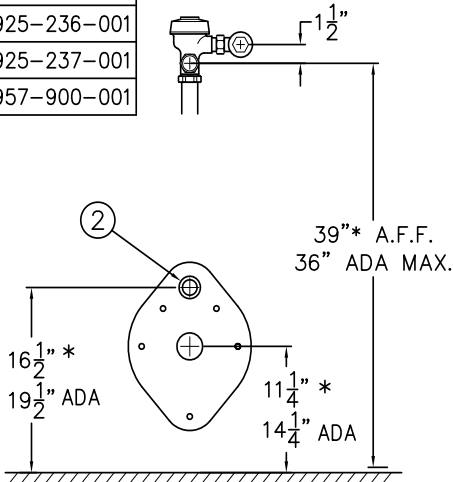
FOR -ADA MODELS -FLUSH VALVE MUST BE HYDRAULICALLY ACTUATED OR SUPPLIED WITH A SPECIAL HANDLE. MAX. CONTROL HEIGHT IS 36" ABOVE FINISHED FLOOR. CONTROLS MUST BE LOCATED ON OPEN SIDE OF TOILET.

NOTE: REFER TO A.D.A. ACCESSIBILITY GUIDELINES FOR COMPLETE INSTALLATION REQUIREMENTS.

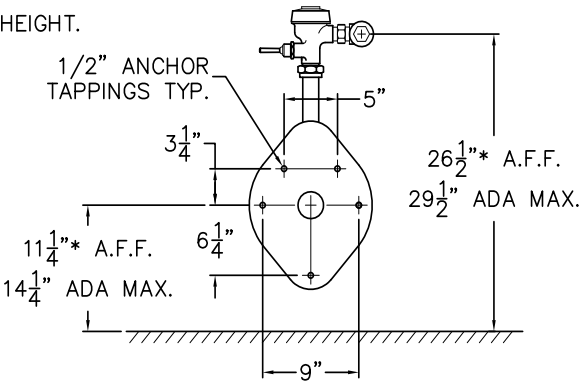
NOTE: FOR UNITS WITH SUFFIX OPTION -ADA, ALL VERTICAL DIMENSIONS INDICATED * WILL INCREASE PROPORTIONALLY WITH ADA SEAT HEIGHT.



SIDE VIEW



(-W) WALL SUPPLY
REAR VIEW



(-T) TOP SUPPLY
REAR VIEW

INSTALLATION INSTRUCTIONS:

- A- SEE REFERENCE DRAWING BOX FOR WALL SLEEVE INSTALLATION INSTRUCTIONS (SUFFIX OPTION -SW).
- B- ROUGH-IN PLUMBING FOR THE FOLLOWING CONNECTIONS:
 - TOILET WALL WASTE OUTLET 2-3/8" O.D. PLAIN END ①.
 - SUFFIX OPTION -W03 3" O.D. PLAIN END WASTE ①.
 - FLUSHING INLET CONNECTION 1-1/2" NPT ②.
- C- INSTALL 1/2"-13 ALL THREAD STUDS ③ INTO ANCHOR TAPPINGS AT REAR OF FIXTURE. STUDS MUST HAVE A MINIMUM 1/2" ENGAGEMENT.
- D- PLACE TOILET UP AGAINST CELL WALL, SLIDING THE STUDS THROUGH WALL SLEEVE OPENINGS. NOTE: IT MAY BE NECESSARY TO SUPPORT OFF-FLOOR FIXTURES ON CELL SIDE OF WALL TO SECURE PROPERLY FROM PIPE CHASE.
- E- PLACE WASHERS, MOUNTING CHANNEL ④ AND NUTS ONTO STUDS; TIGHTEN TO 60FT/LBS.
- F- FLUSH SUPPLY LINE. MAKE-UP WASTE CONNECTION AND MOUNT FLUSH VALVE PER MANUFACTURERS' RECOMMENDATIONS.

 ACORN ENGINEERING COMPANY P.O. BOX 3527 Industry, CA 91744 15125 Proctor Ave. Industry, CA 91746 (626) 336-4561 FAX (626) 961-2200	TITLE BLOWOUT JET TOILET - OFF FLOOR CAT. *1675 / 1675-ADA -W/T		
	MANUFACTURE DATE OCTOBER 1997 TO PRESENT	DATE ISSUED 8/15/97	DRAWING NUMBER 9925-040-002
		DATE REVISED 04/02/13	

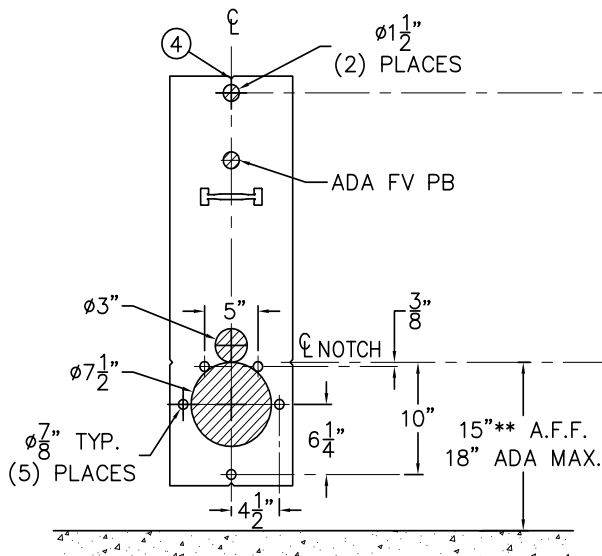
PENAL-WARE FIXTURES

INSTALLATION INSTRUCTIONS

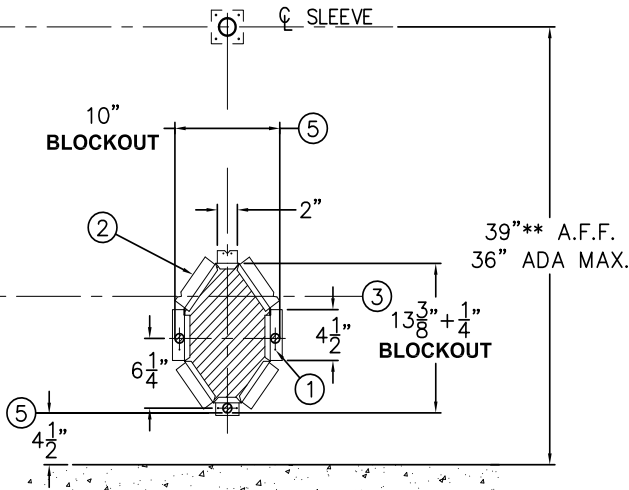


ALL VERTICAL DIMENSIONS INDICATED
** INCREASE PROPORTIONATELY WITH
ADA SEAT HEIGHT.

BOTH VIEWS ARE FROM CELL SIDE
SHADED AREAS ARE REQUIRED WALL OPENINGS



METAL TEMPLATE (-MT)



WALL SLEEVE (-SW)

-SW WALL SLEEVES INSTALLATION INSTRUCTIONS:

SLEEVES ARE INSTALLED IN FORMS USING NAIL HOLES (1) PROVIDED OR GROUTED INTO BLOCK WALLS, BECOMING A PERMANENT PART OF THE WALL.

NOTE:

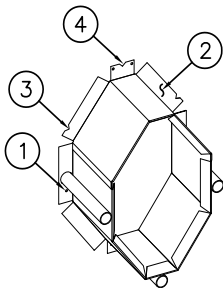
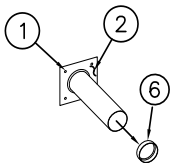
FOR POURED WALL CONSTRUCTION, TEMPORARY BRACING SHOULD BE INSTALLED WITHIN OPENING TO PREVENT DEFORMATION TO SLEEVE WHICH MAY OCCUR DURING POUR. DO NOT POUR CONCRETE DIRECTLY ON TOP OF WALL SLEEVE. THE PUSHBUTTON SLEEVE IS CAPPED; THIS CAP (6) MUST BE REMOVED FROM THE CHASE SIDE OF THE WALL BEFORE INSTALLING FLUSH VALVE PUSHBUTTON.

- A- INSTALL SLEEVE WITH FLANGE (2) ON CHASE SIDE OF WALL.
- B- SIDE NOTCHES (3) INDICATE INTEGRAL SEAT HEIGHT LOCATED 15" ABOVE FINISHED FLOOR ON CELL SIDE.
- C- VERTICAL OR TOP AND BOTTOM (4) NOTCHES INDICATE VERTICAL CENTERLINE OF SLEEVE OR TOILET FIXTURE.
- D- USE BLOCK OUT DIMENSIONS (5) SHOWN WHEN SLEEVES ARE NOT AVAILABLE.

-MT METAL TEMPLATES INSTALLATION INSTRUCTIONS:

METAL TEMPLATES ARE USED TO LAYOUT REQUIRED WALL OPENINGS FOR SUBSEQUENT CORE DRILLING OR FLAME CUTTING.

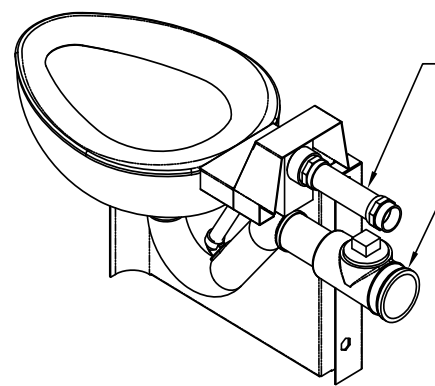
- A- MEASURE FROM THE FINISHED FLOOR ON CELL SIDE AND STRIKE A HORIZONTAL CHALK LINE ON THE WALL AT DIMENSIONS SHOWN TO INDICATE INTEGRAL SEAT HEIGHT (3).
- B- STRIKE A VERTICAL CHALK LINE AT DIMENSIONS SHOWN TO INDICATE VERTICAL CENTERLINE (4) OF SLEEVE OR FIXTURE.
- C- PLACE TEMPLATE AGAINST WALL ALIGNING VERTICAL AND HORIZONTAL NOTCHES WITH CHALK LINES AND MARK REQUIRED WALL OPENINGS.



ACORN ENGINEERING COMPANY P.O. BOX 3527 Industry, CA 91744 15125 Proctor Ave Industry, CA 91746 (626) 336-4561 FAX (626) 961-2200	TITLE SLEEVES AND TEMPLATES (CAT. 1675-W) (CAT. #1675-ADA-W)		
	MANUFACTURE DATE OCT 1977		DATE ISSUED 03/09/13
	TO PRESENT		DATE REVISED 05/30/13 B
			DRAWING NUMBER 9925-236-001

PENAL-WARE

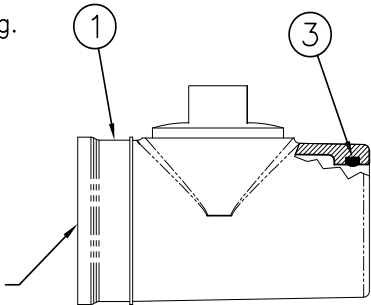
INSTALLATION INSTRUCTIONS



Optional -FVT Flush Valve Thru Wall Connection. Shown For Reference.

Optional -CO1 Waste Fitting. Shown For Reference.

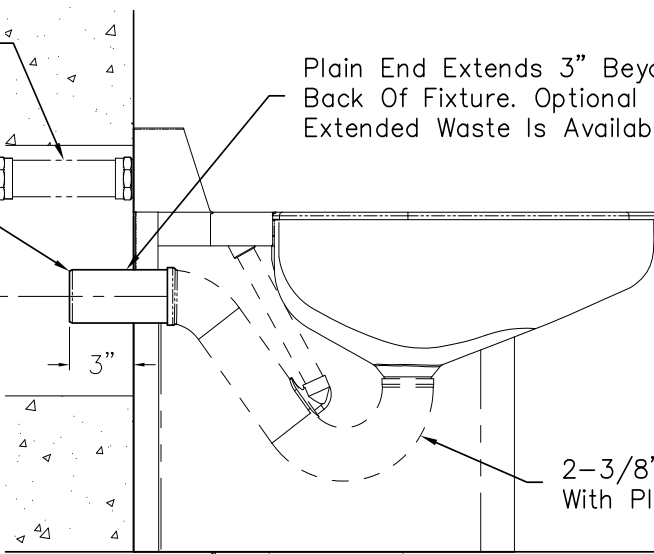
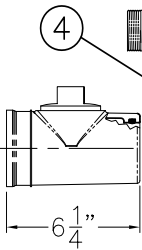
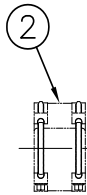
REFERENCE DRAWING	
WASTE CONNECTION WITH CLEANOUT -CO1	9985-125-002



NOTE: Optional -CO1 Waste Fitting Available With 3" or 4" No-Hub

Scaled: X 2

Optional -FVT Flush Valve Thru Wall Connection Shown For Reference



Plain End Extends 3" Beyond Back Of Fixture. Optional Extended Waste Is Available -TWE

2-3/8" O.D. Trap-Way With Plain End.

MODEL #1685 SHOWN FOR REFERENCE

INSTALLATION INSTRUCTIONS

A-INSERT O-RING (3) INTO GROOVE OF WASTE FITTING (1). LUBRICATE THE O-RING (3) WITH O-RING LUBRICANT.

B-INSTALL WASTE FITTING (1) TO FIXTURE P-TRAP WASTE EXTENSION (4). ENGAGEMENT IS APPROXIMATELY 1-1/4". NOTE: TOILET WASTE

EXTENSION (4) IS 3" BEYOND BACK OF FIXTURE. LONGER WASTE EXTENSION IS AVAILABLE.

C-MAKE UP WASTE FITTING CONNECTION TO WASTE PIPING USING NO-HUB (BAND) CONNECTOR (2). BY OTHERS.

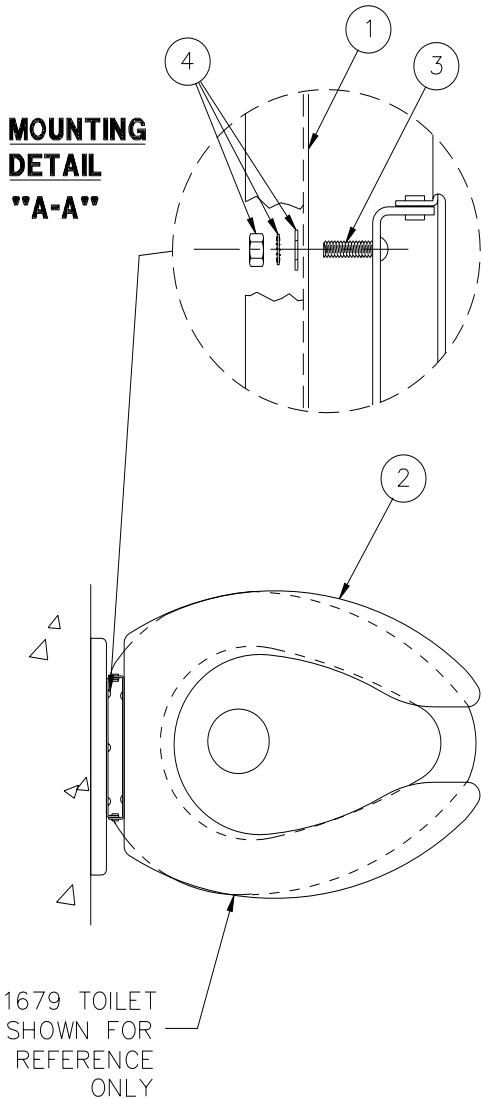
ACORN ENGINEERING COMPANY P.O. BOX 3527 INDUSTRY, CA. 91744 (626) 336-4561 FAX (626) 961-2200	TITLE NO-HUB WASTE CONNECTION WITH CLEANOUT -CO1		
	MANUFACTURE DATE JULY 1975	DATE ISSUED 1/29/96	DRAWING NUMBER 9925-054-001
	PRESENT	DATE REVISED 11/08/13 D	

PENAL-WARE

INSTALLATION INSTRUCTIONS

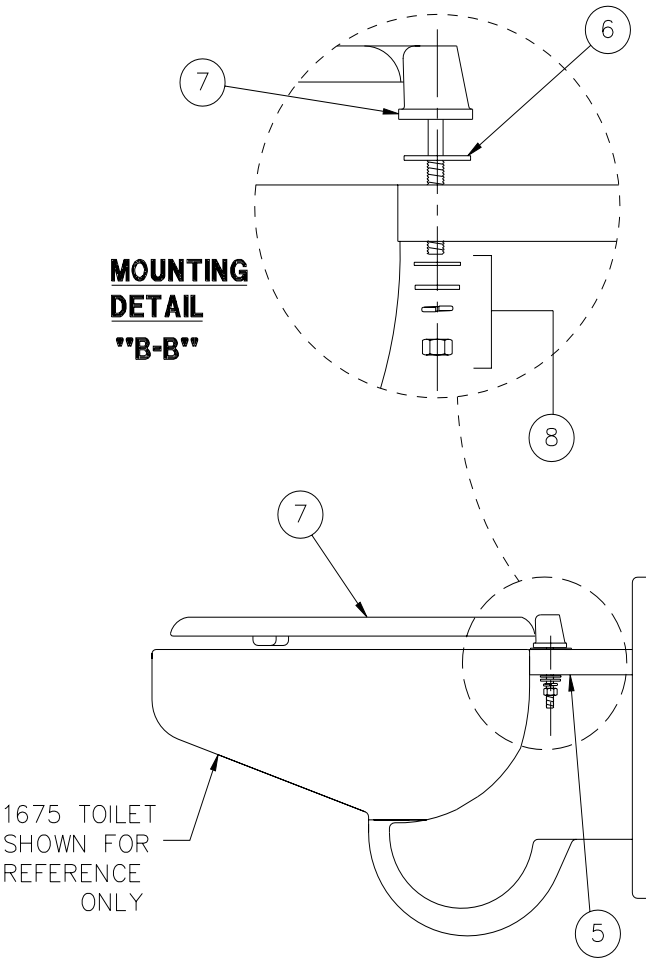


**MOUNTING
DETAIL
"A-A"**



1679 TOILET
SHOWN FOR
REFERENCE
ONLY

**MOUNTING
DETAIL
"B-B"**



1675 TOILET
SHOWN FOR
REFERENCE
ONLY

**INSTALLATION INSTRUCTIONS-COMBY AND 1679 TOILET
PRIOR TO MOUNTING FIXTURE ON WALL:**

- A- LOCATE HINGED SEAT MOUNTING HOLES ON FIXTURE ①.
- B- POSITION HINGED SEAT ② AGAINST UNIT ① BY INSERTING SCREWS ③ INTO MOUNTING HOLES.
- C- ASSEMBLE NUT, WASHER AND LOCK-WASHER ④ AS SHOWN IN MOUNTING DETAIL "A-A".

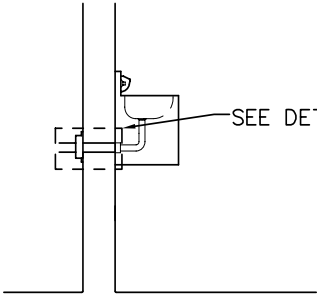
**INSTALLATION INSTRUCTIONS-TOILETS
PRIOR TO MOUNTING FIXTURE ON WALL:**

- A- LOCATE HINGED SEAT MOUNTING HOLES IN FIXTURE ⑤.
- B- INSERT WASHERS ⑥ BETWEEN TOP OF TOILET AND HINGE SEAT ⑦.
- C- POSITION HINGED SEAT ⑦ ON TOP OF UNIT.
- D- ASSEMBLE HARDWARE ⑧ AS SHOWN IN MOUNTING DETAIL "B-B"

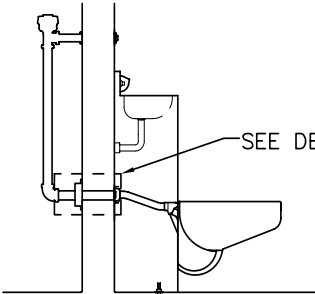
 ACORN ENGINEERING COMPANY P.O. BOX 3527 INDUSTRY, CA. 91744 (626) 336-4561 FAX (626) 961-2200	TITLE -HS HINGED SEAT OPTION INSTALLATION DETAIL - COMBYS AND TOILETS		
	MANUFACTURE DATE	DATE ISSUED	DRAWING NUMBER 9925-048-001
	FEBRUARY 1999	02/22/99	
	TO PRESENT	DATE REVISED 03/26/01	

REPLACE-WARE FIXTURE

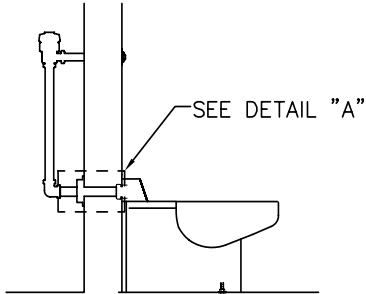
INSTALLATION INSTRUCTIONS



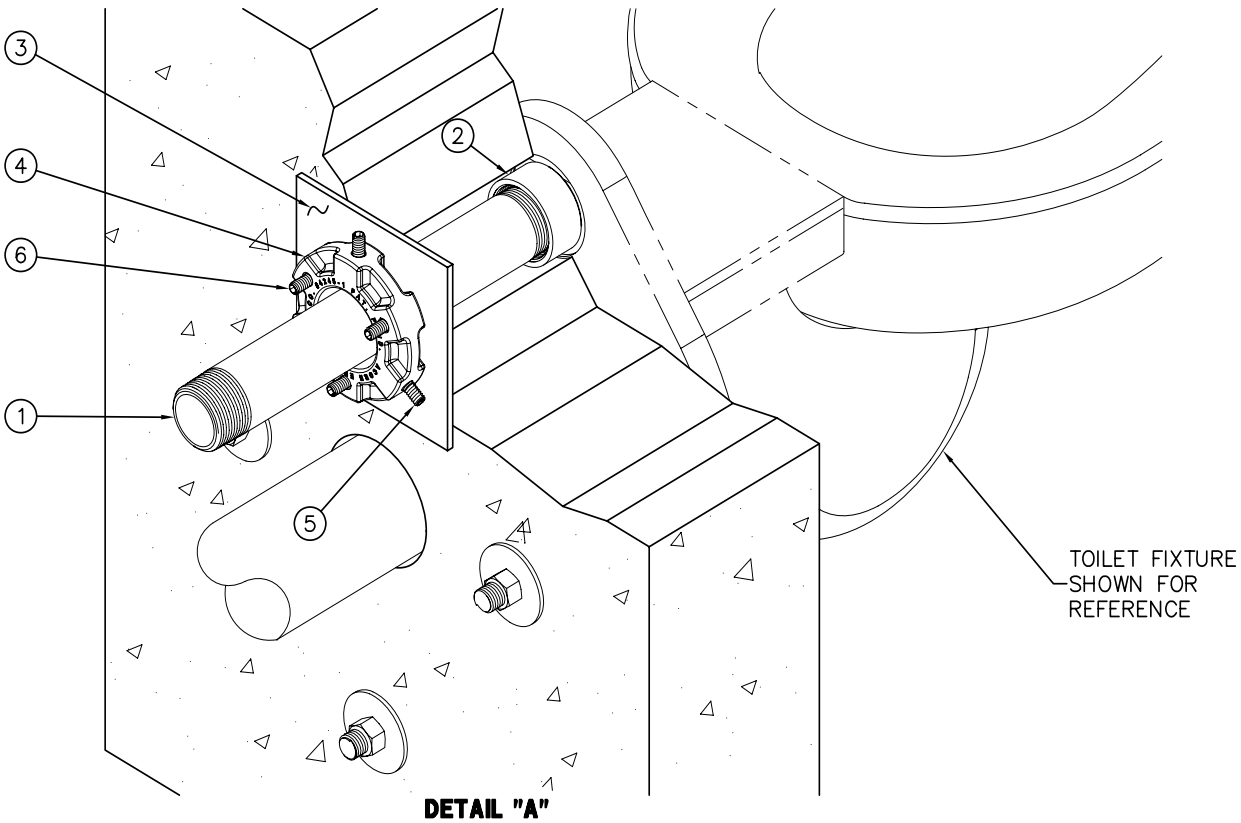
Lavy Waste Connection



Comby Flushing Inlet Connection



Toilet Flushing Inlet Connection



INSTALLATION INSTRUCTIONS:

- A- SECURE PIPE (1) TO FIXTURE CONNECTION (2) THROUGH WALL.
- B- PLACE THRUST PLATE (3) FLUSH AGAINST WALL.
- C- PLACE ANCHORING COLLAR (4) FLUSH AGAINST THRUST PLATE (3).
- D- HOLD UNIT AGAINST WALL, PARALLEL TO THE FLOOR.
- E- TIGHTEN SCREWS (5) (3 PLACES) TO SECURE ANCHORING COLLAR (4) TO PIPE (1).
- F- TIGHTEN SCREWS (6) (3 PLACES) TO PULL PIPE (1) AND PUSH AGAINST THRUST PLATE (3) IN ORDER TO HOLD FIXTURE WITH TENSION AGAINST WALL.

ACORN ENGINEERING COMPANY P.O. BOX 3527 INDUSTRY, CA. 91744 (626) 336-4561 FAX (626) 961-2200	TITLE 3395 ANCHORING ASSEMBLY		
	MANUFACTURE DATE MAY 1998 TO PRESENT	DATE ISSUED 10/06/99	DRAWING NUMBER 9925-759-001
		DATE REVISED 04/08/11	



AquaVantage® AV® Z6100AV Series

AquaVantage Concealed Flushometer

Installation, Operation, Maintenance
and Parts Manual



Z6140AV



Z6195AV

Aquaflush Concealed Closet/Urinal Systems

Z6140AV Z6154AV
Z6142AV Z6155AV
Z6143AV Z6190AV
Z6144AV Z6195AV
Z6150AV Z6196AV
Z6152AV

LIMITED WARRANTY

All goods sold hereunder are warranted to be free from defects in material and factory workmanship for a period of three years from the date of purchase. Decorative finishes warranted for one year. We will replace at no costs goods that prove defective provided we are notified in writing of such defect and the goods are returned to us prepaid at Sanford, NC, with evidence that they have been properly maintained and used in accordance with instructions. We shall not be responsible for any labor charges or any loss, injury or damages whatsoever, including incidental or consequential damages. The sole and exclusive remedy shall be limited to the replacement of the defective goods. Before installation and use, the purchaser shall determine the suitability of the product for his intended use and the purchaser assume all risk and liability whatever in connection therewith. Where permitted by law, the implied warranty of merchantability is expressly excluded. If the products sold hereunder are "consumer products," the implied warranty of merchantability is limited to a period of three years and shall be limited solely to the replacement of the defective goods. All weights stated in our catalogs and listed are approximate and are not guaranteed.

NOTE: The information in this manual is subject to change at any time without notice. Installations may be performed at different times of construction by different individuals. For this reason, these instructions should be left on-site with the facility or maintenance manager.

NOTICE: READ ENTIRE MANUAL PRIOR TO INSTALLING PRODUCT.

⚠ WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov

⚠ ADVERTENCIA: Cáncer y daño reproductivo - www.P65Warnings.ca.gov

⚠ AVERTISSEMENT: Cancer et effets néfastes sur la reproduction - www.P65Warnings.ca.gov

Rev. D | Date: 02/14/25 | C.N. No. 146651 | Prod./Dwg. No. FV212

Patent zurn.com/patents

US 1.855.0NE.ZURN CANADA 1.877.892.5216

ZURN.COM

by **zurn ELKAY** Water Solutions

AquaVantage Rough-In, Product Specification, Models and Options

ENGINEERING SPECIFICATION: ZURN AquaVantage AV Concealed Closet Flush Valve – Concealed, quiet diaphragm-type, rough brass flushometer valve with chloramine resistant, dual seal diaphragm with a clog resistant by-pass. Complete with a non-hold-open and no leak handle feature, high back pressure vacuum breaker, flush tube, elbow flush connections, wall escutcheon, fixture spud escutcheon, and fixture spud securing nut. Control stop has internal siphon-guard protection. Internal seals are made of chloramine resistant materials.

FLOWS

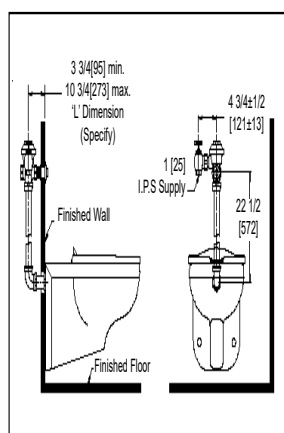
-WS1 Low Consumption
1.0 Gal. for Urinal, 1.6 Gal. for Water Closet
-WS Water Saver
1.5 Gal. for Urinal, 3.5 Gal. for Water Closet (Standard Flow)
-FF Full Flow
3.0 Gal. for Urinal, 4.5 Gal. for Water Closet

MODELS

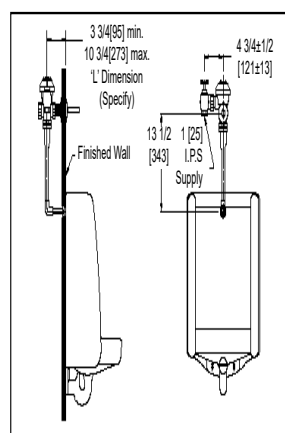
Z6140AV – 1-1/2" Water Closet valve with back spud connection
Z6152AV – 1-1/2" Water Closet valve with back spud connection
Z6190AV – 1-1/4" Urinal Valve with top spud connection
Z6195AV – 3/4" Urinal Valve with top spud connection

OPTIONS

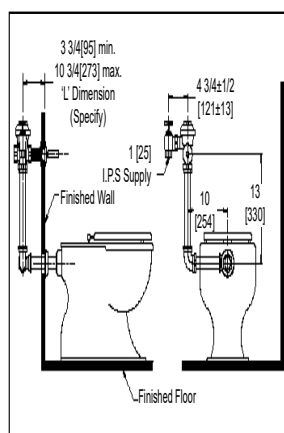
—-BG BioCare ADA Handle
—-J Metal Oscillating ADA Handle
—-L 1" [25] Metal Push Button
—-L3 3" [76] Metal Push Button
—-YB Sweat Solder Kit
—- Other



Models: Z6152AV
Z6195AV
-WS1 (water saver) 1.6 Gal. Low Consumption



Models: Z6190AV (1-1/4" urinal flush valve)
Z6195AV (3/4" urinal flush valve)
-WS1 (water saver) 1.0 Gal Low Consumption



Models: Z6140AV
-WS1 (water saver) 1.6 Gal. Low Consumption

AquaVantage Installation Instructions

Important:

- All Plumbing is to be installed according to state and local codes and regulations.
- Water supply lines need to allow proper water flow for each fixture.
- Flush all lines of any debris before making connections.
- Do not use pipe sealant or plumbing grease on any fitting other than the control stop inlet.

The Aquaflush valve is designed to operate under various water pressures with a recommended range between 10 and 100 psi (69 to 689 kPa). Each Zurn valve is tested for proper performance at the factory before being shipped. Consult the product pages of the catalog for available flow options.

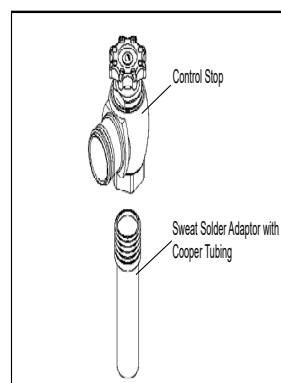
Most low consumption valves (1.6 gallon) require a minimum of 25 psi running pressure through the valve to obtain proper evacuation.

When installing your quality Zurn valve, it is recommended that a smooth jawed wrench be used. This will prevent gouges and scratches on your valve.

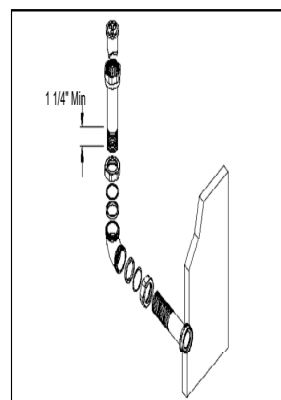
All scored tubing connections should be assembled with loctite (see page 5)

Before starting the installation process, bore a 1-1/2" hole in wall for actuator, and a 2" hole for piping if required.

1. Install the Zurn Control Stop to the supply line with water outlet positioned as needed. If using a sweat solder adaptor, sweat the adaptor to the copper tubing before installing the control stop.

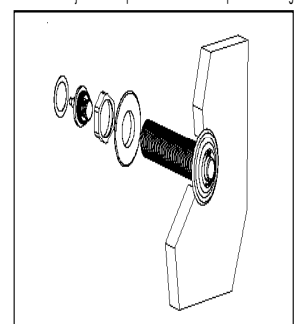


2. Attach vacuum breaker tube and elbows to fixture with spud nut.
Note: When cutting scored pipe to fit, leave a minimum of 1-1/4" of scoring to ensure proper engagement with compression coupling, and follow scored tubing loctite instruction. (See page 5)

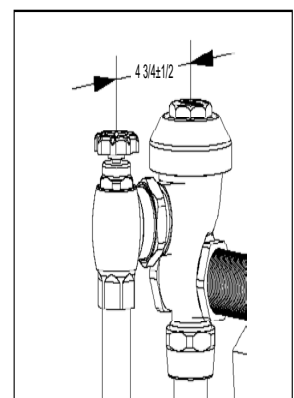


3. Remove the actuator end, coupling and mounting nut from the actuator sleeve and insert the sleeve through the 1-1/2" hole from the fixture side. Reinstall the mounting nut (hand tight), coupling and actuator end to the sleeve.

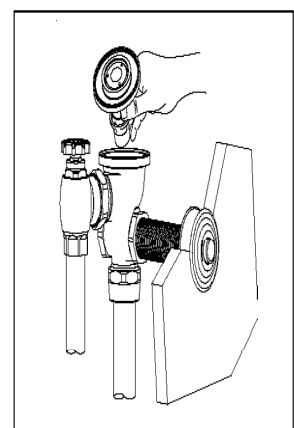
4. Insert the adjustable tail piece into the control stop while installing



the valve. *Note: The adjustable tail piece allows for +/- 1/2" from the standard 4-3/4" centerline to centerline rough in. Lubricate O-ring on adjustable tail piece with water if needed for installation. Secure the valve by hand tightening the actuator coupling nut, then aligning the valve securely tighten the actuator assembly, control stop and the flush tube with a wrench. A smooth jaw wrench is recommended to protect special finishes.*

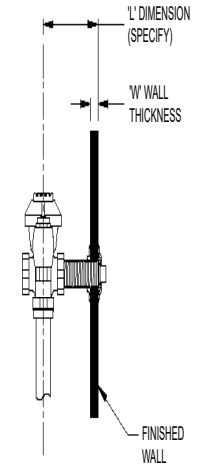


5. Shut off the control stop, remove the valve cover and remove the trip mechanism. Reinstall the valve cover and open control stop to flush lines of debris. After the lines are clear, remove the cover and reinstall the trip mechanism. Tighten the cover back on and adjust flush flow using the control stop.



Specifying "L" Dimension for Concealed Manual-Operated Flush Valves

- Step 1: Determine the applicable column by locating the valve's 4-digit model number.
- Step 2: Determine the applicable row by locating the correct wall thickness.
NOTE: For wall thicknesses not listed, locate and use the next largest size.
- Step 3: Order the applicable suffix shown at the intersection of the row and column.
- Example: For closet valve model number Z6152 and a wall thickness of 6", order: Z6152-LDIM9



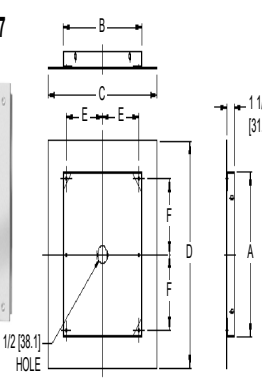
	Closets		Urinals	Combination Fixtures
Wall Thickness "W"	6140AV 6152AV	6142AV 6154AV	6602AV 6609AV	6601AV 6603AV 6616AV
1/4"	LDIM4	LDIM7	LDIM4	LDIM5
1"	LDIM4	LDIM7	LDIM4	LDIM5
2"	LDIM5	LDIM8	LDIM5	LDIM6
3"	LDIM6	LDIM9	LDIM6	LDIM7
4"	LDIM7	LDIM10	LDIM7	LDIM8
5"	LDIM8	LDIM11	LDIM8	LDIM9
6"	LDIM9	LDIM12	LDIM9	LDIM10
7"	LDIM10	LDIM13	LDIM10	LDIM11
8"	LDIM11	LDIM14	LDIM11	LDIM12
9"	LDIM12	LDIM15	LDIM12	LDIM13
10"	LDIM13	LDIM16	LDIM13	LDIM14

Z6199 Model Access Panel and Frame for Manual-Operated Concealed Flush Valves

Z6199-BX12

Z6199-BX15

Z6199-BX17



Engineering Specification: Zum Z6199 Access Panel and Frame for Manual-Operated Concealed Flush Valves -
The access panel and frame provide quick and simple access to in-wall concealed flush valves when a mechanical chase of adequate size is not available. The panel is #14 gage stainless steel and the frame is #18 gage stainless steel. Both have a satin finish. The assembly comes complete with (4) 1" [25 mm] vandal-proof screws. Specify Z6199-BX12 for 12" x 12", Z6199-BX15 for 15" x 15", or Z6199-BX17 for 13" x 17".

Product No.	Size	A	B	C	D	E	F	SUFFIX OPTIONS (Check/specify appropriate options.) *
Z6199-BX12	12 x 12 [305 x 305]	12 [305]	12 [305]	13-1/2 [343]	13-1/2 [343]	5-1/2 [140]	5-1/2 [140]	-SP Solid Panel
Z6199-BX15	15 x 15 [381 x 381]	15 [381]	15 [381]	16-1/2 [419]	16-1/2 [419]	7 [178]	7 [178]	-2/VPS 2" [51mm] Long Vandal-Proof Screws *
Z6199-BX17	13 x 17 [330 x 432]	17 [432]	13 [330]	14-1/2 [368]	18-1/2 [470]	6 [152]	8 [203]	

Scored Tubing Installation Instructions

Note: Due to the high back pressures that can be created by penal fixtures, this procedure must be followed when installing the concealed flush tube. Failure to follow these instructions can result in plumbing separation at the elbow.

These directions must be followed for all Zum concealed and concealed penal fixture valves with 1 1/2" flush connections:

- When cutting scored vacuum breaker and horizontal connection tubes to fit, always leave at least 1 3/4" (32mm) of scoring to insure proper engagement with the compression coupling.
- Install fixture flush connection. (Figure 1) Zum penal flushometers are designed to connect to the stainless steel fixture in a chase behind the wall.
- A 1 1/2" pipe connection (not supplied by Zum) must be used to connect the fixture inlet to the flanged/scored horizontal tube.
- Loosely assemble the concealed plumbing after placing all of the nuts, friction washers, and gaskets in place. This will locate the gaskets prior to applying the Loctite adhesive.
- Disassemble, clean and dry the plumbing to prepare for adhesive. Apply an 1/8" wide bead of the adhesive all around the scoring between the gasket and the end of both tubes. (Figure 2)
- DO NOT use any other pipe sealant or lubrication on these points.
- Assemble the horizontal tube to the fixture and tighten securely. Slip the elbow onto the horizontal tube while rotating and pushing it to spread the adhesive. Angle the elbow so the vacuum breaker tube can be inserted.
- Insert the vacuum breaker into the vacuum tube and the tube into the elbow, rotating it to spread the adhesive. Screw all nuts into place and tighten. The adhesive has a limited (2 minute) working time so tighten the connections immediately.
- Do NOT run water through the pipes for at least 24 hours so the adhesive can set properly.

Figure 1

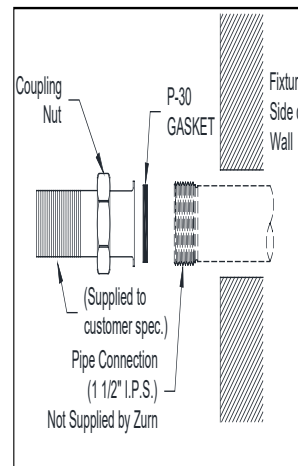
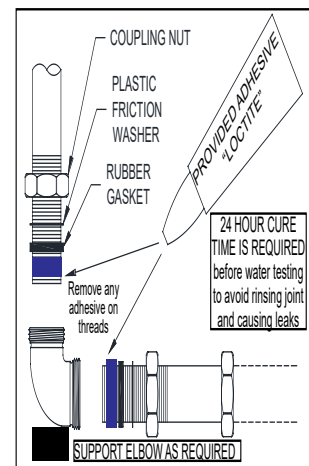


Figure 2



Aquaflush Trouble Shooting Guide

Problem	Cause*	Corrective Action*
Valve will not operate.	1.) Stop valve is closed. 2.) Supply valve is closed.	1.) Open stop valve. 2.) Open supply valve.
Insufficient volume of water to adequately siphon fixture.	1.) Stop valve is not open enough. 2.) Urinal trip mechanism installed in wrong kit, urinal or closet. 3.) Insufficient volume or pressure at supply.	1.) Open stop valve for desired volume of water. 2.) Replace urinal part with proper closet valve part. 3.) If gauges are not available to measure supply pressure or volume of water at the valve, completely remove the working parts and open the stop valve to allow water to pass through the empty valve. If the supply is adequate to siphon the fixture, the guide ring (#16) may be removed from the guide assembly to provide additional flow. Should this prove unsatisfactory, steps should be taken to increase the pressure and/or supply.
Flush valve shuts off too quickly.	1.) Damaged or punctured diaphragm. 2.) Enlarged by-pass orifice.	1.) Install new P6000-EUR replacement kit to remedy the problem. 2.) Install new P6000-ECR, P6000-EUR replacement kit to remedy the problem.
Valve is short flushing.	1.) Cylinder guide assembly and diaphragm assembly are not tight. 2.) Enlarged by-pass orifice. 3.) Urinal trip mechanism (black #12) in closet flush valves.	1.) Screw the two assemblies hand tight. 2.) Install new P6000-ECR, P6000-EUR replacement kit to remedy the problem. 3.) Install closet trip mechanism(white) .
Valve is flushing too long or not shutting off.	1.) Trip mechanism not seating properly due to foreign material between trip mechanism and retainer disc. 2.) By-pass orifice is plugged or partially plugged. 3.) Line pressure is not adequate to force trip mechanism to seal. 4.) Cracked cover.	1.) Disassemble parts and rinse thoroughly. 2.) Examine by-pass orifice and clean if necessary being certain not to enlarge orifice opening. 3.) Pressure is inadequate or has dropped below minimum operating range. Steps should be taken to increase the line pressure. 4.) Replace cover with new one.
Water splashes out of fixture.	1.) Supply volume is more than is necessary. 2.) Lime accumulation on vortex or spreader holes of fixture.	1.) Adjust downward on control stop. 2.) Remove the lime build up.
Flush is not considered quiet.	1.) Control stop may not be adjusted for quiet operation. 2.) Fixture may be contributing to noise. 3.) Piping system may be source of noise	1.) Adjust the control stop for quiet operation keeping in mind the fixture evacuation requirements. 2.) Check noise created by fixture by placing a cover over the bowl opening to separate valve noise from bowl noise. If it is determined the fixture is too noisy consult with fixture manufacturer. 3.) High pressure in the system can sometimes be controlled by the stop valve. Other sources of noise may be the absence of air chambers and shock arrestors, loose pipes, improper size pipes, etc. In these cases the building engineer should be consulted.
Chattering noise in flush valve.	1.) Segment diaphragm (#14) has been installed upside down. 2.) The inside cover has been distorted by freezing or abuse.	1.) Reposition segment diaphragm as instructed by the markings on the diaphragm ("this side down"). 2.) Replace both inside plastic cover and outside brass cover.
Handle assembly leaking.	1.) Handle assembly is not tight.	1.) Tighten handle assembly.

Care of Chrome plated surfaces.

The suggested cleaning of chrome plated surfaces is simply to clean them with soap and water then dry. Commercial cleaning compounds are never recommended.

Seasonal use.

Valves used in installations subject to shut down because of cold and freezing conditions should be maintained in the following manner. After the main supply has been shut off and the water drained from the system, remove the stop valve cap and stop internals to allow the water to drain from the flush valve itself.

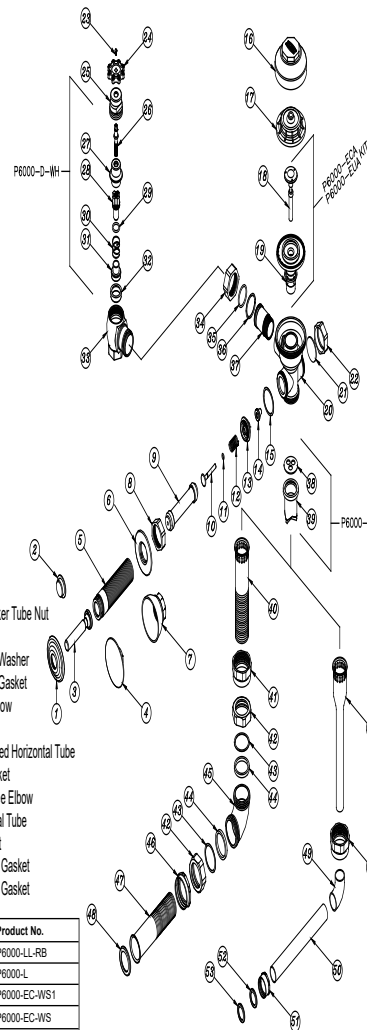
*see previous for numerical references.



AquaVantage Concealed Repair Kits

Parts Identification

- Wall Escutcheon
- Optional 1" Metal Push Button
- Handle
- Optional 3" Metal Push Button
- Sleeve/Socket
- Adjusting Nut
- Optional Bell Nut
- Handle Nut
- Push Rod/Filler Rod
- Actuator Rod
- Handle O-Ring
- Handle Spring
- Handle Seal Retainer
- Handle Seal
- Gasket
- Valve Body Cover
- Plastic Cover
- Trip Mechanism
- Diaphragm Kit
- Valve Body
- Solid Gasket
- Solid Handle Nut
- Wheel Handle Screw
- Wheel Handle
- Stop Cap
- Adjusting Screw
- Guide Holder
- Piston Guide
- Guide O-Ring
- Stop Spring
- Piston
- Piston Seal
- Stop Body
- Locking Nut
- Tailpiece O-Ring
- Snap Ring
- Tailpiece
- Vacuum Breaker Tube Nut
- Coupling Nut
- Spud Friction Washer
- Spud Rubber Gasket
- 90 Degree Elbow
- Spud Nut
- Flanged/Scored Horizontal Tube
- P30 Flat Gasket
- 3/4" 90 Degree Elbow
- 3/4" Horizontal Tube
- 3/4" Spud Nut
- Spud Friction Gasket
- Spud Rubber Gasket



Covers and Repair Kits	Product No.
Outside Cover - RB - Item 16	P6000-LL-RB
Inside Cover - Item 17	P6000-L
Low Consumption Closet Kit - 1.6 gal. flush	P6000-EC-WS1
Water Saving Closet Kit - 3.5 gal. flush	P6000-EC-WS
Full Flow Closet Kit - 4.5 gal. flush	P6000-EC-FF
Low Consumption Urinal Kit - 1.0 gal. flush	P6000-EU-WS1
Water Saving Urinal Kit - 1.5 gal. flush	P6000-EU-WS
Full Flush Urinal Kit - 3.0 gal. flush	P6000-EU-FF

Repair Parts - Inside Parts	Product No.
Urinal Relief Valve - Item 18	P6000-EU-13
Closet Relief Valve - Item 18	P6000-EC-13

Aquaflush Rebuild Kits	Product No.
Closet and Urinal Rebuild Kits Include Items 10-15, 18, 19, 35, 38, 39	P6000-ECA-WS-RK P6000-ECA-WS1-RK P6000-EUA-WS-RK P6000-EUA-WS1-RK

Handle Assembly and Repair Kits	Product No.
Concealed Valve Actuator (Spec. Type and "L" Dim.)	P6000-N P6000-NL- P6000-NL3-
Handle Repair Kit Includes Items 10-15	P6000-AK
Handle Seal Includes Item 14	P6000-M9
Handle Gasket Includes Item 15	P6000-M10

Control Stop Repair Kit and Parts	Product No.
Control Stop Repair Kit for 1" and 3/4", Includes Items 26-32	P6000-D-SD
Seal Seat for 1" and 3/4", Includes Item 26	P6000-D42
Sweat Solder Connection	P6000-YBA

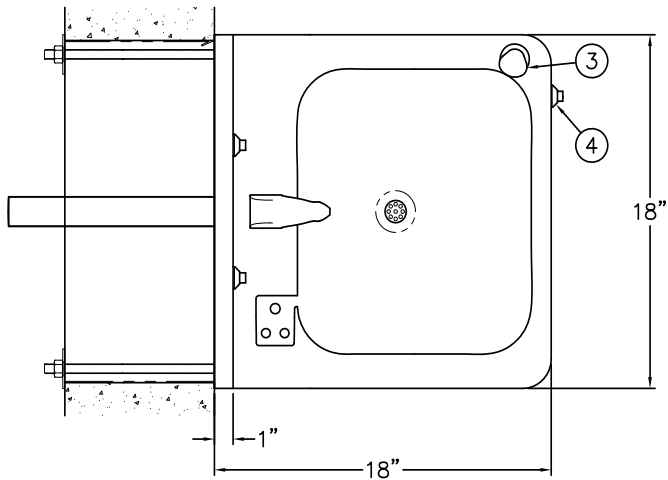
Adjustable Tailpieces	Product No.
Adjustable Tailpiece for Standard Flush Valve Includes Items 28-31	P6000-J1-RB
Tailpiece Locking Ring Includes Item 29	P6000-C30
Tailpiece O-Ring Includes Items 30	P6000-C31
Coupling Nut Includes Item 31	P6000-C32-RB

Flush Connections and Spud Coupling Kits	Product No.
Flush Tube Assembly for Concealed Flush Valves Refer to Section Q in Aqua Parts Guide	P6000-Q_ -
Specify "L" Dim. and Valve Used	
Vacuum Breaker Repair Kit Includes Items 19-21	P6000-B
Spud Coupling Assembly (Specify Size)	P6000-HN

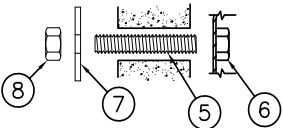
VENDOR	DESCRIPTION	PAGE
Acorn	Rear Mount, 18 Inch, Ada Compliant Stainless Steel Security Lavatory With Rectangular Bowl	15
Symmons	Scot Faucet - Polished Chrome	23

PENAL-WARE FIXTURES

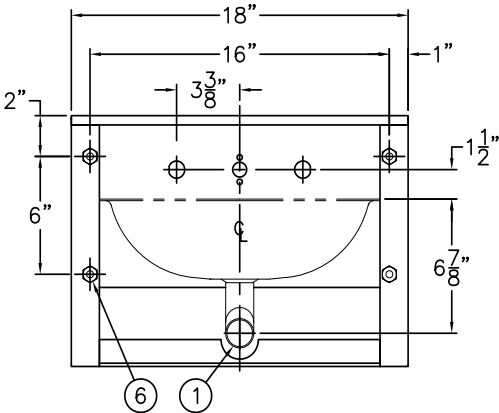
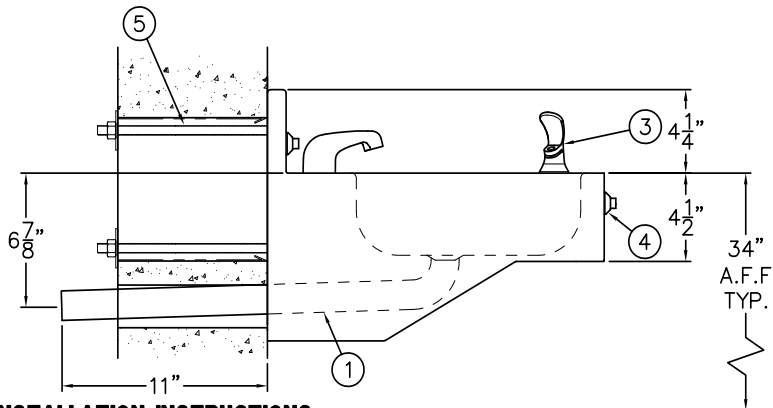
INSTALLATION INSTRUCTIONS



REFERENCE DRAWINGS	
HARDWARE PACKAGE	9957-900-001
-SW SLEEVE / -MT TEMPLATE	9925-212-001
AIR CONTROL CONNECTION	9900-006-003
-4 AIR-CONTROL (HOT & COLD)	9905-000-003
-MVC1 S/T TIME-TROL	9900-001-004
-EVS1 S/T MASTER-TROL	9905-330-004



MOUNTING DETAIL



INSTALLATION INSTRUCTIONS:

- A- ROUGH-IN FOR FIXTURE WASTE OUTLET:
1-1/2" O.D. ELBOW PLAIN END ① PROVIDED.
- B- SEE REFERENCE DRAWING BOX FOR APPROPRIATE VALVE INSTALLATION SHEETS.
- C- REMOVE THE ACCESS PANEL ② TO INSTALL OPTIONAL -DMB DECK MOUNTED BUBBLER ③ AND PUSHBUTTON ④.
- D- THREAD 1/2" X 13 UNC STUDS ⑤ INTO ANCHOR TAPPINGS ⑥ ON REAR OF FIXTURE. STUDS ⑤ MUST HAVE A MINIMUM OF 1/2" ENGAGEMENT.
- E- ALIGN STUDS ⑤ WITH THRU ANCHORING WALL OPENINGS OR THRU OPENINGS ON OPTIONAL -SW WALL SLEEVE AND SLIDE FIXTURE TO WALL.

F- FROM CHASE SIDE TIGHTEN WASHERS ⑦ AND NUTS ⑧ PROVIDED ON EXPOSED STUDS ⑤ TO 60 LBS.

G- MAKE UP LAVY WASTE CONNECTIONS: WASTE OUTLET ① SUITABLE FOR A COMPRESSION CONNECTION.

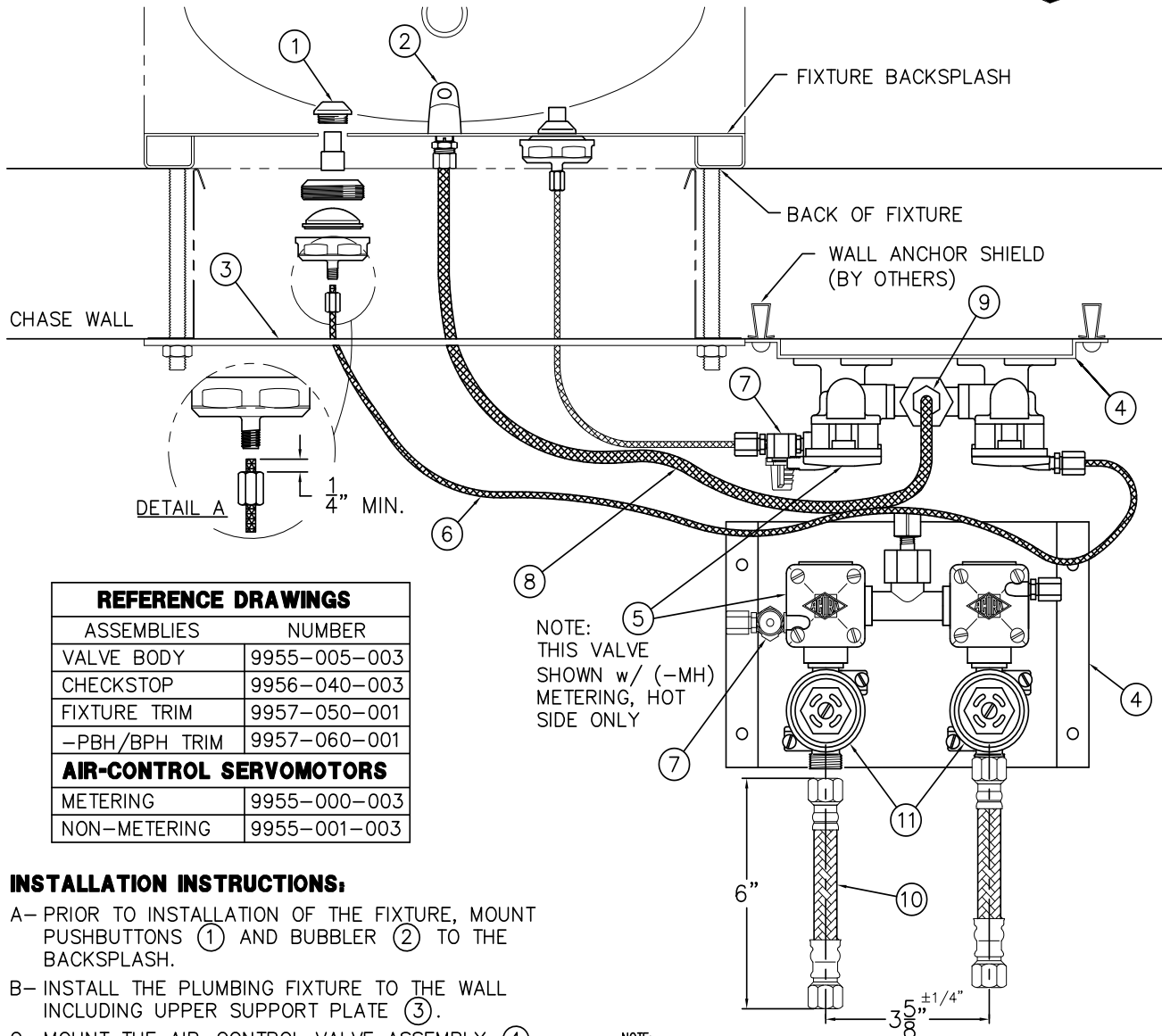
NOTE: REFER TO ADA ACCESSIBILITY GUIDELINES FOR COMPLETE INSTALLATION REQUIREMENTS.

NOTE: FIXTURE IS SHOWN ON AN 8" WALL. FOR INSTALLATION ON SMALLER WALLS LAVY WASTE TAILPIECE CAN BE TRIMMED TO FIT BY INSTALLER.

ACORN ENGINEERING COMPANY P.O. BOX 3527 Industry, CA 91744 15125 Proctor Ave Industry, CA 91746 (626) 336-4561 FAX (626) 961-2200	TITLE 18" ADA LAVATORY, RECTANGULAR BASIN #1652LRB-ADA		
	MANUFACTURE DATE JANUARY 2012 TO PRESENT	DATE ISSUED 06/25/12	DRAWING NUMBER 9925-304-001
		DATE REVISED	

PENAL-WARE VALVES

INSTALLATION INSTRUCTIONS



REFERENCE DRAWINGS	
ASSEMBLIES	NUMBER
VALVE BODY	9955-005-003
CHECKSTOP	9956-040-003
FIXTURE TRIM	9957-050-001
-PBH/BPH TRIM	9957-060-001
AIR-CONTROL SERVOMOTORS	
METERING	9955-000-003
NON-METERING	9955-001-003

INSTALLATION INSTRUCTIONS:

- A- PRIOR TO INSTALLATION OF THE FIXTURE, MOUNT PUSHBUTTONS ① AND BUBBLER ② TO THE BACKSPLASH.
- B- INSTALL THE PLUMBING FIXTURE TO THE WALL INCLUDING UPPER SUPPORT PLATE ③.
- C- MOUNT THE AIR-CONTROL VALVE ASSEMBLY ④. LOCATE AS REQUIRED. MAXIMUM ALLOWABLE DISTANCE BETWEEN PUSHBUTTON ① AND AIR-CONTROL SERVOMOTOR ⑤ IS 10 FEET. WALL ANCHORING HARDWARE ARE BY OTHERS.
- D- CONNECT 1/8" O.D. POLYETHYLENE AIR LINES ⑥ TO PUSHBUTTONS ① AND SERVOMOTOR ⑤. HAND TIGHTEN USING FERRULE NUTS PROVIDED. SEE DETAIL A. NOTE: WHEN METERING VALVES ARE SPECIFIED, AIR LINES CONNECT DIRECTLY TO VALVE TIMER ⑦.
- E- CONNECT 1/4" O.D. POLYETHYLENE WATER LINE ⑧ TO BUBBLER ② AND COMPRESSION NUT ⑨. HAND TIGHTEN USING FERRULE NUTS PROVIDED.

- NOTE: MAXIMUM RECOMMENDED WORKING WATER PRESSURE IS 100 PSI; TEMPERATURE IS 130° F; OUTLET TEMPERATURE IS RECOMMENDED AT A MAXIMUM OF 105° F.
- WARNING: PRIOR TO MAKING INSTALLATION, SUPPLY LINES MUST BE FLUSHED OF ALL FOREIGN MATERIAL SUCH AS PIPE DOPE, CHIPS, SOLDER, ETC. VALVE MUST BE DRAINED PRIOR TO BEING SUBJECTED TO FREEZING TEMPERATURES. MAXIMUM RECOMMENDED OUTLET WATER TEMPERATURE IS 105° F.
- F- AFTER THOROUGHLY FLUSHING THE SUPPLY LINES, MAKE-UP 1/2" NPS FEMALE SUPPLY CONNECTIONS. NOTE: SUPPLY INLET CONNECTION WILL ACCOMMODATE 1/2" NPT MALE ADAPTER. THREAD FLEX CONNECTOR HOSE ⑩ TO CHECKSTOPS ⑪ AND TO SUPPLY STUB OUTS.
- G- SEE APPROPRIATE SERVOMOTOR REFERENCE DRAWING FOR DETAILS AND TIMING INSTRUCTIONS.

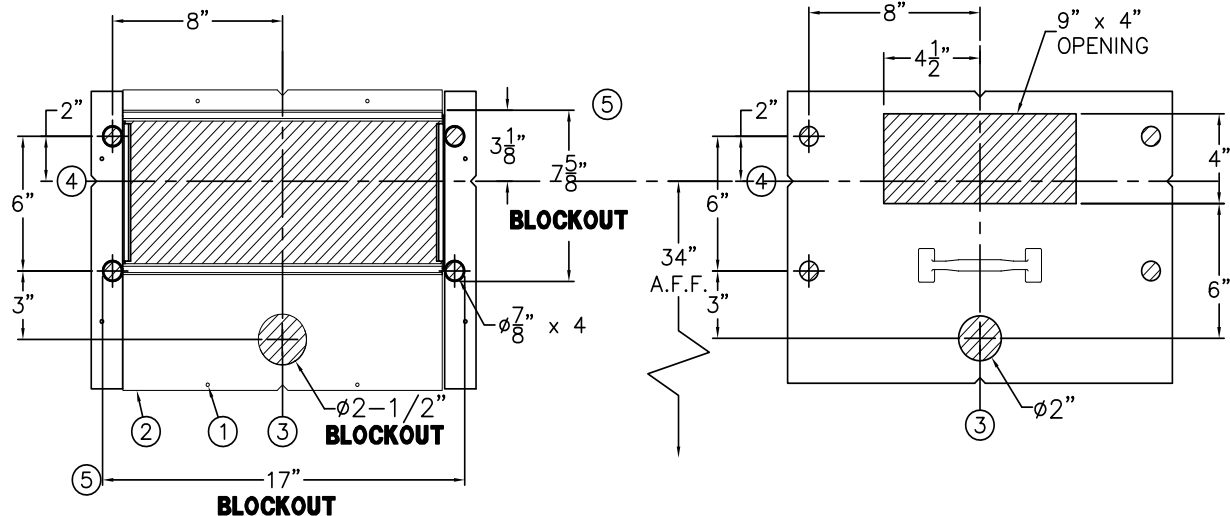


ACORN ENGINEERING COMPANY
P.O. BOX 3527 Industry, CA 91744
15125 Proctor Ave Industry, CA 91746
(626) 336-4561 FAX (626) 961-2200

TITLE (04-SERIES) HOT & COLD AIR-CONTROL VALVE ASSEMBLY - NEW STYLE		
MANUFACTURE DATE SEPT 1995 TO PRESENT	DATE ISSUED 11/1/95	DRAWING NUMBER 9905-000-003
	DATE REVISED 07/15/10	

PENAL-WARE FIXTURES

INSTALLATION INSTRUCTIONS



WALL SLEEVE

BOTH VIEWS ARE FROM CELL SIDE

METAL TEMPLATE



SHADED AREAS ARE REQUIRED WALL OPENINGS

WALL SLEEVE (-SW)

SLEEVES ARE INSTALLED IN FORMS (USING NAIL HOLES ① PROVIDED) OR GROUTED INTO BLOCK WALLS, BECOMING A PERMANENT PART OF THE WALL.

- INSTALLED SLEEVE WITH FLANGE ② ON CHASE SIDE OF WALL.
- LOCATE TOP AND BOTTOM NOTCHES AT VERTICAL CENTERLINE ③ OF PLUMBING FIXTURE.
- LOCATE SIDE NOTCHES ④ AT DIMENSIONS SHOWN, MEASURED FROM THE FINISHED FLOOR ON CELL (FIXTURE) SIDE. THIS WILL LOCATE DECK HEIGHT.

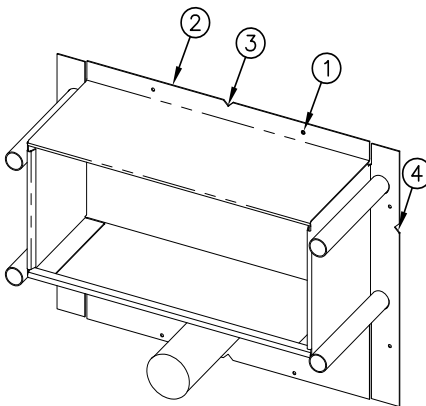
NOTES:

- FOR POURED WALL CONSTRUCTION, TEMPORARY BRACING SHOULD BE INSTALLED WITHIN SLEEVE OPENING TO PREVENT DEFORMATION TO SLEEVE WHICH MAY OCCUR DURING POUR. DO NOT POUR CONCRETE DIRECTLY ON TOP OF WALL SLEEVE.
- WHEN SLEEVES ARE NOT AVAILABLE BLOCKOUT FOR SLEEVE OPENING IN WALL PER DIMENSIONS SHOWN ⑤.

METAL TEMPLATE (-MT)

TEMPLATES ARE USED TO LAYOUT REQUIRED WALL OPENINGS FOR SUBSEQUENT FLAME CUTTING OR CORE DRILLING.

- STRIKE A HORIZONTAL CHALK LINE ④ ON WALL AT DIMENSION SHOWN, MEASURED FROM THE FINISHED FLOOR ON CELL (FIXTURE) SIDE. THIS WILL LOCATE CENTERLINE FOR HORIZONTAL NOTCHES ON TEMPLATE.
- STRIKE A VERTICAL CHALK LINE ③ ON THE WALL TO INDICATE CENTERLINE OF FIXTURE. THIS WILL LOCATE CENTERLINE FOR VERTICAL NOTCHES ON TEMPLATE.
- PLACE TEMPLATE AGAINST WALL. LOCATE NOTCHES ALONG CHALK LINES, MARK WALL FOR REQUIRED OPENINGS.



WALL SLEEVE

(-SW)

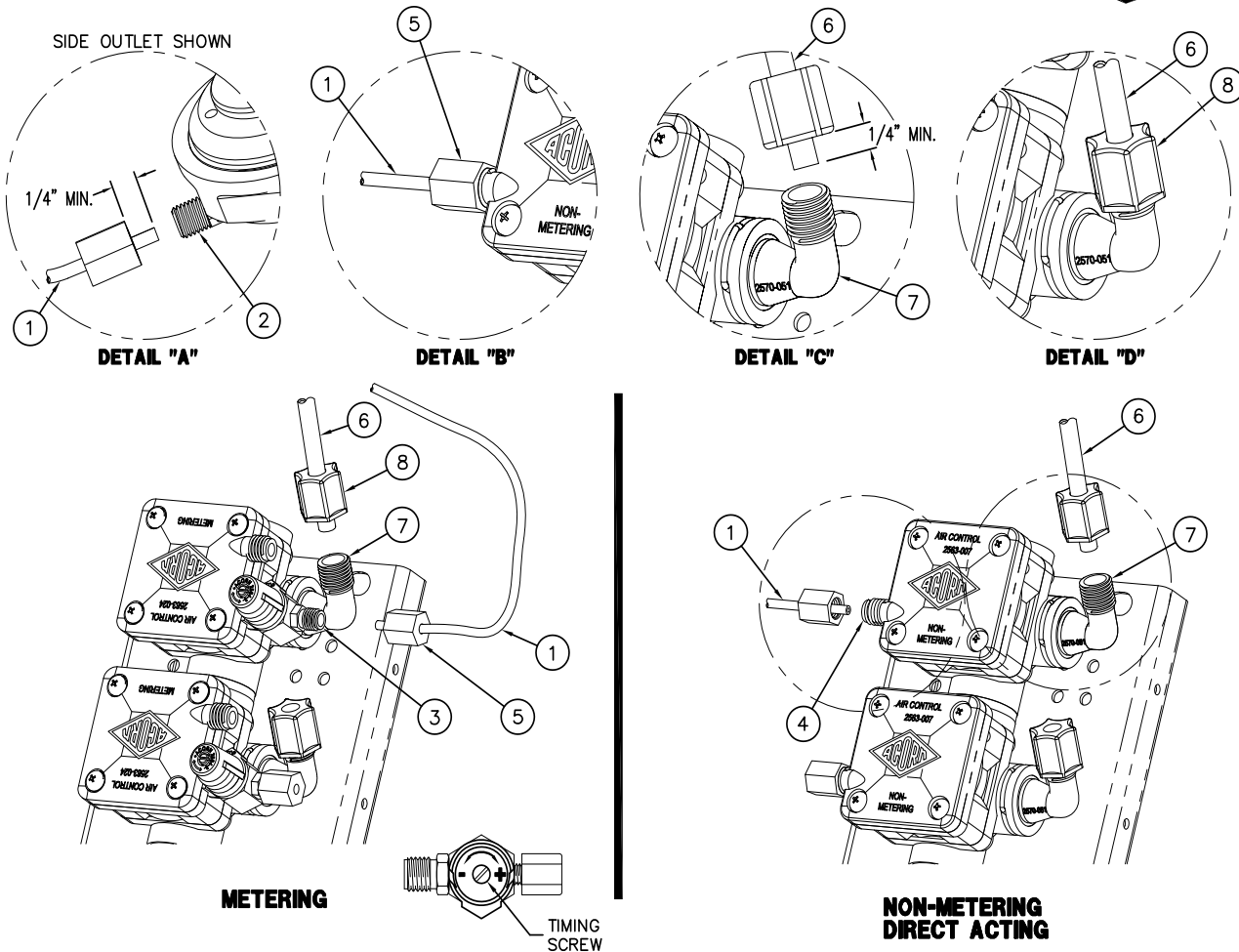


ACORN ENGINEERING COMPANY
P.O. BOX 3527 Industry, CA 91744
(626) 336-4561 FAX (626) 961-2200

TITLE		
-SW WALL SLEEVE/-MT METAL TEMPLATE 1652-ADA, 1652LRB-ADA, 1652-VAC		
MANUFACTURE DATE	DATE ISSUED	DRAWING NUMBER
JUNE 1971	03/01/90	9925-212-001
TO PRESENT	06/27/12	

VALVES

INSTALLATION INSTRUCTIONS



TIMING IS ADJUSTABLE FROM 5 TO 60 SECONDS AND IS ACCOMPLISHED BY ROTATING TIMING SCREW. TURNING THE SCREW CLOCKWISE INCREASES WHILE COUNTERCLOCKWISE DECREASES TIMING.

INSTALLATION INSTRUCTIONS:

- MOUNT FIXTURE IN ACCORDANCE TO MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- ASSEMBLE SPOUTS AND PUSHBUTTONS TO FIXTURE.
- CONNECT 1/8" O.D. POLYETHYLENE AIR LINE ① TO PUSHBUTTON ②, AND VALVE TIMER ASSEMBLY ③ SEE DETAIL "A". NOTE: FOR DIRECT ACTING: ASSEMBLE TO AIR PORT ④, SEE DETAIL "B". HAND TIGHTEN FERRULE NUT ⑤ PROVIDED.
- CONNECT 1/4" O.D. POLYETHYLENE WATER LINES ⑥ TO VALVE ASSEMBLY ELBOW ⑦ SEE DETAILS "C", AND "D". HAND TIGHTEN FERRULE NUT ⑧ PROVIDED.
- AFTER THOROUGHLY FLUSHING SUPPLY LINES MAKE UP CONNECTIONS TO VALVE ASSEMBLY INLET(S) 1/2" NPT OR 1/2" NPS FLEX HOSE AS REQUIRED.

NOTE:

- ALL TUBING SHOULD BE CUT SQUARE AND BE FREE OF BURRS OR DEFORMITIES TO ENSURE A WATER TIGHT CONNECTION.
- EXTEND TUBING AT LEAST 1/4" BEYOND FERRULE NUT BEFORE INSERTING TUBING INTO CONNECTION OPENING BEFORE TIGHTENING.
- TUBING SHOULD BE FREE OF KINKS FOR PROPER OPERATION
- MAXIMUM RECOMMENDED WORKING WATER PRESSURE IS 100 PSI; TEMPERATURE IS 130° F; OUTLET TEMPERATURE IS RECOMMENDED AT A MAXIMUM OF 105° F.

WARNING:

PRIOR TO MAKING INSTALLATION, SUPPLY LINES MUST BE FLUSHED OF ALL FOREIGN MATERIAL SUCH AS PIPE DOPE, CHIPS, SOLDER, ETC. VALVE MUST BE DRAINED PRIOR TO BEING SUBJECTED TO FREEZING TEMPERATURES. MAXIMUM RECOMMENDED OUTLET WATER TEMPERATURE IS 105° F.

REFERENCE DRAWINGS	
ASSEMBLIES	DRAWING
VALVE BODY	9955-006-003
CHECKSTOP	9956-040-003
FIXTURE TRIM	9957-051-001
AIR-CONTROL SERVOMOTORS	
METERING	9955-000-003
NON-METERING	9955-001-003



ACORN ENGINEERING COMPANY
P.O. BOX 3527 Industry, CA 91744
15125 Proctor Ave Industry, CA 91746
(626) 336-4561 FAX (626) 961-2200

TITLE **HAND OPERATED AIR-CONTROL VALVE CONNECTIONS**

MANUFACTURE DATE

**JANUARY 1999
TO PRESENT**

DATE ISSUED

04/22/10

DATE REVISED

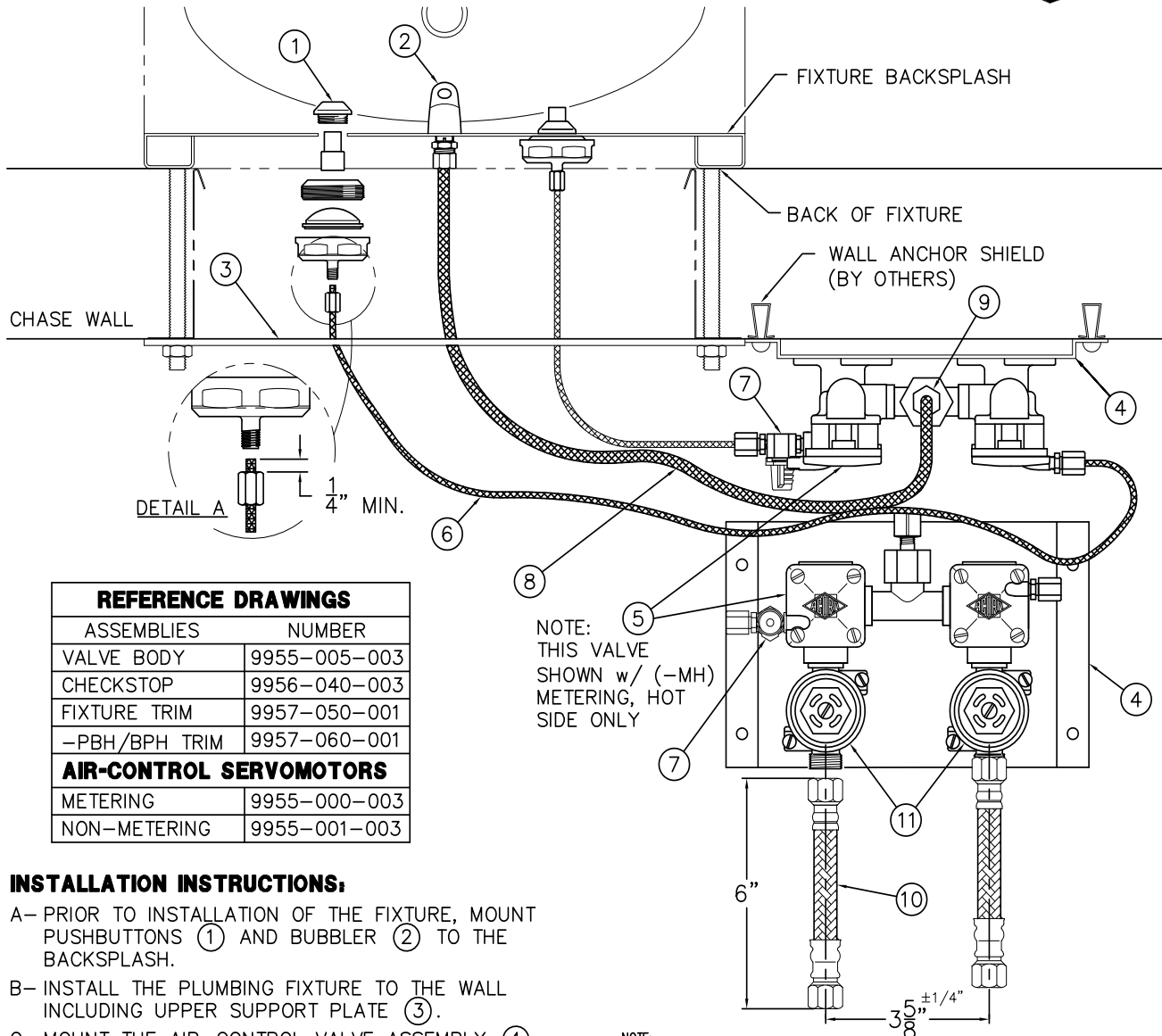
10/11/10

DRAWING NUMBER

9905-006-001

PENAL-WARE VALVES

INSTALLATION INSTRUCTIONS



REFERENCE DRAWINGS	
ASSEMBLIES	NUMBER
VALVE BODY	9955-005-003
CHECKSTOP	9956-040-003
FIXTURE TRIM	9957-050-001
-PBH/BPH TRIM	9957-060-001
AIR-CONTROL SERVOMOTORS	
METERING	9955-000-003
NON-METERING	9955-001-003

NOTE:
THIS VALVE
SHOWN w/ (-MH)
METERING, HOT
SIDE ONLY

INSTALLATION INSTRUCTIONS:

- PRIOR TO INSTALLATION OF THE FIXTURE, MOUNT PUSHBUTTONS ① AND BUBBLER ② TO THE BACKSPLASH.
- INSTALL THE PLUMBING FIXTURE TO THE WALL INCLUDING UPPER SUPPORT PLATE ③.
- MOUNT THE AIR-CONTROL VALVE ASSEMBLY ④. LOCATE AS REQUIRED. MAXIMUM ALLOWABLE DISTANCE BETWEEN PUSHBUTTON ① AND AIR-CONTROL SERVOMOTOR ⑤ IS 10 FEET. WALL ANCHORING HARDWARE ARE BY OTHERS.
- CONNECT 1/8" O.D. POLYETHYLENE AIR LINES ⑥ TO PUSHBUTTONS ① AND SERVOMOTOR ⑤. HAND TIGHTEN USING FERRULE NUTS PROVIDED. SEE DETAIL A. NOTE: WHEN METERING VALVES ARE SPECIFIED, AIR LINES CONNECT DIRECTLY TO VALVE TIMER ⑦.
- CONNECT 1/4" O.D. POLYETHYLENE WATER LINE ⑧ TO BUBBLER ② AND COMPRESSION NUT ⑨. HAND TIGHTEN USING FERRULE NUTS PROVIDED.

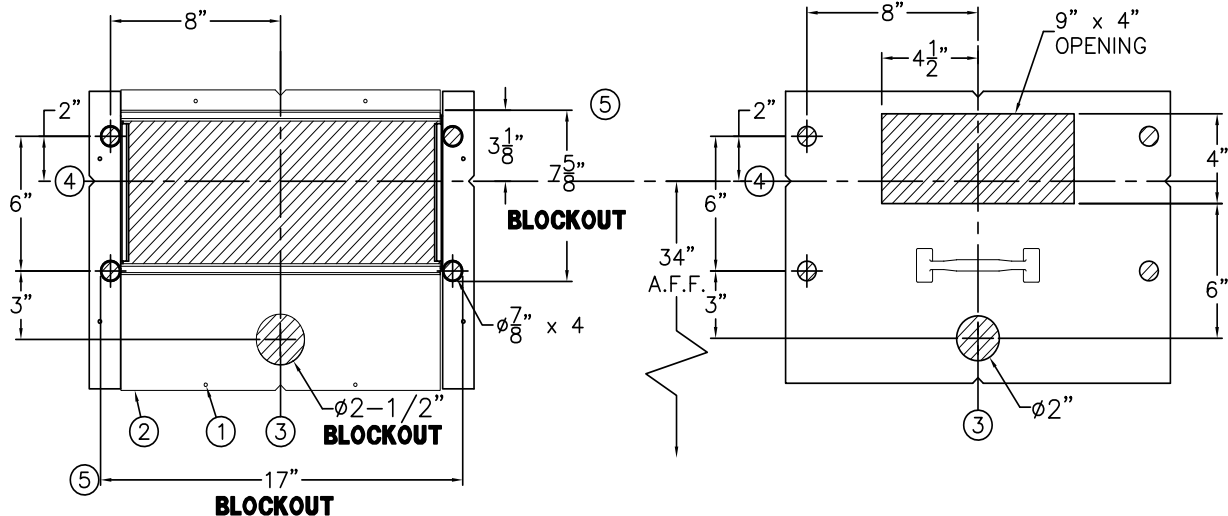
NOTE:
MAXIMUM RECOMMENDED WORKING WATER PRESSURE IS 100 PSI; TEMPERATURE IS 130° F; OUTLET TEMPERATURE IS RECOMMENDED AT A MAXIMUM OF 105° F.
WARNING:
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- AFTER THOROUGHLY FLUSHING THE SUPPLY LINES, MAKE-UP 1/2" NPS FEMALE SUPPLY CONNECTIONS. NOTE: SUPPLY INLET CONNECTION WILL ACCOMMODATE 1/2" NPT MALE ADAPTER. THREAD FLEX CONNECTOR HOSE ⑩ TO CHECKSTOPS ⑪ AND TO SUPPLY STUB OUTS.
- SEE APPROPRIATE SERVOMOTOR REFERENCE DRAWING FOR DETAILS AND TIMING INSTRUCTIONS.

ACORN ENGINEERING COMPANY P.O. BOX 3527 Industry, CA 91744 15125 Proctor Ave Industry, CA 91746 (626) 336-4561 FAX (626) 961-2200	TITLE (04-SERIES) HOT & COLD AIR-CONTROL VALVE ASSEMBLY - NEW STYLE	
	MANUFACTURE DATE SEPT 1995 TO PRESENT	DATE ISSUED 11/1/95
		DATE REVISED 07/15/10
		DRAWING NUMBER 9905-000-003

PENAL-WARE FIXTURES

INSTALLATION INSTRUCTIONS



WALL SLEEVE

BOTH VIEWS ARE FROM CELL SIDE

METAL TEMPLATE



SHADED AREAS ARE REQUIRED WALL OPENINGS

WALL SLEEVE (-SW)

SLEEVES ARE INSTALLED IN FORMS (USING NAIL HOLES ① PROVIDED) OR GROUTED INTO BLOCK WALLS, BECOMING A PERMANENT PART OF THE WALL.

- INSTALLED SLEEVE WITH FLANGE ② ON CHASE SIDE OF WALL.
- LOCATE TOP AND BOTTOM NOTCHES AT VERTICAL CENTERLINE ③ OF PLUMBING FIXTURE.
- LOCATE SIDE NOTCHES ④ AT DIMENSIONS SHOWN, MEASURED FROM THE FINISHED FLOOR ON CELL (FIXTURE) SIDE. THIS WILL LOCATE DECK HEIGHT.

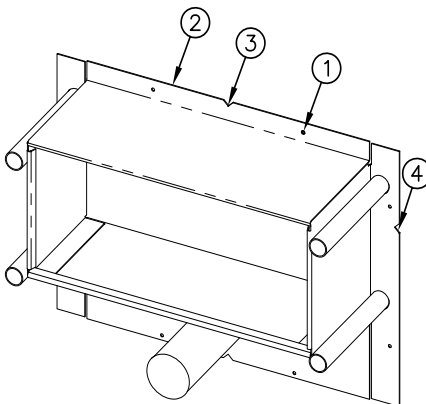
NOTES:

- FOR POURED WALL CONSTRUCTION, TEMPORARY BRACING SHOULD BE INSTALLED WITHIN SLEEVE OPENING TO PREVENT DEFORMATION TO SLEEVE WHICH MAY OCCUR DURING POUR. DO NOT POUR CONCRETE DIRECTLY ON TOP OF WALL SLEEVE.
- WHEN SLEEVES ARE NOT AVAILABLE BLOCKOUT FOR SLEEVE OPENING IN WALL PER DIMENSIONS SHOWN ⑤.

METAL TEMPLATE (-MT)

TEMPLATES ARE USED TO LAYOUT REQUIRED WALL OPENINGS FOR SUBSEQUENT FLAME CUTTING OR CORE DRILLING.

- STRIKE A HORIZONTAL CHALK LINE ④ ON WALL AT DIMENSION SHOWN, MEASURED FROM THE FINISHED FLOOR ON CELL (FIXTURE) SIDE. THIS WILL LOCATE CENTERLINE FOR HORIZONTAL NOTCHES ON TEMPLATE.
- STRIKE A VERTICAL CHALK LINE ③ ON THE WALL TO INDICATE CENTERLINE OF FIXTURE. THIS WILL LOCATE CENTERLINE FOR VERTICAL NOTCHES ON TEMPLATE.
- PLACE TEMPLATE AGAINST WALL. LOCATE NOTCHES ALONG CHALK LINES, MARK WALL FOR REQUIRED OPENINGS.



WALL SLEEVE

(-SW)



ACORN ENGINEERING COMPANY
P.O. BOX 3527 Industry, CA 91744
(626) 336-4561 FAX (626) 961-2200

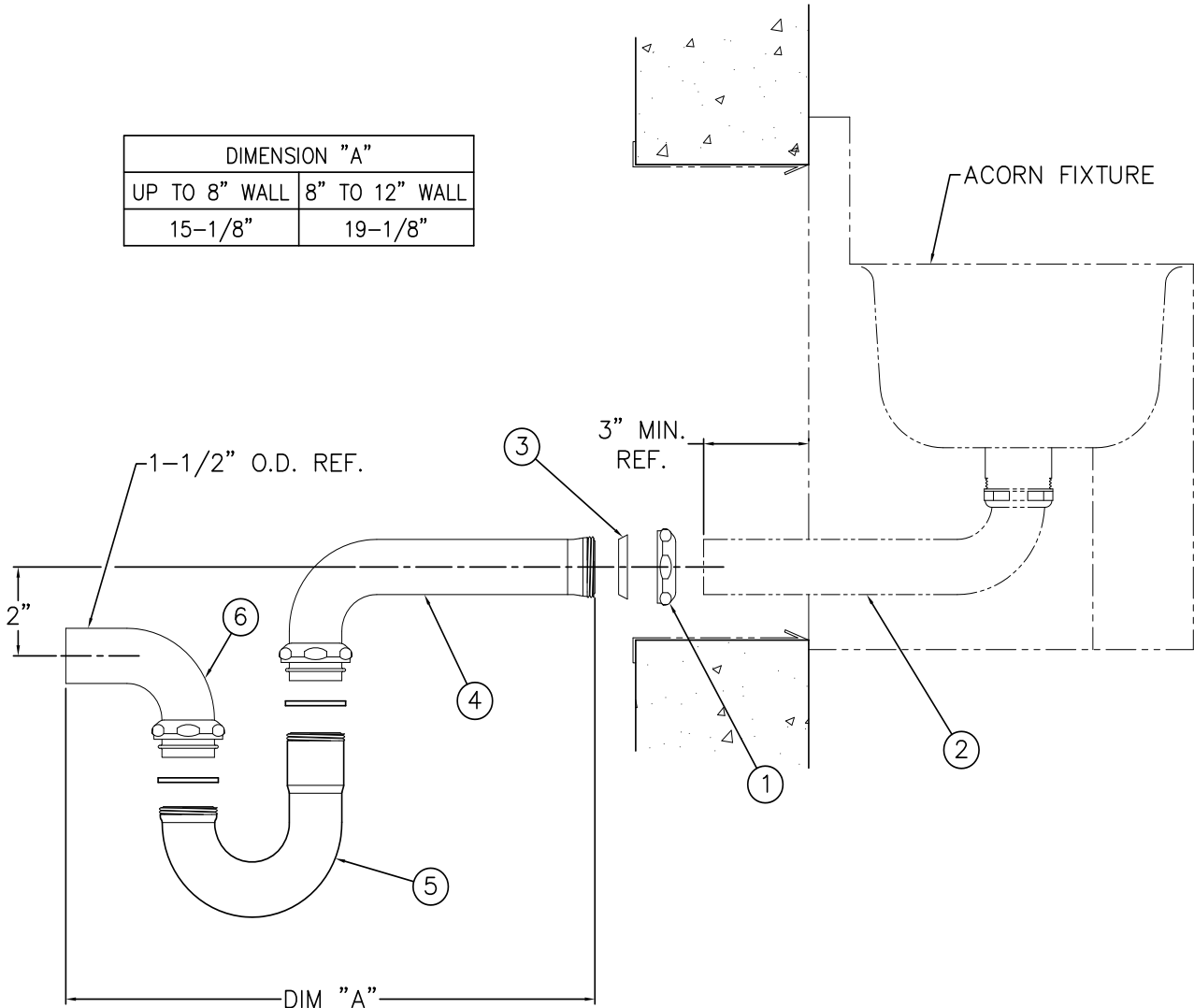
TITLE		
-SW WALL SLEEVE/-MT METAL TEMPLATE 1652-ADA, 1652LRB-ADA, 1652-VAC		
MANUFACTURE DATE	DATE ISSUED	DRAWING NUMBER
JUNE 1971	03/01/90	9925-212-001
TO PRESENT	06/27/12	

PENAL-WARE FIXTURES

INSTALLATION INSTRUCTIONS



DIMENSION "A"	
UP TO 8" WALL	8" TO 12" WALL
15-1/8"	19-1/8"



INSTALLATION INSTRUCTIONS:

- A- AFTER INSTALLING ACORN UNIT ON FINISHED WALL, SLIP COMPRESSION NUT (1) OVER 1-1/2" O.D. PLAIN END WASTE (2). USING COMPRESSION GASKET (3), AND NUT (1) MAKE-UP COMPRESSION CONNECTION WITH SLIP JOINT ELBOW (4).
- B- REMOVABLE TUBULAR P-TRAP (5) CONNECTS TO SLIP JOINT ELBOW (4) AND PLAIN END ELBOW (6) WITH COMPRESSION CONNECTIONS AS SHOWN.
- NOTE: TUBULAR P-TRAP IS REMOVABLE IN ORDER TO ALLOW FOR WASTE CLEANOUT.

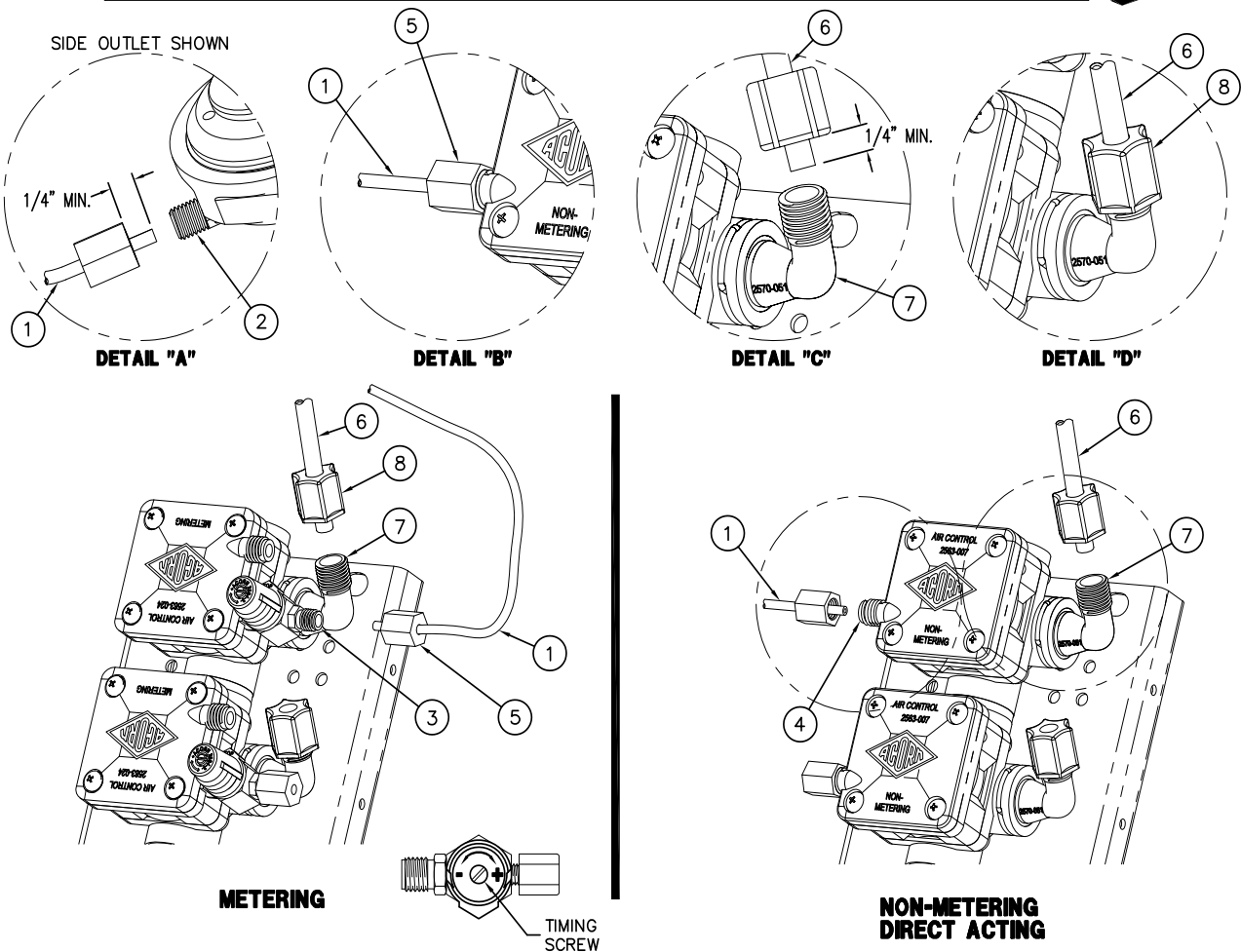


ACORN ENGINEERING COMPANY
P.O. BOX 3527 Industry, CA 91744
15125 Proctor Ave. Industry, CA 91746
(626) 336-4561 FAX (626) 961-2200

TITLE LAVATORY THRU-WALL WASTE CONNECTION w/ P-TRAP & CLEANOUT CAT. # -LW1			
MANUFACTURE DATE APRIL 30, 1998 TO PRESENT	DATE ISSUED 3/19/98	DRAWING NUMBER 9925-065-002	
	DATE REVISED 4/23/98		

VALVES

INSTALLATION INSTRUCTIONS



TIMING IS ADJUSTABLE FROM 5 TO 60 SECONDS AND IS ACCOMPLISHED BY ROTATING TIMING SCREW. TURNING THE SCREW CLOCKWISE INCREASES WHILE COUNTERCLOCKWISE DECREASES TIMING.

INSTALLATION INSTRUCTIONS:

- MOUNT FIXTURE IN ACCORDANCE TO MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- ASSEMBLE SPOUTS AND PUSHBUTTONS TO FIXTURE.
- CONNECT 1/8" O.D. POLYETHYLENE AIR LINE ① TO PUSHBUTTON ②, AND VALVE TIMER ASSEMBLY ③ SEE DETAIL "A". NOTE: FOR DIRECT ACTING: ASSEMBLE TO AIR PORT ④, SEE DETAIL "B". HAND TIGHTEN FERRULE NUT ⑤ PROVIDED.
- CONNECT 1/4" O.D. POLYETHYLENE WATER LINES ⑥ TO VALVE ASSEMBLY ELBOW ⑦ SEE DETAILS "C", AND "D". HAND TIGHTEN FERRULE NUT ⑧ PROVIDED.
- AFTER THOROUGHLY FLUSHING SUPPLY LINES MAKE UP CONNECTIONS TO VALVE ASSEMBLY INLET(S) 1/2" NPT OR 1/2" NPS FLEX HOSE AS REQUIRED.

NOTE:

- ALL TUBING SHOULD BE CUT SQUARE AND BE FREE OF BURRS OR DEFORMITIES TO ENSURE A WATER TIGHT CONNECTION.
- EXTEND TUBING AT LEAST 1/4" BEYOND FERRULE NUT BEFORE INSERTING TUBING INTO CONNECTION OPENING BEFORE TIGHTENING.
- TUBING SHOULD BE FREE OF KINKS FOR PROPER OPERATION
- MAXIMUM RECOMMENDED WORKING WATER PRESSURE IS 100 PSI; TEMPERATURE IS 130° F; OUTLET TEMPERATURE IS RECOMMENDED AT A MAXIMUM OF 105° F.

WARNING:

PRIOR TO MAKING INSTALLATION, SUPPLY LINES MUST BE FLUSHED OF ALL FOREIGN MATERIAL SUCH AS PIPE DOPE, CHIPS, SOLDER, ETC. VALVE MUST BE DRAINED PRIOR TO BEING SUBJECTED TO FREEZING TEMPERATURES. MAXIMUM RECOMMENDED OUTLET WATER TEMPERATURE IS 105° F.

REFERENCE DRAWINGS	
ASSEMBLIES	DRAWING
VALVE BODY	9955-006-003
CHECKSTOP	9956-040-003
FIXTURE TRIM	9957-051-001
AIR-CONTROL SERVOMOTORS	
METERING	9955-000-003
NON-METERING	9955-001-003

ACORN ENGINEERING COMPANY P.O. BOX 3527 Industry, CA 91744 15125 Proctor Ave. Industry, CA 91746 (626) 336-4561 FAX (626) 961-2200	TITLE HAND OPERATED AIR-CONTROL VALVE CONNECTIONS		
	MANUFACTURE DATE	DATE ISSUED	DRAWING NUMBER
	JANUARY 1999	04/22/10	9905-006-001
	TO PRESENT	DATE REVISED 10/11/10	

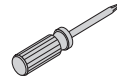
Installation / Tools Required



Adjustable Wrench



Allen Wrench: 2.5 mm



Phillips Head Screwdriver



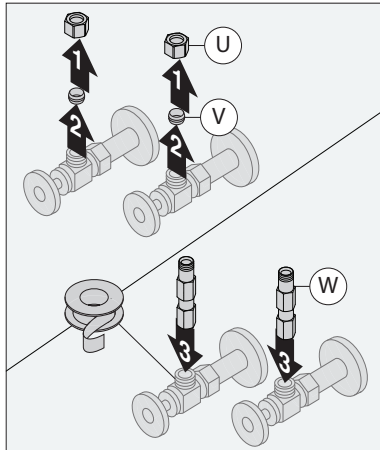
Plumber Tape



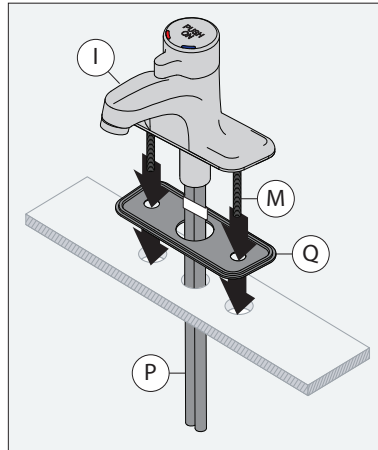
Water lines **MUST** be thoroughly flushed **BEFORE** and **AFTER** installing the faucet to prevent foreign matter i.e. copper chips, sand, stones, etc. from clogging and possibly damaging the sealing surfaces of the cartridge.

- Notes:** 1) Recommended minimum operating water supply pressure is 40 psi.
2) Supply stop valves must have 3/8" O.D. compression outlet.

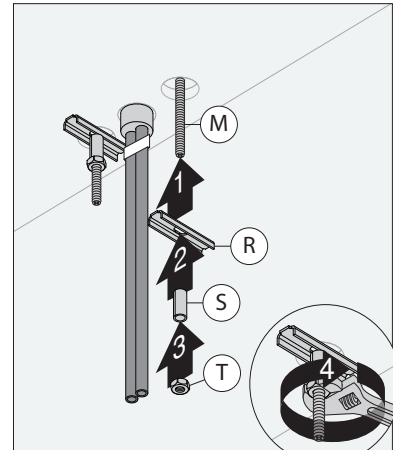
- 1) Remove compression nuts (U) and ferrules (V) from supply stops. Install check/screen assemblies (W) to supply stops.



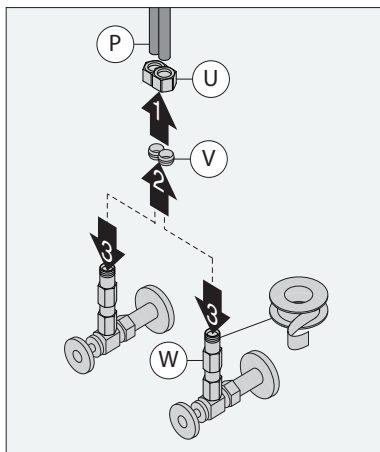
- 2) Install faucet (I), threaded rods (M), mounting gasket (Q), and 3/8" copper tubing (P) to deck surface.



- 3) Place mounting brackets (R) and spacers (S) onto threaded rods (M). Secure hardware by tightening mounting nuts (T) clockwise.

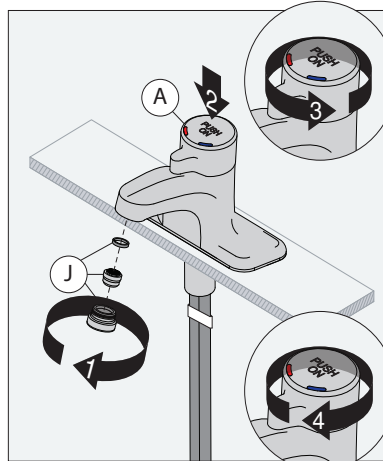


- 4) Connect compression nuts (U) and ferrules (V) to copper tubing (P). Carefully bend copper tubing (P) to meet check/screen assemblies (W). Attach compression nuts to check/screen assemblies.



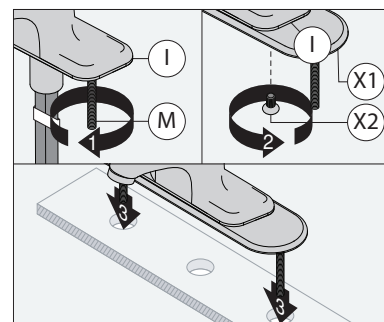
Important: DO NOT REMOVE tape on copper tubing.

- 5) Remove aerator (J). Turn handle (A) to full cold position. Open supply, holding down handle for 10 seconds. Rotate handle to full hot position, open supply and repeat above procedure. Hold down handle and rotate from left to right to flush lines completely.



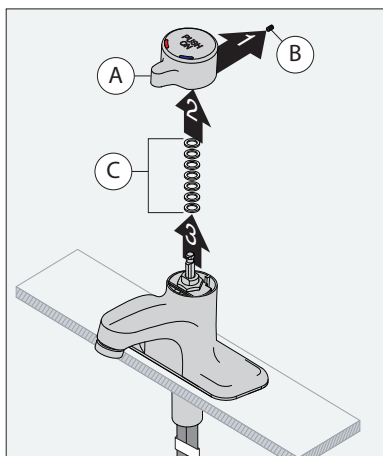
- 6) After faucet has been operated through a number of cycles, and supply water temperature is at desired levels, adjustments to these features can be made (see page 4).

- 7) **Optional 8" Deck Plate:** Remove threaded rods (M) from faucet (I). Install two screws (X2) through bottom of deck plate (X1) into faucet (I). Install faucet and deck plate to deck surface.

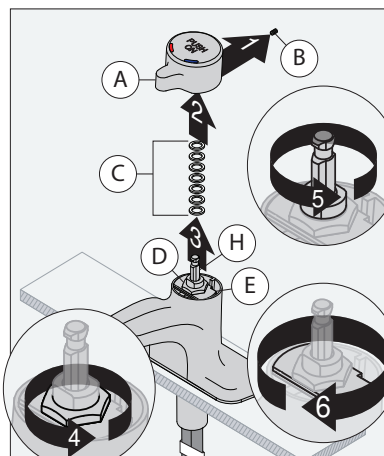


Installation (adjustments)

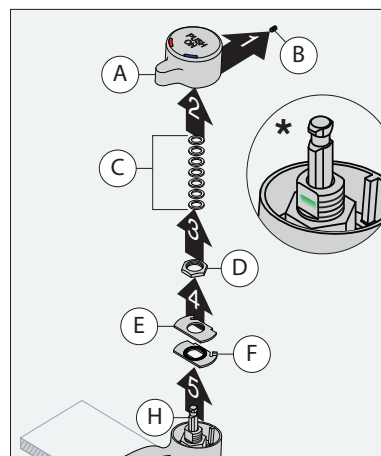
- 1) Faucet is factory set to shortest cycle time with 7 cycle timing washers (C).
To increase time, loosen set screw (B), remove handle (A) and remove one or more of the washers.
To reduce time, add washers.
Reassemble faucet reversing above procedure.
- 2) **To limit temperature** loosen set screw (B), remove handle (A), loosen nut (D) and turn cartridge stem (H) to desired maximum temperature (110°F recommended). Turn limit stop washer (E) clockwise until a positive stop is reached against back of faucet. Reassemble faucet reversing above procedure.
- 3) **For reverse operation** (in back to back installations or when hot supply is on the right) loosen set screw (B), remove handle (A), nut (D) and limit stop washers (E) & (F). Turn cartridge stem (H) 180° so green marking* is facing toward front of faucet. Adjust temperature limit (see step 2). Reassemble faucet, reversing the above procedure.



Note: When setting MAXIMUM cycle time, you MUST maintain at least 5 timing washers (C) so as not to exceed .25 gal/cyl at 60 psi (per ASME A112.18.1)

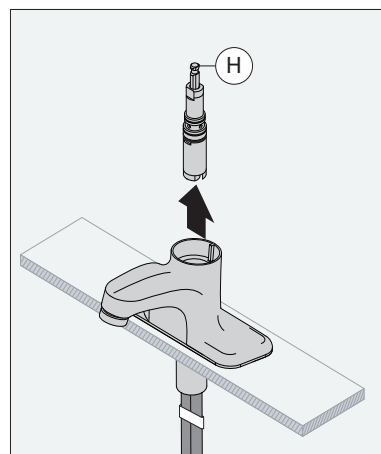
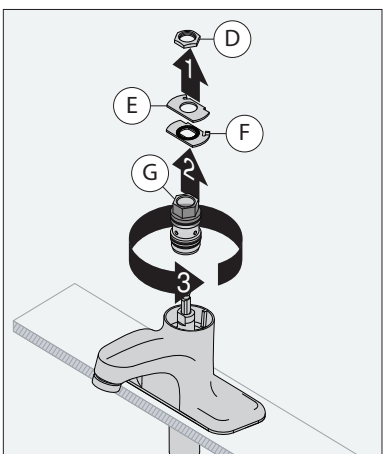
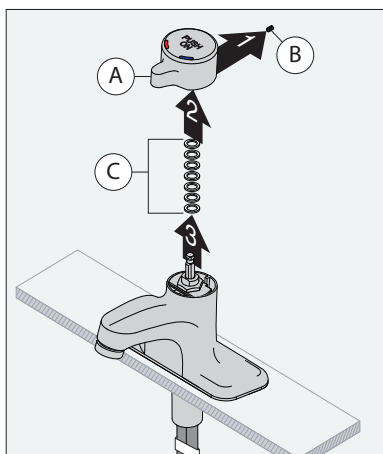


Note: Faucet will operate from the full cold position to the maximum hot temperature that has been set.

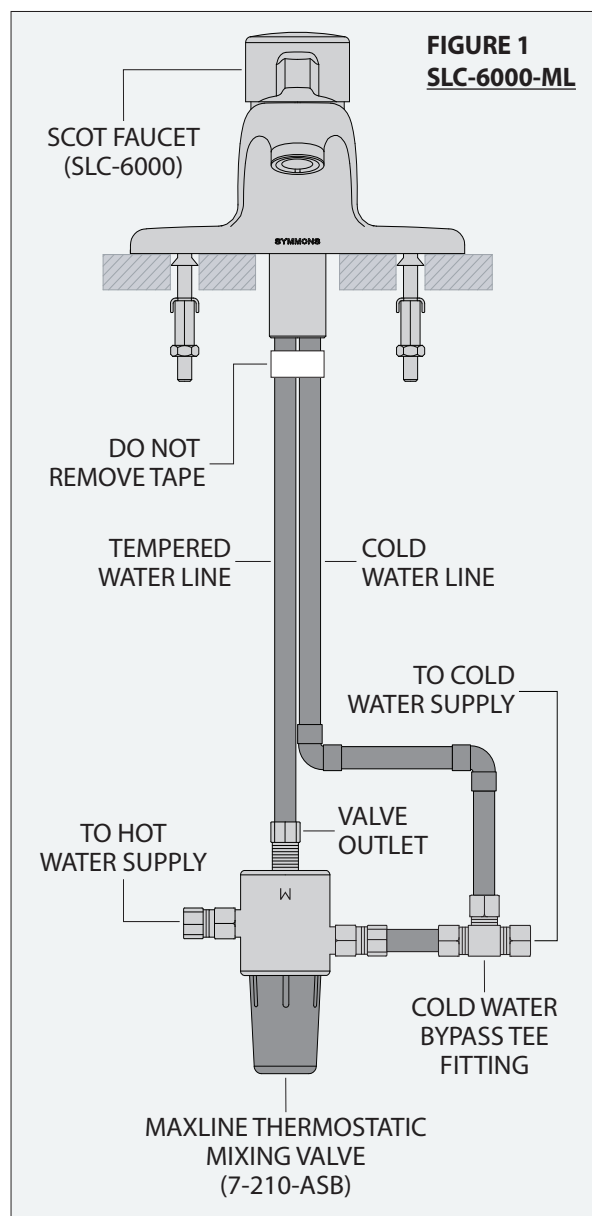


Maintenance

- 1) Loosen set screw (B), remove handle (A) and remove cycle timing washers (C).
- 2) Remove nut (D), limit stop washers (E) & (F) and cartridge housing (G).
- 3) Remove cartridge (H) and inspect for debris. Replace cartridge if necessary. Reassemble faucet reversing procedure outlined in Steps 1 & 2.



Installation with MAXLINE™ Thermostatic Mixing Valve



For applications using MAXLINE thermostatic mixing valve.

- 1) Turn off water supplies.
- 2) Connect tempered water line of faucet to thermostatic mixing valve outlet (see Figure 1 for piping reference).

Note: Valve and cold water bypass use compression fittings (fittings not supplied).

- 3) Connect cold water line of faucet to the cold water bypass using supplied tee fitting.
- 4) Connect copper tubing from cold water bypass tee fitting to thermostatic mixing valve.
- 5) Connect hot water supply to thermostatic mixing valve and cold water supply to cold water bypass tee fitting.
- 6) Remove aerator from faucet. Turn handle to full cold position. Open supply, holding down handle for 10 seconds. Rotate handle to full hot position, open supply and repeat above procedure. Hold down handle and rotate from left to right to flush lines to prevent foreign matter i.e. copper chips, sand, stones, etc. from clogging and possibly damaging the sealing surfaces of the faucet cartridge.

Important: DO NOT REMOVE tape on copper tubing.

Troubleshooting Chart

Problem	Cause	Solution
Faucet runs too long or too short.	Cycle timing washers have not been adjusted.	Remove handle (A) then add cycle timing washers (C) to stem to shorten time or remove washers to lengthen time.
Faucet drips.	Seat washer worn or foreign matter (chips, dirt, solder, etc.) is between washer and seat surface.	Disassemble cartridge (H) and remove piston* (H6). Remove screw (H7) and clean seat washer (H8). Check control rod pin (H9) for burr then reassemble.
Faucet runs constantly.	Seat washer not closing on seat surface or seat washer and/or seat surface is worn.	Remove piston (H6) and spring** (H12). Check for burr on pin (H9) and check spring. Both piston and spring may have to be replaced. Excessive wear may require cartridge (H) replacement.
Water leaks from under handle.	Stem washers worn.	Remove cartridge (H) and replace with housing o-rings (G1). If leak persists replace control spindle kit (H1).
Faucet leaks on or under counter.	Supply housing o-rings worn.	Replace housing o-rings (G1).
Faucet bleeding between hot and cold.	LL-71B check/screens NOT installed.	Two chrome plated 3/8" check/screens are supplied with every faucet and MUST be installed.
Faucet bleeding between hot and cold.	LL-71B check/screens ARE installed.	Replace check springs (K,L).
Handle is loose.	Set screw has loosened.	Tighten set screw (B).
Handle is sticking to cartridge.	Accumulation of sediment in cartridge.	Remove handle (A) and all cycle timing washers (C) from cartridge (H). Secure handle back onto cartridge. After moving handle to the hot position, cycle faucet by pressing down on handle. Cycle faucet 12 times. Remove handle and replace timing washers.
Finish is spotting.	Elements in water supply may cause water staining on finish.	Clean finished trim area with a soft cloth using mild soap and water or a non-abrasive cleaner and then quickly rinse with water.

Notes: *1) Use caution not to damage piston quading (H10) while servicing piston assembly (H6).

**2) Do not squeeze ends of spring (H12) causing spring to fully compress.

⚠ WARNING: This product can expose you to chemicals including lead, which is known to the state of California to cause cancer, birth defects, or other reproductive harm. For more information, go to www.P65Warnings.ca.gov.

SCOT®/Dosificador

Serie SLC-6000

Grifo dosificador para lavabo

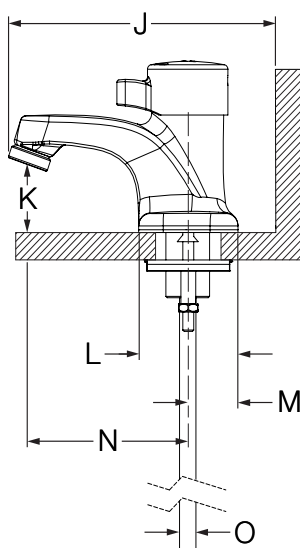
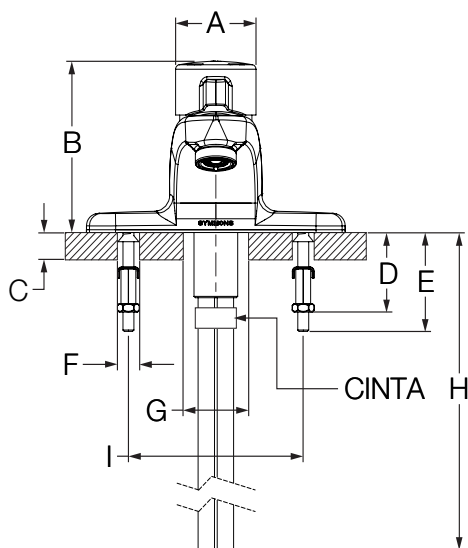
Manual de funcionamiento y mantenimiento



Números de modelo	Especificación
☐ SLC-6000 <i>Grifo dosificador para lavabo SCOT</i>	El grifo dosificador para lavabo incluye una manija de pieza central de 4", tuberías de suministro de cobre de 3/8" y tope límite de temperatura. El aireador de 0,5 gpm (1,9 L/min) resistente al vandalismo limita el flujo de agua a un máximo de 0,25 gpc (0,95 L/cil) a 60 psi con un tiempo de cierre máximo de 30 segundos. Grifo hecho de latón, con acabado de chapado de cromo pulido estándar.
Modificaciones	Cumplimiento
☐ -DP <i>Placa de cubierta de 8"</i> ☐ -G <i>Desagüe en rejilla</i> ☐ -IPS <i>Conectores IPS masculinos de 1/2"</i> ☐ -ML <i>Válvula de mezcla termostática Maxline para elegir la temperatura</i> ☐ -MV <i>Válvula de mezcla mecánica para elegir la temperatura</i> ☐ -OFG <i>Tamiz de rejilla desfasado</i> ☐ -QC <i>Cartucho de cierre rápido</i> ☐ -STE <i>Extensiones de tubo de suministro de 8" con acoplamientos de compresión</i>	-ASME A112.18.1/CSA B125.1 -NSF/ANSI 61.9, NSF/ANSI 372
	Garantía
	Limitada de por vida - para el comprador original del producto en establecimientos del consumidor/residenciales. 5 años - para instalaciones industriales y comerciales. Consulte www.symmons.com/warranty para obtener información completa sobre la garantía.

Nota: Anexar el -complemento apropiado al número de modelo.

Dimensiones



Medidas	
A	Ø 1-7/8", 48 mm
B	3-3/4", 95 mm
C	Referencia del grosor de la cubierta Mín. 1/2", 13 mm Máx. 1", 25 mm
D	1-3/8", 35 mm
E	2-1/8", 54 mm
F	Tamaño del orificio (2x) Ø 1/2", 13 mm
G	Tamaño del orificio Ø 1-1/4", 32 mm
H	11", 279 mm
I	4", 102 mm
J	5-3/4", 146 mm
K	1-1/2", 38 mm
L	2-1/4", 57 mm
M	1-1/8", 29 mm
N	3-5/8", 92 mm
O	3/8", 10 mm

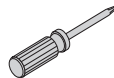
Nota: Las dimensiones están sujetas a cambios sin previo aviso.

Instalación / Herramientas necesarias


Llave inglesa



Llave Allen: 2.5 mm



Destornillador de cruz



Cinta de teflón

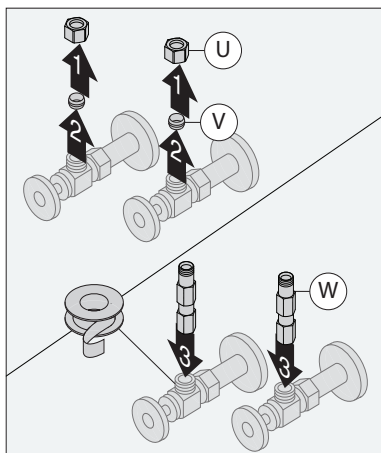


Las tuberías DEBEN vaciarse completamente ANTES y DESPUÉS de instalar el grifo para evitar que materiales extraños como virutas de cobre, arena, piedras, etc., obstruyan y posiblemente dañen las superficies de sellado del cartucho.

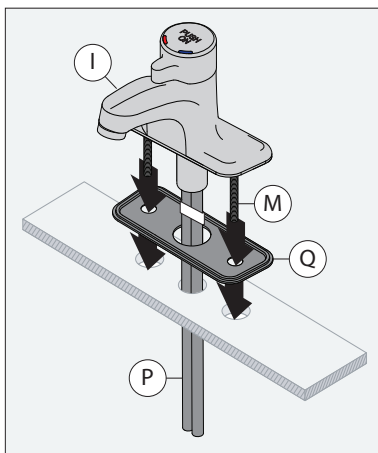
Notas: 1) La presión mínima recomendada de suministro de agua para operación es de 40 PSI.

2) Las válvulas de tope de suministro deben tener una salida de compresión de 3/8" de diámetro total.

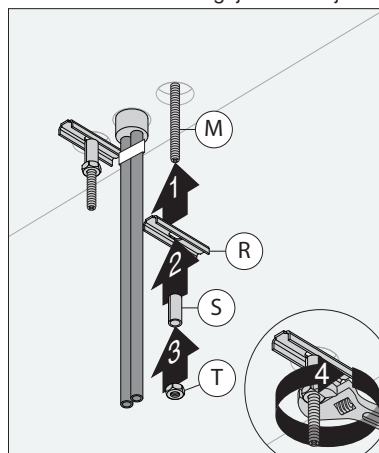
1) Retire las tuercas de compresión (U) y las virolas (V) de los topes de suministro. Instale los ensamblajes de rejilla/filtro (W) para los topes de suministro.



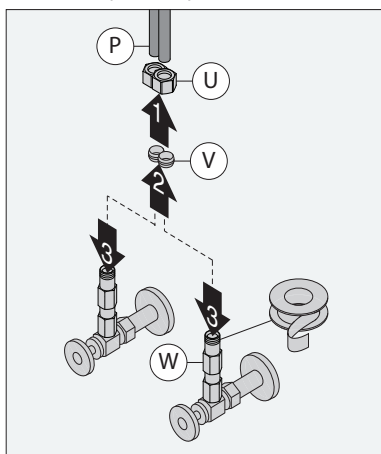
2) Instale el grifo (I), las varillas roscadas (M), la empaquetadura de montaje (Q) y la tubería de cobre de 3/8" (P) sobre la superficie del tope.



3) Coloque los soportes de montaje (R) y los separadores (S) sobre las varillas roscadas (M). Asegure el equipo apretando las tuercas de montaje (T) en dirección de las agujas del reloj.

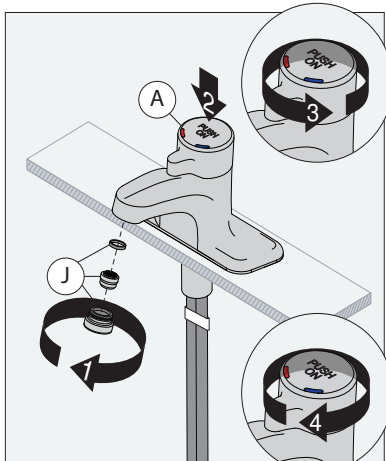


4) Conecte las tuercas de compresión (U) y las virolas (V) a la tubería de cobre (P). Doble la tubería de cobre (P) cuidadosamente para encontrar los ensamblajes de rejilla/filtro (W). Fije las tuercas de compresión a los ensamblajes de rejilla/filtro.



Importante: NO QUITAR la cinta de las tuberías de cobre.

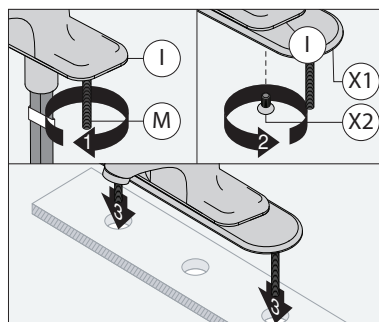
5) Retire el aireador (J). Rote la manija (A) a posición fría completa. Abra el suministro, sosteniendo abajo la manija por 10 segundos. Rote la manija a posición caliente completa, abra el suministro y repita el procedimiento anterior. Sostenga la manija abajo y rote de izquierda a derecha para vaciar las tuberías completamente.



6) Después de que un grifo haya sido operado durante varios ciclos y la temperatura del agua llegue a los niveles deseados, se pueden ajustar estas funciones (ver página 4).

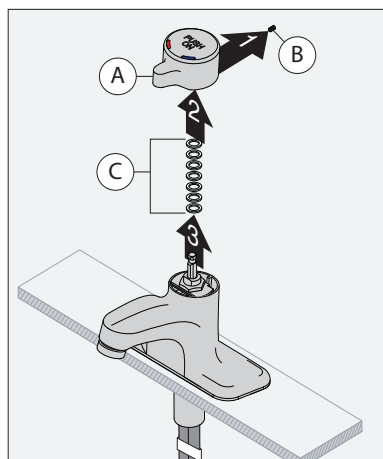
7) Placa de cubierta opcional de 8":

Quite las varillas roscadas (M) del grifo (I). Instale dos tornillos (X2) a través de la parte inferior de la placa de cubierta (X1) en el grifo (I). Instale la grifería y la placa de cubierta en la superficie del tope.

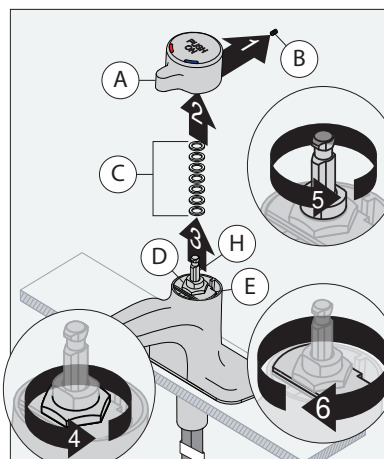


Instalación (ajustes)

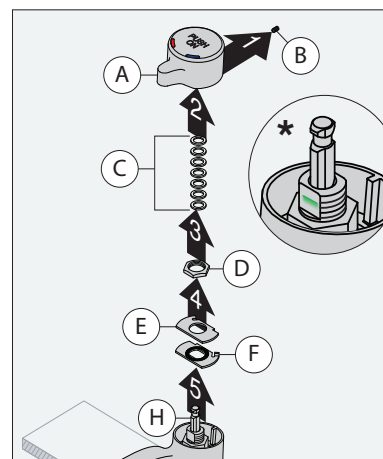
- 1) El grifo está configurado de fábrica para el tiempo de ciclo más corto con 7 arandelas temporizador de ciclos (C). **Para aumentar el tiempo**, afloje el tornillo de presión (B), retire la manija (A) y retire uno o más de las arandelas. **Para reducir el tiempo**, agregue arandelas. Reensamble el grifo revirtiendo el procedimiento anterior.
- 2) **Para limitar la temperatura** afloje el tornillo de presión (B), retire la manija (A), afloje la tuerca (D) y rote el vástago de cartucho (H) hasta la temperatura máxima deseada (se recomienda 110°F). Rote la arandela de tope limitador (E) en sentido horario (hacia la derecha) hasta llegar a un tope positivo contra la parte posterior del grifo. Reensamble el grifo revirtiendo el procedimiento anterior.
- 3) **Para la operación inversa** (en instalaciones de espalda contra espalda o cuando el suministro de agua caliente está a la derecha) afloje el tornillo de presión (B), retire la manija (A), la tuerca (D) y las arandelas de tope (E) y (F). Rote el vástago del cartucho (H) 180° para que el marcador verde apunte hacia el frente del grifo. Ajuste el límite de temperatura (ver paso 2). Reensamble el grifo revirtiendo el procedimiento anterior.



Nota: Cuando establezca el tiempo de ciclo MÁXIMO, DEBE mantener al menos 5 arandelas temporizadoras (C) para no exceder los .25 galones/cilindro a 60 PSI (según la Sociedad Americana de Ingenieros Mecánicos [American Society of Mechanical Engineers], ASME A112.18.1)

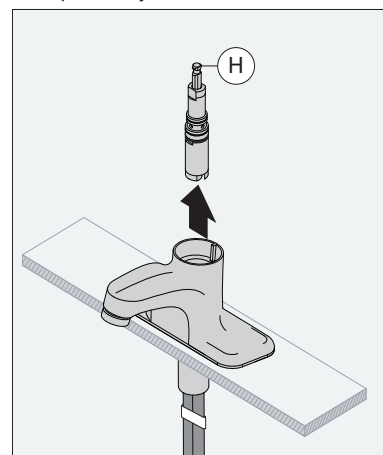
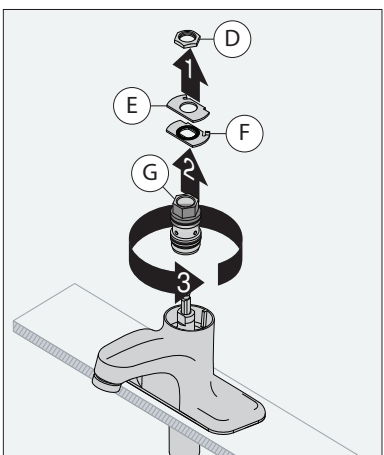
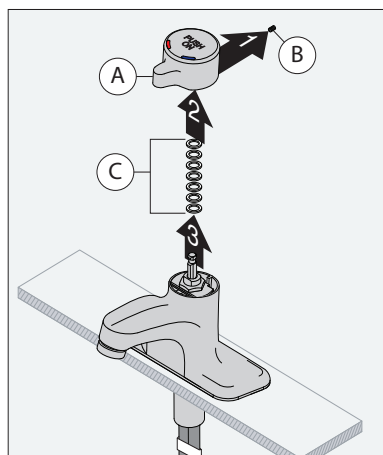


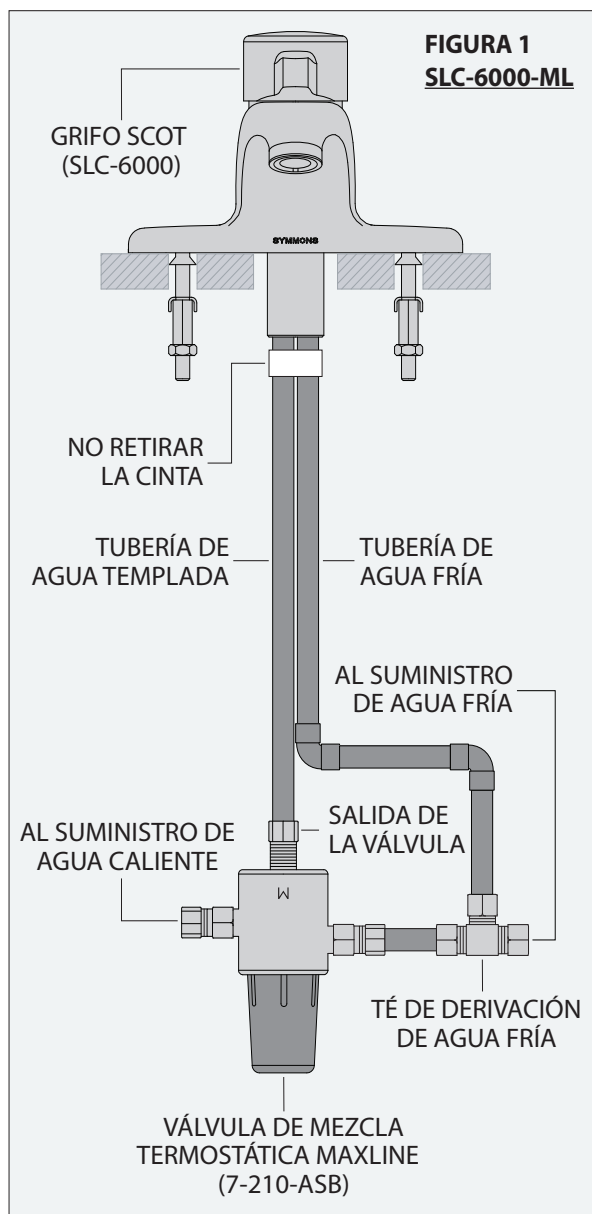
Nota: El grifo operará desde la posición fría completa hasta la temperatura caliente máxima que se haya establecido.



Mantenimiento

- 1) Afloje el tornillo de presión (B), retire la manija (A) y retire las arandelas temporizadoras de ciclos (C).
- 2) Retire la tuerca (D), las arandelas de tope límite (E) y (F) y el revestimiento de cartucho (G).
- 3) Retire el cartucho (H) e revíselo para detectar residuos. Cambie el cartucho si es necesario. Reensamble el grifo revirtiendo el procedimiento descrito en los pasos 1 y 2.



Instalación con la válvula de mezcla termostática MAXLINE™


Para aplicaciones que utilizan la válvula de mezcla termostática MAXLINE.

- 1) Cierre los suministros de agua.
- 2) Conecte la tubería de agua templada del grifo a la salida de la válvula de mezcla termostática (vea la referencia de las tuberías en la Figura 1).
- Nota:** La válvula y la derivación de agua fría usan conectores de compresión (no incluidos).
- 3) Conecte la tubería de agua fría del grifo a la derivación de agua fría usando la té incluida.
- 4) Conecte la tubería de cobre de la té de derivación de agua fría a la válvula de mezcla termostática.
- 5) Conecte el suministro de agua caliente a la válvula de mezcla termostática y el suministro de agua fría a la té de derivación de agua fría.
- 6) Retire el aireador del grifo. Rote la manija a la posición fría completa. Abra el suministro, sosteniendo abajo la manija por 10 segundos. Rote la manija a posición caliente completa, abra el suministro y repita el procedimiento anterior. Sujete la manija abajo y gire de izquierda a derecha para enjuagar las tuberías y evitar que materiales extraños como virutas de cobre, arena, piedras, etc., obstruyan y posiblemente dañen las superficies de sellado del cartucho del grifo.

Importante: NO QUITAR la cinta de las tuberías de cobre.

Tabla de resolución de problemas

Problema	Causa	Solución
El grifo se mantiene abierto por un tiempo demasiado largo o demasiado corto.	Las arandelas de temporización de ciclos no han sido ajustadas.	Retire la manija (A) y luego agregue las arandelas temporizadoras de ciclo (C) al vástago para acortar el tiempo o retire las arandelas para extender el tiempo.
Goteos del grifo.	Hay arandelas de asiento gastadas o materias extrañas (virutas, suciedad, soldadura, etc.) entre la arandela y la superficie del asiento.	Desarme el cartucho (H) y retire el pistón* (H6). Retire el tornillo (H7) y limpie la arandela de asiento (H8). Compruebe si en el pasador de varilla de control (H9) hay rebabas y luego reensamble.
El grifo se queda abierto siempre.	La arandela de asiento no cierra en la superficie de asiento o la arandela de asiento y/o la superficie de asiento están gastadas.	Retire el pistón (H6) y el resorte** (H12). Compruebe si en el pasador (H9) hay rebabas y revise el resorte. Puede que tengan que reemplazarse tanto el resorte como el pistón. El desgaste excesivo puede requerir el reemplazo de cartucho (H).
Botes de agua por debajo de la manija.	Arandelas de vástago gastadas.	Retirar el cartucho (H) y reemplazar con aros sello de revestimiento (G1). Si persisten las goteras, reemplace el kit de eje de control (H1).
Goteras de grifo sobre o bajo el mesón.	Suministro de aros sello de revestimiento gastados.	Reemplazar los aros sello de revestimiento (G1).
Sangrado de grifo entre caliente y frío.	Las rejillas/filtros LL-71B NO están instalados.	Con cada grifo se entregan rejillas/filtros bañados en cromo de 3/8" que DEBEN instalarse.
Sangrado de grifo entre caliente y frío.	Las rejillas/filtros LL-71B ESTÁN instalados.	Reemplazar los resortes de las rejillas (K,L).
La manija está aflojada.	Se aflojó el tornillo de presión.	Apriete el tornillo de presión (B).
La manija se mantiene pegada al cartucho.	Acumulación de sedimento en el cartucho.	Retire la manija (A) y todas las arandelas temporizadoras de ciclo (C) del cartucho (H). Asegure la manija de vuelta al cartucho. Después de retirar la manija a la posición caliente, reinicie el ciclo del grifo presionando hacia abajo la manija. Reinicie el ciclo del grifo 12 veces. Retire la manija y reemplace las arandelas temporizadoras.
El acabado se está manchando.	Las partículas en el suministro de agua pueden provocar que el agua manche el acabado.	Limpie el área del acabado utilizando un paño suave, jabón neutro y agua, o con un limpiador no abrasivo y luego enjuague rápidamente con agua.

Notas: *1) Tenga cuidado de no dañar el pistón quad-ring (H10) cuando esté realizando el ensamblaje del pistón (H6).

**2) No presione los extremos del resorte (H12) causando que se comprima por completo el resorte.

SYMMONS® SCOT®/Metering the smart choice™

Série SLC-6000

Robinet de lavabo à débit contrôlé

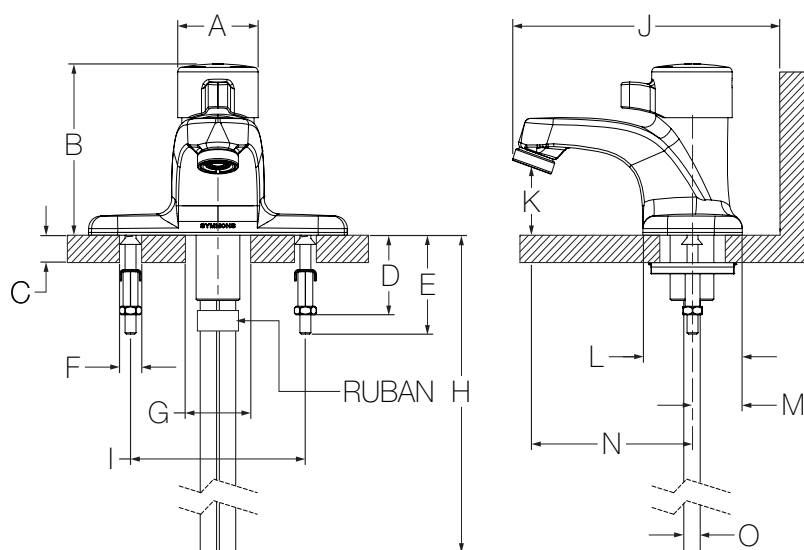
Manuel d'entretien



Numéro du model	Spécifications
☐ SLC-6000 <i>Robinet de lavabo à débit contrôlé, SCOT</i>	Le robinet de lavabo mesureur comprend un support monopièce de 4 po, des conduites d'alimentation en cuivre de 3/8 de po et un mécanisme d'arrêt pour la limite de température. Résistant au vandalisme 0,5 gpm (1,9 L/min) aérateur limite le débit d'eau à un maximum de 0,25 gpc (0,95 L/cyl) @ 60 psi avec une durée de fermeture maximale de 30 secondes. Le robinet est construit en laiton, au fini chrome poli standard. 
Modifications	Normes
☐ -DP <i>Plaque de montage de 8 po</i> ☐ -G <i>Drain</i> ☐ -IPS <i>Connexions IPS males de 1/2 po</i> ☐ -ML <i>Valve thermostatique pour la sélection de la température</i> ☐ -MV <i>Valve mécanique pour la sélection de la température</i> ☐ -OFG <i>Filtre de la grille de décalage</i> ☐ -QC <i>Cartouche de fermeture rapide</i> ☐ -STE <i>Extensions de tuyaux de 8 po avec des raccords par compression</i>	-ASME A112.18.1/CSA B125.1 -NSF/ANSI 61.9, NSF/ANSI 372 
	Garantie
	Limitée à vie – au client initial sur des installations résidentielles. 5 ans – sur des installations industrielles et commerciales. Référez-vous à www.symmons.com/warranty pour de plus amples informations.

Remarque : Affichez le suffixe qui correspond au numéro du modèle.

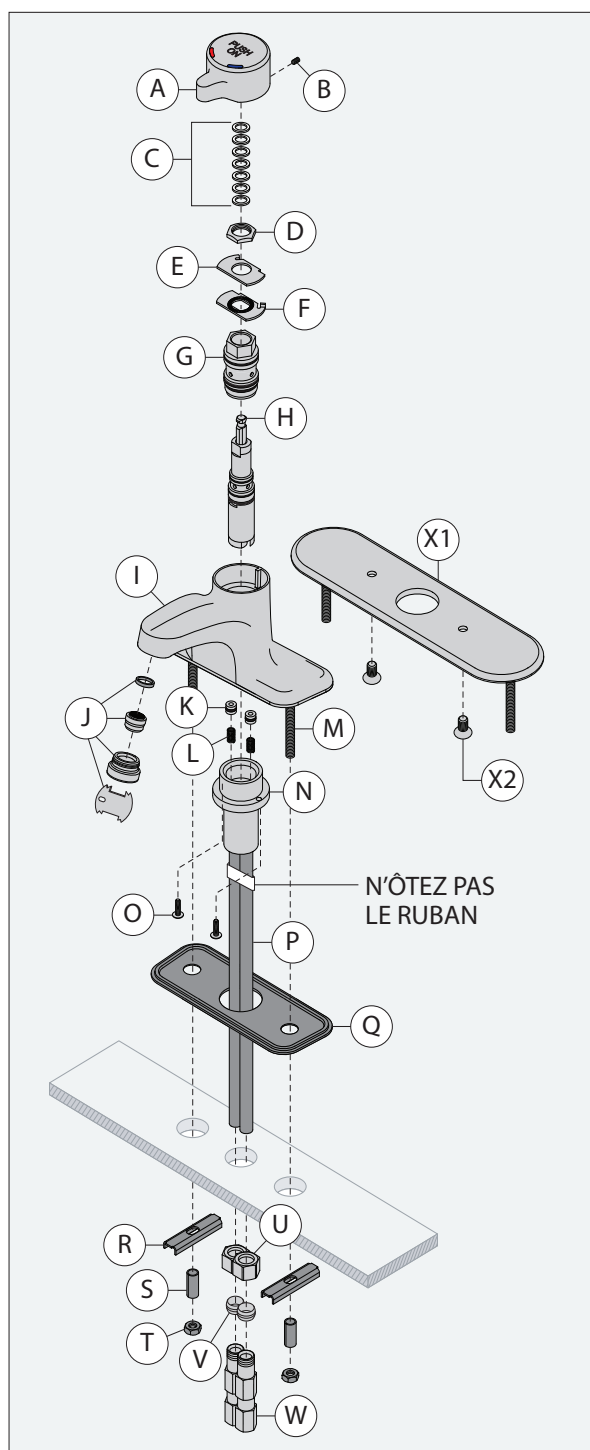
Dimensions



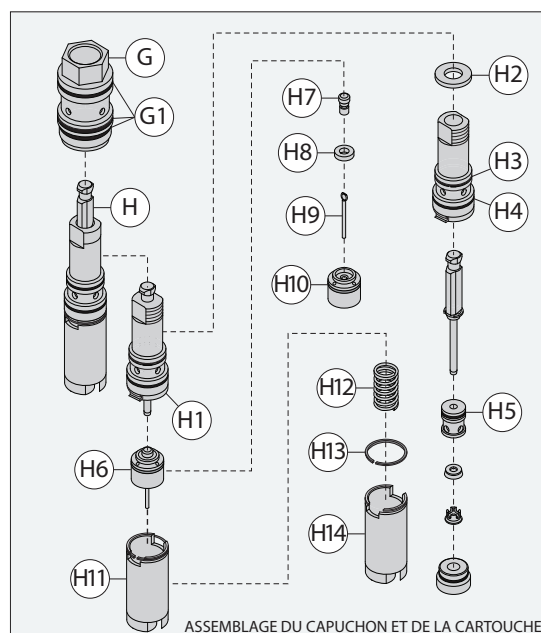
Mesures	
A	Ø 1-7/8 po, 48 mm
B	3-3/4 po, 95 mm
C	Épaisseur du comptoir Min. 1/2 po, 13 mm Max. 1 po, 25 mm
D	1-3/8 po, 35 mm
E	2-1/8 po, 54 mm
F	(2x) Taille de l'orifice Ø 1/2 po, 13 mm
G	Taille de l'orifice Ø 1-1/4 po, 32 mm
H	11 po, 279 mm
I	4 po, 102 mm
J	5-3/4 po, 146 mm
K	1-1/2 po, 38 mm
L	2-1/4 po, 57 mm
M	1-1/8 po, 29 mm
N	3-5/8 po, 92 mm
O	3/8 po, 10 mm

Remarque : Les dimensions peuvent changer sans préavis.

Pièces détachées



Remarque : 1) Utilisez des rubans d'étanchéité sur tous les pas de vis.
2) Les écrous de compression (U) et les bagues (V) ne sont pas inclus.



ASSEMBLAGE DU CAPUCHON ET DE LA CARTOUCHE

Pièces détachées

Article	Description	Numéro de la pièce
A B	Poignée Vis de fixation	RL-290
B	Vis de fixation	LL-27
C	Rondelles de contrôle du cycle (7)	LL-28
D E F	Écrou Rondelle de butée Rondelle de butée, fixe	RL-268
G	Boîtier supérieur	LL-3N
G1	Joints d'étanchéité pour le boîtier supérieur (3)	LL-48
G1 H3 H4 H5 H10	Joints d'étanchéité pour le boîtier supérieur (3) Joint d'étanchéité pour la cartouche Joint d'étanchéité pour la cartouche Guide du joint d'étanchéité Piston	RL-272
H	Cartouche Cartouche de fermeture rapide	LL-1A LL-1B
H1 H6	Kit du fuseau de contrôle Assemblage du piston	RL-266
H2	Rondelle de butée	LL-35
H6	Assemblage du piston	LT-4AA
H11	Ressort et cylindre du piston	RL-267
J	Kit de filtrage de 0,5 g/m avec une clé	RL-292
K L	Valve Ressort	RL-269
R S T	Support de montage Rondelle d'espacement Écrou de fixation	SPF-KIT
W	Assemblage des valves et ressorts	LL-71B
X1, X2	Plaque de montage de 8 po	RL-291

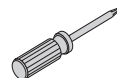
Installation / Outils nécessaires



Clé à molette



Clé Allen : 2,5 mm



Tournevis à tête crucifère



Rubans d'étanchéité

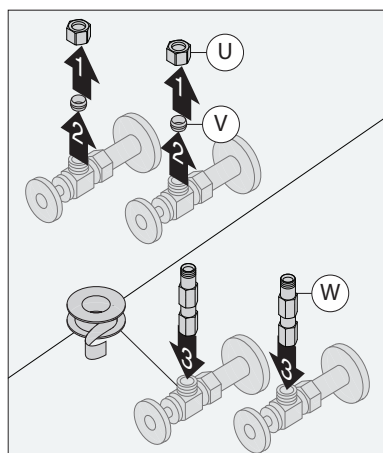


Les conduites d'eau DOIVENT être rincées soigneusement AVANT et APRÈS l'installation du robinet pour éviter que des corps étrangers tels que du cuivre, des copeaux, du sable, des pierres, etc. colmatent et endommagent les surfaces d'étanchéité de la cartouche.

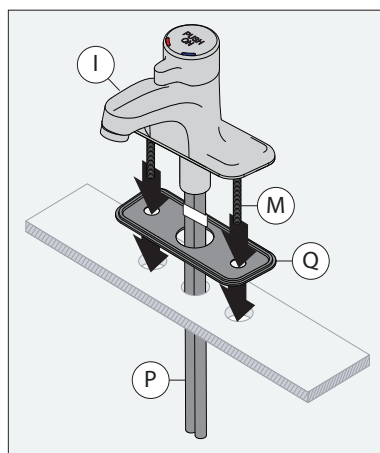
Remarque : 1) La pression d'eau minimale recommandée est de 40 lb/po².

2) Les robinets d'alimentation doivent avoir une prise de compression avec un diamètre extérieur de 3/8 po.

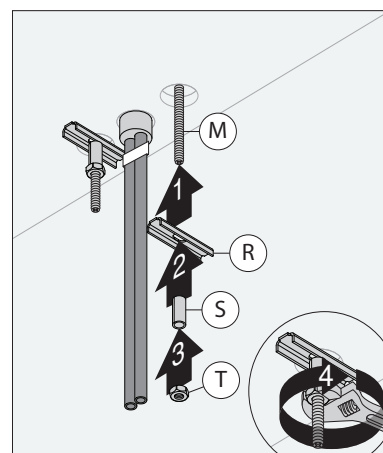
1) Retirez les écrous de compression (U) et les bagues (V) des robinets d'alimentation. Installez les assemblages de raccords (W) aux robinets d'alimentation.



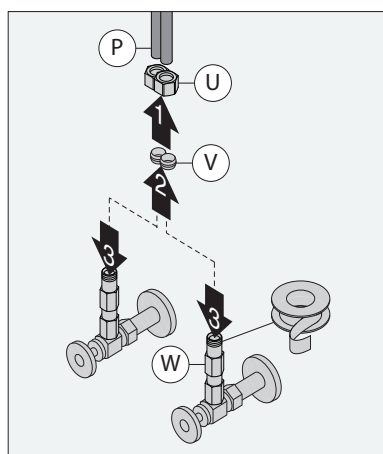
2) Installez le robinet (I), les tiges filetées (M), le joint de fixation (Q) et les tuyaux en cuivre de 3/8 po (P) à la surface du comptoir.



3) Placez les supports de montage (R) et les rondelles d'espacement (S) sur les tiges filetées (M). Serrez les écrous de fixation (T) dans le sens des aiguilles d'une montre.

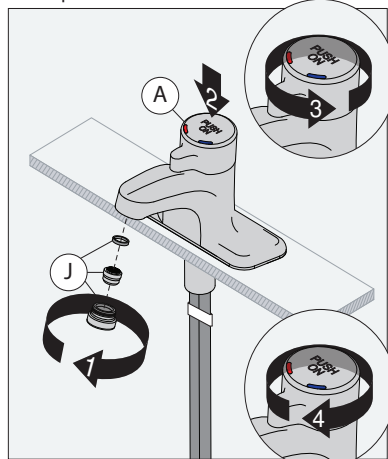


4) Connectez les écrous de compression (U) et les bagues (V) aux tuyaux en cuivre (P). Courbez délicatement les tuyaux en cuivre (P) vers les assemblages de raccords (W). Serrez les écrous à compression aux assemblages des valves et ressorts.



Important : N'ENLEVEZ PAS les rubans d'étanchéité des pas de vis des tuyaux.

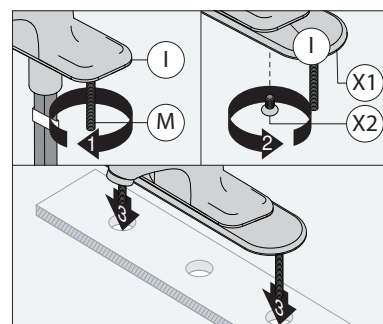
5) Retirez le filtre (J). Tournez la poignée (A) sur la position froide. Ouvrez le robinet d'alimentation pour l'eau froide et pressez la poignée pendant 10 secondes. Pivotez la poignée sur la position chaude, ouvrez le robinet d'alimentation pour l'eau chaude et répétez la procédure. Pressez la poignée et pivotez de gauche à droite pour rincer complètement les conduites.



6) Après que le robinet a été ouvert et fermé un certain nombre de fois et que l'eau d'alimentation a atteint la température désirée, des ajustements peuvent être effectués (voir la page 4).

7) Plaque de montage optionnelle 8 po:

Enlever les tiges filetées (M) du robinet (I). Installer deux vis à (X2) à travers le fond de la plaque de montage (X1) dans le robinet (I). Installer le robinet et la plaque de montage sur la surface du pont.



Installation (ajustements)

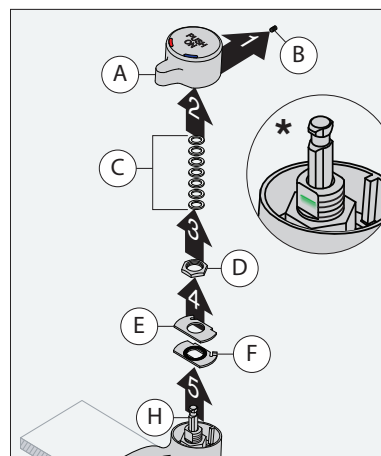
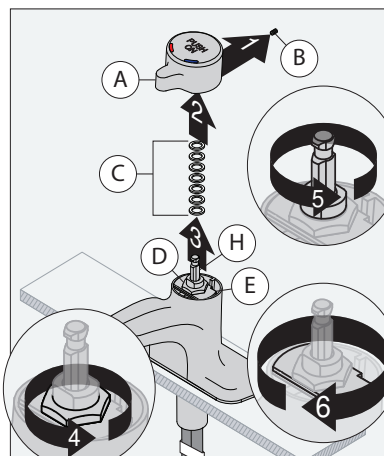
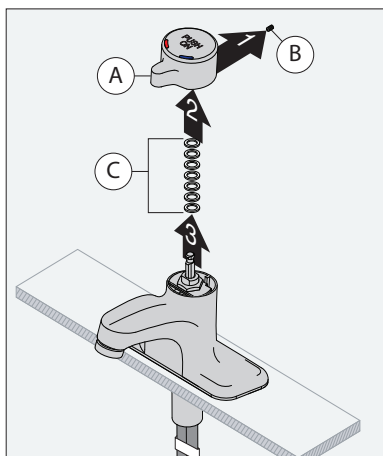
1) Le robinet est réglé en usine sur la plus courte durée avec 7 rondelles de contrôle du cycle (C).

Pour augmenter la durée, desserrez la vis de fixation (B), retirez la poignée (A) et enlevez une ou plusieurs des rondelles.

Pour réduire la durée, ajoutez des rondelles. Remontez le robinet en sens inverse de la procédure ci-dessus.

2) **Pour réduire la température**, desserrez la vis de fixation (B), retirez la poignée (A), desserrez l'écrou (D) et tournez la tige de la cartouche (H) à la température maximale souhaitée (recommandée à 110°F). Tournez les rondelles de butée (E) dans le sens des aiguilles d'une montre jusqu'à ce que la butée soit atteinte. Remontez le robinet en sens inverse de la procédure ci-dessus.

3) **Pour l'opération inverse** (lors de plusieurs installations ou lorsque l'alimentation d'eau chaude est à droite), desserrez la vis de fixation (B), enlevez la poignée (A), l'écrou (D) et les rondelles de butée (E) & (F). Tournez la tige de la cartouche (H) 180° de manière à ce que la marque* verte soit tournée vers l'avant du robinet. Ajustez la limite de la température (voir étape 2). Remontez le robinet en sens inverse de la procédure ci-dessus.



Remarque : Lors du réglage MAXIMUM de la durée, vous DEVEZ garder au moins 5 rondelles (C) pour ne pas dépasser les 0,25 gal/cycle à 60 lb/po² (selon ASME A112.18.1).

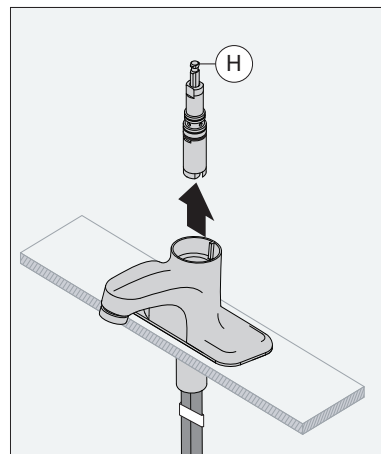
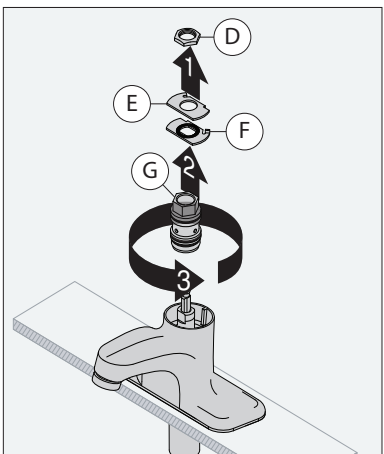
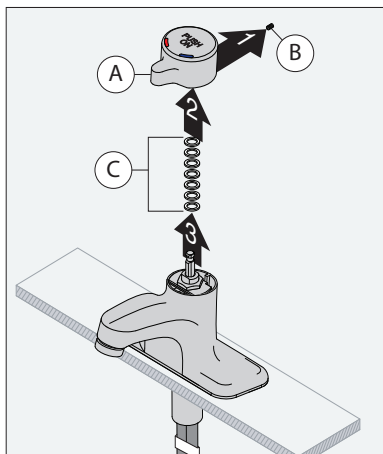
Remarque : Le robinet va fonctionner de la température froide à la température chaude maximale qui a été définie.

Entretien

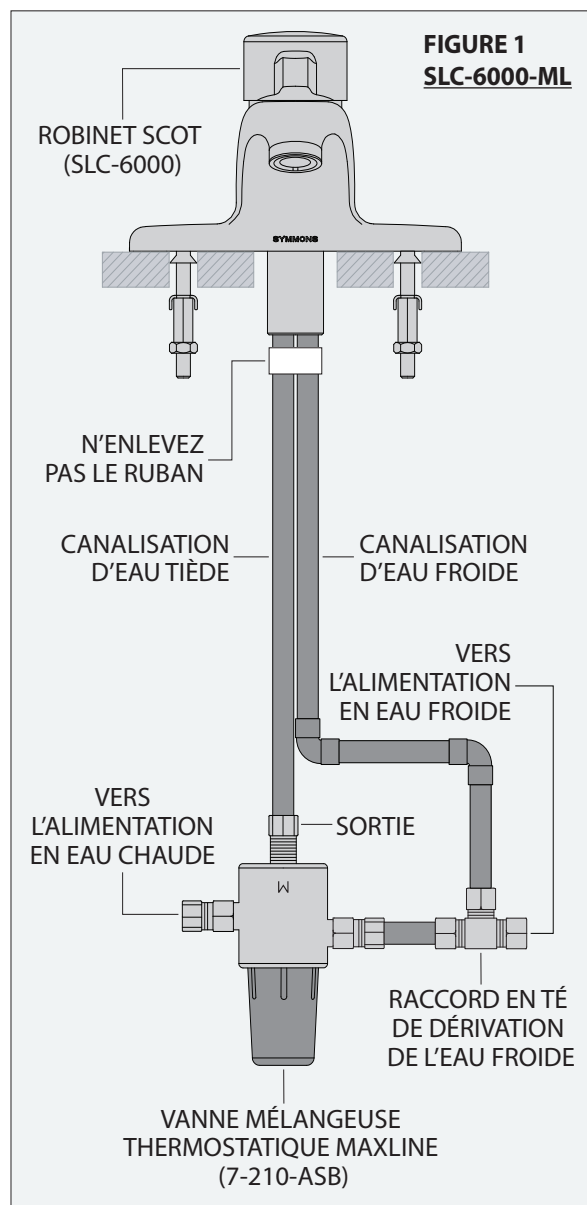
1) Desserrez la vis de fixation (B), enlevez la poignée (A) et retirez les rondelles de contrôle du cycle (C).

2) Retirez l'écrou (D), les rondelles de butée (E) & (F) et le boîtier de la cartouche (G).

3) Enlevez la cartouche (H) et vérifiez qu'il n'y ait aucun débris. Remplacez la cartouche si nécessaire. Remontez le robinet en renversant la procédure décrite dans les étapes 1 et 2.



Installation avec la vanne mélangeuse thermostatique MAXLINE™



À utiliser avec la vanne mélangeuse thermostatique MAXLINE.

- 1) Coupez l'alimentation en eau.
 - 2) Connectez la canalisation d'eau tiède du robinet à la sortie de la vanne mélangeuse thermostatique (voir la figure 1 pour les références à la tuyauterie).
- Remarque:** La vanne et la dérivation de l'eau froide utilisent des raccords de compression (raccords non fournis).
- 3) Connectez le tuyau d'eau froide du robinet à la dérivation de l'eau froide en utilisant les raccords en té fournis.
 - 4) Connectez le tuyau de cuivre entre le raccord en té de dérivation de l'eau froide et la vanne mélangeuse thermostatique.
 - 5) Connectez l'alimentation en eau chaude à la vanne mélangeuse thermostatique et l'alimentation en eau froide au raccord en té de dérivation de l'eau froide.
 - 6) Retirez l'aérateur du robinet. Ouvrez complètement la poignée d'eau froide. Ouvrez l'alimentation d'eau en maintenant la poignée vers le bas pendant 10 secondes. Faites tourner la poignée pour ouvrir complètement l'eau chaude, ouvrez l'alimentation d'eau et répétez la procédure ci-dessus. Maintenez la poignée vers le bas et faites tourner de gauche à droite pour rincer les canalisations et éviter que des corps étrangers tels que des copeaux de cuivre, du sable, des pierres, etc. ne bouchent et n'endommagent les surfaces d'étanchéité de la cartouche du robinet.

Important: N'ENLEVEZ PAS les rubans d'étanchéité du tuyau de cuivre.

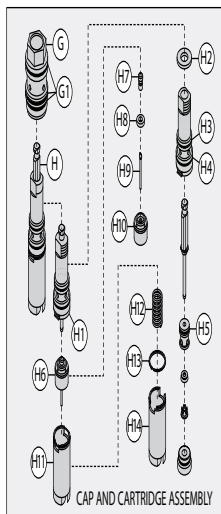
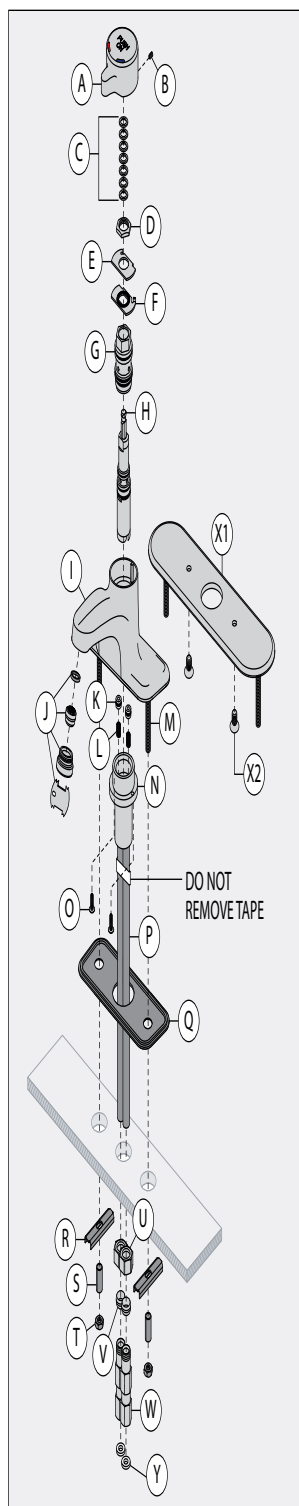
Tableau de dépannage

Problème	Cause	Solution
Le cycle est trop long ou trop court.	Les rondelles de contrôle du cycle n'ont pas été ajustées.	Enlevez la poignée (A), puis ajoutez à la tige des rondelles de contrôle du cycle (C) pour raccourcir la durée ou ôtez des rondelles pour la prolonger.
Le robinet coule.	La rondelle d'étanchéité est usée ou des corps étrangers (copeaux, saleté, soudure, etc.) se trouvent entre la rondelle et la surface d'assise.	Démontez la cartouche (H) et enlevez le piston * (H6). Retirez la vis (H7) et nettoyez la rondelle d'étanchéité (H8). Vérifiez l'état de la tige de contrôle (H9), puis remontez.
Le robinet ne s'arrête pas.	La rondelle d'étanchéité ne repose plus sur la surface d'assise ou la rondelle d'étanchéité et la surface d'assise sont usées.	Retirez le piston (H6) et le ressort ** (H12). Vérifiez l'état de la tige (H9) et du ressort de la valve. Le piston et le ressort doivent être remplacés. Une usure excessive peut exiger le remplacement de la cartouche (H).
L'eau coule de la poignée.	Les rondelles de la tige sont usées.	Retirez la cartouche (H) et remplacez les joints d'étanchéité (G1). Si la fuite persiste, remplacez le kit du fuseau de contrôle (H1).
Le robinet a des fuites en-dessus ou en-dessous du comptoir.	Les joints d'étanchéité sont usés.	Remplacez les joints d'étanchéité (G1).
La température de l'eau fluctue entre chaud et froid.	Les ressorts et les valves LL-71B ne sont PAS installés.	Deux ressorts et valves en chrome de 3/8 po sont livrés avec chaque robinet et DOIVENT être installés.
La température de l'eau fluctue entre chaud et froid.	Les ressorts et les valves LL-71B SONT installés.	Remplacez les ressorts et les valves (K, L).
La poignée est desserrée.	La vis de fixation est desserrée.	Serrez la vis de fixation (B).
La poignée colle à la cartouche.	Accumulation de sédiments dans la cartouche.	Enlevez la poignée (A) et toutes les rondelles de contrôle du cycle (C) de la cartouche (H). Fixez à nouveau la poignée à la cartouche. Placez la poignée sur l'eau chaude et pressez sur celle-ci. Pressez sur la poignée une douzaine de fois. Enlevez la poignée et remplacez les rondelles de contrôle du cycle.
La finition est marquée.	L'eau peut contenir des éléments qui tachent la finition.	Nettoyez la finition avec un chiffon doux et du savon ou un produit non-abrasif. Rincez rapidement avec de l'eau.

Remarques : *1) Faites attention de ne pas endommager le piston (H10) lors de son entretien (H6).

** 2) Ne compressez pas les extrémités du ressort (H12).

Parts Breakdown



Replacement Parts

	Description	Part Number
A	Handle	RL-290
B	Set Screw	LL-27
B	Set Screw	LL-27
C	Cycle Timing Washers (7)	LL-28
D	Nut	
E	Limit Stop Washer	RL-268
F	Limit Stop Washer, Fixed	
G	Upper Housing	LL-3N
G1	Upper Housing O-rings (3)	LL-48
G1	Upper Housing O-rings (3)	
H3	Cartridge O-ring	
H4	Cartridge O-ring	RL-272
H5	Guide O-ring	
H10	Piston Quadding	
H	Cartridge	LL-1A
	Quick Closing Cartridge	LL-1B
H1	Control Spindle Kit	RL-266
H6	Piston Assembly	LT-4AA
H11	Piston Spring/Cylinder	RL-267
J	0.5 gpm Vandal Resistant Aerator Kit with Key	RL-292
K	Check Spring	RL-269
L	Spring	
R	Mounting Bracket	
S	Spacer	SPF-KIT
T	Mounting Nut	
W	Check/Screen Assembly	LL-71B
X1, X2	8" Deck Plate Assembly	RL-291
Y	Washer	TMX-06527-1

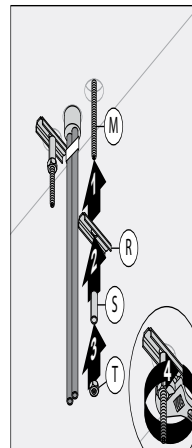
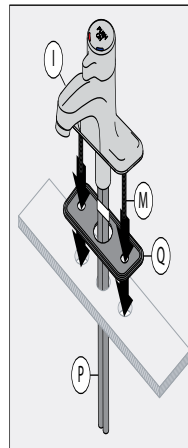
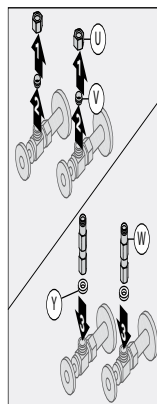
Installation / Tools Required



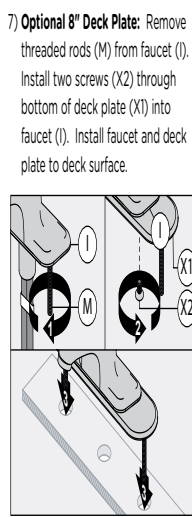
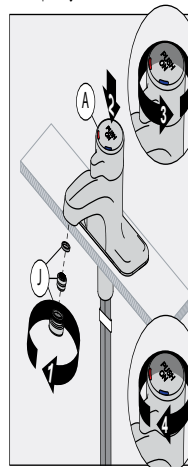
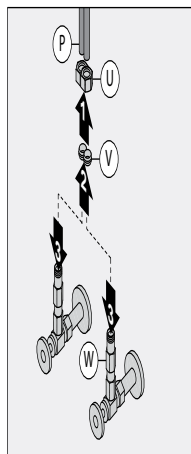
⚠ Water lines **MUST** be thoroughly flushed **BEFORE** and **AFTER** installing the faucet to prevent foreign matter i.e. copper chips, sand, stones, etc. from clogging and possibly damaging the sealing surfaces of the cartridge.

- Notes:** 1) Recommended minimum operating water supply pressure is 40 psi.
2) Supply stop valves must have 3/8" O.D. compression outlet.

- 1) Remove compression nuts (U) and ferrules (V) from supply stops. Retain for installation to faucet copper tubing. Ensure washer is in place before installing. Install check/screen assemblies (W) to supply stops.
- 2) Install faucet (I), threaded rods (M), mounting gasket (Q), and 3/8" copper tubing (P) to deck surface.
- 3) Place mounting brackets (R) and spacers (S) onto threaded rods (M). Secure hardware by tightening mounting nuts (T) clockwise.



- 4) Connect compression nuts (U) and ferrules (V) to copper tubing (P). Carefully bend copper tubing (P) to meet check/screen assemblies (W). Attach compression nuts to check/screen assemblies.
- 5) Remove aerator (J). Turn handle (A) to full cold position. Open supply, holding down handle for 10 seconds. Rotate handle to full hot position, open supply and repeat above procedure. Hold down handle and rotate from left to right to flush lines completely.
- 6) After faucet has been operated through a number of cycles, and supply water temperature is at desired levels, adjustments to these features can be made (see page 4).



Important: DO NOT REMOVE tape on copper tubing.

NON-RESIDENTIAL OR COMMERCIAL: 10-YEAR LIMITED WARRANTY

In non-residential or commercial settings, we provide a 10-year limited warranty against manufacturing defects in materials and workmanship. Once we have assessed the situation, we'll send you either a replacement part or a new product.

For all Temptrol® valves, you can immediately renew this warranty by maintaining your valve with a genuine Symmons replacement TA-10 spindle and TA-4 seat kit.

So, what's not covered? Batteries, labor, any damage caused by: acts of God, abuse, misuse, normal wear and tear, accidents, negligence, use of solvents or abrasive chemicals; damage caused by installation, use of repair/maintenance parts made by anyone other than Symmons; or any indirect, incidental, or consequential damages. Also, we don't cover things like alien attacks, but you'll have other things to worry about if that happens.

If you have a warranty claim, please contact our customer service team, either by email (gethelp@symmons.com) or by phone (1-800-SYMMONS). Please note that our normal business hours are weekdays 7:30 AM to 6:00 PM Eastern Standard Time.

VENDOR	DESCRIPTION	PAGE
Stern Williams	WALL MOUNT PET FOUNTAIN	42

INSTALLATION INSTRUCTIONS

For Outdoor Water Products



Thank you for selecting Stern-Williams. To ensure this product is installed properly, please read these instructions carefully before you begin. *(Certain installations may require professional help.)*

IMPORTANT: For installing outdoor Drinking Fountain, Bottle Fillers and Shower Towers, observe local plumbing and building codes.

NOTE: Pictures may not exactly define contour of components

INSTALLATION FOR PEDESTAL DRINKING FOUNTAINS

BASIC INSTALLATION

1. Surface Mount - Prior to pouring concrete pad, stub up the 1-1/4" threaded I.P.S. galvanized waste and 1/2" supply pipe to a height of approximately 4 to 6" above finished pad.

In Ground Bury - Prior to pouring concrete, place unit 14" below the surface. Pour a 4" thick concrete pad around the steel supports that are welded to the pedestal.

NOTE: Be Sure to center waste.

2. To insure proper fountain placement, we recommend using the OPTIONAL mounting plate for the appropriate model (see spec sheets).

There are two other methods of installing the fasteners for anchoring the fountain in place. Care must be taken in both methods to accurately locate the fasteners. Use either of the following methods:

- a. Locate and secure anchor bolts equally spaced on the bolt circle or plate and equal distant from the centerline of the waste pipe. These bolts should protrude 1-1/4" above the finished grade.

OR

- b. After the slab is poured, locate and drill holes to accommodate 1/2" female thread expansion type concrete anchors. Locate as in method above.

3. Remove the access panels from the drinking fountain, carefully setting them and cap screws aside. Now set the pedestal fountain in place, level and secure mounting plate to concrete pad.
4. Install 1-1/4" waste nipple to the waste stub, put 1-1/4" slip joint nuts and washers on this waste line. Tighten all connections on the waste line.
5. Install the 1/2" screwdriver stop on 1/2" supply pipe and before reinstalling the tubing, **flush the supply line thoroughly**. After this is done, connect the tubing to the stop.
6. Turn on the supply at the screwdriver stop and check for leaks.
7. Replace the access panels with the stainless steel cap screws.
8. Stream adjustment, if required, can be done simply by using a 5/32" Hex wrench in to hole in the center of push button.

These fountains are designed to operate on 30 psi to 80 psi pressure. If inlet pressure is above 80 psi, a pressure regulator must be installed in the supply line.

INSTALLATION INSTRUCTIONS

For Outdoor Water Products



TROUBLESHOOTING

Water flow adjustments can be achieved by using a 5/32 hex wrench at least 4" long, inserted into the push button from outside the fountain. When turned clockwise, the water will shoot further out. Counter-clockwise will decrease the flow. If the fountain continues to run or drip water, then there is probably debris in the line. To clean the line, you should adjust the water flow to shoot past the bowl for about 45 seconds, then adjust the water back to the middle of the bowl. While making this adjustment hold onto the chrome push button edge so that it does not spin.

CAUTION: Never use more than 2000 psi with a 45-degree nozzle when cleaning these fountains with a pressure washer.

MODELS UNDER GROUND FREEZE-PROOF VALVE ASSEMBLY

- **Placement:** These units were designed to be installed with pedestal drinking fountains that may be exposed to temperatures below 32 degrees Fahrenheit (F). Contact your local state environmental office for questions on specific drainage code requirements.
- **Supply:** 1/2" NPT with a minimum pressure of 30 PSI, maximum of 80 PSI. If inlet pressure is above 80 PSI, a pressure regulator should be installed in the supply line.
- **Plumbing Requirements:** Inlet 1/2" NPT male, Waste 1-1/4" O.D. tailpiece

INSTALLATION INSTRUCTIONS

1. Excavate the site for 1/2" supply and 1-1/4" waste connections. The pit must be of a depth to allow for 8 to 12 cubic feet of drainage gravel and the entire plastic casing assembly.
2. Determine the frost line for the region. See the frost proof table on page 5 for appropriate casing assembly pit depths. The bottom portion of the casing assembly pipe should be cut to a length of not less than 28".
3. Connect the supply tubing to the inlet. Be sure that this connection is lower than the regional frost line.
4. Position the 8" schedule 35 plastic pipe in the pit as illustrated on page 5. Apply a plastic adhesive to connect the "Y" fitting to this pipe.
5. With the metal rod provided, bring the supply to the top of the casing. **Always flush the supply line** to remove any particles that may damage the assembly.
6. Lower the complete valve assembly inside of the casing assembly with metal rod provided. While lowering the assembly, be sure to allow the self-coiling supply line to coil below the valve and check for any twists or kinks.
7. Place the cap on the casing assembly. The pit can now be filled.
8. For surface mount installations, locate the fountain anchors in the proper position as illustrated on the inclosed fountain dimensional information sheet.
9. Pour the concrete pad, taking note to allow a 6" sleeve to accommodate both the waste line and the valve arm assembly. After pad has been allowed to dry, position the surface mount fountain on the pad and secure with bolts.
10. Remove the valve assembly from the casing. From the fountain with the supply line connected to the bubbler, insert the supply tubing in the cap hole of the casing arm. From the top of the main casing, pull the tubing to ground level.
11. Cut the supply tubing to a length that will enable the tubing to extend to the base of the casing assembly.
12. Install the fountain waste line as illustrated on page 5.
13. From the air valve, insert the two sections of 1/8" tubing, **(One Black and One Clear)**, through the casing arm. With

INSTALLATION INSTRUCTIONS

For Outdoor Water Products

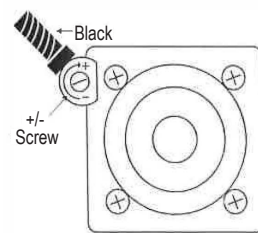


INSTALLATION INSTRUCTIONS

- the compression nut provided, attach the black tubing to the push button assembly on the fountain. Attach the clear segment of 1/8" tubing to the black tubing with tape so that it is open ended and allowed to breathe above the ground, inside the pedestal. Note: the clear tubing is an atmospheric vent and has no connection at the surface.
- Open the shut off valve #S399-0004 with 5/16" hex in the center, (see page 8), and test the fountain for leaks by hand activating the push button.
 - Using the metal rod provided, insert the air valve assembly into the casing assembly. Perform the water test again to check for proper flow. Improper flow can be caused by kinked supply or airlines.
 - Before replacing the valve box cover (supplied by others), check for proper drainage back to the gravel pit below the casing assembly.
 - Failure to comply with the manufactures minimum Valve and Casing assembly requirements will VOID manufactures warranty.

INSTALLATION INSTRUCTIONS FOR OUTDOOR SHOWERS

- Mounting and supply line plumbing is the same as Page 2.
- Shower spray pattern is adjustable by use of a 1/8" allen wrench inserted through spray head orifice. Do not force or adjuster will strip out.
- The shower valves have a present running time of 60 seconds. They can be adjusted from 0 to 2 minutes. Remove access plate located above push button controls. Insert a small screwdriver in $\pm$ head for desired run time.



(S231-0175)
Shower Air Valve Configuration.
See Page 8 for Fountain Type

INSTALLATION INSTRUCTIONS FOR WALL HUNG FOUNTAINS

- Powder coated metal: 1/2" all threaded rod (4) required for coupling nuts.
- Stainless steel: Refer to the dimensional information sheet that accompanied the unit for mounting plate or mounting frame detail.
- Terrazzo and Satinstone: For masonry walls, on mounting bracket provided use 3/8" bolts secured to tap in wall anchors, For non masonry walls, provide adequate wall support for wall plate or support carrier (optional).

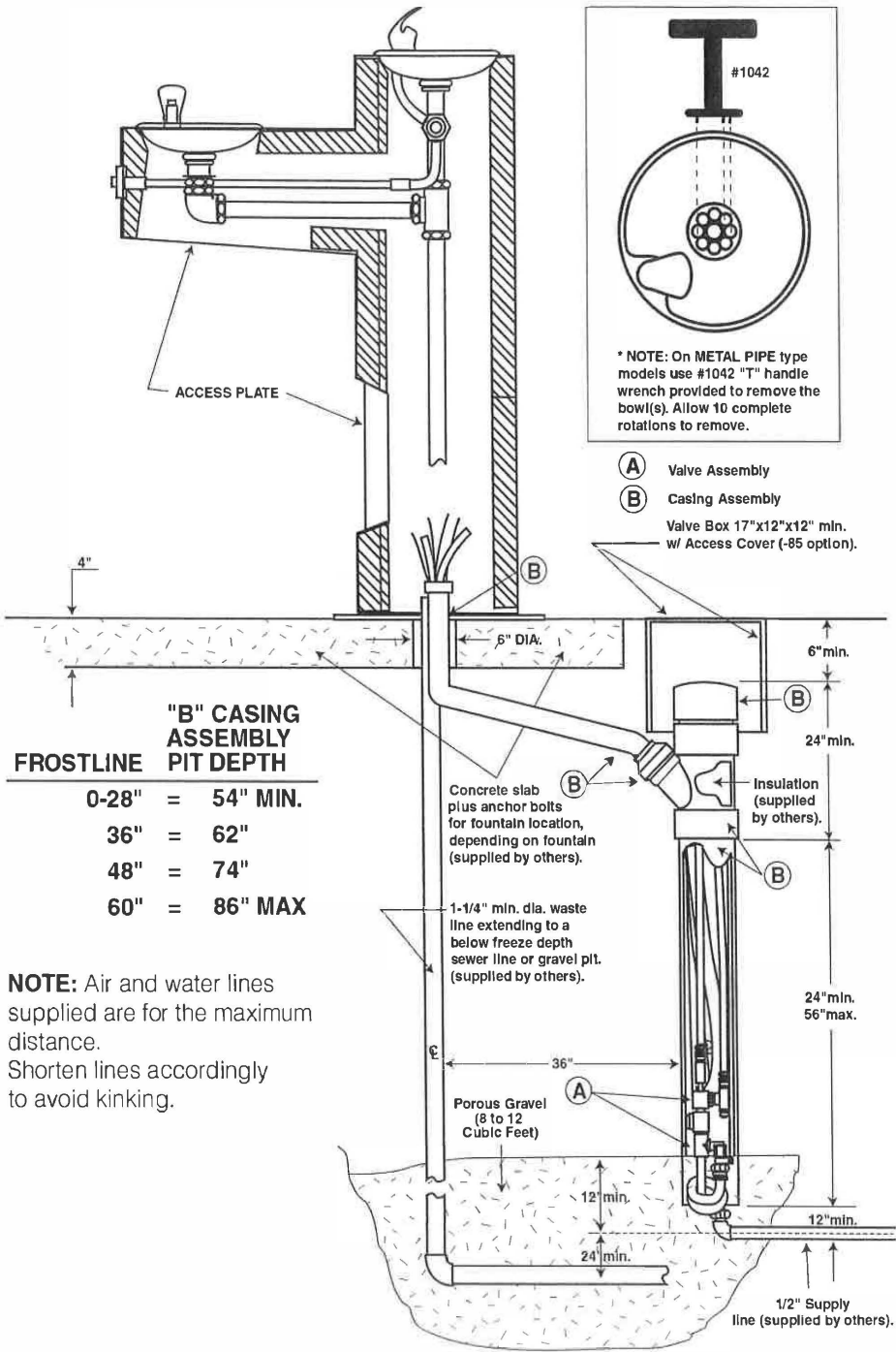
CAUTION: Do not over tighten mounting bolts. This may result in damage to the unit and void the warranty

INSTALLATION INSTRUCTIONS

For Outdoor Water Products



FROST PROOF ASSEMBLY DRAWING



INSTALLATION INSTRUCTIONS

For Outdoor Water Products



INSTALLATION WITH FREEZE-PROOF VALVE ON WALL MOUNTED DRINKING FOUNTAINS

MODEL-24 FREEZE-PROOF VALVE ASSEMBLY

Placement: This unit was designed to be installed on an inside wall where the temperature will not drop below 50 degrees Fahrenheit (F). Refer to the fountain dimensional data sheets for proper supply and waste locations.

Supply: 1/2" NPT with minimum pressure of 30 PSI, maximum of 80 PSI. If the inlet pressure is above 80 PSI, a pressure regulator should be installed in the supply line.

Wall thickness: 7-1/2" up to 12" on selected models.

Plumbing requirements:

- a. Inlet: 1/2" NPT
- b. Waste: 1-1/4" NPT

INSTALLATION INSTRUCTIONS

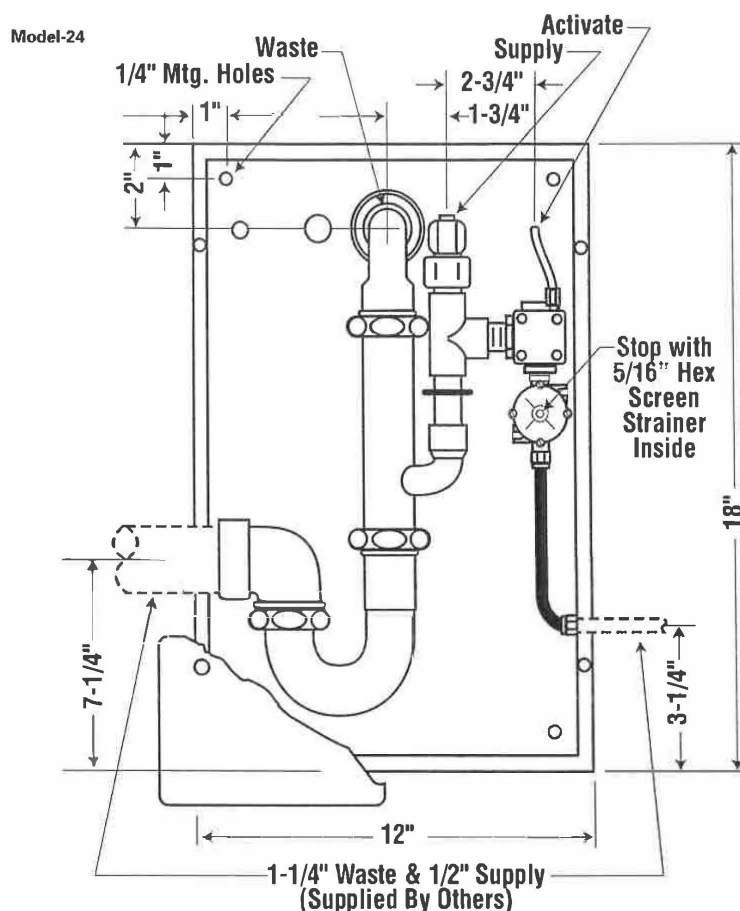
1. Refer to the dimensional information sheet of the fountain for proper mounting height on the outside wall. Attach the waste line to the fountain and indicate the center of the waste line on the wall. Drill a 1-3/4" hole at the indication.
2. Drill a 1-1/2" hole through the wall for the water supply and a 1/2" hole for the airline activation tubing (see dimensional information on page 7).
3. Position the freeze-proof assembly on the wall with all pre-drilled holes lined up properly. Cut the 1-1/4" tube to a length that will allow the waste to connect from the 1-1/4" elbow on the fountain to the 1-1/4" elbow inside the freeze-proof assembly. Fully tighten the 1-1/4" washers and the slip joint nuts supplied with 1-1/4" elbows.
4. Place a 1/8" pipe sleeve (supplied by others) in the 1/2" hole in the wall. Insert the 1/8" airline tubing and hand tighten it to the compression nut on the push button assembly.
5. Place the 3/8" insulated tubing into a 1" pipe sleeve (supplied by others) that was inserted into the 1-1/2" hole in the wall. Connect the 3/8" tubing to the drain valve fitting inside the freeze-proof assembly. Cut the tubing so that a downward slope from the bubbler to the drain valve fitting is created. The slope must be void of any low spots to prevent ice pellets from forming.
6. **Always flush the supply line** to remove any particles that may damage the assembly. Place the 1/2" supply pipe (supplied by others) through the appropriate side of the assembly. Connect the supply pipe to the 1/2" flexible water line.
7. Place the 1-1/4" waste (supplied by others) through the appropriate side of the assembly. Connect the waste to the trap.
8. Before installing the downward facing louver cover, be sure the 3/8" supply line is properly draining back into the freeze proof assembly when push button is deactivated.

INSTALLATION INSTRUCTIONS

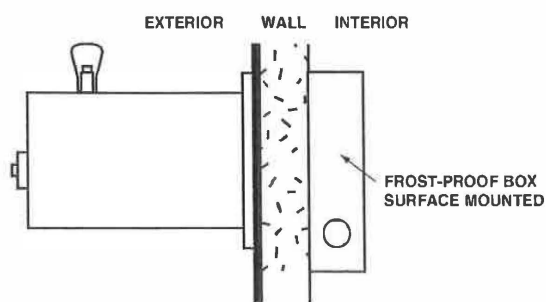
For Outdoor Water Products



FROST PROOF ASSEMBLY DRAWING



NOTE: Frost-proof cabinet has pre-manufactured holes, so unit can be plumbed from either right side (shown) Or left side.



INSTALLATION INSTRUCTIONS

For Outdoor Water Products



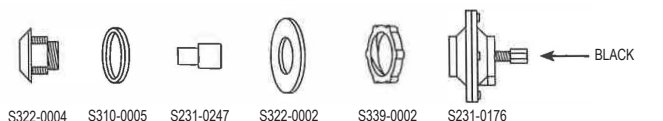
FROST PROOF VALVE TROUBLESHOOTING GUIDE

No Water or Intermittent Flow from Bubbler

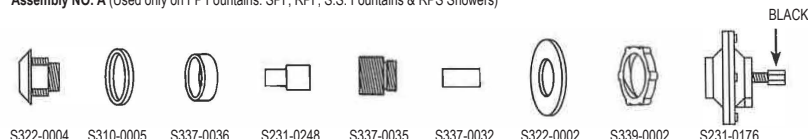
1. Remove black plastic air line from push button diaphragm assembly #S231-0176. The push button should produce a blast of air through the diaphragm when depressed. If not, replace #S231-0176 diaphragm only.
NOTE: for models with assembly #B, first verify that part #S337-0032 located inside part #S337-0035 is a minimum 7/8" in length before replacing #S231-0176 diaphragm.
2. Check that the black air line is firmly pushed through the compression nut on #S231-0176 diaphragm. Tighten compression nuts by hand until snug. Lightly tug line to be sure it is firmly attached. Bleeding air will not allow air valve to fully activate.
3. Check that the black air line is attached to the barb fitting on #S231-0175 air valve. If the line is attached incorrectly, sucking on the tube will activate the water flow. If so, reverse the clear and black air lines. Note: the clear line is an atmospheric surface vent that is left unattached above the ground inside of fountain body.
4. Check the air line for kinks. Remove the black air line from #S231-0176 assembly and blow air in the line. If you can continue to blow freely, the line is open and #S231-0175 air valve will audibly click if you are close enough to it. If not, bring the entire valve assembly to the surface to verify. If no audible clicks, the line has a kink or #S231-0175 air valve needs to be replaced or repaired with #S231-0278 kit. To determine which is the case, cut the black tubing 3" from #S231-0175 air valve and blow in tubing. If water flows from the bubbler, the air line to #S231-0176 push button has a kink. Follow the black tubing back to #S231-0176 push button or replace entire length of 1/8" tubing. If the water does not flow after blowing in 3" length of tubing replace or repair air valve.
5. Check water line for kinks. Follow water line from # S231-0212 bubbler to #S231-0175 air valve.
6. Check for any water line obstructions in screen located inside #S231-0212 bubbler or inside #S399-0004 stop/strainer that is attached to #S231-0175 air valve. Turn 5/16" Hex located on #S399-0004 stop to shut water off. Remove 4 screws on cap and clean the screen if necessary.

Water Does Not Shut Off

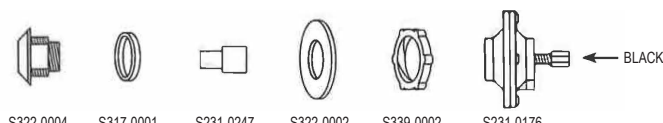
1. The air vent tube is kinked or blocked off by water or dirt in the line. The vent side must be unobstructed for valve to close properly. Vent tube with end cap screen must be positioned above ground inside the fountain body.
2. Replace #S231-0175 air valve or repair with #S231-0278 kit.



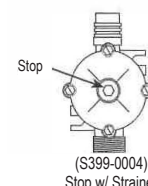
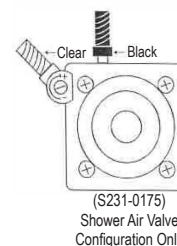
S322-0004 S310-0005 S231-0247 S322-0002 S339-0002 S231-0176
Assembly NO: A (Used only on FP Fountains: SPF, RPF, S.S. Fountains & RPS Showers)



S322-0004 S310-0005 S337-0036 S231-0248 S337-0035 S337-0032 S322-0002 S339-0002 S231-0176
Assembly NO: B (Used only on FP Fountains: APF, ADF & WDF Fountains)



S322-0004 S317-0001 S231-0247 S322-0002 S339-0002 S231-0176
Assembly NO: C (Used only on FP Fountains: Pipe Fountains. Also used on all Pipe Showers, Push Button, Jug Fillers & Misters)



VENDOR	DESCRIPTION	PAGE
Stern Williams	DUAL FOUNTAIN & BOTTLE FILLER	50

INSTALLATION INSTRUCTIONS

For Outdoor Water Products



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IMPORTANT: For installing outdoor Drinking Fountain, Bottle Fillers and Shower Towers, observe local plumbing and building codes.

NOTE: Pictures may not exactly define contour of components

INSTALLATION FOR PEDESTAL DRINKING FOUNTAINS

BASIC INSTALLATION

1. Surface Mount - Prior to pouring concrete pad, stub up the 1-1/4" threaded I.P.S. galvanized waste and 1/2" supply pipe to a height of approximately 4 to 6" above finished pad.

In Ground Bury - Prior to pouring concrete, place unit 14" below the surface. Pour a 4" thick concrete pad around the steel supports that are welded to the pedestal.

NOTE: Be Sure to center waste.

2. To insure proper fountain placement, we recommend using the OPTIONAL mounting plate for the appropriate model (see spec sheets).

There are two other methods of installing the fasteners for anchoring the fountain in place. Care must be taken in both methods to accurately locate the fasteners. Use either of the following methods:

- a. Locate and secure anchor bolts equally spaced on the bolt circle or plate and equal distant from the centerline of the waste pipe. These bolts should protrude 1-1/4" above the finished grade.

OR

- b. After the slab is poured, locate and drill holes to accommodate 1/2" female thread expansion type concrete anchors. Locate as in method above.

3. Remove the access panels from the drinking fountain, carefully setting them and cap screws aside. Now set the pedestal fountain in place, level and secure mounting plate to concrete pad.
4. Install 1-1/4" waste nipple to the waste stub, put 1-1/4" slip joint nuts and washers on this waste line. Tighten all connections on the waste line.
5. Install the 1/2" screwdriver stop on 1/2" supply pipe and before reinstalling the tubing, **flush the supply line thoroughly**. After this is done, connect the tubing to the stop.
6. Turn on the supply at the screwdriver stop and check for leaks.
7. Replace the access panels with the stainless steel cap screws.
8. Stream adjustment, if required, can be done simply by using a 5/32" Hex wrench in to hole in the center of push button.

These fountains are designed to operate on 30 psi to 80 psi pressure. If inlet pressure is above 80 psi, a pressure regulator must be installed in the supply line.

INSTALLATION INSTRUCTIONS

For Outdoor Water Products



TROUBLESHOOTING

Water flow adjustments can be achieved by using a 5/32 hex wrench at least 4" long, inserted into the push button from outside the fountain. When turned clockwise, the water will shoot further out. Counter-clockwise will decrease the flow. If the fountain continues to run or drip water, then there is probably debris in the line. To clean the line, you should adjust the water flow to shoot past the bowl for about 45 seconds, then adjust the water back to the middle of the bowl. While making this adjustment hold onto the chrome push button edge so that it does not spin.

CAUTION: Never use more than 2000 psi with a 45-degree nozzle when cleaning these fountains with a pressure washer.

MODELS UNDER GROUND FREEZE-PROOF VALVE ASSEMBLY

- **Placement:** These units were designed to be installed with pedestal drinking fountains that may be exposed to temperatures below 32 degrees Fahrenheit (F). Contact your local state environmental office for questions on specific drainage code requirements.
- **Supply:** 1/2" NPT with a minimum pressure of 30 PSI, maximum of 80 PSI. If inlet pressure is above 80 PSI, a pressure regulator should be installed in the supply line.
- **Plumbing Requirements:** Inlet 1/2" NPT male, Waste 1-1/4" O.D. tailpiece

INSTALLATION INSTRUCTIONS

1. Excavate the site for 1/2" supply and 1-1/4" waste connections. The pit must be of a depth to allow for 8 to 12 cubic feet of drainage gravel and the entire plastic casing assembly.
2. Determine the frost line for the region. See the frost proof table on page 5 for appropriate casing assembly pit depths. The bottom portion of the casing assembly pipe should be cut to a length of not less than 28".
3. Connect the supply tubing to the inlet. Be sure that this connection is lower than the regional frost line.
4. Position the 8" schedule 35 plastic pipe in the pit as illustrated on page 5. Apply a plastic adhesive to connect the "Y" fitting to this pipe.
5. With the metal rod provided, bring the supply to the top of the casing. **Always flush the supply line** to remove any particles that may damage the assembly.
6. Lower the complete valve assembly inside of the casing assembly with metal rod provided. While lowering the assembly, be sure to allow the self-coiling supply line to coil below the valve and check for any twists or kinks.
7. Place the cap on the casing assembly. The pit can now be filled.
8. For surface mount installations, locate the fountain anchors in the proper position as illustrated on the inclosed fountain dimensional information sheet.
9. Pour the concrete pad, taking note to allow a 6" sleeve to accommodate both the waste line and the valve arm assembly. After pad has been allowed to dry, position the surface mount fountain on the pad and secure with bolts.
10. Remove the valve assembly from the casing. From the fountain with the supply line connected to the bubbler, insert the supply tubing in the cap hole of the casing arm. From the top of the main casing, pull the tubing to ground level.
11. Cut the supply tubing to a length that will enable the tubing to extend to the base of the casing assembly.
12. Install the fountain waste line as illustrated on page 5.
13. From the air valve, insert the two sections of 1/8" tubing, **(One Black and One Clear)**, through the casing arm. With

INSTALLATION INSTRUCTIONS

For Outdoor Water Products

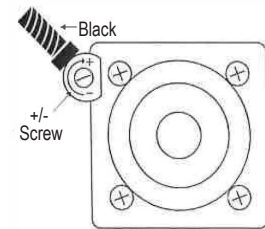


INSTALLATION INSTRUCTIONS

- the compression nut provided, attach the black tubing to the push button assembly on the fountain. Attach the clear segment of 1/8" tubing to the black tubing with tape so that it is open ended and allowed to breathe above the ground, inside the pedestal. Note: the clear tubing is an atmospheric vent and has no connection at the surface.
14. Open the shut off valve #S399-0004 with 5/16" hex in the center, (see page 8), and test the fountain for leaks by hand activating the push button.
 15. Using the metal rod provided, insert the air valve assembly into the casing assembly. Perform the water test again to check for proper flow. Improper flow can be caused by kinked supply or airlines.
 16. Before replacing the valve box cover (supplied by others), check for proper drainage back to the gravel pit below the casing assembly.
 17. Failure to comply with the manufactures minimum Valve and Casing assembly requirements will VOID manufactures warranty.

INSTALLATION INSTRUCTIONS FOR OUTDOOR SHOWERS

1. Mounting and supply line plumbing is the same as Page 2.
2. Shower spray pattern is adjustable by use of a 1/8" allen wrench inserted through spray head orifice. Do not force or adjuster will strip out.
3. The shower valves have a present running time of 60 seconds. They can be adjusted from 0 to 2 minutes. Remove access plate located above push button controls. Insert a small screwdriver in $\pm$ head for desired run time.



(S231-0175)
Shower Air Valve Configuration.
See Page 8 for Fountain Type

INSTALLATION INSTRUCTIONS FOR WALL HUNG FOUNTAINS

1. Powder coated metal: 1/2" all threaded rod (4) required for coupling nuts.
2. Stainless steel: Refer to the dimensional information sheet that accompanied the unit for mounting plate or mounting frame detail.
3. Terrazzo and Satinstone: For masonry walls, on mounting bracket provided use 3/8" bolts secured to tap in wall anchors, For non masonry walls, provide adequate wall support for wall plate or support carrier (optional).

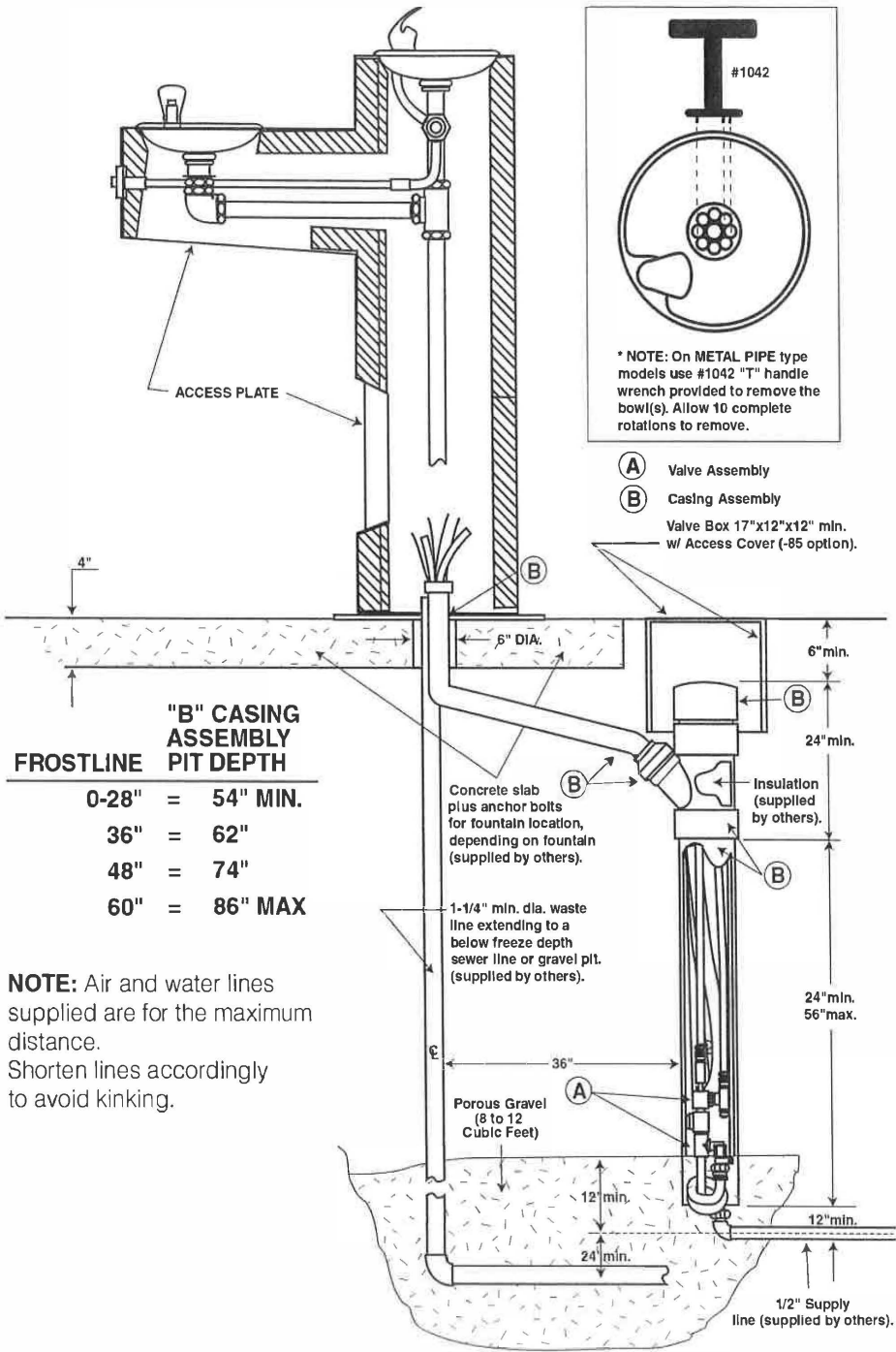
CAUTION: Do not over tighten mounting bolts. This may result in damage to the unit and void the warranty

INSTALLATION INSTRUCTIONS

For Outdoor Water Products



FROST PROOF ASSEMBLY DRAWING



INSTALLATION INSTRUCTIONS

For Outdoor Water Products



INSTALLATION WITH FREEZE-PROOF VALVE ON WALL MOUNTED DRINKING FOUNTAINS

MODEL-24 FREEZE-PROOF VALVE ASSEMBLY

Placement: This unit was designed to be installed on an inside wall where the temperature will not drop below 50 degrees Fahrenheit (F). Refer to the fountain dimensional data sheets for proper supply and waste locations.

Supply: 1/2" NPT with minimum pressure of 30 PSI, maximum of 80 PSI. If the inlet pressure is above 80 PSI, a pressure regulator should be installed in the supply line.

Wall thickness: 7-1/2" up to 12" on selected models.

Plumbing requirements:

- a. Inlet: 1/2" NPT
- b. Waste: 1-1/4" NPT

INSTALLATION INSTRUCTIONS

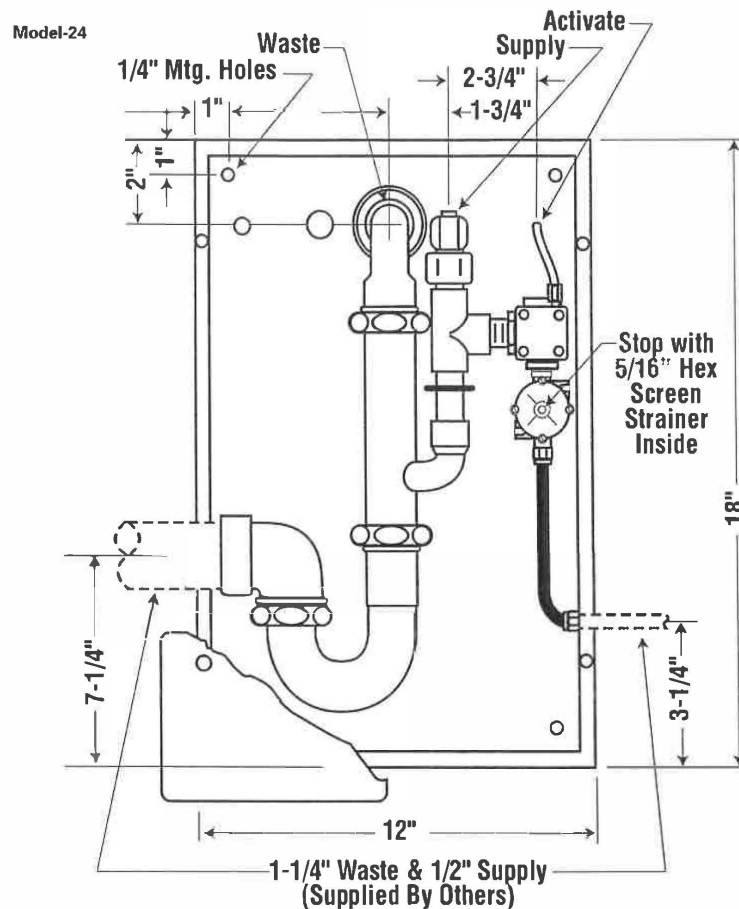
1. Refer to the dimensional information sheet of the fountain for proper mounting height on the outside wall. Attach the waste line to the fountain and indicate the center of the waste line on the wall. Drill a 1-3/4" hole at the indication.
2. Drill a 1-1/2" hole through the wall for the water supply and a 1/2" hole for the airline activation tubing (see dimensional information on page 7).
3. Position the freeze-proof assembly on the wall with all pre-drilled holes lined up properly. Cut the 1-1/4" tube to a length that will allow the waste to connect from the 1-1/4" elbow on the fountain to the 1-1/4" elbow inside the freeze-proof assembly. Fully tighten the 1-1/4" washers and the slip joint nuts supplied with 1-1/4" elbows.
4. Place a 1/8" pipe sleeve (supplied by others) in the 1/2" hole in the wall. Insert the 1/8" airline tubing and hand tighten it to the compression nut on the push button assembly.
5. Place the 3/8" insulated tubing into a 1" pipe sleeve (supplied by others) that was inserted into the 1-1/2" hole in the wall. Connect the 3/8" tubing to the drain valve fitting inside the freeze-proof assembly. Cut the tubing so that a downward slope from the bubbler to the drain valve fitting is created. The slope must be void of any low spots to prevent ice pellets from forming.
6. **Always flush the supply line** to remove any particles that may damage the assembly. Place the 1/2" supply pipe (supplied by others) through the appropriate side of the assembly. Connect the supply pipe to the 1/2" flexible water line.
7. Place the 1-1/4" waste (supplied by others) through the appropriate side of the assembly. Connect the waste to the trap.
8. Before installing the downward facing louver cover, be sure the 3/8" supply line is properly draining back into the freeze proof assembly when push button is deactivated.

INSTALLATION INSTRUCTIONS

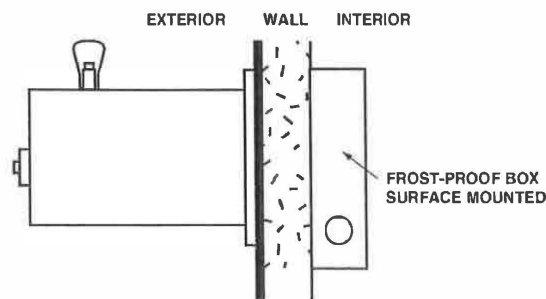
For Outdoor Water Products



FROST PROOF ASSEMBLY DRAWING



NOTE: Frost-proof cabinet has pre-manufactured holes, so unit can be plumbed from either right side (shown) Or left side.



INSTALLATION INSTRUCTIONS

For Outdoor Water Products



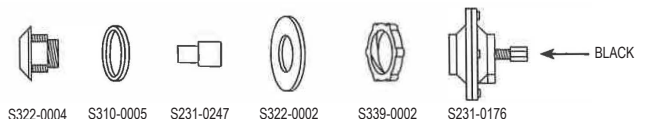
FROST PROOF VALVE TROUBLESHOOTING GUIDE

No Water or Intermittent Flow from Bubbler

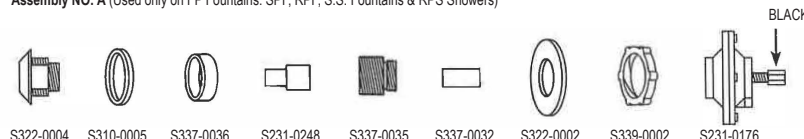
1. Remove black plastic air line from push button diaphragm assembly #S231-0176. The push button should produce a blast of air through the diaphragm when depressed. If not, replace #S231-0176 diaphragm only.
NOTE: for models with assembly #B, first verify that part #S337-0032 located inside part #S337-0035 is a minimum 7/8" in length before replacing #S231-0176 diaphragm.
2. Check that the black air line is firmly pushed through the compression nut on #S231-0176 diaphragm. Tighten compression nuts by hand until snug. Lightly tug line to be sure it is firmly attached. Bleeding air will not allow air valve to fully activate.
3. Check that the black air line is attached to the barb fitting on #S231-0175 air valve. If the line is attached incorrectly, sucking on the tube will activate the water flow. If so, reverse the clear and black air lines. Note: the clear line is an atmospheric surface vent that is left unattached above the ground inside of fountain body.
4. Check the air line for kinks. Remove the black air line from #S231-0176 assembly and blow air in the line. If you can continue to blow freely, the line is open and #S231-0175 air valve will audibly click if you are close enough to it. If not, bring the entire valve assembly to the surface to verify. If no audible clicks, the line has a kink or #S231-0175 air valve needs to be replaced or repaired with #S231-0278 kit. To determine which is the case, cut the black tubing 3" from #S231-0175 air valve and blow in tubing. If water flows from the bubbler, the air line to #S231-0176 push button has a kink. Follow the black tubing back to #S231-0176 push button or replace entire length of 1/8" tubing. If the water does not flow after blowing in 3" length of tubing replace or repair air valve.
5. Check water line for kinks. Follow water line from # S231-0212 bubbler to #S231-0175 air valve.
6. Check for any water line obstructions in screen located inside #S231-0212 bubbler or inside #S399-0004 stop/strainer that is attached to #S231-0175 air valve. Turn 5/16" Hex located on #S399-0004 stop to shut water off. Remove 4 screws on cap and clean the screen if necessary.

Water Does Not Shut Off

1. The air vent tube is kinked or blocked off by water or dirt in the line. The vent side must be unobstructed for valve to close properly. Vent tube with end cap screen must be positioned above ground inside the fountain body.
2. Replace #S231-0175 air valve or repair with #S231-0278 kit.



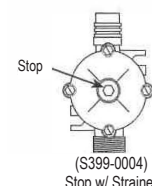
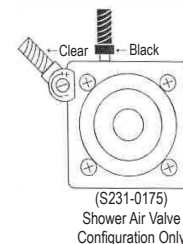
S322-0004 S310-0005 S231-0247 S322-0002 S339-0002 S231-0176
Assembly NO: A (Used only on FP Fountains: SPF, RPF, S.S. Fountains & RPS Showers)



S322-0004 S310-0005 S337-0036 S231-0248 S337-0035 S337-0032 S322-0002 S339-0002 S231-0176
Assembly NO: B (Used only on FP Fountains: APF, ADF & WDF Fountains)



S322-0004 S317-0001 S231-0247 S322-0002 S339-0002 S231-0176
Assembly NO: C (Used only on FP Fountains: Pipe Fountains. Also used on all Pipe Showers, Push Button, Jug Fillers & Misters)



VENDOR	DESCRIPTION	PAGE
Fiat	24x24x10 Molded Stone Mop Sink	58
Fiat	Service Sink Faucet, Brass, 1/2" IPS Inlet with Vacuum Breaker - Chrome	61
Fiat	Utility Hose 30" And Hose Bracket	66
Fiat	Mop Hanger, Wall Mount, 3 Station	67
Fiat	Wall Panel Corner 12" Tall x 24"x24" - Stainless Steel	

INSTALLATION INSTRUCTIONS

Molded Stone Mop Service Basin

Model: MSB2424 & MSB3624

Thank you for selecting Fiat Products. To ensure this product is installed properly, please read these instructions carefully before you begin. (Certain installations may require professional help.) Also be sure your installation conforms to local codes.

IMPORTANT: Unpack your new mop service basin and inspect carefully for damage. Exercise care during installation. Rough handling or dropped tools may chip or crack material.

OBSERVE LOCAL PLUMBING AND BUILDING CODES

NOTE: Pictures may not exactly define contour of components

FIATTM PRODUCTS

INSTALLATION PLANNING

Study all job prints, specifications, and instructions. Check the level and quality of sub floor.

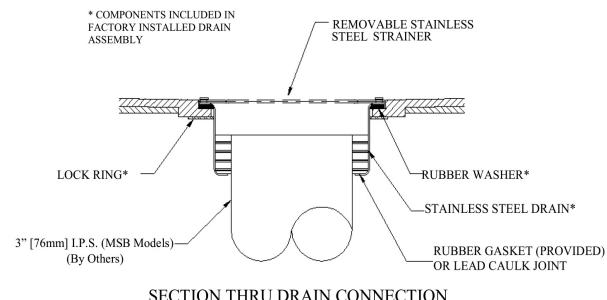
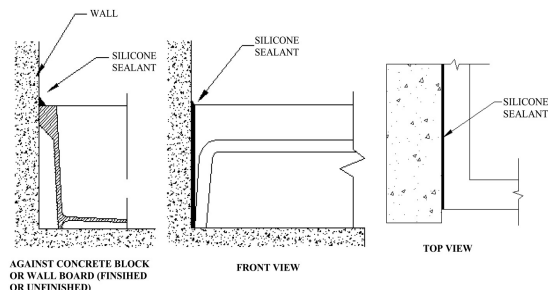
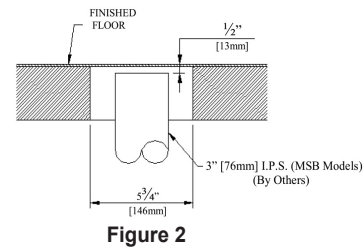
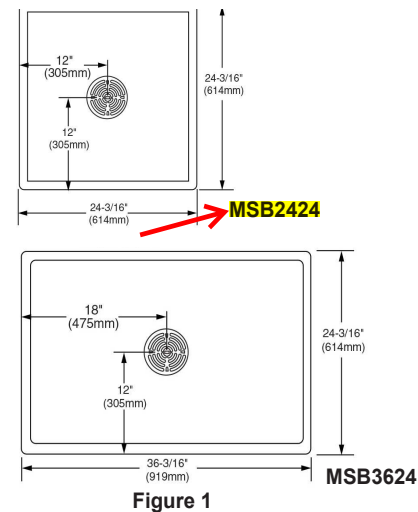
1

INSTALLATION INSTRUCTIONS

MSB MODEL CONTENTS:

- 1 - Mop Service Basin
- 1 - QDC 3XH

1. Refer to "Rough-In dimensions (See figure 1) and determine location of Mop Basin.
2. Prepare a 5-3/4" diameter opening in sub-floor with top of the 3" PVC drain pipe centered 1/2" below the floor surface (See figure 2).
3. Once the drain body is installed, set the mop basin in place and align the drain body with the drain pipe. Level basin and shim as necessary.
4. Connect the drain line to the mop basin with included QDC 3XH rubber gasket (See figure 3).
5. Once the mop basin is in place, apply silicone sealant (not included) at all points where mop basin meets the wall (See figure 4).
6. Do not install lint basket and strainer until room is ready for use.



MSB_IOM-A

MOP SERVICE BASIN CARE AND CLEANING

This mop basin has been specifically designed and engineered to exceed demanding strength and stress factors required for use. It is stain resistant, semi gloss finish. Like any fine finish, it requires reasonable care to maintain its beauty and luster.

Day-to-day cleaning: Wash with warm water, a soft cloth, and mild liquid detergent.

For stubborn stains: Use a Non-Abrasive, liquid detergent cleaner, applied using a soft cloth. More persistent stains, tar, or paint can be removed with naphtha or mineral spirits. Remove excess plaster by scraping with a sharpened soft wood stick. Avoid wire brushes, metal scrapers, or tools.

NEVER USE ABRASIVE SCOURING POWDERS, SOLVENT BASED CLEANSERS, OR SCOURING PADS AS THEY TEND TO DULL THE FINISH.

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Grandview, MO 64030

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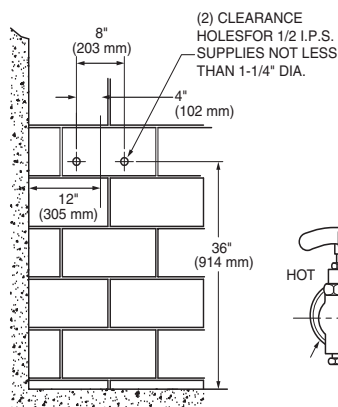
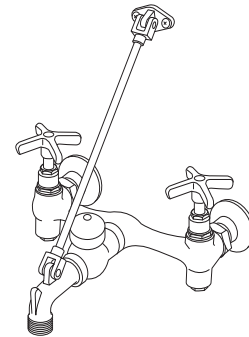
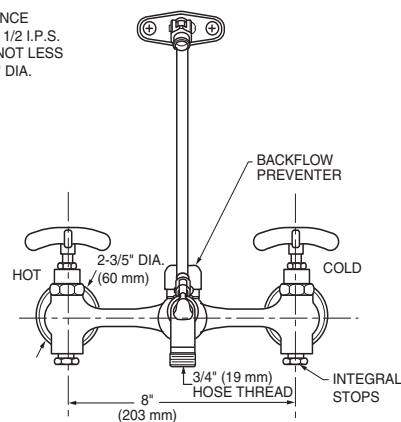
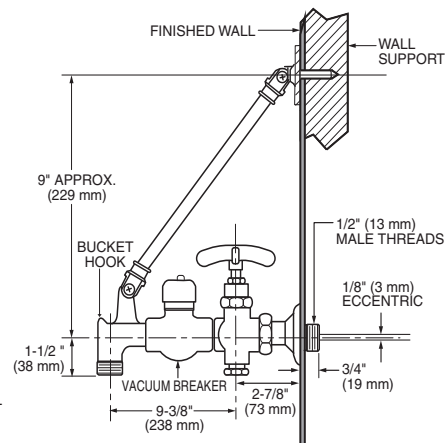
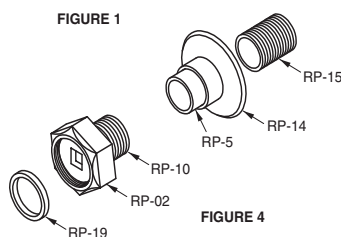
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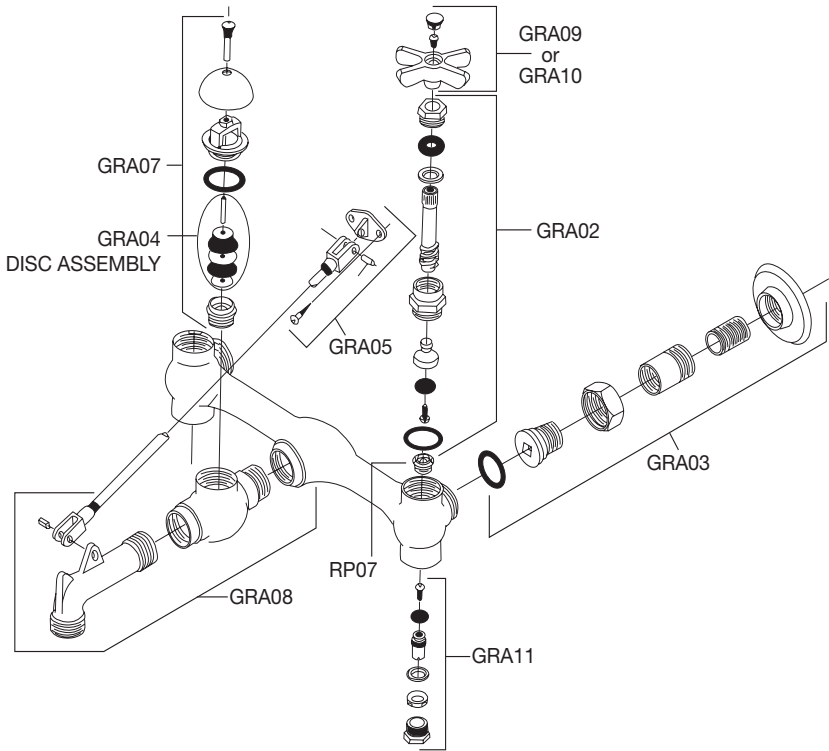
SERVICE-SINK FAUCET WITH INTEGRAL VACUUM BREAKER **Model: 830AA000**

FIAT
PRODUCTS

FIGURE 1

FIGURE 2

FIGURE 3

FIGURE 4

1. Unpack the valve and check for any damages that may have occurred during shipment..
2. Drill the supply holes for the HOT and COLD sides of the valve as per **Figure 1**.
3. Remove RP-02, RP-10 and RP-19 from the HOT and COLD sides of the valve and assemble as shown in **Figure 4** and place onto supply pipe for the hot and cold water.
4. Once Step 3 is complete attach the valve to RP-02..
NOTE: If RP-19 is not placed as shown in Figure 4 the connection will leak.
5. Attach BRACE ROD to nozzle with S.S. roll pin. Once this is completed, attached the BRACE FLANGE to BRACE ROD with S.S. roll pin. Position the BRACE FLANGE against the wall and mark two hole locations for the BRACE FLANGE holes and secure the BRACE FLANGE to the wall.

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www.fiatproducts.com

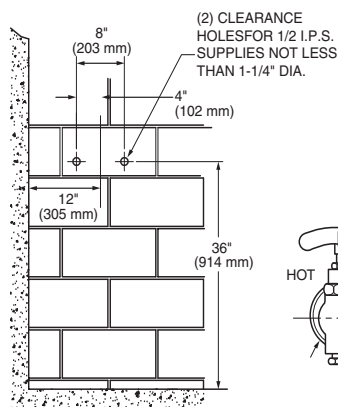
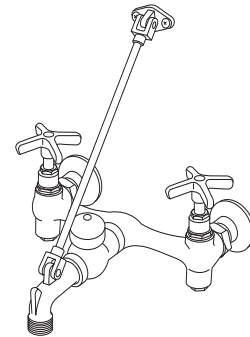
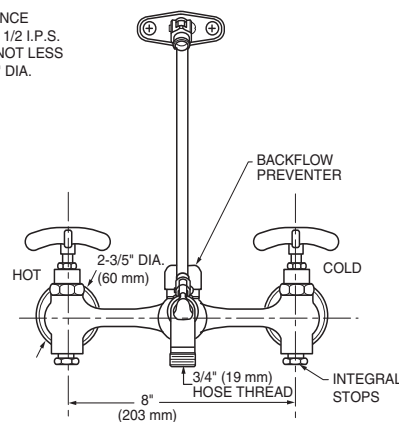
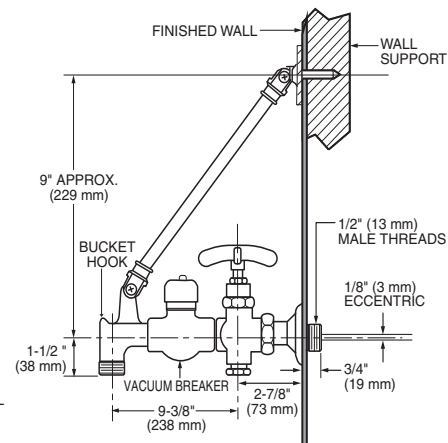
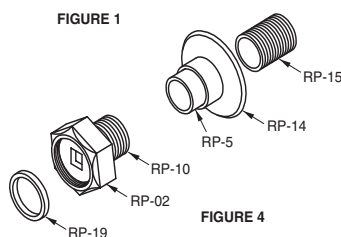
FIAT
PRODUCTS



GROUP ASSEMBLY PART#	DESCRIPTION
GRA02	Handle mounting group assembly — includes: spindle, seat washer, seat washer screw, packing nut, brass washer, packing, handle hub, hub washer
GRA03	Coupling assembly — includes: coupling nut, bushing (socket), swivel, wall flange, washer, nipple
GRA05	Brace assembly - includes: wood screw (2), brace flange, S.S. roller pin, wall brace rod
GRA07	Vacuum breaker and disc assembly — includes: seat, V.B. hub, cap, V.B. hub washer, V.B. cap screw, GRA-04 assembly
GRA08	Complete body assembly — includes: nozzle, center body, V.B. body
GRA09	Handle assembly (cold) — includes: handle, handle screw, cold index
GRA10	Handle assembly (hot) — includes: handle, handle screw, hot index
GRA11	Integral stop assembly — includes: spindle, brass washer, washer, packing nut, seat washer screw, packing
RP07	Seat — one (1) per package.

INSTALLATION INSTRUCTIONS

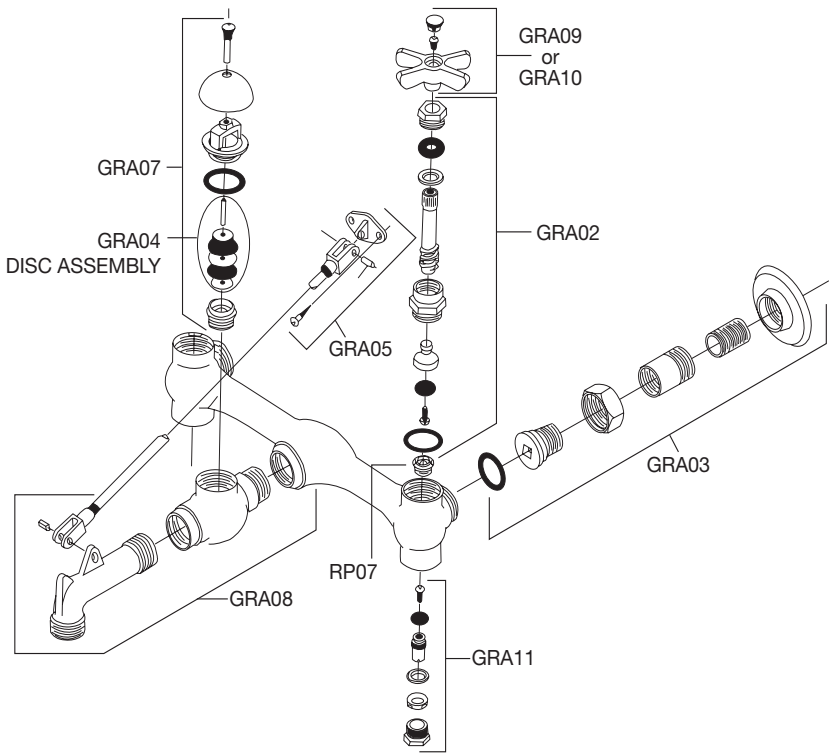
SERVICE-SINK FAUCET WITH INTEGRAL VACUUM BREAKER

Model: **830AA000**
FIAT
PRODUCTS

FIGURE 1

FIGURE 2

FIGURE 3

FIGURE 4

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TO THE EXTENT PERMITTED BY LAW, THIS WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, WHETHER ORAL OR WRITTEN, STATUTORY, EXPRESS, OR IMPLIED. FIAT PRODUCTS HEREBY EXCLUDES SPECIAL, INCIDENTAL AND CONSEQUENTIAL DAMAGES FOR ANY BREACH OF ANY EXPRESS OR IMPLIED WARRANTY APPLICABLE TO THIS PRODUCT.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations and exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state (or province, as applicable).

OBTAINING WARRANTY SERVICE

If you feel you have a warranty claim, contact FIAT Products, either through an authorized FIAT Products dealer or re-seller, or by writing:

In the United States and Canada:

FIAT Products, LLC
 4515 E. 139th St.
 Grandview, MO 64030

Please be sure to provide all pertinent information regarding your claim, including a complete description of the problem, the product, model number, color, finish, purchase date, and from whom the product was purchased.

For other information, call (833) 549-9244 (in the United States and Canada) or visit www.fiatproducts.com.



**FIAT PRODUCTS, LLC. LIMITED ONE YEAR WARRANTY
FOR PERSONAL RESIDENTIAL AND COMMERCIAL USE OF FIAT® PRODUCTS**

WARRANTY COVERAGE

FIAT Products warrants products against defects in material and workmanship under both normal residential and commercial use for as long as it is owned by the original purchaser for a period of one (1) year from the date of first purchase.

This warranty is provided for the exclusive benefit of the initial consumer purchaser or owner. This warranty is non-transferable to subsequent purchasers or owners. The sole exception to the non-transferability of this warranty is that if this product is purchased by a plumber, contractor or other service provider, this warranty extends to the first residential or commercial property owner on whose behalf the product was purchased for installation. This warranty applies only to FIAT® Products installed in the United States of America or Canada.

If a defect arises and a valid claim is received, FIAT Products, at its option, will either (1) repair the product, (2) replace the product or any part therein with a FIAT product of equal or similar type and size, or (3) refund to the consumer the wholesale price of the product. If FIAT Products elects to refund the wholesale price to the consumer, FIAT Products shall have no further obligation to its wholesale customer, or any contractor with respect to such product. Goods proven to be defective will be replaced after proper inspection, but no claims for damages incurred or for work done thereon will be allowed. Replacements when supplied will be shipped at no cost to the consumer.

EXCLUSIONS AND LIMITATIONS

1. This warranty only applies to products purchased through an authorized FIAT® Products dealer or re-seller.
2. This warranty does not apply to defects or damage caused by non-genuine FIAT parts, installation error, product abuse, product misuse, improper maintenance, improper care or cleaning, improper repair or installation, and/or movement or transfer of the product from its original installation location (whether performed by you, a plumber, a contractor or a service company). Because improper care and cleaning can cause significant damage to the product, it is strongly recommended that you follow the Care and Cleaning Instructions (as well as the other instructions).
3. FIAT Products is not responsible for labor charges and/or damage incurred during installation, repair, or replacement.
4. FIAT Products does not warrant that this product and/or its installation complies with local code requirements. FIAT Products recommends that you consult with a plumbing contractor about local code requirements.

TO THE EXTENT PERMITTED BY LAW, THIS WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, WHETHER ORAL OR WRITTEN, STATUTORY, EXPRESS, OR IMPLIED. FIAT PRODUCTS HEREBY EXCLUDES SPECIAL, INCIDENTAL AND CONSEQUENTIAL DAMAGES FOR ANY BREACH OF ANY EXPRESS OR IMPLIED WARRANTY APPLICABLE TO THIS PRODUCT.

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In the United States and Canada:

FIAT Products, LLC
 4515 E. 139th St.
 Grandview, MO 64030

Please be sure to provide all pertinent information regarding your claim, including a complete description of the problem, the product, model number, color, finish, purchase date, and from whom the product was purchased.

For other information, call (833) 549-9244 (in the United States and Canada) or visit www.fiatproducts.com.

VENDOR	DESCRIPTION	PAGE
Woodford	Model 26 Chrome Wall Faucet P3/4 Inlet	69

TROUBLESHOOTING & MAINTENANCE



For more information contact...

WOODFORD MANUFACTURING COMPANY, LLC.

2121 Waynoka Road, Colorado Springs, Colorado 80915 • Phone: (800) 621-6032 • Fax: (800) 765-4115

To view our complete product line visit: www.woodfordmfg.com or email: sales@woodfordmfg.com

04/15 Rev 1

Model 21, 24 or 26 Mild Climate Non-Freeze Area Wall Faucets

Fig 1



Fig 2



Fig 3



Fig 4



- Water leaks from the nozzle when faucet is off. Fig 1**
Valve seat (30008) Washer (Fig 2) is worn out or damaged and needs to be replaced or the Washer Screw is loose. Follow instructions below on how to remove the Operating Stem. If this does not fix the leak, the faucet may have a damaged seat and the faucet will need to be replaced.
- Operating Stem removal. Fig 2**
To remove the Operating Stem from the faucet, shut off the water supply and remove the Wheel Handle and Packing Nut. Use the handle to turn the stem counterclockwise until the stem becomes disengaged from the threads. Use a small screwdriver to pry the packing loose. Pull the stem out of the faucet. Remove Washer Screw and old Washer and install new Washer.
- Packing leak. Faucet leaks from around the operating stem when the faucet is on. Fig 3**
The packing nut will occasionally need to be tightened to stop a packing leak. Tighten the packing nut behind the handle until snug and the leak stops. Persistent leaks will require a new 30247 EPDM Packing. (Removal of Wheel Handle may be required to access Packing Nut.)
- Faucet will not flow water when the faucet is on. Fig 4**
The Vacuum Breaker may be obstructed or damaged. Remove the vacuum breaker and check to see if the faucet flows water with the vacuum breaker removed. Inspect the vacuum breaker for obstruction or damage.
- Available RK-24 Repair Kit includes all 8 parts listed in Fig 2.**



VENDOR	DESCRIPTION	PAGE
Watts	3" PRONTO PVC ADJ FLOOR DRAIN W/ INTEGRATED LEVEL, TRAP PRIMER TAPPING	



VENDOR	DESCRIPTION	PAGE
Watts	PVC Cleanout w/DI Top	



VENDOR	DESCRIPTION	PAGE
Watts	FRESH AIR INLET	



VENDOR	DESCRIPTION	PAGE
Watts	Lf25Aub-Z3 2 2 In Lead Free Water Pressure Reducing Valve, Npt Female Union X Npt Female, Ss Seat, Adjustable 25-75 Psi	74

WARNING

For valves with PRV or PEX and connections, do not exceed the tubing manufacturers pressure and temperature ratings. Refer to the tubing manufacturers product specifications for that information.

Parallel Installation

Series Installation

Typical Installation

Typical Installation

Typical Installation

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VENDOR	DESCRIPTION	PAGE
Chronomite Laboratories, Inc.	Electronic Tankless Water Heater - Large Capacity	77



CHRONOMITE R-SERIES MIGHTY-MITE WATER HEATERS

INSTALLATION AND OPERATION INSTRUCTIONS (208-277V Models)

(Before installation, compare electrical requirements needed for the model of heater selected)

TABLE 1 – Electrical Specifications

Model	Wattage	Total Amps	1Φ Voltage	Circuit Breaker	
				Intermittent Duty	Continuous Duty
R-48x/208	10,000	48	208	50 amp / 2 pole	60 amp / 2 pole
R-48x/240	11,500	48	220-240	50 amp / 2 pole	60 amp / 2 pole
R-58x/208	12,050	58	208	60 amp / 2 pole	80 amp / 2 pole
R-63x/208	13,100	63	208	70 amp / 2 pole	80 amp / 2 pole
R-48x/277	13,300	48	277	50 amp / 1 pole	60 amp / 1 pole
R-58x/240	13,900	58	240	60 amp / 2 pole	80 amp / 2 pole
R-68x/208	14,150	68	208	70 amp / 2 pole	90 amp / 2 pole
R-63x/240	15,100	63	220-240	70 amp / 2 pole	80 amp / 2 pole
R-75x/208	15,600	75	208	80 amp / 2 pole	100 amp / 2 pole
R-58x/277	16,050	58	277	60 amp / 1 pole	80 amp / 1 pole
R-68x/240	16,300	68	220-240	70 amp / 2 pole	90 amp / 2 pole
R-63x/277	17,450	63	277	70 amp / 1 pole	80 amp / 1 pole
R-75x/240	18,000	75	220-240	80 amp / 2 pole	100 amp / 2 pole
R-68x/277	18,850	68	277	70 amp / 1pole	90 amp / 1pole
R-75x/277	20,750	75	277	80 amp / 1 pole	100 amp / 1 pole

x = (L)-Low Activation

(S)-Standard Activation

(H)-High Activation

R-Series MIGHTY-MITE Specifications:

Dimensions: 9-3/4" (H) x 10-1/2" x 4-1/4"

Weight: 10 LBS

Materials:

- Rugged steel housing and cover
- Celcon plastic element assembly with nichrome coils

Minimum Operating Pressure: 25 PSI

Maximum Operating Pressure: 80 PSI

Maximum Pressure: 150 PSI

No pressure relief valve needed, unless required by local code.

Maximum Operating Temperature: 160°F

Listings: UL, UPC

Mounted Unit

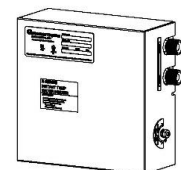
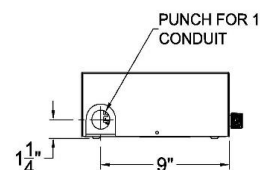
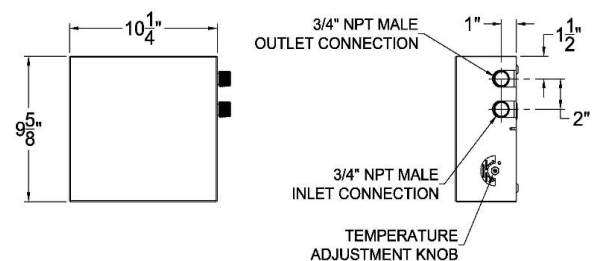


TABLE 2 – Flow Switch Activation

Flow Switch Activation	
Low Activation (L)	0.35 GPM
Standard Activation (S)	0.65 GPM
High Activation (H)	1.80 GPM

THE MANUFACTURER OF THIS WATER HEATER WILL NOT BE LIABLE FOR ANY DAMAGES CAUSED BY THE FAILURE TO FOLLOW THESE INSTALLATION AND OPERATION INSTRUCTIONS.

CAUTION: **BEFORE BEGINNING THE INSTALLATION:**

1. Turn off circuit breaker to avoid dangerous electrical shocks.
2. Turn off water supply.

INITIAL INSTALLATION:

1. Before installation, compare electrical requirements needed for the model of heater selected in Table 1.
2. Remove heater cover. Mount unit horizontally flush against the wall (See Fig. 1). Water connections will be either on right hand side only. If water connections are at top or bottom, heater is not in correct position. Mount with four screws through the mounting holes located on the base plate housing using molly anchors or fasteners. **CAUTION:** Heating elements may burn out if unit is not mounted with heater modules horizontally.
3. Insure placement of heater allows 5" clearance for screwdriver access to remaining 3 sides of heater to allow cover removal, and future servicing if needed. (See Fig. 1).
4. Attach electrical conduit and fittings to the 1" electrical access hole on either back or bottom of base plate. Access hole can be enlarged to next trade size if needed. Do not attaching wiring yet.
5. Connect plumbing. Use ¾ inch tapered national pipe thread at cold-water inlet and hot water outlet (See Fig. 1). Use unions and valve(s) for ease of installation and possible servicing. Use Teflon tape or pipe sealing compound. Do not apply heat to these fittings, as damage to the heater modules will occur and void warranty. Rough out plumbing with heater in place, then remove heater during soldering of connections.
6. Run water through the unit to expel all air bubbles. Cycle downstream faucet 10x to assist removing air bubbles. This will also pressurize unit. Check for leaks at all fitting joints and also inside heater.
7. If no leaks, proceed to Electrical Installation Section and Figure 2.

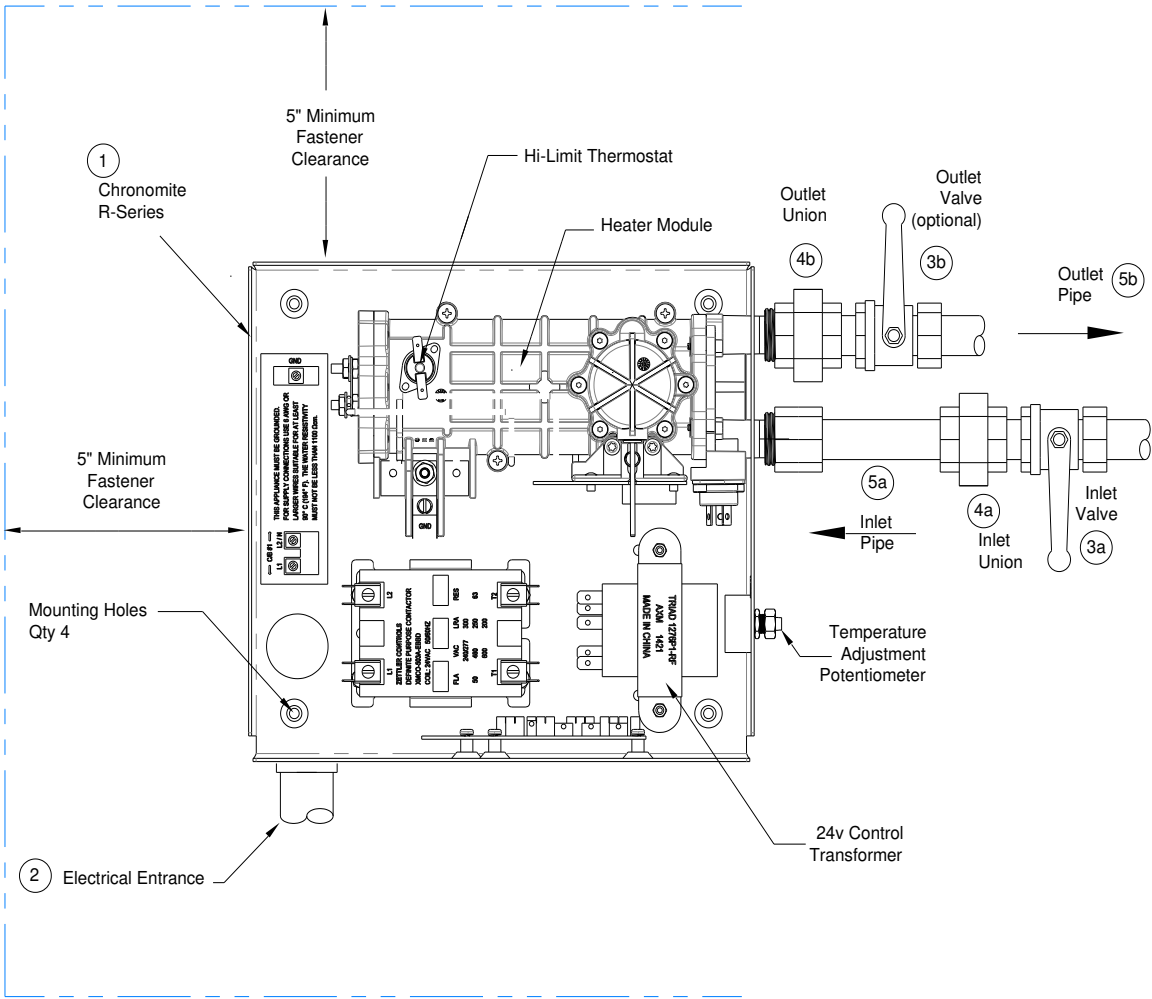


FIGURE 1 - Heater Installation

Items Needed for Installation:

Item	Part No.	Title	Qty	Description
1	R-	Chronomite MIGHTY-MITE R Series	1	See Figure 1
2		Electrical Conduit	Length as required	Enter via Top or Bottom
3a/b		Inlet / Outlet Valve – ¾" NPT	2	Outlet Valve optional
4a/b		Inlet / Outlet Union– ¾" NPT	2	
5a/b		Copper Inlet / Outlet pipe – ¾"	Length as required	
6	L-212	Faucet Flow Control / Dual Thread	6	15/16" Male, 55/64" Female L-212 for (L) Low Activation Models

Items 1 and 6 are supplied

ELECTRICAL INSTALLATION:

1. Connect power supply wires appropriately sized and protected by double pole (208-240v) or single pole (277v) circuit breakers to the input terminals on the heater (hard wired) as shown in the Figure 2 wiring diagrams below. Refer to Table 1 above on Page 1 for the voltage, amp and phase ratings of the supply power.
2. Ensure wires are connected to the respective relay terminals.
3. Ensure water inlet/outlet valves are both open.
4. Turn on circuit breaker. Turn on water flow. Carefully ensure the red LED is illuminated at each circuit board module. The unit is almost ready for use. Shut off circuit breaker.
5. Install cover. Install the (4) cover mounting screws. Turn on circuit breaker. Unit is now ready for use.
6. Local plumbing and electrical codes must be followed in this installation of water heater and the accessories. Failure to comply with code requirements voids warranty.
7. Temperature adjustment potentiometer is standard equipment on (L) Low Activation and (S) Standard Activation models.

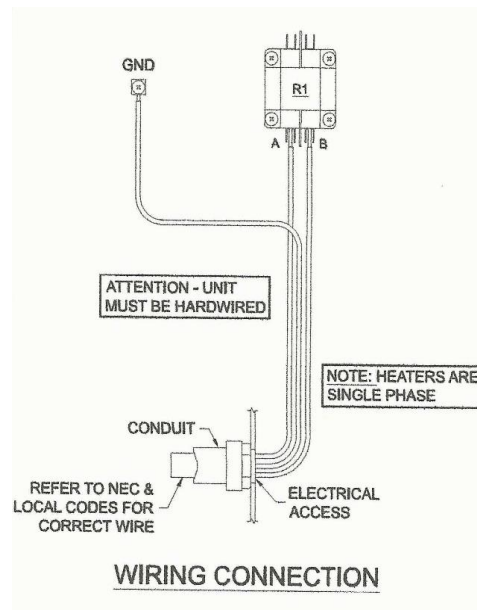
Figure 2 - Wiring Connections

208-240v Module Units

A=L1 (Black) B=L2 (Red)

277v Module Units

A=L1 (Black) B=N (Grey)



IMPORTANT NOTES: Air in the heater may cause the elements to burn out. If the water lines are serviced or drained upstream of heater, be sure to use the following start up procedure:

1. Turn off electrical supply at circuit breaker.
2. Turn on water supply.
3. Expel all air from lines and heater by cycling downstream faucet 10x.
4. Turn on electrical power supply at circuit breaker.

OPERATION INSTRUCTIONS:

- Turn the hot water faucet to activate the flow switch. See Table 2 for activation chart.
- Cold water can always be mixed when using a two handle faucet.
- The microprocessor will supply the correct amount of power (amperage and voltage) to maintain the outlet temperature at the pre-selected temperature with varying flow rates.
- Once you decrease the flow rate below the GPM activation point, the unit will deactivate.
- Periodically inspect the supply lines, connections and heater for any moisture, corrosion or other potential preventable problems.
- Prior to shutting off water valves for servicing, winterization, etc, always disconnect power from unit 1st.
- Unit is intended to heat water only, and does not provide a means of cooling if inlet temperature exceeds set point temperature of heater.

HOW THE LCH MIGHTY-MITE WORKS:

- The engineered plastic case(s) houses a series of ingeniously designed coils that instantly heats water as it flows through the vessel.
- A unique power switch automatically applies electrical current to the coils when hot water is being requested.
- The microprocessor maintains a constant output temperature at the pre-selected temperature.
- The electrical current is not applied to element when the heater is below the activation point or not in use.

FLOW CONTROLS:

You may want to install flow control(s) in your design. The high quality Omni flow controls allow the water heating system to operate more effectively. Call factory for no charge flow controls if needed.

- Low Activation Heaters – Multi Lavatory Installation: L-212 / 0.5 GPM faucet flow control(s) assures the faucet flow rate will not exceed 0.5 GPM per faucet.
- Standard Activation Heaters – Multi Fixture Installation: A-212 / 2.0 GPM faucet flow control(s) assures the faucet flow rate will not exceed 2.0 GPM per faucet.

Flow Control Models	Type	GPM
L-212	Low Flow	0.5
A-212	Standard Flow	2.0

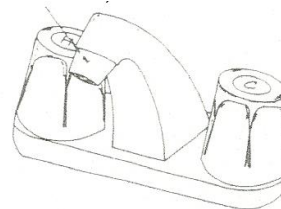
Specifications:

Material: Chrome plated, brass housing.

Threading: Model A212 and L212 have male (outside) threads for Faucets with 15/16" female threads and 55/64" male threads. (See Parts List #6)

Note: Flow controls are adaptable to other thread configurations. Please call factory if an adapter is needed.

FIGURE 3 - Flow Control Installation
Item 6



Temperature Adjustment Potentiometer - (L) and (S) Activation Models

The potentiometer allows the factory preset temperature of the heater to be changed in the field. The potentiometer will adjust water temperature between 70°F and 125°F provided the wattage of the heater selected is capable of producing the temperature increase at the requested flow rate. See Table 3 temperature chart for each model to determine the temperature range of the heater installed.

When using the potentiometer please use the following operation instructions:

To increase temperature:

- a. Loosen nut
- b. Using a screwdriver, turn screw in small increments clockwise (to the right)
- c. Once temperature of the water is acquired, tighten the nut

To decrease water temperature:

- a. Loosen nut
- b. Using a screwdriver, turn screw in small increments counter clockwise (to the left)
- c. Once temperature is acquired, tighten the nut

Temperature Adjustment - (H) Activation Models

The H model is factory preset for 84°F only and is designed for tepid water use. See Table 3 temperature chart for each model to determine the temperature range of the heater installed.

TABLE 3 – Temperature Rise Chart

Model	Wattage	1Φ Voltage	°F Temp Rise @	
			1.5 GPM	2.5 GPM
R-48x/208	10,000	208	45	27
R-48x/240	11,500	220-240	52	31
R-58x/208	12,050	208	55	33
R-63x/208	13,100	208	60	36
R-48x/277	13,300	277	61	36
R-58x/240	13,900	240	63	38
R-68x/208	14,150	208	64	39
R-63x/240	15,100	220-240	69	41
R-75x/208	15,600	208	71	43
R-58x/277	16,050	277	73	44
R-68x/240	16,300	220-240	74	45
R-63x/277	17,450	277	79	48
R-75x/240	18,000	220-240	82	49
R-68x/277	18,850	277	86	51
R-75x/277	20,750	277	95	57

Microprocessor limits temperature increase according to the pre-selected outlet temperature

x = (L)-Low Activation

(S)-Standard Activation

(H)-High Activation

TROUBLE SHOOTING GUIDE:

Your Large Capacity MIGHTY-MITE water heater has internal user serviceable parts. Contact the factory for guidance on repair or replacement. It can be also returned to the factory for repair or replacement. Please contact factory for return authorization. If after following the Installation Instructions, your LCH MIGHTY-MITE does not heat water in accordance with this literature, please check the following:

1. **Check flow rate** – Controlling flow rate is essential to insure proper temperature rise and heater activation. Check Model for activation type (L), (S), and (H) and refer to Table 2 for flow switch activation points. Relay will engage at the activation point. If relay clicks on, proceed to step 2.
 - a. At 0.35 gpm, it will take approximately 17 seconds to fill a 12 oz. cup of water.
 - b. At 0.80 gpm, it will take approximately 7 seconds to fill a 12 oz. cup of water.
2. **Check Power LED Indicator** – If the circuit board LED does not illuminate with maximum water flow, check circuit breaker.
3. **Low Power** – Make sure of your exact voltage by using a voltmeter. You should obtain your reading off the two box lug terminals on line side of each main relay. Perform this test on each corresponding relay, one at a time. This reading should be between 208-277v for each line side of relay. Compare this reading against the voltage specified in Table 1.
4. **Low Voltage** – The percentage of reduction in voltage will result in a like reduction in temperature rise. Note: 240v models when operated at 220v will have approximately a 15% wattage decrease.
5. **Low Amperage Draw** – Check amperage draw at full water flow using an Amperage probe. Please compare your results with Table 1 to determine if the heater is operating correctly.
6. **High-Limit Thermostat** – Shut off power on circuit breaker. Remove cover. Push in reset button on module. Refer to Figure 1 for location(s).
7. **Heater Element(s)** – Shut off power on all breakers. Remove cover. Measure element resistance by using an ohmmeter or multi-meter. Obtain your reading off of one termination rod with brass nut and bottom center tap on each heater module. This reading should be between 6 and 30 ohms for each element.
8. **Length of pipe** – Length of pipe run will affect time to temperature at the faucet. This LCH heater should be mounted strategically when possible to minimize pipe length to the faucet points.
9. **Check Shut-Off Valve(s)** – Check inlet and outlet valves and make sure valve is open 100% to allow full water pressure to heater. Models require a minimum of 25 PSI.
10. **Freezing** – MIGHTY-MITE heaters cannot be installed in a location subject to freezing and must be protected. Winterize if stored in a location subject to freezing. Disconnect power and the inlet/outlet fittings. Blow air through the highest fitting to assist draining. Install RV antifreeze for protection. Failure to winterize will result in freezing and cracking. Re-commission heater start up procedure on page 5.
11. **Problems?** – Call our toll-free hot line (800) 447-4962 or (626) 937-4270.

Exclusive 12-Month Warranty

Your LC MIGHTY-MITE water heater has been engineered and built to the highest quality standards and is backed by a full, factory warranty. Every LC MIGHTY-MITE water heater is guaranteed to be free from defects in material and workmanship for a period of one (1) year from the date of purchase. The above warranty applies to original purchaser if unit is installed following Chronomite Laboratories, Inc.'s Installation Instructions provided. Chronomite Laboratories, Inc. will repair or exchange parts at the factory at no cost. This warranty is limited to repairing or replacing said products which prove to be defective upon factory inspection FOB City of Industry, CA

Exclusion of coverage from this limited warranty:

1. Chronomite is not liable under this limited warranty or otherwise if the water heater has not been installed or maintained in accordance with Chronomite's printed instructions or installed with improper installation materials. In addition, the water heater or any of its component parts have been subject to misuse, neglect, alteration or accident and the water heater has not been installed in accordance with the applicable local plumbing and or building codes and/or regulations.
2. Chronomite is not liable under this warranty if the water heater has not been continuously supplied with potable water or the water inlet temperature is above Chronomite's recommended maximum temperature. In addition, water heater experiences any water pressure or flow interruptions, normal operation inlet water pressure is outside of the published specification (UPC 2009), or exposed to any condition that causes the heater to turn on before the air is purged from the heater also known as "dry fire."
3. Chronomite is not liable if the water heater has been exposed to conditions resulting from floods, earthquakes, winds, fire, freezing, lightning or circumstances beyond Chronomite's control, or has been used for other than the intended purpose.

If violation occurs from the stated exclusions of coverage from this limited warranty or thereafter; owner, and not Chronomite or its agent/representative, is liable for and shall pay for all field charges, labor, water heater, damage or other expenses incurred in the repair or replacement of the water heater.

**Chronomite Labs, Inc.
17451 Hurley Street,
City of Industry, CA 91744**

Toll Free Technical Hotline: (800) 447-4962 Telephone: (626) 937-4270 Fax: (626)937-4279

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