

# DEMA ADJUSTABLE SINGLE STAGE INJECTORS

## MODELS 202B, 202BP, 202 BT, 203B, 203BP, 203 BT, 204B, 204BP, 204 BT, 206B, 206BP, 206BT INSTALLATION INSTRUCTIONS

### 1. PARTS

- A. Injector
- B. Ceramic Weight.
- C. Plastic tubing 8' long with foot strainer.

### 2. INSTALLATION

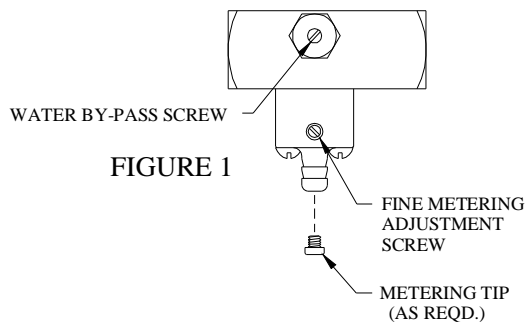
The injector may be installed in any position in the water line with the arrow in the direction of flow. Drop end of plastic tubing with strainer into fluid product container. Cut tubing to convenient length, and slip open end over injector fitting.

### 3. OPERATION

**Warning: Use care when handling hazardous chemicals.**

**Note: The injector will not operate if the input water temperature exceeds 160 degrees F.**

See Fig. 1 for location of water bypass screw and fine metering adjustment screw. Turn on water supply valve. The injector may draw momentarily as the system is filling but normally will stop as the system builds up to full pressure. To actuate injector, turn the bypass screw clockwise until product begins to be drawn from the container. After the fluid reaches the injector, the feed rate may be adjusted to the desired rate by turning the bypass screw. The maximum injection rates are shown in Table 2. For low injection rates, it is advisable to set the bypass screw for more injection than required; then turn the fine metering screw clockwise to reduce injection to the desired rate. Table 1 shows the operation range of the injector. If the injector will not draw with the bypass screw full in, then the water flow is below the range of the injector. If the injector draws with the screw full out but pressure loss is excessive, then flow is above the range of the injector. Table 3 shows the injection rates for models 202 BT, 203 BT, 204 BT, and 206 BT using metering tips at various viscosities. Table 4 shows the appropriate pipe size used for each injector.



**TABLE 1**

Water Pressure (psi)	Operating Range - Gallons Per Minute			
	Model 202 B	Model 203 B	Model 204 B	Model 206 B
10	0.25 - 2.00	0.50 - 3.50	2.00 - 6.40	3.60 - 11.00
20	0.30 - 2.30	0.55 - 4.40	2.30 - 7.50	4.20 - 13.00
40	0.37 - 2.90	0.70 - 5.40	2.90 - 9.50	5.30 - 17.00
60	0.43 - 3.40	0.80 - 6.40	3.40 - 11.00	6.20 - 19.00
100	0.54 - 4.20	1.00 - 8.00	4.20 - 14.00	7.70 - 24.00
200	0.73 - 5.70	1.40 - 11.00	5.70 - 19.00	11.00 - 33.00
400	1.00 - 7.90	1.90 - 15.00	7.90 - 26.00	15.00 - 46.00
500	1.20 - 8.90	2.10 - 17.00	8.90 - 29.00	17.00 - 51.00
* 700	1.40 - 11.00	2.50 - 20.00	11.00 - 35.00	20.00 - 60.00
* 1000	1.60 - 13.00	3.00 - 23.00	13.00 - 41.00	23.00 - 70.00
* 1500	2.00 - 16.00	3.50 - 28.00	16.00 - 50.00	28.00 - 87.00
* 2000	2.20 - 18.00	4.70 - 37.00	18.00 - 58.00	33.00 - 100.00
* 3000	2.70 - 20.00	5.00 - 45.00	20.00 - 70.00	40.00 - 100.00

\* SPECIFY – S Stainless Steel Knob – Part No. 24-32S or Part No. 24-32ST (for tips) for pressure exceeding 700 PSI.

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## MODELS 202B, 202BP, 202 BT, 203B, 203BP, 203 BT, 204B, 204BP, 204 BT, 206B, 206BP, 206BT

### INSTALLATION INSTRUCTIONS

**TABLE 2**

Fluid Viscosity (cps)	Maximum Injection (Oz/Min)			
	Model 202 B	Model 203 B	Model 204 B	Model 206 B
1	8	20	40	48
75	5	8	8	9
200	3	4	4	4

**TABLE 3**

Metering Tip Color	202BT			203BT			204BT			206BT		
	Injection Rates (Oz/Min)											
	Viscosity (cps)			Viscosity (cps)			Viscosity (cps)			Viscosity (cps)		
	1	75	200	1	75	200	1	75	200	1	75	200
Tan	1.0	1.0	0.6	1.1	0.8	0.5	1.1	0.8	0.5	1.0	0.7	0.6
Orange	1.5	1.2	0.7	1.4	1.0	0.7	1.4	0.9	0.6	1.4	1.0	0.8
Turquoise	1.8	1.4	1.2	2.0	1.4	1.0	1.9	1.2	0.9	1.9	1.3	1.0
Pink	2.5	2.0	1.4	2.7	1.8	1.3	2.6	1.7	1.3	2.6	1.8	1.3
Clear	3.3	2.7	1.7	3.5	2.4	1.6	3.4	2.4	1.6	3.5	2.3	1.7
Brown	3.2	2.9	1.9	4.0	2.7	1.7	4.0	2.4	1.9	4.0	2.6	1.8
Red	4.2	3.0	2.1	4.9	3.3	2.0	4.9	2.9	2.2	5.0	3.1	2.0
White	4.8	3.5	2.1	6.0	3.9	2.3	6.0	3.4	2.4	6.2	3.7	2.4
Green	5.2	3.7	2.3	6.8	4.4	2.5	6.8	3.8	2.5	7.1	4.1	2.6
Blue	6.2	4.0	2.4	7.8	4.9	2.7	8.4	4.3	3.1	8.9	4.8	2.9
Yellow	7.1	4.3	2.7	10.3	5.9	2.9	13.1	5.2	3.4	13.5	5.9	3.2
Black	7.0	4.4	2.8	13.2	6.7	3.0	18.2	6.1	3.5	20.1	6.7	3.5
Purple	7.4	4.6	2.9	17.1	6.7	3.1	27.5	6.8	3.5	31.3	7.5	3.6
Gray	7.8	4.7	3.1	19.0	7.1	3.3	32.9	7.0	3.5	38.3	8.0	3.8
No Tip	7.9	4.7	3.3	20.0	8.0	3.7	39.8	7.9	3.7	48.1	9.2	4.4

All induction rates are based on a water inlet pressure of 40 psi and operating at a full vacuum.

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## MODELS 202B, 202BP, 202 BT, 203B, 203BP, 203 BT, 204B, 204BP, 204 BT, 206B, 206BP, 206BT INSTALLATION INSTRUCTIONS

TABLE 4

Model	Pipe Size
202 B	3/8 NPT
203 B	3/8 NPT
204 B	1/2 NPT
206 B	3/4 NPT

#### 4. SERVICING

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

The check valve parts are in the metering knob and can be cleaned by removing the four screws. The knob may be rotated if it is more convenient to have the adjusting screw on another side of the injector. As with any injector, if spray jets become clogged or downstream restriction increases in any manner, the injector will stop drawing fluid. If it is inconvenient to remove the restriction immediately, the injector may be put back into operation by turning the water bypass screw further clockwise; this adjusts the injector to the lower flow rate. The bypass screw should be reset once the restriction is removed.

**CAUTION: When servicing, make sure that replacement parts have been installed according to drawing. Be certain to check valve parts are in place.**

#### 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.

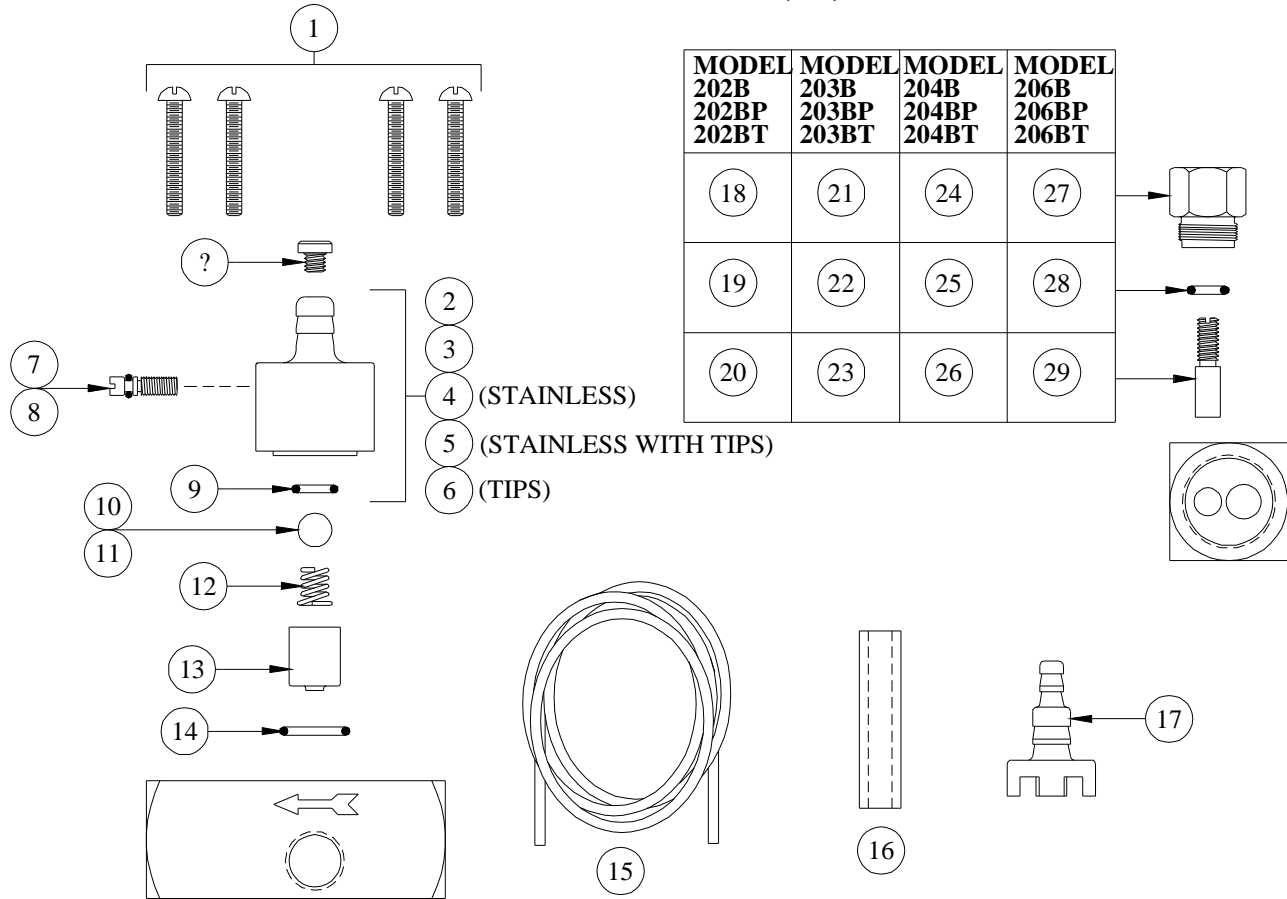
Defective units or parts should be returned to the factory with transportation prepaid. If inspection shows them to be defective, they will be repaired or replaced without charge, F.O.B. factory. DEMA assumes no liability for damages. Return merchandise authorization number, to return units for repair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

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MODELS 202B, 202BP, 202 BT, 203B, 203BP, 203 BT, 204B, 204BP, 204 BT, 206B, 206BP, 206BT

## INSTALLATION INSTRUCTIONS

MODEL #'S MAY ALSO INCLUDE S, E, C AND/OR -2.



NO.	PART NO.	DESCRIPTION
1	24-33	Screw #8-32 x 7/8" Lg. (4-Reqd.)
2	24-32	Metering Knob Assy.
3	24-32PS	Metering Knob Assy.
4	24-32S	Metering Knob Assy. (Stainless)
5	24-32ST	Metering Knob Assy. (Stainless Steel with Tips)
6	24-32T	Metering Knob Assy. (Tips)
7	100-24	Metering Screw
8	100-24PS	Metering Screw (-BP Injectors)
9	24-25	Check Valve O-Ring (EP)
10	24-24P	Check Valve Ball (Teflon)
11	24-24S	Check Valve Ball (Stainless)
12	24-23	Check Valve Spring
13	24-34-	Check Valve Core (Specify Model No.)
14	25-29	O-Ring (EP)
15	100-12	Vinyl Tubing (3/8" OD x 8' Lg.)
16	61-107-2	Ceramic Weight (1/4" ID 3/8" OD Tubing)
17	24-11P	Foot Strainer

NO.	PART NO.	DESCRIPTION
<b>USED ON 202B, 202BP, 202BT</b>		
18	24-48	By-Pass Screw Retainer
19	24-49	O-Ring (Buna) (3/16x5/16x1/16)
20	24-47	By-Pass Screw
<b>USED ON 203B, 203BP, 203BT</b>		
21	24-36	By-Pass Screw Retainer
22	24-25	O-Ring (EP) (7/32x11/32x1/16)
23	24-35	By-Pass Screw
<b>USED ON 204B, 204BP, 204BT</b>		
24	24-40	By-Pass Screw Retainer
25	26-17	O-Ring (Buna) (3/4x7/8x1/16)
26	24-39	By-Pass Screw
<b>USED ON 206B, 206BP, 206BT</b>		
27	24-38	By-Pass Screw Retainer
28	25-29	O-Ring (EP) (3/8x1/2x1/16)
29	24-37	By-Pass Screw

### ACCESSORIES

NO.	PART NO.	DESCRIPTION
30	100-15-	Metering Tip (Specify Color)
31	100-15K	Metering Tip Kit