

# SPEAKMAN COMPANY

## SE-690 Installation, Operation, and Maintenance Instructions SAFE-T-ZONE® EMERGENCY SHOWER AND EYE/FACE WASH

### DESCRIPTION

Floor mounted emergency deluge shower and non-aerated eye/face wash combination unit. Shower is supplied with a 1" NPTF stay-open full flow ball valve, activated by triangular pull handle. Eye/face wash is supplied with 1/2" NPTF stay-open full flow ball valve, activated by push handle.

### SPECIFICATIONS

SHOWER HEAD: 8" Dia. CYCOLAC® Yellow Plastic.

FLOW CONTROL: Internal 20 gpm Regulator.

VALVE: 1" NPT Female Brass, Chrome-Plated. Full Flow Stay-Open Ball Valve.

ACTIVATOR: Powder Coated Yellow, Aluminum Triangular Pull Rod.

STANCHION: 1-1/4" IPS Steel Piping with Brass Fittings.

INLET & WASTE: 1-1/4" NPT Female.

FLOOR FLANGE: Galvanized Steel Casting with (3) 17/32" Dia. Mtg. Holes on 9" Dia. Bolt Circle, Spaced 120° apart.

EYE/FACE WASH: SE-490 Non-Aerated Eye/Face Wash

EMERGENCY SIGN: 7-7/8" x 12" Plastic Wall Graphic Sign

SHIPPING WEIGHT: 46 lb.

### Assembly Instructions

When assembling, be sure to **use thread sealant/locker on all threaded connections**, and wrench-tighten all threaded connections. Note, proper drying or curing of the thread-locker should be allowed on the threaded connections so that properly oriented parts that have already been assembled are not moved during the assembly of the component that follow. A wrench or pipe nipple can be used for reverse leverage to help eliminate the movement of the earlier assembled parts. When assembling plastic deluge shower head (SE-870) use sealant compatible with ABS plastic. To assure proper location and alignment of inlets, outlets, etc. The best method to assemble this unit is to follow instructions below while referencing parts diagram.

#### *Required Tools:*

Pipe Thread Sealant / Locker

Adjustable Wrench (Large and Small)

(3) Suitable Anchors for mounting unit to floor

Pipe Wrench or Strap Wrench for 1-1/4" & 1" Pipe.

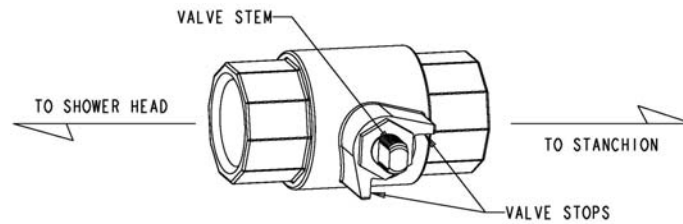
Phillips Head Screw Driver

Vise (Optional)

#### Assemble vertical stanchion portion

1. At desired location, mount floor flange (Item #2) on flat surface using suitable anchors, making sure that one of the three "ears" on the floor flange is positioned at what will be the front of the unit (see "Floor Flange Detail" on page #6). The unit should be placed so that there is sufficient unobstructed area around the unit.
2. Assemble the male end of the 1-1/4" plugged tee (item #3) into the floor flange and wrench tighten, making sure that 1-1/4" side outlet female thread is oriented so it would be facing what will be the back of the unit.
3. Assemble 1-1/4" x 16-1/2" lg. pipe (item #4) into top of plugged tee.
4. Assemble 1-1/4" tee (item #5) to 1-1/4" x 16-1/2" lg. pipe, making sure it is aligned so the side outlet of the tee faces the front of the unit.
5. Assemble 1" close nipple (item #6) to top of 1-1/4" tee, being careful not to damage threads.
6. (IMPORTANT) Assemble "blocked port" end of 1-1/4" x 1-1/4" x 1/2" blocked tee (item #9) to 1-1/4" close nipple, making sure to configure so that the 1/2" male port on blocked tee is resting at approximately a 45° angle from the front right-side of unit.

7. Assemble the "short" leg of the 1-1/4" bent drain pipe (item #7) to the side outlet port of the 1-1/4" tee so opposite end is in the upward position.
8. Assemble bowl mounting spud (item #8) to opposite end of bent drain pipe.
9. Assemble 1-1/4" x 34" lg. pipe (item #10) into top of 1-1/4" x 1-1/4" x 1/2" blocked tee.
10. Assemble 1-1/4" tee (item #5) to 1-1/4" x 34" lg. pipe, making sure it is aligned so the side outlet of the tee faces towards the back of the unit.
11. Assemble 1-1/4" x 24-1/4" lg. pipe (item #11) into 1-1/4" tee.
12. Assemble 1-1/4" x 1" elbow (item #12) to 1-1/4" x 24-1/4" lg. pipe, making sure that the 1" male thread on the elbow is facing towards the front of the unit.
13. Assemble the 1" x 6" lg. pipe (item #13) to the 1-1/4" x 1" elbow.
14. (IMPORTANT) With ball valve stops located as shown below, assemble 1" ball valve (item #14) to the 1" x 6" lg. pipe making sure that when fully tightened the ball valve stem & stops are oriented on right side of unit.



15. Assemble 20 gpm flow control (item #15) in end of 1" x 14" lg. pipe making sure it is properly seated and fully inserted.  
**Note:** If you have selected the 30GPM option disregard step #15 and follow the assembly instructions supplied with the 30GPM flow regulator option group now.
16. Assemble 1" x 14" lg. pipe end with 20 gpm flow control into the 1" ball valve.
17. Assemble 1" street elbow (item #17) to 1" x 14" lg. pipe, making sure it is aligned so that the male thread is facing downwards.
18. Assemble 8" (plastic, stainless steel, or brass) deluge shower head (item #18) to 1" street elbow, making sure not to over tighten.
19. Assemble the "short" leg of the 1-1/4" bent drain pipe (item #7) to the side outlet port of the 1-1/4" drain tee, making sure the opposite end is in the upwards position.
20. Assemble the bowl mounting spud (item #8) to the 1-1/4" bent drain pipe.  
**Note:** If you have selected the FLW (Flow Switch) option follow the assembly instructions supplied with this option now. This includes connecting the electrical supply.

#### Eye/Face Wash Sub-Assembly

21. Assemble  $\varnothing$ 1-7/16" brass washer (item #1B) onto bullhorn horn assembly (item #1A), making sure it seats properly on bullhorn.
22. Assemble  $\varnothing$ 1-1/4" black rubber washer (item #1C) onto bullhorn assembly making sure it seats properly against the  $\varnothing$ 1-7/16" brass washer. Set this sub-assembly aside.
23. In proper sequential order, securely hold in one hand the ball valve & pipe sub-assembly (item #1G),  $\varnothing$ 1-7/16 brass washer (item #1B), steel internal-tooth washer (item #1F), and the PVC bowl bracket (item #1E) making sure that the slot in the PVC bracket is oriented on the right side (or the same side as the 1/2" ball valve) so the S-pipe (item #1G) is aligned inside the slot in the PVC bracket (item #1E), and so that the large hole is positioned at the back of the bracket.
24. And with free finger on same hand align round S/S bowl (item #1D) on PVC bracket so small & large holes in the PVC bracket and S/S bowl align, and hold tight.
25. Insert male thread of bullhorn sub-assembly thru small (front) hole in S/S bowl and PVC bracket, and screw into the S-pipe & ball valve sub-assembly (item #1G), again making sure S-pipe (item #1G) is aligned inside the slot in PVC bracket.
26. Insert the strainer drain (item #1H) thru the drain (large) hole on the S/S bowl (item #1D) & PVC bracket (item #1E).
27. From the underside of the PVC bracket, slide both the  $\varnothing$ 2-3/4" brass washer (item #1I) and rubber drain washer (item #1J) onto the male threads of the strainer drain (item #1H).

## Final Assembly

28. Assemble the eye/face wash sub-assembly to the stanchion by aligning the strainer drain (item #1H) and the bowl mounting spud (item #8), and using the supplied 7/16" hex drive tool to tighten. (IMPORTANT) When fully secured the eye/face wash should be level for proper spray pattern performance, and to eliminate any undesirable spillage of draining water, and the 1/2" ball valve should rest on the right-side of the unit.  
**Note:** If you have selected the FPV and/or SPV option follow the assembly instructions supplied with this option now.
29. Assemble 1/2" stainless steel braided hose to 1/2" ball valve (item #1G), and then the opposite end to the 1/2" male thread of the supply tee (item #9).
30. Assemble paddle handle (item #1K) to 1/2" ball valve (item #1G) stem using 3/8"-24 hex nut (item #1L), making sure to orient so that tab on paddle handle rests between the stops on the ball valve. Note, this allows proper 90° rotation of the ball valve from the on & off positions.  
**Note:** If you have selected the HFO option follow the assembly instructions supplied with this option now.
31. Through the small round hole, on the opposite side of the spring loaded plunger, on the lever handle (item #19), insert the 1/4"-20 x 5/8" lg. screw (item #21), and fasten with the 1/4"-20 hex nut (item #20).
32. Assemble lever handle sub-assembly (items #19, #20, #21) to ball valve (item #14) stem, making sure to orient male threads of 1/4"-20 screw so that it rests between the stops on the ball valve. Note, this allows proper 90° rotation of ball valve from the on & off positions.
33. Assemble (aluminum or stainless steel) pull rod (item #23) by inserting tip of lever handle (item #19) through slot on pull rod, aligning the holes on pull rod and lever handle, and insert 5/16" diameter clevis completely through holes. Insert 3/32" cotter pin (item #25) through small hole of clevis pin (item #24). Bend end of cotter pin so it does not fall out.
34. Connect an uninterruptable potable water supply to the 1-1/4" supply inlet (item #5) with a minimum flowing pressure of 30psi and a maximum static pressure of 100psi. Failure to use potable water can result in emergency units producing impure or contaminated water causing possible further injury.
35. Connect an adequate drain that is in compliance with all local plumbing codes to the 1-1/4" drain (item #3).
36. Turn water supply on and check all pressurized connections for leaks.
37. Test the unit by operating both the shower and the eye/face wash.

## Options

◇ AL1 (Air Horn Alarm)	◇ HS (Hand-held Spray)	◇ SSBV1 (1" Stainless Steel Valve)
◇ AL2 (Electrical Alarm)	◇ PC (Polished Chrome Shower Head)	◇ SSBV2 (1/2" Stainless Steel Valve)
◇ AL3 (Electrical Alarm)	◇ BH (Brass Shower Head)	◇ TS (Top Supply)
◇ AL2-C1D2 (Electrical Alarm / Haz. Area)	◇ SSH (Stainless Steel Shower Head)	◇ VPL (Vapor Proof Light)
◇ AL3-C1D2 (Electrical Alarm / Haz. Area)	◇ FPV (Anti-Freeze Protection Valve)	◇ HFO (Hand & Foot Operation)
◇ XPR (Extended Pull Rod)	◇ SGN6 (Combination Floor Sign)	◇
◇ FLW (Flow Switch)	◇ SPV (Anti-Scald Protection Valve)	◇

## Flow Data

### Shower

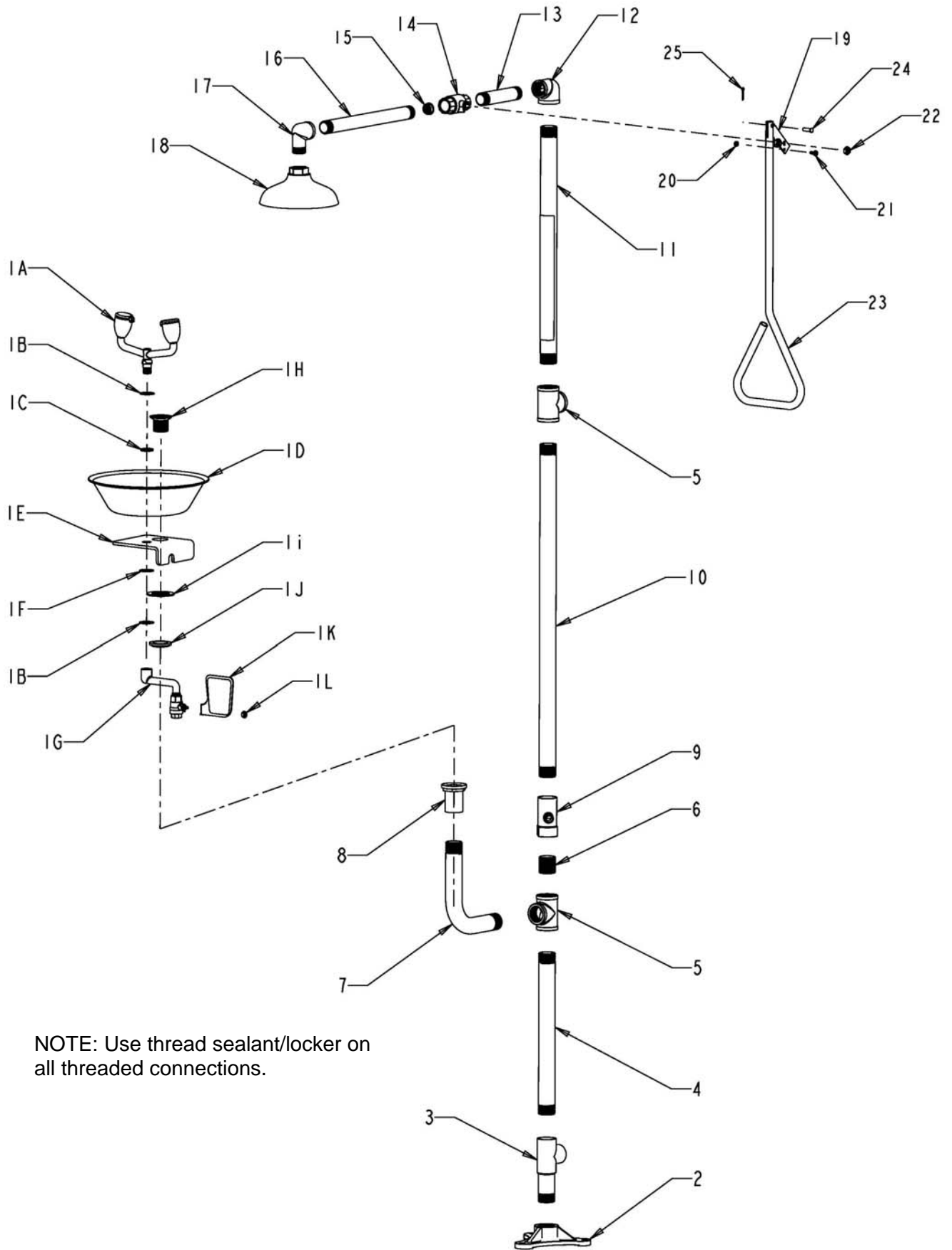
FLOW PRESSURE PSI (BAR)	30 (2.07)	60 (4.14)
FLOW RATE GPM (LPM)	20 (75)	25 (94)

### Eye/Face Wash

FLOW PRESSURE PSI (BAR)	30 (2.07)
FLOW RATE GPM (LPM)	4.5 (17)

Note: All units meet existing ANSI Z358.1 Standards and OSHA Rules. Product improvements may cause specification and dimensional changes without notice.

**Parts Diagram**



NOTE: Use thread sealant/locker on all threaded connections.

## Bill of Material

Item No.	Qty. Per	Description
1A	1	Non-Aerated Bull Horn Spray Head Assembly
1B	2	1-7/16" x 7/8" x 1/16" Brass Flat Washer
1C	1	1-1/4" x 13/16" x 1/8" Flat Black Rubber Washer
1D	1	Round Stainless Steel or Round Plastic Bowl
1E	1	Square PVC Bowl Bracket with Slot
1F	1	1-7/16" x 15-16" x 1/16" Steel Internal Tooth Washer
1G	1	½" Chrome Plated Ball Valve & S-Pipe Sub-Assembly
1H	1	Strainer Drain
1I	1	2-3/4" x 1-3/4" x 1/8" Flat Brass Washer
1J	1	1-1/2" Rubber Drain Washer
1K	1	Paddle Handle & Decal Sub-Assembly
1L	1	3/8"-24 Brass Hex Nut for ½" Ball Valve
n/s	1	½" ID Stainless Steel Braided Flex Hose
2	1	1-1/4" Galvanized Floor Flange
3	1	1-1/4" Galvanized Plugged Tee / Nipple
4	1	1-1/4" x 16-1/2" Lg. Galvanized Pipe
5	2	1-1/4" Galvanized tee
6	1	1-1/4" Galvanized Close Nipple
7	1	1-1/4" One-Piece Drain Pipe
8	1	Bowl Mounting Spud
9	1	1-1/4" x 1-1/4" x ½" Male Blocked Tee
10	1	1-1/4" x 34" Lg. Galvanized Pipe
11	1	1-1/4" x 24-1/4" Lg. Galvanized Pipe
12	1	1-1/4" x 1" Galvanized Elbow
13	1	1" x 6" Lg. Galvanized Pipe
14	1	1" Chrome Plated Brass Ball Valve
15	1	20 gpm Flow Control
16	1	1" x 14" Lg. Galvanized Pipe
17	1	1" Galvanized Street Elbow
18	1	8" Deluge Plastic Shower Head
19	1	Lever Handle with Detent for 1" Ball Valve
20	1	¼"-20 Stainless Steel Hex Nut
21	1	¼"-20 x 5/8" Lg. Stainless Steel Machine Screw
22	1	3/8"-20 Hex Nut for 1" Ball Valve
23	1	¾" Dia. Aluminum Pull Rod
24	1	5/16" Dia. Stainless Steel Clevis Pin
25	1	3/32" Dia. Stainless Steel Cotter Pin
n/s	1	½" Stainless Steel Braided Hose
n/s	1	7/16" Hex Driver (for eyewash drain)

## Shower & Eye/Face Wash Operation

The *shower* is activated by pulling the triangle pull handle. Once the valve is activated the head will continue to discharge water until the valve is manually closed. This is done by pushing up the pull handle to the off position.

The *eye/face wash* is activated by pushing the push handle back 90°. The unit will operate until the push handle is manually pulled back up to the off position.

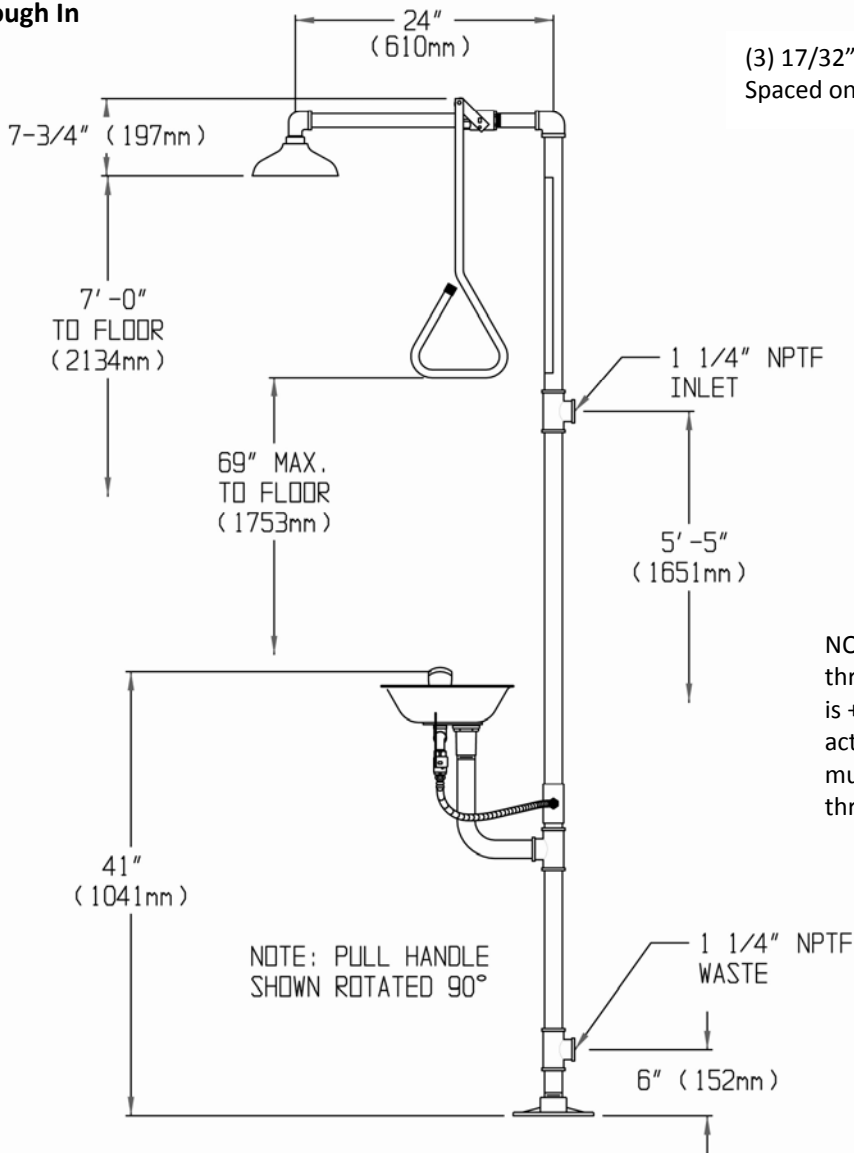
## Testing Program

The American National Standards Institute (ANSI) states that all safety emergency equipment shall be activated on a weekly basis to flush the line and verify proper operation. Speakman Company furnishes a testing record tag (91-0635) with each unit. On this tag the date of inspection and the inspector's initials should be noted.

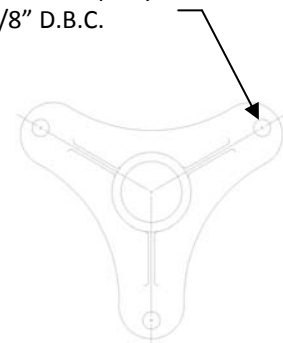
## Maintenance

Should you need parts to repair this unit, please reference to the parts listing for correct repair part number. Before any maintenance is done be sure to shut the water supply off. (WARNING) Use only genuine Speakman parts when repairing or replacing components. To order parts call 1-800-537-2107.

## Rough In



(3) 17/32" Dia. Holes Equally Spaced on 7-7/8" D.B.C.



Front of Unit  
FLOOR FLANGE DETAIL

NOTE: All dimensions assume nominal thread engagement. Industry standard is +/- 1/8" per pipe thread. To find actual tolerance of a dimension multiply 1/8" (3mm) by number of threaded joints within dimension.

**SPEAKMAN®**

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