

# DEMA BLEND SAFE

## MODEL: 662-639AG



### INSTALLATION INSTRUCTIONS

#### 1. PARTS:

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>A. Blend Safe.</li> <li>B. 5 pc. 1/4" ID x 28" Lg. Vinyl Supply Tubing, Foot Valve &amp; Ceramic Weight.</li> <li>C. 1 pc. Keys.</li> <li>D. 10 pcs. #8 Pan Head Mounting Screws &amp; Anchors.</li> </ul> | <ul style="list-style-type: none"> <li>E. 1 pc. Label Card.</li> <li>F. 1 pc. Drip Tray.</li> <li>G. 1 pc. Metering Tip Kit.</li> <li>H. 1 pc. Outlet Tubing 9/16ID x 6'Lg.</li> <li>I. 1 pc. Outlet Tubing Hanger</li> </ul> |
|---|---|

#### 2. INSTALLATION: (Refer to Figure 1)

**Note: Pressure indicating tee is to be installed with existing faucets according to local plumbing codes in the state of Wisconsin and any other state that requires the use of a pressure indicating tee.**

|   |   |
|---|---|
| This product is designed only to be used as described in this instruction sheet. Adhere to all warnings and cautions identified in this document. |   |
|    | <p><b>WARNING:</b> Installations must conform to all local and national plumbing codes and use approved backflow prevention and pressure relief devices where required.</p> <p><b>ALWAYS DISCONNECT DISPENSER FROM WATER SOURCE WHEN DISPENSER IS NOT IN USE.</b></p> |
|    | <p>Always read SDS for all chemicals used and follow personal protective guidelines.</p>  |

#### A. MOUNTING AND WATER SUPPLY:

Use the mounting template enclosed to locate the mounting screw positions. Install the mounting screws, leaving approximately 1/8" extension between the wall and screw head. Mount the Blend Safe by inserting the screw heads through the keyhole slots in the base and tightening the screws (See Figure 1).

The water inlet is equipped with a female garden hose fitting (with strainer washer) for attaching a water supply hose. The water inlet may be removed to permit direct connection to a 3/8" NPT pipe. The unit is designed so water can be supplied to either side by inter-changing the pipe plug with the pipe and female hose fitting. **Note: Apply pipe dope, hand-tighten, and then turn 1-1/2 times with a wrench. DO NOT OVER TIGHTEN.**

#### B. PRESSURE INDICATING TEE INSTALLATION:

Screw female quick disconnect to faucet and attach pressure indicating tee to female quick disconnect. Attach female end of reinforced hose to male threads of tee, then attach the male end to the female garden hose fitting at the water inlet of the Blend Center (See Figure 4). Water supply should not exceed 125 psi and water temperature must not exceed 160°F.

#### C. CHEMICAL INJECTION ADJUSTMENT:

**WARNING: USE CARE WHEN HANDLING HAZARDOUS CHEMICALS.**

Chemical feed rates are controlled by metering tips screwed into the selector valve barbs and the 4 GPM proportioner barb. Select a tip for each barb using Table 1 or 2 as a guide.

**1 cps (centipoise) is equal to the viscosity of water, 75 cps is approximately equal to the viscosity of 10 weight motor oil, and 200 cps is approximately equal to the viscosity of most dishwashing detergents**

**Note: Special metering tips (#44-61P) are available for leaner dilutions than shown in tables**

#### D. CHEMICAL SUPPLY:

Remove Blend Safe Top cover. Slip a ceramic weight over a chemical supply tube. Install the tubing by pushing tubing over a barb on the selector valve. Place the chemical container inside the case. Run the tubing through the holes in the back of the Blend Safe and insert the ends of the tubing with the foot valve into the chemical container (See Figure 1). Repeat for each chemical supply tube on the selector. Install the chemical supply tubing for the 4 GPM proportioner by pushing the tubing over the barb located on the front of the proportioner. Insert the tubing, foot valve end first, into the appropriate chemical container. Gummed labels are provided for labeling the chemical's dial position with the corresponding chemical.

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E. DRIP TRAY:

The Drip Tray is installed by simply inserting the tabs in the back of the tray into the slots in the door of the case. Push tray down to secure in place. Two-sided tape or Velcro (not included) may be used to secure drip tray to door.

F. OUTLET TUBING:

Attach one end of the 9/16 ID tubing to the 4 GPM proportioner outlet barb and run the other end through the hole located at the bottom of the case. Attach tubing hanger to end of tubing, to hang up when not in use.

**TABLE 1  
(4 GPM FLOW RATE PROPORTIONER)**

| Metering Tip Color | Injection Rates For Viscosities Shown |       |        |       |         |       |
|--------------------|---------------------------------------|-------|--------|-------|---------|-------|
|                    | 1 cps                                 |       | 75 cps |       | 200 cps |       |
|                    | Oz/Gal                                | Ratio | Oz/Gal | Ratio | Oz/Gal  | Ratio |
| Tan                | 0.30                                  | 427-1 | 0.20   | 640-1 | 0.15    | 853-1 |
| Orange             | 0.40                                  | 320-1 | 0.30   | 427-1 | 0.25    | 512-1 |
| Turquoise          | 0.60                                  | 213-1 | 0.40   | 320-1 | 0.30    | 427-1 |
| Pink               | 0.80                                  | 160-1 | 0.50   | 256-1 | 0.40    | 320-1 |
| Light Blue*        | 1.00                                  | 128-1 | 0.70   | 183-1 | 0.45    | 284-1 |
| Brown              | 1.20                                  | 107-1 | 0.80   | 160-1 | 0.50    | 256-1 |
| Red                | 1.50                                  | 85-1  | 0.90   | 142-1 | 0.60    | 213-1 |
| White              | 1.85                                  | 69-1  | 1.10   | 116-1 | 0.70    | 183-1 |
| Green              | 2.00                                  | 64-1  | 1.25   | 102-1 | 0.80    | 160-1 |
| Blue               | 2.50                                  | 51-1  | 1.50   | 85-1  | 0.82    | 156-1 |
| Yellow             | 4.00                                  | 32-1  | 1.85   | 69-1  | 0.90    | 142-1 |
| Black              | 5.50                                  | 23-1  | 2.00   | 64-1  | 0.94    | 136-1 |
| Purple             | 8.80                                  | 15-1  | 2.40   | 53-1  | 0.96    | 133-1 |
| Gray               | 11.65                                 | 11-1  | 2.50   | 51-1  | 1.00    | 128-1 |
| No Tip             | 16.20                                 | 8-1   | 3.00   | 43-1  | 1.20    | 107-1 |

\* Metering tip color was formerly clear.

Note: All induction rates are base on a water pressure of 40 psi.

Leaner dilutions can be achieved by ordering DEMA ultra lean metering tip kit 100-15KU.

**TABLE 2  
(1 GPM FLOW RATE PROPORTIONER)**

| Metering Tip Color | Injection Rates For Viscosities Shown |       |        |       |         |       |
|--------------------|---------------------------------------|-------|--------|-------|---------|-------|
|                    | 1 cps                                 |       | 75 cps |       | 200 cps |       |
|                    | Oz/Gal                                | Ratio | Oz/Gal | Ratio | Oz/Gal  | Ratio |
| Tan                | 1.25                                  | 102-1 | 0.90   | 142-1 | 0.60    | 213-1 |
| Orange             | 1.70                                  | 75-1  | 1.20   | 107-1 | 0.80    | 160-1 |
| Turquoise          | 2.15                                  | 60-1  | 1.55   | 83-1  | 1.10    | 116-1 |
| Pink               | 3.00                                  | 43-1  | 2.00   | 64-1  | 1.50    | 85-1  |
| Light Blue*        | 3.90                                  | 33-1  | 2.75   | 47-1  | 1.80    | 71-1  |
| Brown              | 4.55                                  | 28-1  | 3.00   | 43-1  | 2.00    | 64-1  |
| Red                | 5.80                                  | 22-1  | 3.60   | 36-1  | 2.30    | 56-1  |
| White              | 7.00                                  | 18-1  | 4.45   | 29-1  | 2.70    | 47-1  |
| Green              | 7.90                                  | 16-1  | 5.00   | 26-1  | 3.00    | 43-1  |
| Blue               | 9.80                                  | 13-1  | 5.75   | 22-1  | 3.30    | 39-1  |
| Yellow             | 14.80                                 | 9-1   | 7.35   | 17-1  | 3.55    | 36-1  |
| Black              | 20.15                                 | 6-1   | 8.50   | 15-1  | 3.70    | 35-1  |
| Purple             | 27.80                                 | 5-1   | 9.80   | 13-1  | 3.80    | 34-1  |
| Gray               | 31.60                                 | 4-1   | 10.50  | 12-1  | 3.90    | 33-1  |
| No Tip             | 35.70                                 | 3.6-1 | 11.80  | 11-1  | 4.50    | 28-1  |

\* Metering tip color was formerly clear.

Note: All induction rates are base on a water pressure of 40 psi.

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#### 3. OPERATION

The Blend Safe is now ready for use. Depressing a push button opens, or lifting a bottle lever (select models only), the valve allowing water to flow through the chemical proportioner that mixes a chemical water solution at the desired rate. The buttons are spring loaded to prevent accidental overflow if unattended, but may be converted to locking buttons by cutting off the tab at the notch (See Figure 2). Pushing the button and turning it a 1/4 turn clockwise at the end of its travel allows the valve to lock on. This makes it unnecessary for the attendant to hold the button while filling large containers. Turning the button in a counter clockwise direction will release it, allowing the valve to shut off. **NOTE: Models with bottle lever doesn't allow push button to lock on.**

#### 4. SERVICING

**Caution: Turn off water supply before servicing.**

A. Proportioner fails to draw chemical:

Insufficient water supply pressure. 20 PSI is the minimum allowable pressure.

B. Proportioner stops drawing chemical:

- 1) Inspect foot valve for dried chemical or dirt. Soak in hot water to clean.
- 2) Proportioner metering tip clogged with dried chemical. Remove tip and try injecting in hot water. If there is no suction, remove proportioner and soak in hot water to clear interior passages.
- 3) Inspect air gap proportioner to ensure that there are no mineral deposit build-ups on top nozzle or inlet screen. If so, remove and clean or replace.

C. Valve Malfunction:

Check that the button moves freely in & out, bottle lever moves up and down freely (select models only) and that a "click" can be heard when the button is pushed and released, indicating that the magnet is activating the plunger properly. Remove cover. To inspect internal parts, unscrew magnet housing and carefully pull off the enclosing tube so as not to drop the plunger, kick-off spring, and spacer. Check for dirt or damage impeding plunger and kick-off spring movement. Inspect the diaphragm, making sure the two small pinholes (bleed hole) in the diaphragm convolution are clear to allow the valve to close.

**Caution: When servicing unit, be sure that replacement parts have been installed according to drawing.**

**NOTE: THE MAXIMUM TEMPERATURE ALLOWABLE IS 150° F (65° C). THE MAXIMUM PRESSURE ALLOWABLE IS 150 PSI (10 BAR).**

**RETURNS: NO MERCHANDISE MAY BE RETURNED FOR CREDIT WITHOUT DEMA'S WRITTEN PERMISSION. RETURN MERCHANDISE AUTHORIZATION NUMBER REQUIRED IN ADVANCE OF RETURN.**

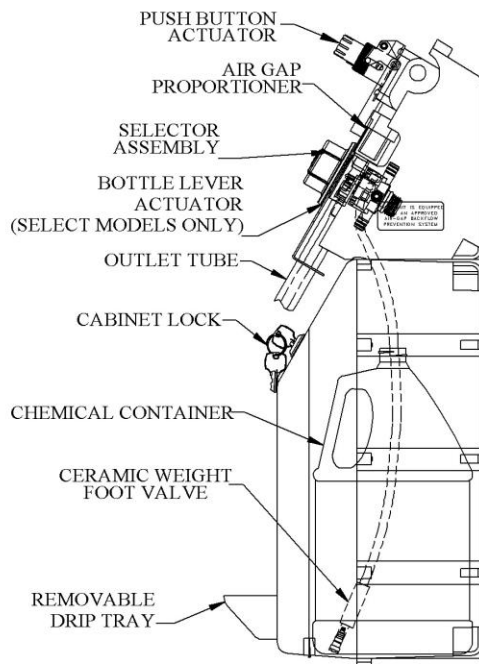
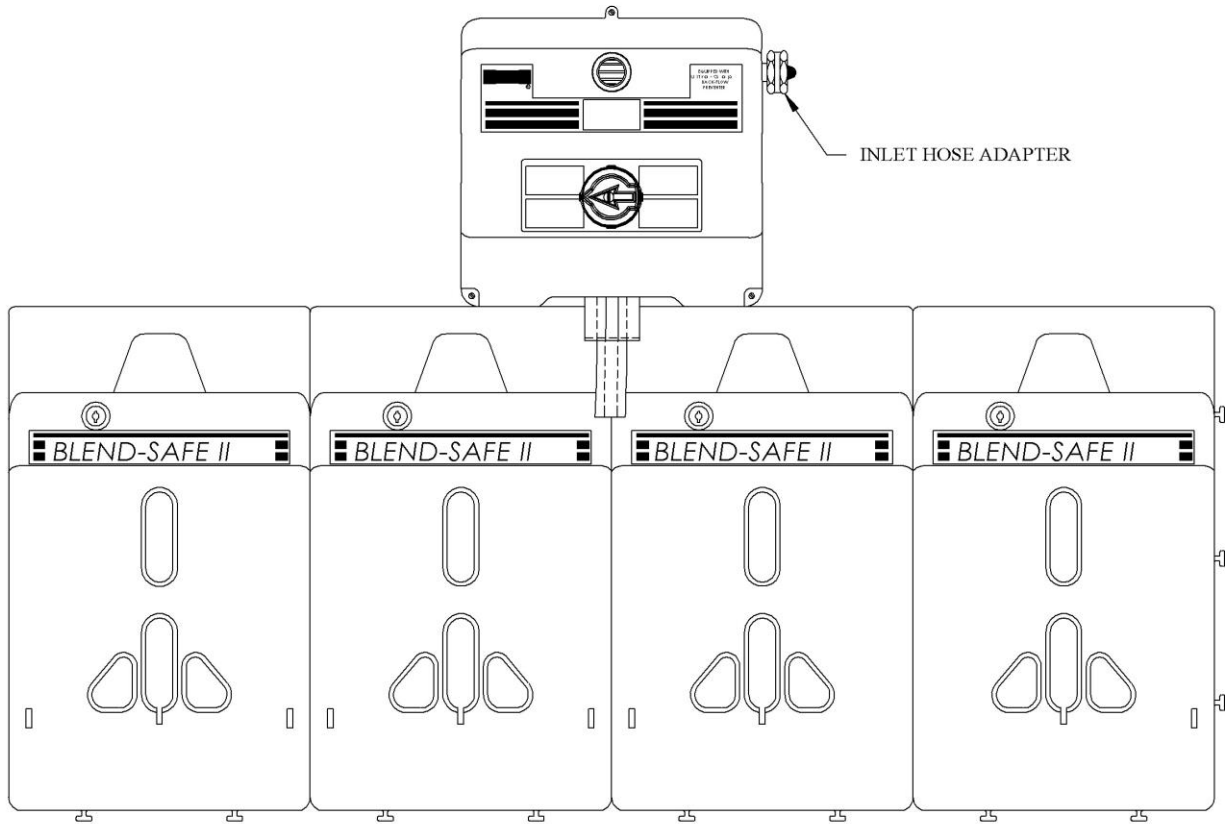
**WARRANTY:** DEMA products are warranted against defective material and workmanship under normal use and service for one year from the date of manufacture. This limited warranty does not apply to any products which have a normal life shorter than one year or failure and damage caused by chemicals, corrosion, improper voltage supply, physical abuse, or misapplication. Rubber and synthetic rubber parts such as "O"-rings, diaphragms, squeeze tubing and gaskets are considered expendable and are not covered under warranty. This warranty is extended only to the original buyer of DEMA products. If products are altered or repaired without prior approval of DEMA, this warranty will be void.

Defective units or parts should be returned to the factory with transportation prepaid. If inspection shows them to be defective, they will be repaired or replaced without charge, F.O.B. factory. DEMA assumes no liability for damages. Return merchandise authorization number, to return units for repair or replacement, must be granted in advance of return.

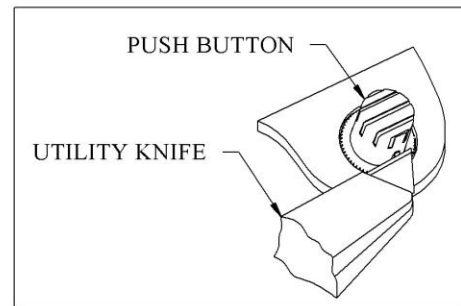
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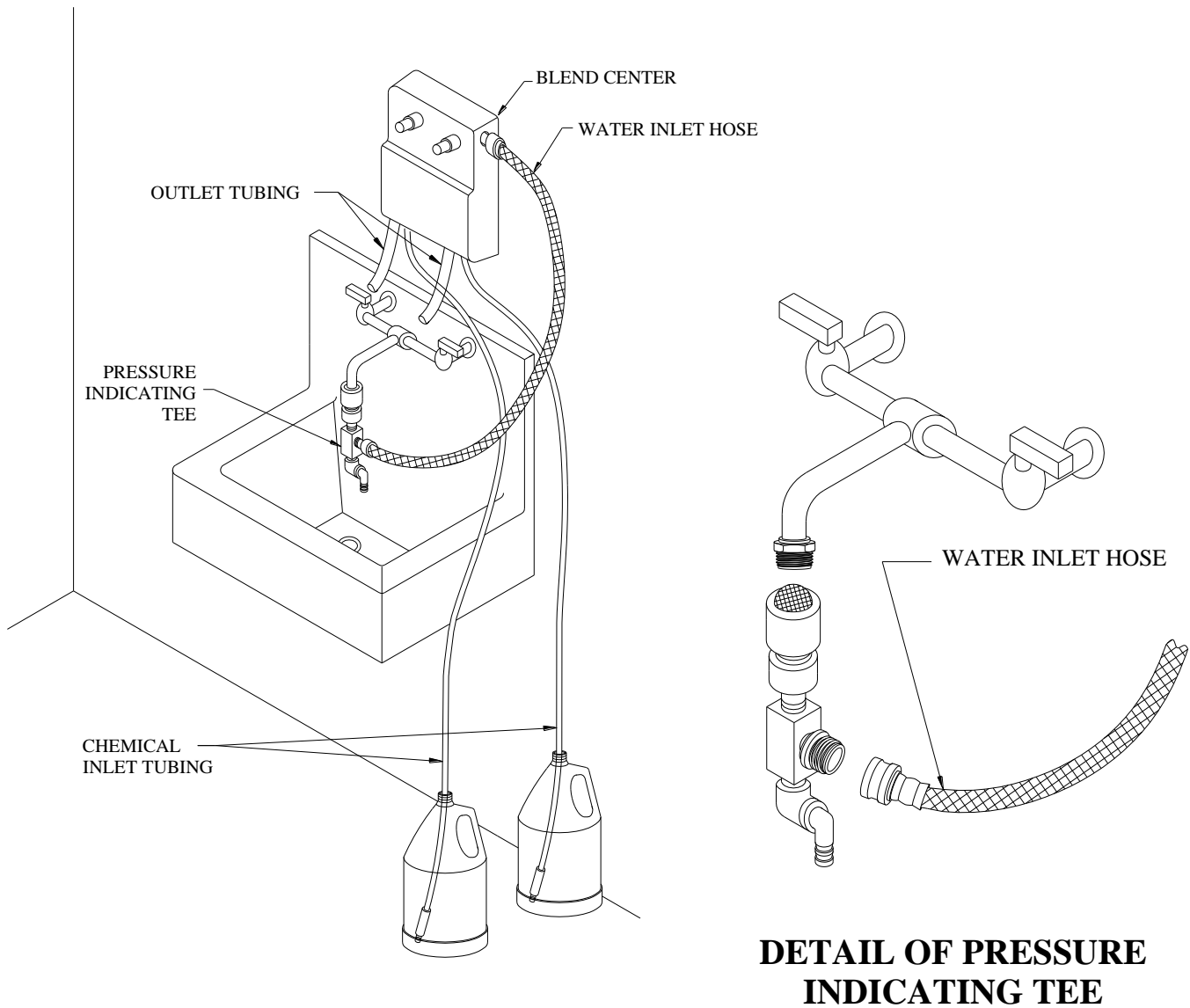
**FIGURE 1**



**FIGURE 2**

**DEMA BLEND SAFE**  
**MODEL: 662-639AG**  
INSTALLATION INSTRUCTIONS

**PRESSURE INDICATING TEE INSTALLATION**

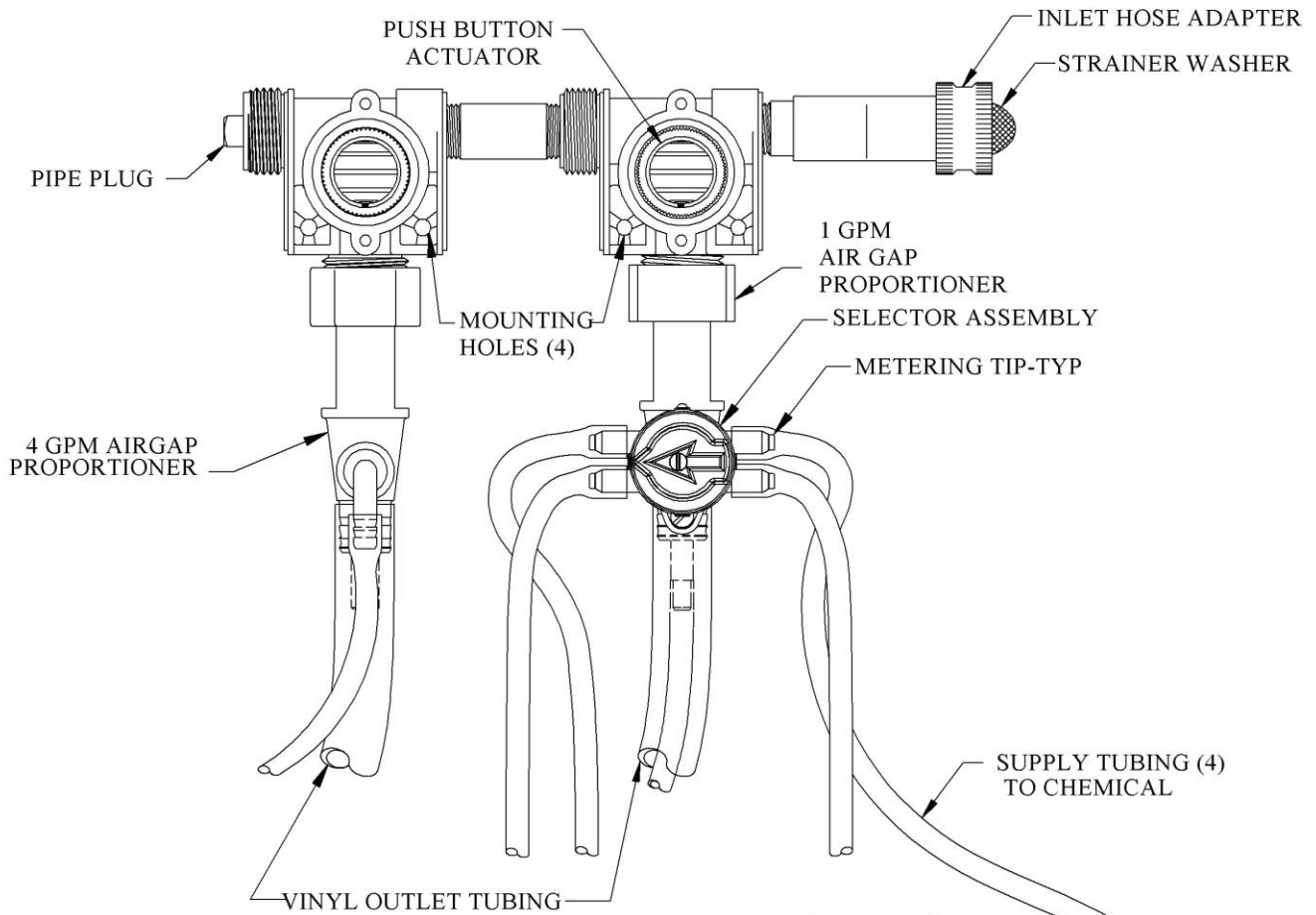


**FIGURE 4**

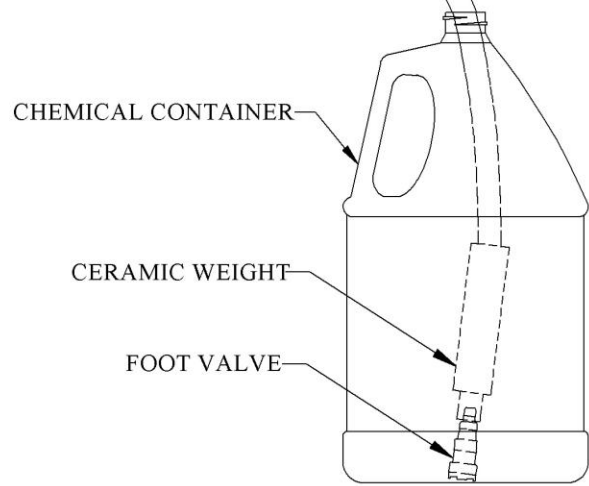
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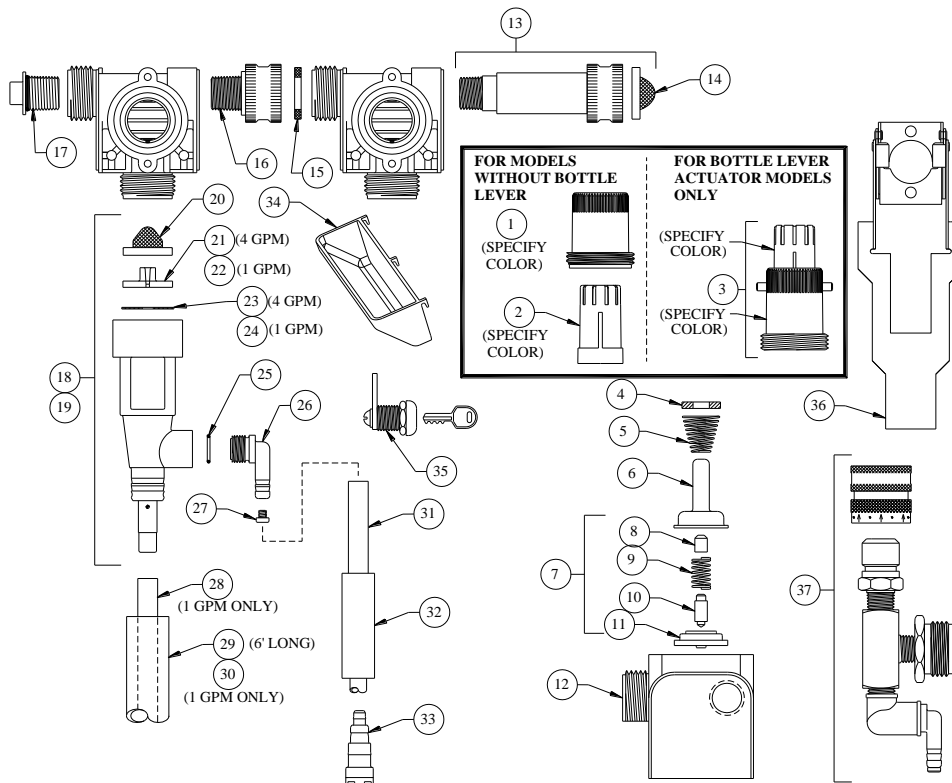
### INSTALLATION INSTRUCTIONS



**FIGURE 3**



# DEMA BLEND SAFE



| NO. | PART NO.    | DESCRIPTION                    | NO.                | PART NO.        | DESCRIPTION                              |
|-----|-------------|--------------------------------|--------------------|-----------------|--|
| 1   | 66-139      | Magnet Housing (Specify Color) | 22                 | 63-74-2         | Nozzle (1GPM)                            |
| 2   | 66-140      | Push Button (Specify Color)    | 23                 | 63-76           | Screen (4 GPM)                           |
| 3   | 66-333-OH   | Push Button Kit                | 24                 | 63-77           | Screen (1 GPM)                           |
| 4   | 63-35       | Magnet                         | 25                 | 63-78           | O-Ring                                   |
| 5   | 63-36       | Spring                         | 26                 | 63-79           | Inlet Barb (1/4" Barb)                   |
| 6   | 41-7-25     | Enclosing Tube                 | 27                 | 100-15K         | Metering Tip Kit (14 Sizes)              |
| 7   | 63-87       | Valve Repair Kit               | 28                 | 63-82           | Outlet Tube 1/4" ID X 7" (1 GPM Only)    |
| 8   | 63-37       | Spacer                         | 29                 | 63-83           | Vinyl Tubing 9/16" ID X 6' (4 GPM Only)  |
| 9   | 41-1-8      | Plunger                        | 30                 | 66-113          | Outlet Tube 9/16" ID X 6.5" (1 GPM Only) |
| 10  | 63-38       | Kick-Off Spring                | 31                 | 66-28           | Vinyl Tubing                             |
| 11  | 41-15-10    | Diaphragm                      | 32                 | 61-107-2        | Ceramic Weight                           |
| 12  | 63-39       | Valve Body                     | 33                 | 100-11P         | Foot Valve                               |
| 13  | 100-38      | Strainer Washer                | 34                 | 66-64           | Drip Tray (1 GPM Station Only)           |
| 14  | 63-32-2     | Inlet Adapter Kit              | 35                 | 66-21           | Cabinet Lock                             |
| 15  | 150-6       | Rubber Washer                  | 36                 | 63-159          | Bottle Lever                             |
| 16  | 63-32       | Inlet Adapter Kit              | 37                 | 163AG           | 4 GPM Air Gap Proportioner               |
| 17  | 66-153      | Pipe Plug & O-Ring Assy.       | 38                 | 164AG           | 1 GPM Air Gap Proportioner               |
| 18  | 61-22-BAG-1 | 4 GPM (1/4" Barb) Proportioner | <b>ACCESSORIES</b> |                 |  |
| 19  | 61-32-BAG-4 | 1 GPM (1/4" Barb) Proportioner | <b>NO.</b>         | <b>PART NO.</b> | <b>DESCRIPTION</b>                       |
| 20  | 100-59      | Strainer Washer                | 39                 | 68-6-QD2        | Pressure Indicating Tee                  |
| 21  | 63-73       | Nozzle (4 GPM)                 |                    |                 |  |