

DEMA 681AG-1 BLEND CENTER

INSTALLATION INSTRUCTIONS

1. PARTS:

- A. Blend center assembly.
- B. 1 pc. 1/4" I.D. or 3/8" I.D. x 8ft. long vinyl supply tubing, foot valve and ceramic weight.
- C. 1 pc. 9/16" I.D. x 6ft. long vinyl outlet tubing.
- D. 2 pcs. #8 pan head 3/4" long mounting screws & anchors.
- E. 1 pc. label card.
- F. Metering tip kit.

2. INSTALLATION:

Note: All installations must conform with local plumbing codes and use approved backflow preventers.

Pressure indicating tee is to be install 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.

A. Mounting and water supply:

Remove Blend Center lid and hold unit in position to locate the mounting screw positions. Install the mounting screws; leaving approximately 1/8" extension between the wall and screw head. Mount the Blend Center by inserting the screw heads through the key hole slots in the base and tighten 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 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 the female hose fitting. **Note: Apply pipe dope, hand tighten, and then turn 1□ 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 3). Water supply should not exceed 125 psi and water temperature must not exceed 160°F.

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:

Cut the 9/16" I.D. outlet tubing to the desired length and attach it to the proportioner outlet. Longer lengths may be used up to 10 feet. The 7" long 3/16" I.D. tubing must be left on the 1 GPM proportioner to insure priming.

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 barb. Select a tip using Table 1 or 2 as a guide.

Note: 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.

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**TABLE 1
164 BAG (1 GPM FLOW RATE PROPORTIONER - 1/4" BARB AND TUBING)**

Metering Tip Color	Injection Rates For Viscosities Shown								
	1 cps			75 cps			200 cps		
	oz/gal	ml/l	Ratio	oz/gal	ml/l	Ratio	oz/gal	ml/l	Ratio
Tan	1.25	9.76	102-1	0.90	7.03	142-1	0.60	4.69	213-1
Orange	1.70	13.28	75-1	1.20	9.37	107-1	0.80	6.25	160-1
Turquoise	2.15	16.80	60-1	1.55	12.11	83-1	1.10	8.59	116-1
Pink	3.00	23.44	43-1	2.00	15.62	64-1	1.50	11.72	85-1
Light Blue*	3.90	30.47	33-1	2.75	21.48	47-1	1.80	14.06	71-1
Brown	4.55	35.55	28-1	3.00	23.44	43-1	2.00	15.62	64-1
Red	5.80	45.31	22-1	3.60	28.12	36-1	2.30	17.97	56-1
White	7.00	54.69	18-1	4.45	34.76	29-1	2.70	21.09	47-1
Green	7.90	61.72	16-1	5.00	39.06	26-1	3.00	23.44	43-1
Blue	9.80	76.56	13-1	5.75	44.92	22-1	3.30	25.78	39-1
Yellow	14.80	115.62	9-1	7.35	57.42	17-1	3.55	27.73	36-1
Black	20.15	157.42	6-1	8.50	66.40	15-1	3.70	28.91	35-1
Purple	27.80	217.20	5-1	9.80	76.56	13-1	3.80	29.69	34-1
Gray	31.60	246.87	4-1	10.50	82.03	12-1	3.90	30.47	33-1
No Tip	35.70	278.90	3.6-1	11.80	92.19	11-1	4.50	35.16	28-1

*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
164 AG (1 GPM FLOW RATE PROPORTIONER - 3/8" BARB AND TUBING)**

Metering Tip Color	Injection Rates For Viscosities Shown								
	1 cps			75 cps			200 cps		
	oz/gal	ml/l	Ratio	oz/gal	ml/l	Ratio	oz/gal	ml/l	Ratio
Clear	1.40	10.94	91-1	1.00	7.81	128-1	0.85	6.64	151-1
Purple	2.15	16.80	60-1	1.75	13.67	73-1	1.40	10.94	91-1
Yellow	4.00	31.25	32-1	3.25	25.39	39-1	2.80	21.87	46-1
Green	6.70	52.34	19-1	5.40	42.19	24-1	4.50	35.16	28-1
Pink	8.70	67.97	15-1	7.00	54.69	18-1	5.60	43.75	23-1
Turquoise	14.15	110.54	9-1	11.15	87.11	11-1	8.15	63.67	16-1
Black	17.25	134.76	7-1	13.50	105.47	9-1	10.00	78.12	13-1
Gray	22.60	176.56	6-1	16.75	130.86	8-1	11.60	90.62	11-1
Red	25.15	196.48	5-1	19.50	152.34	7-1	13.50	105.47	9.5-1
Blue	27.50	214.84	4.7-1	21.65	169.14	6-1	14.25	111.33	9-1
Brown	31.00	242.18	4-1	24.25	189.45	5-1	15.60	121.87	8-1
White	33.50	261.71	3.8-1	26.25	205.07	4.9-1	16.70	130.47	7.7-1
Orange	35.40	276.56	3.6-1	28.00	218.75	4.6-1	17.40	135.93	7.4-1
Lt. Blue*	36.50	285.15	3.5-1	29.00	226.56	4.4-1	18.20	142.18	7-1
Tan*	37.80	295.31	3.4-1	29.90	233.59	4.3-1	18.65	145.70	6.9-1
No Tip	38.30	299.21	3.3-1	30.90	241.40	4.1-1	21.30	166.40	6-1

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

*These tips are not included in standard tip kit.

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TABLE 3

163 AG (4 GPM FLOW RATE PROPORTIONER - 1/4" BARB AND TUBING)

Metering Tip Color	Injection Rates For Viscosities Shown								
	1 cps			75 cps			200 cps		
	oz/gal	ml/l	Ratio	oz/gal	ml/l	Ratio	oz/gal	ml/l	Ratio
Tan	0.30	2.34	427-1	0.20	1.56	640-1	0.15	1.17	853-1
Orange	0.40	3.12	320-1	0.30	2.34	427-1	0.25	1.95	512-1
Turquoise	0.60	4.69	213-1	0.40	3.12	320-1	0.30	2.34	427-1
Pink	0.80	6.25	160-1	0.50	3.91	256-1	0.40	3.12	320-1
Light Blue*	1.00	7.81	128-1	0.70	5.47	183-1	0.45	3.51	284-1
Brown	1.20	9.37	107-1	0.80	6.25	160-1	0.50	3.91	256-1
Red	1.50	11.72	85-1	0.90	7.03	142-1	0.60	4.69	213-1
White	1.85	14.45	69-1	1.10	8.59	116-1	0.70	5.47	183-1
Green	2.00	15.62	64-1	1.25	9.76	102-1	0.80	6.25	160-1
Blue	2.50	19.53	51-1	1.50	11.72	85-1	0.82	6.41	156-1
Yellow	4.00	31.25	32-1	1.85	14.45	69-1	0.90	7.03	142-1
Black	5.50	42.97	23-1	2.00	15.62	64-1	0.94	7.34	136-1
Purple	8.80	68.75	15-1	2.40	18.75	53-1	0.96	7.50	133-1
Gray	11.65	91.01	11-1	2.50	19.53	51-1	1.00	7.81	128-1
No Tip	16.20	126.56	8-1	3.00	23.44	43-1	1.20	9.37	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 4

163 AG (4 GPM FLOW RATE PROPORTIONER - 3/8" BARB AND TUBING)

Metering Tip Color	Injection Rates For Viscosities Shown								
	1 cps			75 cps			200 cps		
	oz/gal	ml/l	Ratio	oz/gal	ml/l	Ratio	oz/gal	ml/l	Ratio
Clear	0.90	7.03	142-1	0.30	2.34	427-1	0.20	1.56	640-1
Purple	1.10	8.59	116-1	0.50	3.90	256-1	0.40	3.12	320-1
Yellow	1.80	14.06	71-1	1.00	7.81	128-1	0.70	5.47	183-1
Green	2.50	19.53	51-1	1.50	11.72	85-1	1.20	9.37	107-1
Pink	3.00	23.44	43-1	2.00	15.62	64-1	1.50	11.72	85-1
Turquoise	4.50	35.16	28-1	3.15	24.61	41-1	2.30	17.97	56-1
Black	4.80	37.50	27-1	3.75	29.30	34-1	2.80	21.87	46-1
Gray	6.70	52.34	19-1	4.80	37.50	27-1	3.35	26.17	38-1
Red	8.15	63.67	16-1	5.80	45.31	22-1	3.80	29.69	34-1
Blue	9.20	71.87	14-1	6.60	51.56	19-1	4.20	32.81	30-1
Brown	11.10	86.72	12-1	7.75	60.55	17-1	4.70	36.72	27-1
White	13.20	103.12	10-1	9.15	71.48	14-1	5.00	39.06	26-1
Orange	15.00	117.19	9-1	10.10	78.90	13-1	5.30	41.41	24-1
Lt. Blue*	16.70	130.47	8-1	11.10	86.72	12-1	5.50	42.94	23-1
Tan*	18.50	144.53	7-1	11.80	92.19	11-1	5.80	45.31	22-1
No Tip	19.40	151.56	6.6-1	13.00	101.56	10-1	6.20	48.44	21-1

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

*These tips are not included in standard tip kit.

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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 tubing 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 counter clockwise 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 thereafter.
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 hot water to clear interior passages.

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 chemical supply or hang up outlet tubing after use.

D. Valve malfunction:

Check that the button moves freely up & down 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 pin holes (bleed holes) 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.

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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 681-1AG BLEND CENTER

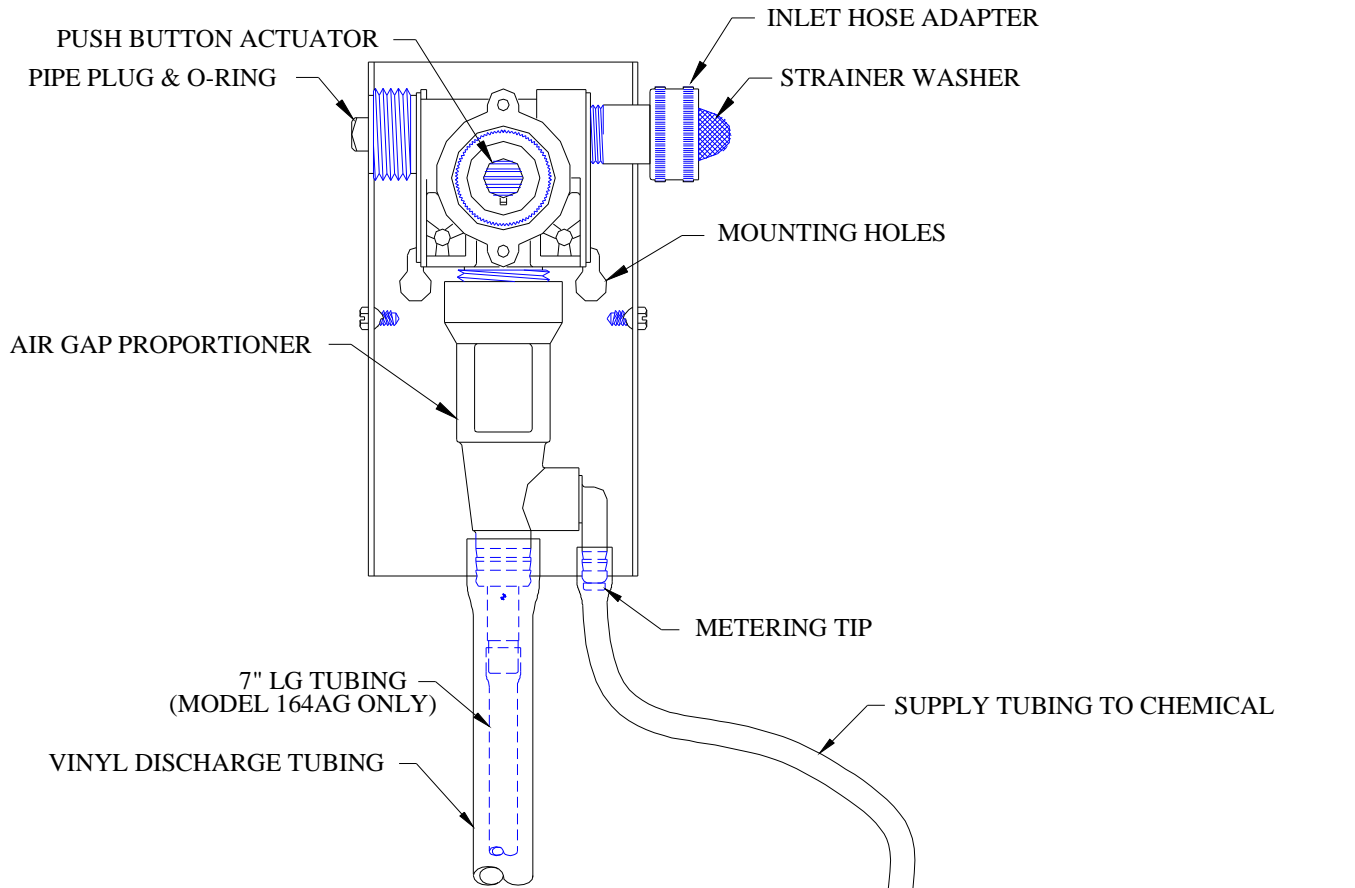


FIGURE 1

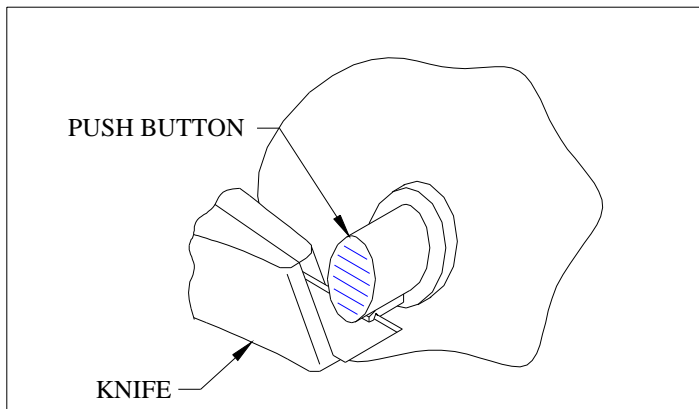


FIGURE 2

PRESSURE INDICATING TEE INSTALLATION

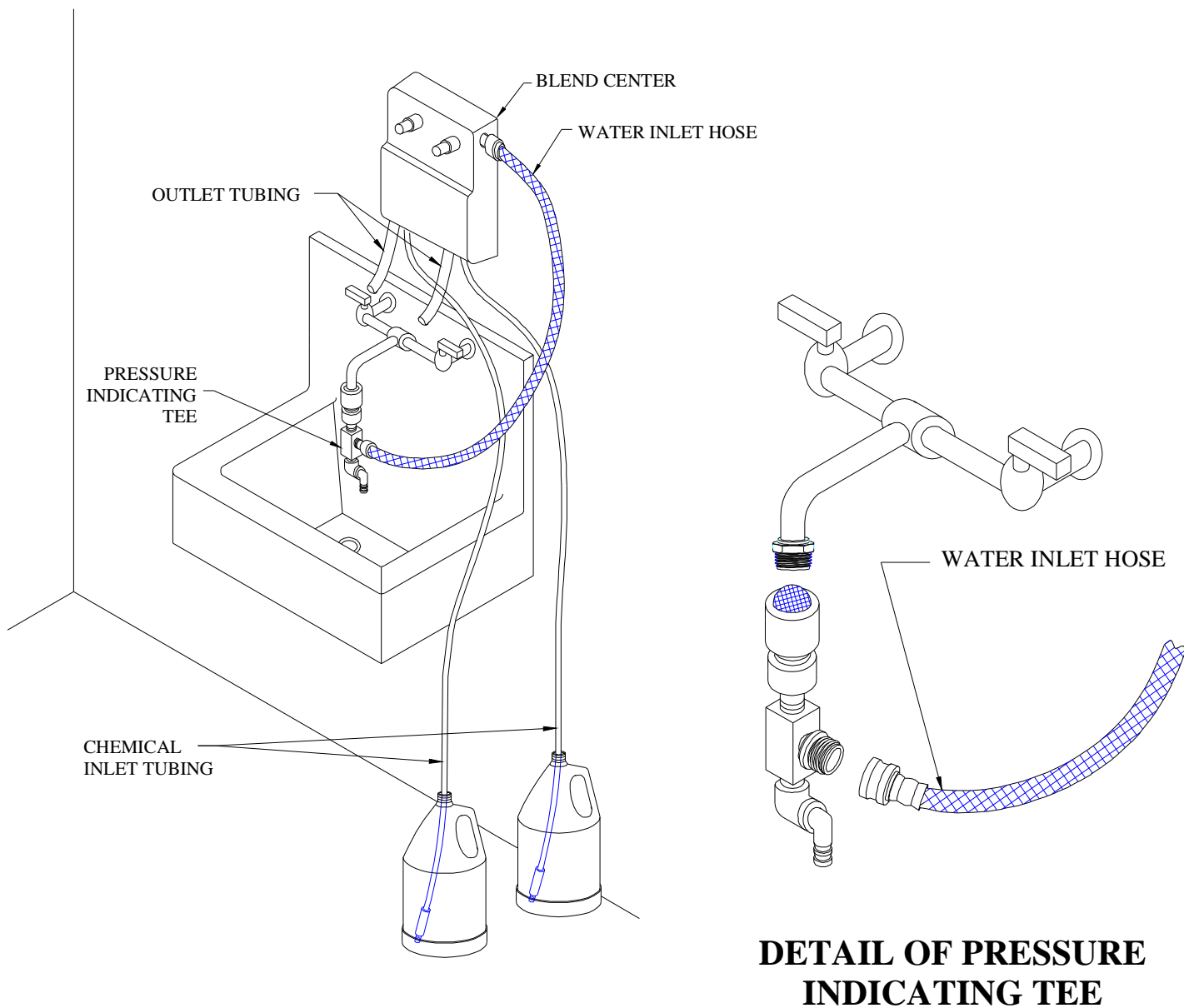
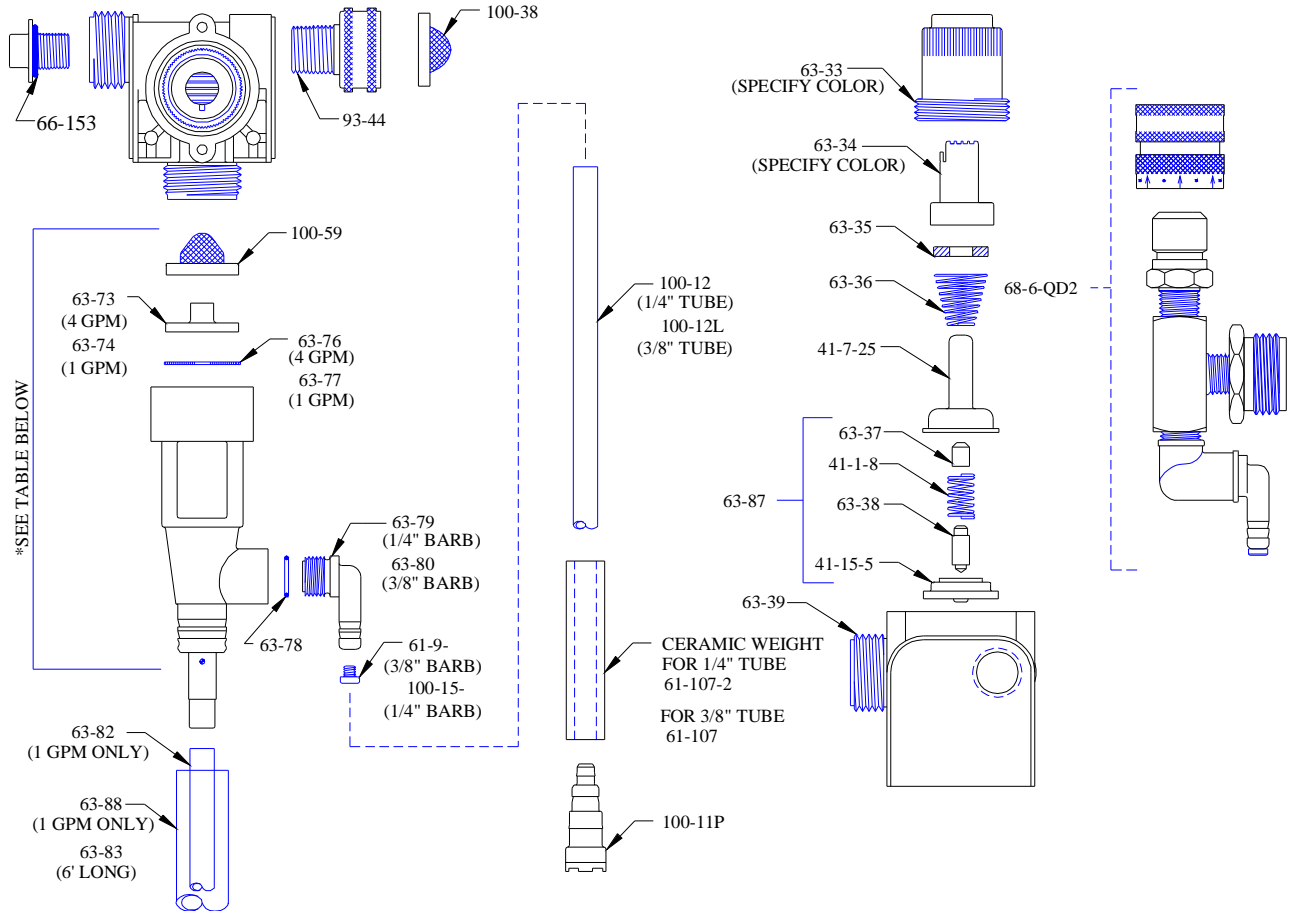


FIGURE 3

DEMA 681AG-1 BLEND CENTER



PART NO.	DESCRIPTION
41-1-8	KICK-OFF SPRING
41-7-25	ENCLOSING TUBE
41-15-5	DIAPHRAGM
61-9-	METERING TIP (SPECIFY COLOR)-3/8 BARB
61-22AG-4	*4 GPM (3/8" BARB) PROPORTIONER ASSY
61-22BAG-4	*4 GPM (1/4" BARB) PROPORTIONER ASSY
61-32AG-1	*1 GPM (3/8" BARB) PROPORTIONER ASSY
61-32BAG-1	*1 GPM (1/4" BARB) PROPORTIONER ASSY
61-107	CERAMIC WEIGHT (FOR 3/8" TUBE)
61-107-2	CERAMIC WEIGHT (FOR 1/4" TUBE)
63-33	MAGNET HOUSING (SPECIFY COLOR)
63-34	PUSH BUTTON (SPECIFY COLOR)
63-35	MAGNET
63-36	SPRING
63-37	SPACER
63-38	PLUNGER
63-39	VALVE BODY
63-73	NOZZLE (4 GPM)
63-74	NOZZLE (1 GPM)
63-76	SCREEN (4 GPM)
63-77	SCREEN (1 GPM)
63-78	O-RING

PART NO.	DESCRIPTION
63-79	INLET BARB (1/4")
63-80	INLET BARB (3/8")
63-82	VINYL TUBE (3/16" ID X 7" LG) 1 GPM ONLY
63-83	VINYL TUBE (9/16 ID X 6' LG)
63-87	VALVE REPAIR KIT
63-88	VINYL TUBE (9/16" ID X 4" LG) 1 GPM ONLY
66-153	PIPE PLUG & O-RING
93-44	PIPE TO GARDEN HOSE ADAPTOR
100-12L	VINYL TUBE (3/8" ID X 8' LG.)
100-11P	FOOT VALVE
100-12	VINYL TUBE (1/4 ID X 8' LG.)
100-15-	VINYL TUBE (1/4 ID X 8' LG.)
100-38	STRAINER WASHER
100-59	STRAINER WASHER

ACCESSORIES

61-9K	METERING TIP KIT (15 SIZES)
61-25-2	FRESH WATER OUTLET KIT
68-6-QD2	PRESSURE INDICATING TEE
100-15K	METERING TIP KIT (14 SIZES)