

# DEMA BLEND CENTERS

## MODEL 681GAP-2P

### INSTRUCTION SHEET

**1. PARTS CHECKLIST:**

- |                          |  |                     |
|--------------------------|--|---------------------|
| A. Blend Center Assembly | B. Vinyl Supply Tubing with Foot Valve       |                     |
| C. Ceramic Weight        | D. Vinyl Outlet Tubing (For 4 or 1 GPM side) |                     |
| E. Screw/Anchor Kit      | F. Label Card                                | G. Metering Tip Kit |

\* Quantities may vary depending on the model.

**2. INSTALLATION: Note: All installations must conform to local plumbing codes and use the 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.**

**A. Mounting and water supply:**

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 screw and anchor set. (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 1/2". Mount the Blend Center by inserting the screw heads through the keyhole slots in the base 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. Chemical supply:**

Place the chemical containers in a convenient location not more than 6 feet below the blend center (greater lifts will reduce injection capabilities). Insert the vinyl supply tubing with the foot valve ends into the chemical containers. Cut the vinyl tubes to any convenient length that will allow the tubing to extend from the bottom of the chemical container to the proportioner inlet barbs. (See Figure 1) Gummed labels are provided for product labeling.

**C. 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.

**D. Chemical injection adjustment: WARNING: USE CARE WHEN HANDLING HAZARDOUS CHEMICALS.**

Chemical feed rates are controlled by metering tips screwed into the proportioners' barbs. Select a tip using Tables 1 and 2.

**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

\*Metering tip color was formerly clear. All induction rates are base on a water pressure of 40 psi.

**3. OPERATION:**

The Blend Center is now ready for use. Pressing a push button opens the water valve, allowing flow through the chemical proportioner that mixes chemical at the desired rate. The buttons are spring loaded to prevent 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 1/4 turn clockwise at the end of its travel allows the valve to lock on. Turning the button in a counter-clockwise direction will release it, allowing the valve to shut off.

**DEMA BLEND CENTERS  
MODEL 681GAP-2P  
INSTRUCTION SHEET**

**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: Leaner dilutions can be achieved by ordering DEMA ultra lean tip kit 100-15KU or capillary tip 44-61P.**

**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 de-liming solution. (Remove all parts attached to proportioner before soaking in de-liming solution.) **Note: Use care when handling hazardous chemicals.**

**C. Proportioner continues to draw chemical after water valve closes:** Chemical supply is higher than bottom of discharge tube creating a natural siphon. Lower the supply vessel or hang up outlet tube after use.

**D. 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.

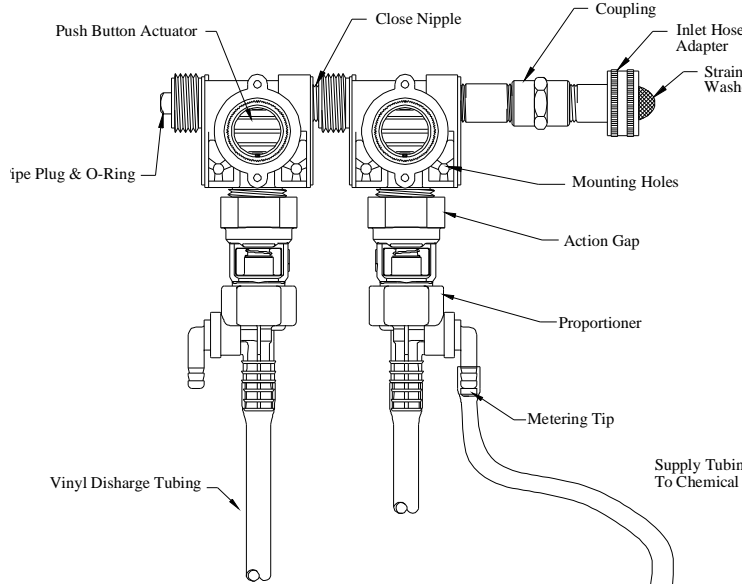
**CAUTION: When servicing unit, be sure that replacement parts have been installed according to drawing.**

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

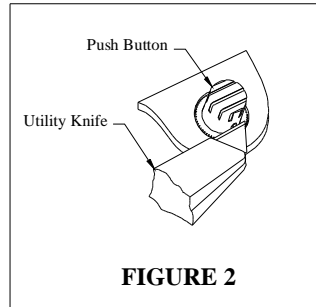
**WARRANTY:** DEMA products are warranted against defective material and workmanship under normal use and service for one year from the date of manufacture. This limited warranty does not apply to any products which have a normal life shorter than one year or failure and damage caused by chemicals, corrosion,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

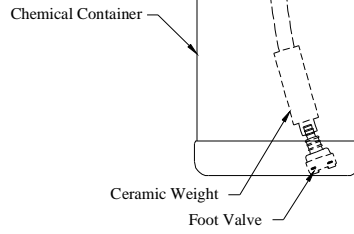
# DEMA BLEND CENTERS MODEL 681GAP-2P INSTRUCTION SHEET



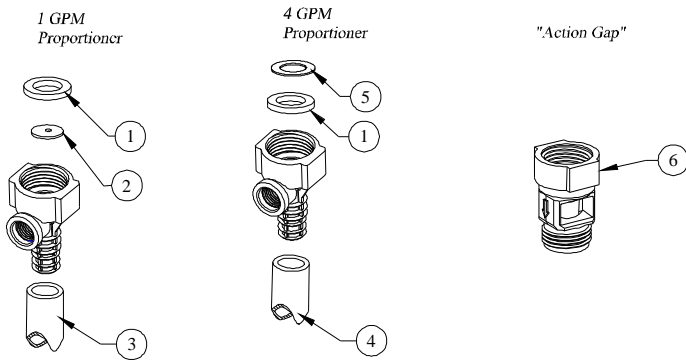
**FIGURE 1**



**FIGURE 2**

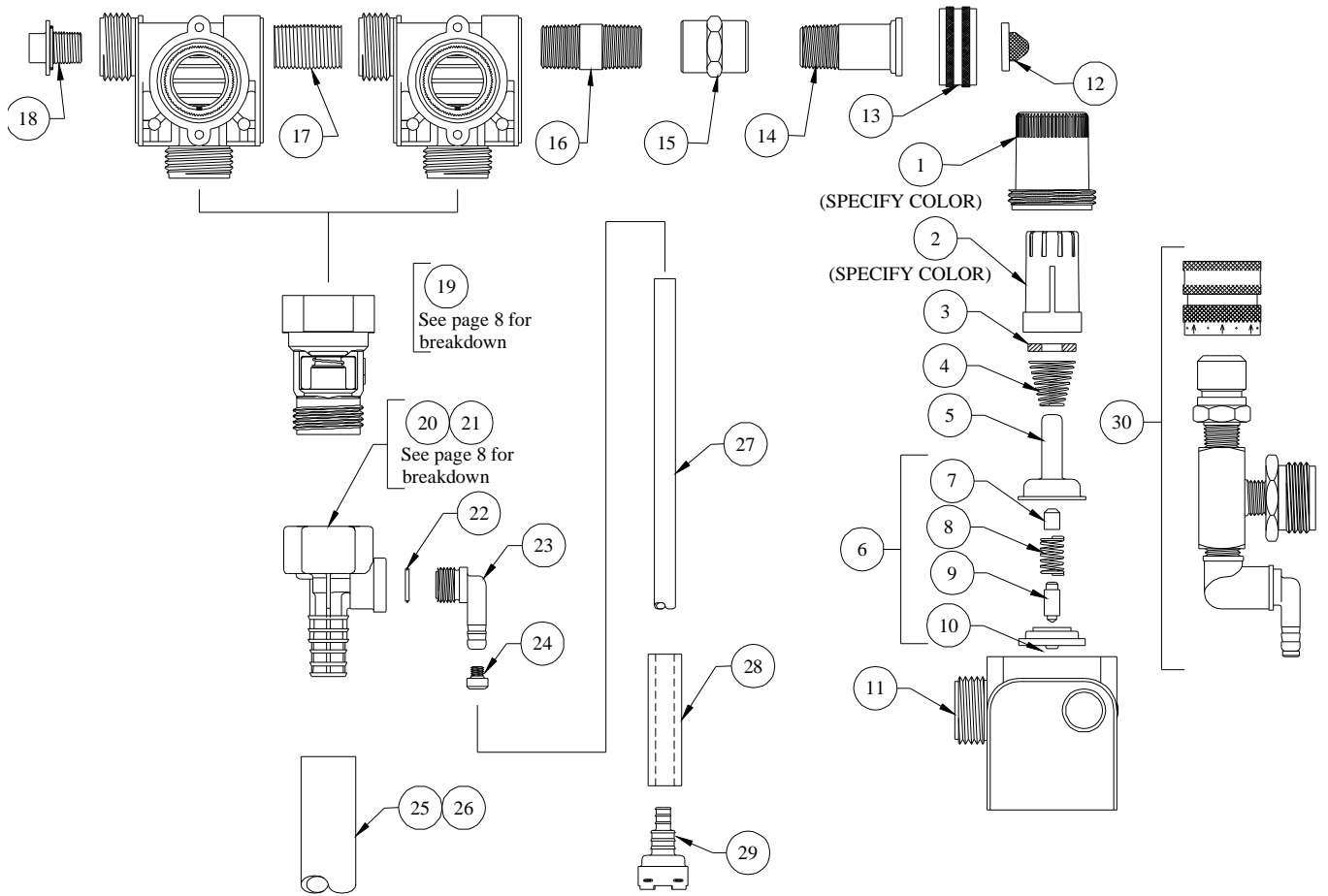


### PROPORTIONER AND ACTION GAP BREAKDOWN



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

# DEMA BLEND CENTERS MODEL 681GAP-2P INSTRUCTION SHEET



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	Adapter
14	65-100-2	Coupling
15	63-57	3/8" Coupling
16	99-5-1	3/8" Nipple x 1 1/2" Lg.
17	66-31	Close Nipple
18	66-153	Pipe Plug & O-Ring Assy.

NO.	PART NO.	DESCRIPTION
19	16-30	Action Gap Assembly
20	61-99GAP-2	1 GPM (1/4" Barb) Proportioner (green)
21	61-22GAP-2	4 GPM (1/4" Barb) Proportioner (Gray)
22	63-78	O-Ring
23	63-79	Inlet Barb (1/4")
24	100-15K	Metering Tip Kit—14 Sizes (For 1/4" Barb)
25	16-3-6	1/2" id x 6" Lg. Vinyl Outlet Tube (1GPM)
26	61-21	1/2" id x 6" Lg. Vinyl Outlet Tube (4GPM)
27	100-12	1/4" id x 8' Lg. Vinyl Supply Tubing
28	61-107-2	Ceramic Weight
29*	100-16E-1	Foot Valve

### ACCESSORIES

NO.	PART NO.	DESCRIPTION
30	68-6-QD2	Pressure Indicating Tee

\*Foot Valve also available with silicone (100-16S-1) or Viton (100-16V-1) rubber seals. Please specify when ordering.