

# DEMA BLEND CENTER



## MODELS 681GAP.1, 681GAP.2, 681GAP.3, 681GAP.4 and 681GAP.5

### INSTALLATION INSTRUCTIONS

1. **PARTS CHECKLIST:**

- |                                       |                         |                        |
|---------------------------------------|-------------------------|------------------------|
| A. Blend Center Assembly              | B. Ceramic Weight       | C. Vinyl Outlet Tubing |
| D. Vinyl Supply tubing and foot valve | E. Screw and Anchor Kit | F. Label Card          |
|                                       |                         | G. Metering Tip Kit    |

2. **INSTALLATION:** Note: All installations must conform to local plumbing codes and use approved backflow preventers. 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. **WARNING: Water supply should not exceed 125 psi and water temperature must not exceed 150°F.**

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

- A. Mounting and water supply:** Remove Blend Center lid and hold unit in position to locate the mounting screw positions. Locate mounting holes on a permanent surface for the Blend Center. Drill all of the holes into the drywall using a 1/4" diameter bit for use with the included #10 screws and anchors. (If mounting the Blend Center to wood and you do not plan to use the included anchors, drill 1/8" diameter holes.) Insert the anchors into drilled holes and hammer them into the wall until they are flush with face of wall. Assemble all of the #10 screws with a Phillips screwdriver into the anchors so the screw heads are sticking out of the wall approximately 1/8". Mount the Blend Center by inserting the screw heads through the keyhole slots in the top and tighten the screws. The water inlet is equipped with a female garden hose fitting (with strainer washer) for attaching a water supply hose. The fitting 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 interchanging the pipe plug and female hose fitting. Note: Apply pipe dope, hand tighten, then turn 1-1/2 times with a wrench. Do not over tighten. **WARNING: Do not use Teflon® tape to seal internal plastic threads as the extra thickness of the tape may cause the plastic to crack. Use a non-welding liquid sealant instead.**
- 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 3).
- C. Chemical Supply:** Place the chemical container in a convenient location not more than 6 feet below the Blend Center (greater lifts will reduce injection capacities). Insert the vinyl supply tubing with the foot valve end into the chemical container. Cut the vinyl tube to any convenient length that will allow it to extend from the bottom of the chemical container to the proportioner inlet barb. (See figure 1). Gummed labels are provided for product labeling.
- D. Outlet:** For 4 gpm proportioner, cut the 1/2" ID X 6' Lg. tubing to the desired length and attach it to the proportioner outlet barb. Do not slide tubing pass the first three barbs. For 1 gpm proportioner, do not cut the 1/2" ID X 6' Lg. tubing.
- E. Chemical injection adjustment:** **WARNING: USE CARE WHEN HANDLING HAZARDOUS CHEMICALS.** The chemical feed rate is controlled by a metering tip screwed into the proportioner inlet barb. Select a tip using Table 1 thru 4 as a guide.

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## MODELS 681GAP.1, 681GAP.2, 681GAP.3, 681GAP.4 and 681GAP.5

### INSTALLATION INSTRUCTIONS

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

**TABLE 1 - 1 GPM FLOW RATE PROPORTIONER, (1/4" I.D. TUBING)**

Metering Tip Color	Injection Rates for Viscosities Shown					
	1 cps		75 cps		200 cps	
	Oz/Gal	Ratio	Oz/Gal	Ratio	Oz/Gal	Ratio
Tan	1.03	125-1	0.76	168-1	0.38	333-1
Orange	1.24	103-1	0.98	130-1	0.53	241-1
Turquoise	1.43	89-1	1.07	119-1	0.61	211-1
Pink	2.47	52-1	1.58	81-1	0.92	139-1
Light Blue*	3.05	42-1	2.1	61-1	1.06	121-1
Brown	3.48	37-1	2.31	55-1	1.15	111-1
Red	4.38	29-1	2.83	45-1	1.23	104-1
White	5.33	24-1	3.1	42-1	1.37	93-1
Green	6.38	20-1	3.63	35-1	1.4	91-1
Blue	6.77	19-1	3.78	34-1	1.45	88-1
Yellow	9.90	13-1	5.1	25-1	1.48	86-1
Black	15.00	9-1	6.54	20-1	1.53	84-1
Purple	24.94	5-1	7.28	18-1	1.57	82-1
Gray	35.94	4-1	8.5	15-1	1.64	78-1
No Tip	73.21	2-1	9.35	14-1	1.87	69-1

**TABLE 2 - 4 GPM FLOW RATE PROPORTIONER, (1/4" I.D. TUBING)**

Metering Tip Color	Injection Rates for Viscosities Shown					
	1 cps		75 cps		200 cps	
	Oz/Gal	Ratio	Oz/Gal	Ratio	Oz/Gal	Ratio
Tan	0.33	387-1	0.26	500-1	0.12	1090-1
Orange	0.42	307-1	0.32	430-1	0.17	735-1
Turquoise	0.51	251-1	0.34	382-1	0.19	676-1
Pink	0.78	165-1	0.56	230-1	0.3	422-1
Light Blue*	0.87	147-1	0.67	192-1	0.33	391-1
Brown	0.99	129-1	0.74	174-1	0.37	345-1
Red	1.37	93-1	0.91	141-1	0.44	289-1
White	1.52	84-1	1.04	123-1	0.48	264-1
Green	1.72	74-1	1.22	105-1	0.52	244-1
Blue	2.13	60-1	1.27	101-1	0.54	239-1
Yellow	3.05	42-1	1.71	75-1	0.56	229-1
Black	4.50	28-1	1.96	65-1	0.57	224-1
Purple	7.75	17-1	2.4	53-1	0.59	217-1
Gray	9.86	13-1	2.54	50-1	0.63	204-1
No Tip	19.63	7-1	3.16	40-1	0.67	190-1

**NOTE: All induction rates are based on a water pressure of 40 psi. Leaner dilutions can be achieved by ordering DEMA ultra lean tip kit 100-15KU or capillary tip 44-61P.**

# DEMA BLEND CENTER

## MODELS 681GAP.1, 681GAP.2, 681GAP.3, 681GAP.4 and 681GAP.5 INSTALLATION INSTRUCTIONS

**TABLE 3 - 1 GPM FLOW RATE PROPORTIONER, 3/8" I.D. TUBING**

Metering Tip Color	Injection Rates for Viscosities Shown					
	1 cps		75 cps		200 cps	
	Oz/Gal	Ratio	Oz/Gal	Ratio	Oz/Gal	Ratio
Clear	2.28	56-1	0.63	204-1	0.44	292-1
Purple	2.98	43-1	1.22	105-1	0.76	168-1
Yellow	5.18	25-1	2.51	51-1	2.01	64-1
Green	6.37	20-1	4.22	30-1	3.14	41-1
Pink	8.76	15-1	5.59	23-1	4.17	31-1
Turquoise	12.01	11-1	8.44	15-1	6.12	21-1
Black	15.16	8-1	9.93	13-1	7.09	18-1
Gray	18.97	7-1	12.55	10-1	8.73	15-1
Red	25.38	6-1	15.84	8-1	10.07	13-1
Blue	28.24	5-1	17.92	7-1	11.7	11-1
Brown	36.99	4-1	21.31	6-1	12.04	10.5-1
White	45.52	3-1	25.26	5-1	12.67	10-1
Orange	53.31	2.5-1	28.44	4.5-1	13.14	9.75-1
Light Blue*	60.27	2.25-1	30.5	4-1	13.51	9.5-1
Tan*	72.94	2-1	33.4	3.75-1	14	9-1
No Tip	77.90	1.75-1	35.85	3.5-1	14.5	8.75-1

**TABLE 4- 4 GPM FLOW RATE PROPORTIONER, 3/8" I.D. TUBING**

Metering Tip Color	Injection Rates for Viscosities Shown					
	1 cps		75 cps		200 cps	
	Oz/Gal	Ratio	Oz/Gal	Ratio	Oz/Gal	Ratio
Clear	0.30	430-1	0.22	592-1	0.13	864-1
Purple	0.48	265-1	0.32	406-1	0.24	524-1
Yellow	1.28	100-1	0.82	157-1	0.6	212-1
Green	1.67	77-1	1.29	99-1	1	128-1
Pink	2.36	54-1	1.65	77-1	1.25	103-1
Turquoise	3.76	34-1	2.55	50-1	1.85	69-1
Black	4.47	29-1	3.03	42-1	2.12	60-1
Gray	5.53	23-1	3.67	35-1	2.58	50-1
Red	7.00	18-1	4.79	27-1	2.79	46-1
Blue	8.78	15-1	5.39	24-1	3.06	42-1
Brown	10.95	12-1	6.49	20-1	3.35	38-1
White	14.19	9-1	7.08	18-1	3.46	37-1
Orange	17.58	7-1	7.91	16-1	3.71	35-1
Light Blue*	21.75	6-1	8.66	15-1	3.9	33-1
Tan*	27.98	5-1	9.15	14-1	4.11	31-1
No Tip	33.15	4-1	10.54	12-1	4.52	28-1

\*These tips are not included in standard tip kit. Note: All induction rates are based on a water pressure of 40 psi.

# DEMA BLEND CENTER

## MODELS 681GAP.1, 681GAP.2, 681GAP.3, 681GAP.4 and 681GAP.5

### INSTALLATION INSTRUCTIONS

#### 3. **OPERATION:**

The Blend Center is now ready for use. Depressing the push button opens the valve, allowing water to flow through the chemical proportioner that mixes chemical at the desired rate. The button is spring loaded to prevent accidental overflow if unattended but may be converted to a locking button by cutting off the tab at the notch. (See Figure 2) Pushing the button and turning it 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 in while filling large containers. Turning the button in a counterclockwise direction will release it, allowing the valve to shut off.

#### 4. **SERVICING: CAUTION: TURN OFF WATER SUPPLY BEFORE SERVICING.**

##### A. **Proportioner fails to draw chemical:**

1. Pinch outlet tube to create back pressure, which will cause unit to prime. The foot valve will keep the inlet tube primed.
2. Insufficient water supply pressure. 20 PSI is the minimum allowable.

##### 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 proportioner to ensure that there are no mineral deposit build-ups on the nozzle. If so, soak proportioner body in deliming solution. (Remove all parts attached to proportioner before soaking in deliming solution.) **Note: Use care when handling hazardous chemicals.**

##### C. **Valve Malfunction:**

Check that the button moves freely in & out 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.**

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

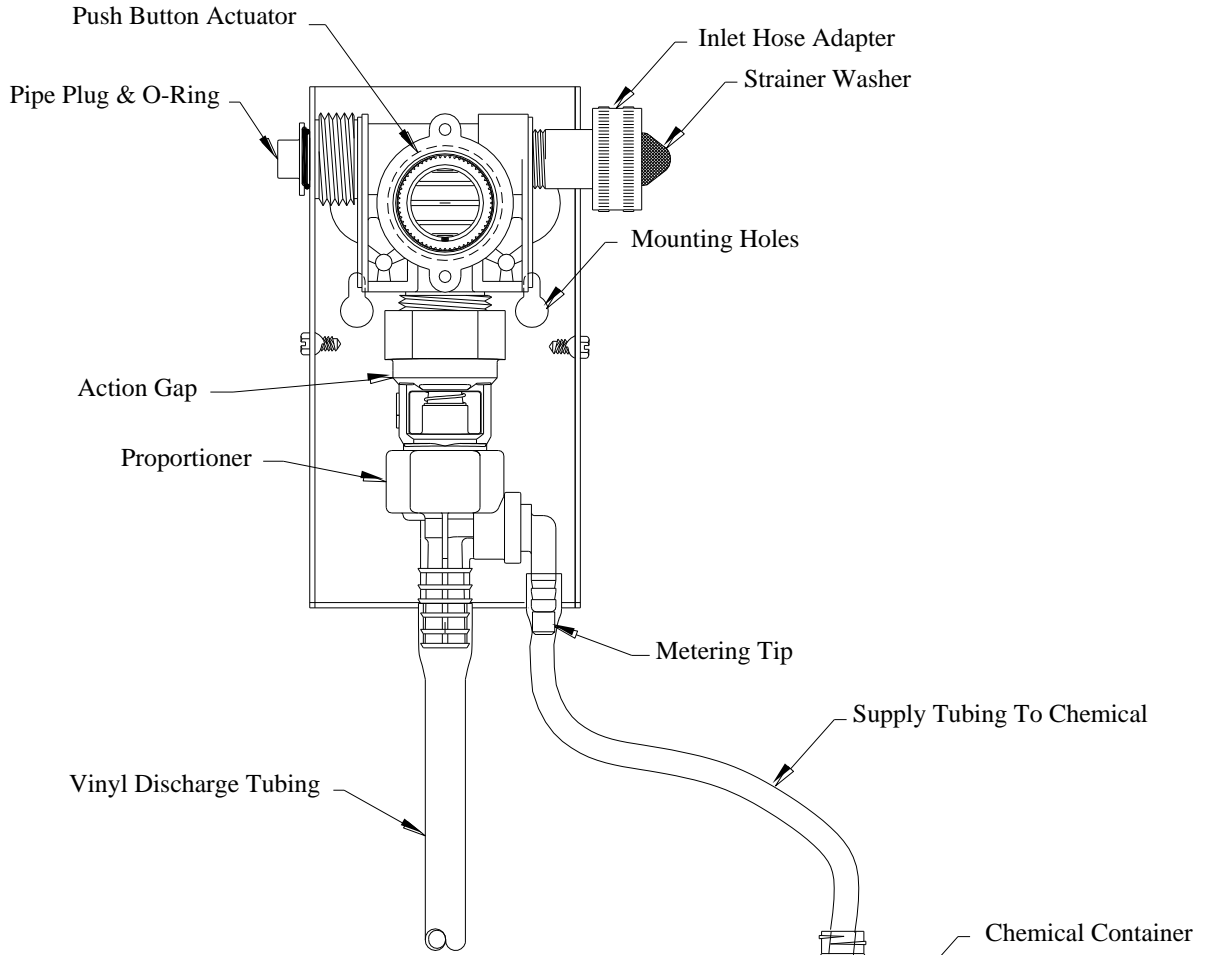
**WARRANTY:** DEMA products are warranted against defective material and workmanship under normal use and service for one year from the date of manufacture. This limited warranty does not apply to any products which have a normal life shorter than one year or failure and damage caused by chemicals, corrosion, 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.

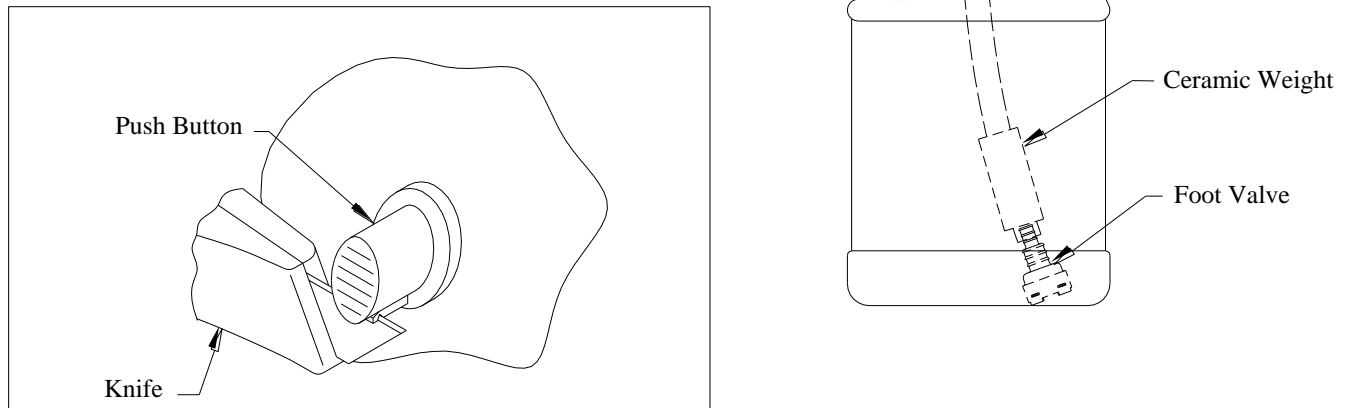
# DEMA BLEND CENTER

## MODELS 681GAP.1, 681GAP.2, 681GAP.3, 681GAP.4 and 681GAP.5

### INSTALLATION INSTRUCTIONS



**FIGURE 1**

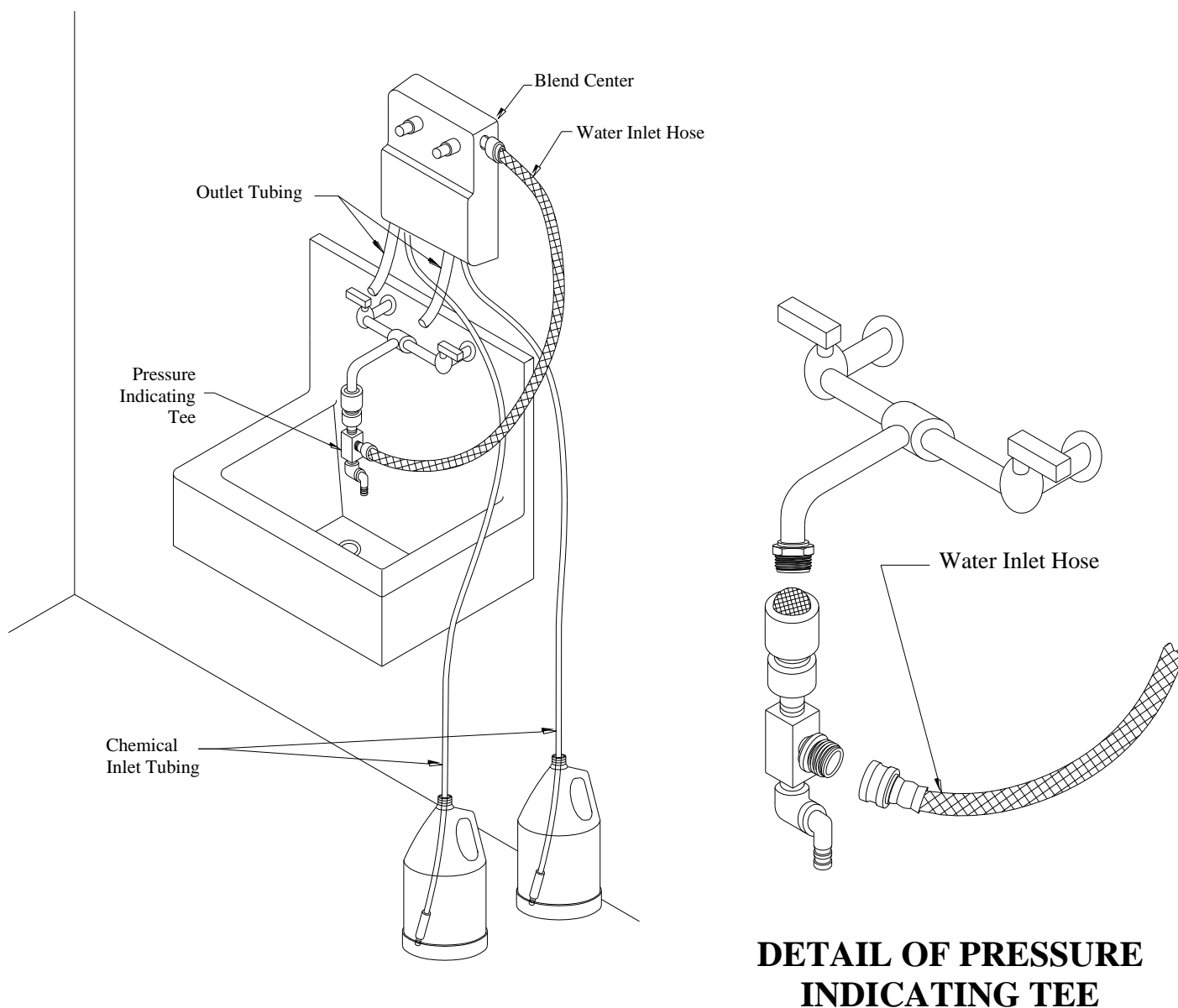


**FIGURE 2**

**ALL INFORMATION CONTAINED IN THIS DOCUMENT IS RELEVANT TO DEMA'S 681 BLEND CENTERS REGARDLESS OF QUANTITIES SHOWN FOR STATION SET UP**

**DEMA BLEND CENTER**  
**MODELS 681GAP.1, 681GAP.2, 681GAP.3, 681GAP.4 and 681GAP.5**  
**INSTALLATION INSTRUCTIONS**

**PRESSURE INDICATING TEE INSTALLATION**

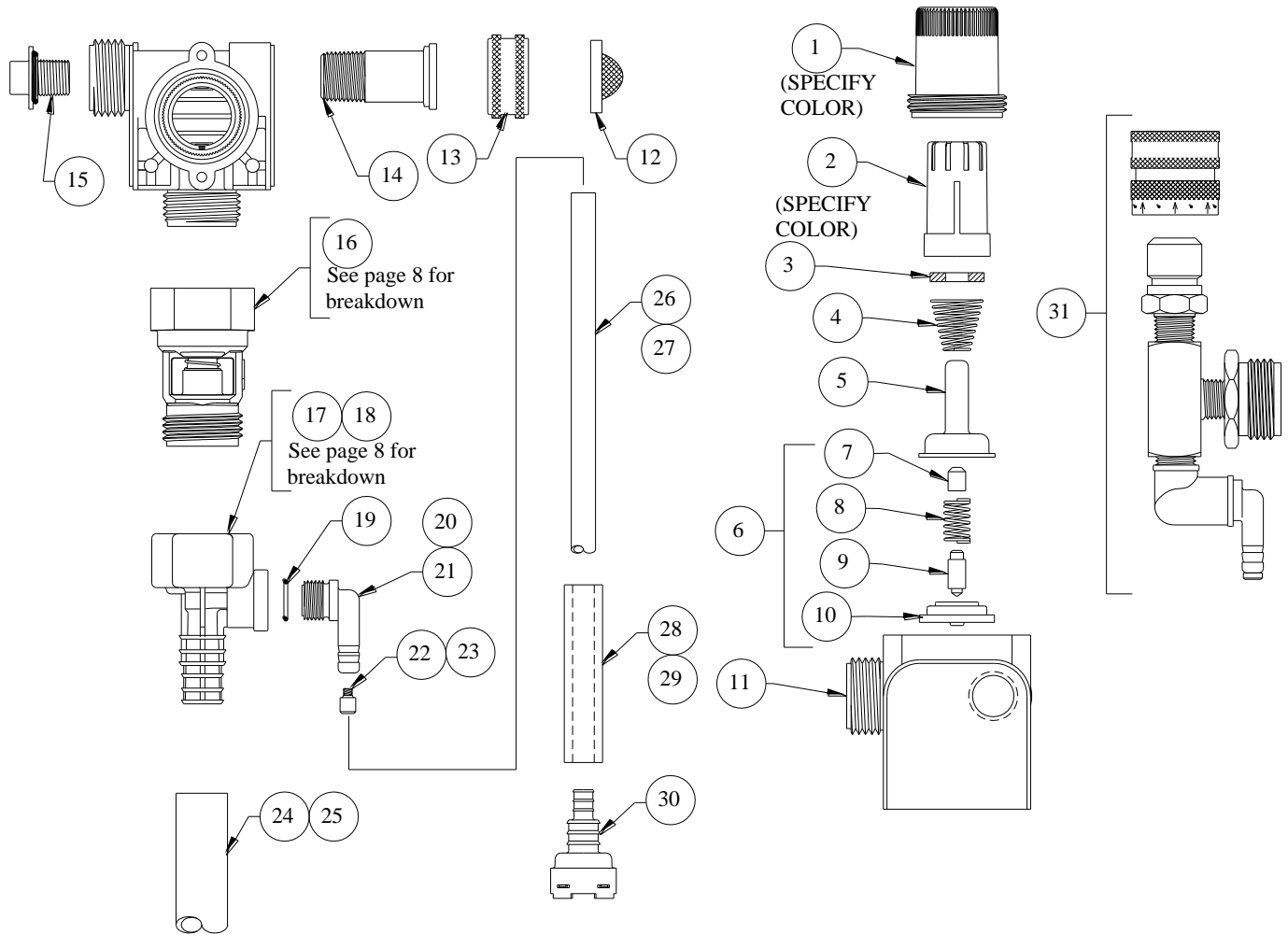


**FIGURE 3**

# DEMA BLEND CENTER

## MODELS 681GAP.1, 681GAP.2, 681GAP.3, 681GAP.4 and 681GAP.5

### INSTALLATION INSTRUCTIONS



NO.	PART NO.	DESCRIPTION
1	66-139	Magnet Housing (Specify Color)
2	66-140	Push Button (Specify Color)
3	63-35	Magnet
4	63-36	Spring
5	41-7-25	Enclosing Tube
6	63-87	Valve Repair Kit
7	63-37	Spacer
8	41-1-8	Kick-off Spring
9	63-38	Plunger
10	41-15-10	Diaphragm
11	63-39	Valve Body
12	100-38	Strainer Washer
13	65-10-2	Coupling
14	65-100-12	Swivel Adapter Stem
15	66-153	Pipe Plug & O-Ring Assy.

NO.	PART NO.	DESCRIPTION
16	16-30	Action Gap Assembly
17	61-99-2	1GPM (1/4" Barb) Proportioner-Green
	61-99-1	1GPM (3/8" Barb) Proportioner-Green
18	61-22-3	4GPM (1/4" Barb) Proportioner-Gray
	61-22-2	4GPM (3/8" Barb) Proportioner-Gray
19	63-78	O-Ring
20	63-79	Inlet Barb (1/4" Barb)
21	63-80	Inlet Barb (3/8" Barb)
22	100-15K	Metering Tip Kit (1/4" Barb)
23	61-9K	Metering Tip Kit (3/8" Barb)
24	16-3-6	1/2" IDx 6" Lg. Vinyl Outlet Tube -1gpm
25	61-21	1/2" IDx 6" Lg. Vinyl Outlet Tube-4gpm
26	100-12	1/4" ID x 8' Lg. Vinyl Supply Tubing
27	100-12L	3/8" ID x 8' Lg. Vinyl Supply Tubing
28	61-107-2	Ceramic Weight (1/4" ID Tube)
29	61-107	Ceramic Weight (3/8" ID Tube)
30*	100-16E	Foot Valve

\*Foot Valve also available with silicone (100-16S) or Viton (100-16V) rubber seals. Please specify material when ordering.

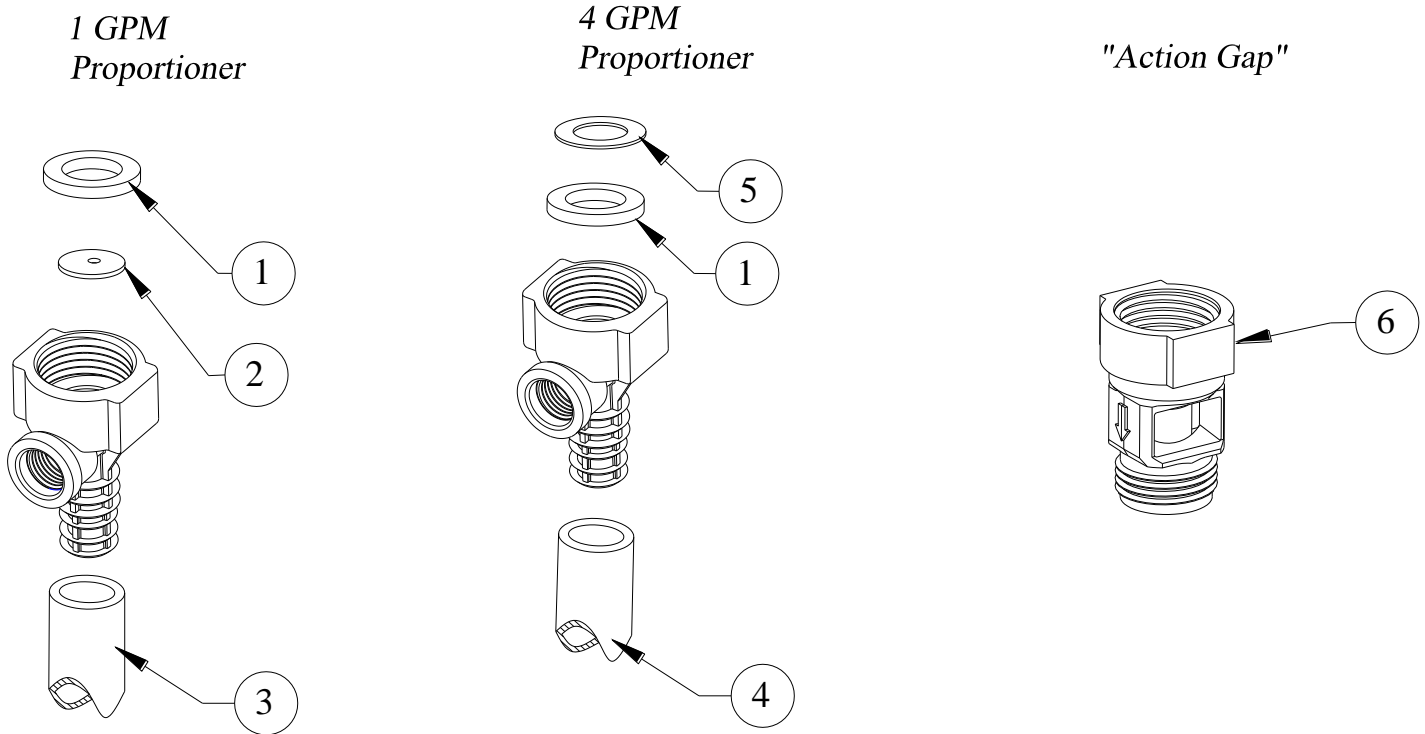
ACCESSORIES		
NO.	PART NO.	DESCRIPTION
31	68-6-QD2	Pressure Indication Tee

# DEMA BLEND CENTER

## MODELS 681GAP.1, 681GAP.2, 681GAP.3, 681GAP.4 and 681GAP.5

### INSTALLATION INSTRUCTIONS

### *PROPORTIONER AND ACTION GAP BREAKDOWN*



NO.	PART NO.	DESCRIPTION
1	150-6	Rubber Washer
2	61-36	Flow Disk
3	16-3-6	1/2" I.D. x 6" Lg. Vinyl Outlet Tube (1 GPM Only)
4	61-21	1/2" I.D. x 6" Lg. Vinyl Outlet Tube (4 GPM Only)
5	63-89-1	Rubber Washer (1/32" Thick)
6	16-30	Action Gap Assembly