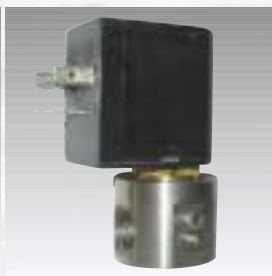
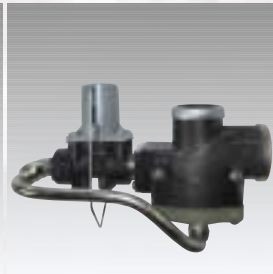




# Industrial Products Catalog



DEMA Engineering Company

# History

## The roots of DEMA Engineering

date back to 1940, when brothers Bela and Herman Deutsch joined together to manufacture industrial controls and accessories.

Sixteen years later, after receiving several inquiries from chemical manufacturers for dispensing equipment, the team capitalized on the industry's demand for quality chemical dispensing equipment. With an initial product line consisting of two proportioners, a dispensing pump and a few spray guns, the brothers formed **DEMA** Engineering Company.

Nearly five decades later, **DEMA** has become a world leader in both the chemical dispensing and proportioning industries. The company has over 500 employees working at five manufacturing facilities worldwide, including locations in Australia, the Netherlands, and three in the St. Louis, Missouri area. **DEMA** now manufactures solenoid valves, chemical injectors, liquid level proportioning controls, inline strainers and a variety of other fluid dispensing systems.

**DEMA's** product components are manufactured on state of the art equipment, including computer controlled machining and turning centers and injection molding machines. They are then assembled and tested in a modern dedicated assembly facility. This facility has been expanded to serve the car wash, agriculture, beverage dispensing, reverse osmosis, misting, whirlpool, high pressure cleaning and dish and laundry machine industries worldwide. **DEMA** continues to introduce new products to meet the demands of an ever changing market.

Despite **DEMA's** success and growth, it is still a family owned and operated business. Its current leadership is the third generation of the Deutsch family active in the company, and is continuing the tradition of innovation and quality into the 21st century.



## The DEMA Mission:

*To expand our heritage as designers and manufacturers of high quality dispensing and fluid control products by being the most innovative company in our industry, providing quality products with unique features that meet or exceed the need of our global customers, and doing so in a timely manner at a competitive price.*

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# SOLENOID VALVES

Valve Model Number	Action	Pressure Differential				Body Material	Orifice Dia. Inches		Pipe Size N.P.T.	CV Flow Factor #	GPM @ 60 psi (cv # x sq. root psi)	Liters/M@ 4.08 bar	Page Number
		max psi	min psi	max bar	min bar								
<b>Standard Duty</b>													
401P	Direct	150	0	10.2	0	BRASS	7/64	.109	1/4	0.27	2.09	7.92	4
412P	Pilot-Piston	150	1	10.2	0.068	BRASS	9/32	.281	3/8	1.20	9.30	35.20	4
A413P	Pilot-Piston	150	3	10.2	0.204	BRASS	5/16	.313	3/8	2.00	15.50	58.67	4
A414P	Pilot-Piston	150	3	10.2	0.204	BRASS	7/16	.438	1/2	3.10	24.03	90.93	4
A416P	Pilot-Piston	150	3	10.2	0.204	BRASS	19/32	.593	3/4	5.00	38.75	146.67	4
A418P	Pilot-Piston	150	3	10.2	0.204	BRASS	3/4	.750	1	8.00	62.00	234.67	4
<b>Mini Valves Normally Closed</b>													
442P	Diaphragm	125	3	8.5	0.204	BRASS	1/4	.250	1/4	1.00	7.75	29.33	7
443P	Diaphragm	125	3	8.5	0.204	BRASS	1/4	.250	3/8	1.00	7.75	29.33	7
443PFB	Dia/flow disc	125	3	8.5	0.204	BRASS	1/4	.250	3/8	1.00	disc .106 or 2.38 gpm	29.33	7
P442	Diaphragm	125	3	8.5	0.204	CELCON	1/4	.250	1/4	1.00	7.75	29.33	7
P443	Diaphragm	125	3	8.5	0.204	CELCON	1/4	.250	3/8	1.00	7.75	29.33	7
P462	Diaphragm	125	3	8.5	0.204	CELCON	1/4	.250	1/4	1.00	7.75	29.33	7
P462F	Dia/flow disc	125	3	8.5	0.204	CELCON	1/4	.250	1/4	1.00	disc .5 - 1.0 - 1.5 gpm	29.33	7
P463	Diaphragm	125	3	8.5	0.204	CELCON	1/4	.250	3/8	1.00	7.75	29.33	7
P463F	Dia/flow disc	125	3	8.5	0.204	CELCON	1/4	.250	3/8	1.00	disc .5 - 1.0 - 1.5 gpm	29.33	7
P404J	Diaphragm	125	3	8.5	0.204	CELCON	3/8	.375	1/2	1.00	7.75	29.33	9
<b>Mini Valves Normally Open</b>													
OP442	Diaphragm	125	3	8.5	0.204	CELCON	1/4	.250	1/4	1.00	7.75	29.33	8
OP443	Diaphragm	125	3	8.5	0.204	CELCON	1/4	.250	3/8	1.00	7.75	29.33	8
O442P	Diaphragm	125	3	8.5	0.204	BRASS	1/4	.250	1/4	1.00	7.75	29.33	8
O443P	Diaphragm	125	3	8.5	0.204	BRASS	1/4	.250	3/8	1.00	7.75	29.33	8
OPP442	Diaphragm	125	3	8.5	0.204	GLASS FILED POLY	1/4	.250	1/4	1.00	7.75	29.33	9
OPP443	Diaphragm	125	3	8.5	0.204	GLASS FILED POLY	1/4	.250	3/8	1.00	7.75	29.33	9
<b>Diaphragm Valves Normally Closed</b>													
463PS	Diaphragm	150	3	10.2	0.204	STL. STEEL	3/8	.375	3/8	2.00	15.50	58.67	7
464PS	Diaphragm	150	3	10.2	0.204	STL. STEEL	3/8	.375	1/2	2.00	15.50	58.67	7
466P	Diaphragm	150	3	10.2	0.204	GLASS FILLED NYLON	3/4	.750	3/4	10.00	77.50	293.34	9
473P	Diaphragm	150	1	10.2	0.068	BRASS	9/16	.563	3/8	3.50	27.13	102.67	5
474P	Diaphragm	150	1	10.2	0.068	BRASS	9/16	.563	1/2	4.00	31.00	117.34	5
476P	Diaphragm	150	1	10.2	0.068	BRASS	3/4	.750	3/4	5.00	38.75	146.67	5
476PS	Diaphragm	150	1	10.2	0.068	STL. STEEL	3/4	.750	3/4	5.00	38.75	146.67	5
<b>Diaphragm Valves Normally Open</b>													
O463PS	Diaphragm	150	3	10.2	0.204	STL. STEEL	3/8	.375	3/8	2.00	15.50	58.67	9
O464PS	Diaphragm	150	3	10.2	0.204	STL. STEEL	3/8	.375	1/2	2.00	15.50	58.67	9
O473P	Diaphragm	150	1	10.2	0.068	BRASS	9/16	.563	3/8	3.50	27.13	102.67	8
O474P	Diaphragm	150	1	10.2	0.068	BRASS	9/16	.563	1/2	4.00	31.00	117.34	8
O476P	Diaphragm	150	1	10.2	0.068	BRASS	3/4	.750	3/4	5.00	38.75	146.67	8
<b>Corrosive Liquids</b>													
481P	Direct-Dia.	vac				PVC	5/32	.172	1/8	0.27	2.09	7.92	10
481-2	Direct-Dia. "injector, dual inlet"	vac				PVC	5/32	.172		0.27	2.09	7.92	10
482-2	Direct-Dia. adjustable	vac				PVC	5/32	.172	1/4	0.27	2.09	7.92	10
<b>Round Body, Single Station Valves</b>													
491Sxxx	Direct	150	0	10.2	0	STL. STEEL	1/8	.125	1/8	0.27	2.09	7.92	6
492Sxxx	Direct	150	0	10.2	0	STL. STEEL	1/8	.125	1/4	0.27	2.09	7.92	6
							3/32 available						
<b>Manifold, Brass Block with Stainless Steel Seats</b>													
491Mxxx	Direct	150	0	10.2	0	BRASS MAN./	1/8	.125	1/8	0.27	2.09	7.92	6
492Mxxx	Direct	150	0	10.2	0	STL. STEEL VALVES	1/8	.125	1/4	0.27	2.09	7.92	6
							3/32 available						
<b>High Pressure Normally Closed</b>													
453P*	Pilot-Piston	1200	10	81.6	0.68	BRASS	7/20	.350	3/8	1.80	13.95	52.80	5
453S***	Pilot-Piston	1200	10	81.6	0.68	BRASS	7/20	.350	3/8	1.80	13.95	52.80	5
454P**	Pilot-Piston	1200	10	81.6	0.68	BRASS	1/2	.500	1/2	3.70	28.68	108.53	5
458P**	Pilot-Piston	1200	10	81.6	0.68	BRASS	15/16	.939	1	11.10	86.03	325.60	5
458PS***	Pilot-Piston	1200	10	81.6	0.68	BRASS	15/16	.939	1	11.10	86.03	325.60	5
<b>High Pressure Normally Open</b>													
O453P**	Norm-Open	1000	10	68	0.68	BRASS	7/20	.350	3/8	1.80	13.95	52.80	8
O453S***	Norm-Open	1000	10	68	0.68	BRASS	7/20	.350	3/8	1.80	13.95	52.80	8

\* stainless steel piston (no sleeve)  
 \*\* stainless steel sleeve with brass piston  
 \*\*\* (s) designates stainless steel sleeve and piston

Note: All high pressure valves with a DC Coil must be derated to 900 psi.

## Solenoid Valves

There are two basic types of solenoid valves. The most common is the normally closed type in which the valve opens when the coil is energized. The other type is the normally open valve which closes when the coil is energized.

These valves are suitable for most industrial applications. They are ideal for water, air, light oil, and other noncorrosive liquids. Valves are rated for 200°F/93°C fluid and 120°F/49°C ambient except for the Mini Valves which are rated for 180°F/82°C fluid and 120°F/49°C ambient, (see pages 7-9). The molded waterproof coils have wiring options that include a junction box, spade, conduit and din. They have voltage options of 12VDC, 24VDC, and 24, 120, 208, and 240VAC 50/60 cycle on most models. Component materials are available in Buna N, EPDM, Viton, Teflon and Silicone. DEMA offers valves made from brass, stainless steel, Celcon, PVC, polypropylene and nylon. Stainless steel seats are standard on all pilot piston, diaphragm (except mini series), and high pressure valves. Valves may be mounted in any position except with the coil under the valve. Listed by Underwriter's Laboratories, Inc. (except high pressure).

## Construction

DEMA solenoid valves are constructed to insure long, trouble free life. They employ proven design features for reliable performance on all applications. Quality is maintained by strict control methods in all phases of production. Detailed testing of every valve produced during all phases of production is followed by 100% testing for body and seat tightness, electrical characteristics, and valve operation. All DEMA valves are manufactured in our Missouri plants.

## Electrical

DEMA solenoid valves are available in many AC and DC voltage ratings.

For ease of identification, coils are manufactured with the following lead wire colors.

12 vdc / 24 vdc	Black
24/50-60	Orange
120/50-60	Blue
208-240/50-60	Red

Leads on valves with a conduit boss and flying lead coils are 18" long while coil leads on valves with a junction box are 6" in length.

# SOLENOID VALVES

## Direct Acting Valves

**Normally Closed**

**Application:** Water, air, light oil, and other noncorrosive liquids.

**Operation:** The stem and plunger assembly opens the port of the valve directly. Limited to the smaller valves with port sizes of less than 1/4 inch. Requires no minimum pressure to operate.

Valves rated 200F/93C fluid, 120F/49C ambient



401P



492SM (with Din)

Model No.	Body	Seal	Pressure	Pipe Size	Orifice	CV Flow-Factor
401P	Brass	Buna N	max 150 psi min 0 psi	1/4 N.P.T.	7/64	0.27
401PV	Brass	Viton	max 150 psi min 0 psi	1/4 N.P.T.	7/64	0.27
Less Metering						
491S-8	Stainless Steel	*Buna N	max 150 psi min 0 psi	1/8 N.P.T.	1/8	0.27
492S-8	Stainless Steel	*Buna N	max 150 psi min 0 psi	1/4 N.P.T.	1/8	0.27
With Metering						
492SM-8	Stainless Steel	*Buna N	max 150 psi min 0 psi	1/4 N.P.T.	1/8	0.27
					3/32 available	
					3/32 available	
* Available with EPDM and Viton (see page 6)						

## Pilot-Piston Valves

**Normally Closed**

**Application:** Water, air, light oil, and other noncorrosive liquids.

**Operation:** The stem and plunger assembly opens the port. This releases the pressure on top of the piston, which moves upward and opens the main valve port.

- All pilot piston valves have stainless steel seats

Valves rated 200F/93C fluid, 120F/49C ambient



412P



A413P



A414P

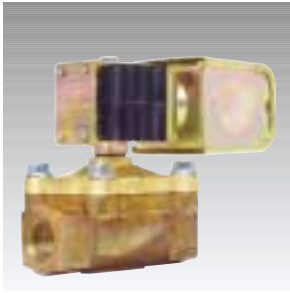


A416P



A418P

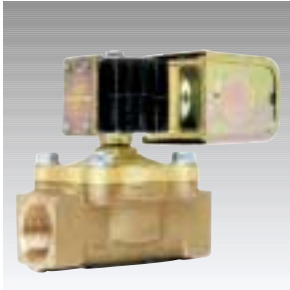
Model No.	Body	Seal	Pressure	Pipe Size	Orifice	CV Flow-Factor
412P	Brass	Teflon	max 150 psi min 1 psi	3/8 N.P.T.	9/32	1.2
A413P	Brass	Teflon	max 150 psi min 3 psi	3/8 N.P.T.	5/16	2.0
A414P	Brass	Teflon	max 150 psi min 3 psi	1/2 N.P.T.	7/16	3.1
A416P	Brass	Teflon	max 150 psi min 3 psi	3/4 N.P.T.	19/32	5.0
A418P	Brass	Teflon	max 150 psi min 3 psi	1 N.P.T.	3/4	8.0



473P



474P



476P



476PS

## Diaphragm Valves

### Normally Closed

**Application:** Water, air, light oil, and other noncorrosive liquids. Recommended for applications that have unfiltered fluid.

**Operation:** When energized, the plunger is pulled to the top plug, thus opening the small "pilot port" in the center of the diaphragm plate. This releases the pressure on top of the diaphragm allowing incoming pressure to lift it off the large center port.

When de-energized, the solenoid plunger is pushed from the top plug by the kick-off spring and closes the pilot port. Fluid passes through the diaphragm bleed hole until pressure is equalized on both sides of the diaphragm to shut off the large port.

All diaphragm valves have stainless steel seats

Valves rated 200F/93C fluid, 120F/49C ambient

- Suitable for up to 10 psi steam, 240F/115C with Teflon Diaphragm, add suffix (T) for Teflon Diaphragm

Model No.	Body	Seal	Pressure	Pipe Size	Orifice	CV Flow-Factor
473P	Brass	Buna N	max 150 psi min 1 psi	3/8 N.P.T.	9/16	3.5
474P	Brass	Buna N	max 150 psi min 1 psi	1/2 N.P.T.	9/16	4.0
476P	Brass	Buna N	max 150 psi min 1 psi	3/4 N.P.T.	3/4	5.0
476PS	S. Steel	Buna N	max 150 psi min 1 psi	3/4 N.P.T.	3/4	5.0



453P



454P



458P

## High Pressure Valves Up to 1200 psi

### Normally Closed

**Application:** Water

All valves have stainless steel sleeves and seats except 453P. (S) designates stainless steel piston

**Operation:** Same as a pilot operated valve except the pilot port is in a separate chamber from the piston. This allows the plunger to operate closer to the top plug with more force and consequently higher opening pressure.

Valves rated 200F/93C fluid, 120F/49C ambient

Model No.	Body	Seal	Pressure	Pipe Size	Orifice	CV Flow-Factor
453P	Brass	Teflon	max 1200 psi min 10 psi	3/8 N.P.T.	11/32	1.8
453S	Brass w/Stainless Steel Piston	Teflon	max 1200 psi min 10 psi	3/8 N.P.T.	11/32	1.8
454P	Brass	Teflon	max 1200 psi min 10 psi	1/2 N.P.T.	1/2	3.7
458P	Brass	Teflon	max 1200 psi min 10 psi	1 N.P.T.	15/16	11.1
458PS	Brass w/Stainless Steel Piston	Teflon	max 1200 psi min 10 psi	1 N.P.T.	15/16	11.1



# SOLENOID VALVES

## Direct Acting Single Station and Manifold Valves

Normally Closed

**Application:** Water, air, light oil, and other noncorrosive liquids.

**Manifold Valves:** Stainless steel valves mounted on a solid brass manifold block. Common inlet port for chemical supply to all valves on both ends. Individual metering screw available. **Single Station Valves:** Round body stainless steel valve. Metering screw available on 1/4" NPT model.



492SM Single Station



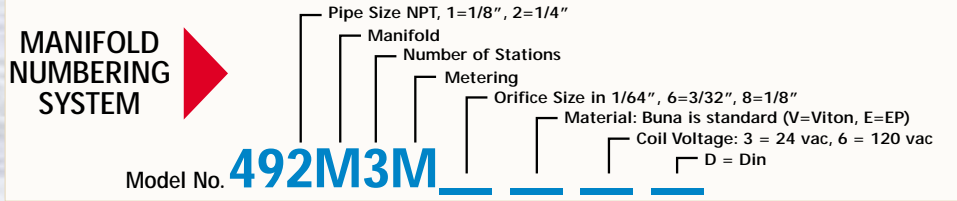
492M1M One Station

### Stainless steel single station round body valve

Model No.	# Sta.	Coil/Voltage	Seal	Pressure	Pipe Size	Orifice	CV Flow Factor
Less Metering		*				**	
491S-8-3	1	Spade 24 vac	Buna N	max 150 psi min 0 psi	1/8 NPT	1/8	0.27
491S-8-6	1	Spade 120 vac	Buna N	max 150 psi min 0 psi	1/8 NPT	1/8	0.27
492S-8-3	1	Spade 24 vac	Buna N	max 150 psi min 0 psi	1/4 NPT	1/8	0.27
492S-8-6	1	Spade 120 vac	Buna N	max 150 psi min 0 psi	1/4 NPT	1/8	0.27
With Metering						**3/32 available	
492SM-8-3	1	Spade 24 vac	Buna N	max 150 psi min 0 psi	1/4 NPT	1/8	0.27
492SM-8-6	1	Spade 120 vac	Buna N	max 150 psi min 0 psi	1/4 NPT	1/8	0.27
		*add (D) for Din				**3/32 available	



492M2M Two Station



### Manifold Valves

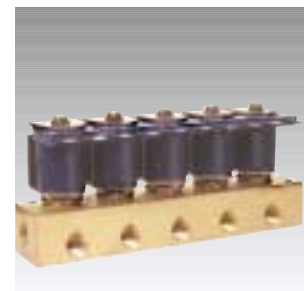
Model No.	# Sta.	Coil/Voltage	Seal	Pressure	Pipe Size	Orifice	CV Flow Factor
Less Metering		*				**	
491M1-8-3	1	Spade 24 vac	Buna N	max 150 psi min 0 psi	1/8 NPT	1/8	0.27
491M1-8-6	1	Spade 120 vac	Buna N	max 150 psi min 0 psi	1/8 NPT	1/8	0.27
492M1-8-3	1	Spade 24 vac	Buna N	max 150 psi min 0 psi	1/4 NPT	1/8	0.27
492M1-8-6	1	Spade 120 vac	Buna N	max 150 psi min 0 psi	1/4 NPT	1/8	0.27
With Metering						**3/32 available	
491M1M-8-3	1	Spade 24 vac	Buna N	max 150 psi min 0 psi	1/8 NPT	1/8	0.27
491M1M-8-6	1	Spade 120 vac	Buna N	max 150 psi min 0 psi	1/8 NPT	1/8	0.27
492M1M-8-3	1	Spade 24 vac	Buna N	max 150 psi min 0 psi	1/4 NPT	1/8	0.27
492M1M-8-6	1	Spade 120 vac	Buna N	max 150 psi min 0 psi	1/4 NPT	1/8	0.27
Less Metering						**3/32 available	
491M2-8-3	2	Spade 24 vac	Buna N	max 150 psi min 0 psi	1/8 NPT	1/8	0.27
491M2-8-6	2	Spade 120 vac	Buna N	max 150 psi min 0 psi	1/8 NPT	1/8	0.27
492M2-8-3	2	Spade 24 vac	Buna N	max 150 psi min 0 psi	1/4 NPT	1/8	0.27
492M2-8-6	2	Spade 120 vac	Buna N	max 150 psi min 0 psi	1/4 NPT	1/8	0.27
With Metering						**3/32 available	
491M2M-8-3	2	Spade 24 vac	Buna N	max 150 psi min 0 psi	1/8 NPT	1/8	0.27
491M2M-8-6	2	Spade 120 vac	Buna N	max 150 psi min 0 psi	1/8 NPT	1/8	0.27
492M2M-8-3	2	Spade 24 vac	Buna N	max 150 psi min 0 psi	1/4 NPT	1/8	0.27
492M2M-8-6	2	Spade 120 vac	Buna N	max 150 psi min 0 psi	1/4 NPT	1/8	0.27
Less Metering						**3/32 available	
491M3-8-3	3	Spade 24 vac	Buna N	max 150 psi min 0 psi	1/8 NPT	1/8	0.27
491M3-8-6	3	Spade 120 vac	Buna N	max 150 psi min 0 psi	1/8 NPT	1/8	0.27
492M3-8-3	3	Spade 24 vac	Buna N	max 150 psi min 0 psi	1/4 NPT	1/8	0.27
492M3-8-6	3	Spade 120 vac	Buna N	max 150 psi min 0 psi	1/4 NPT	1/8	0.27
With Metering						**3/32 available	
491M3M-8-3	3	Spade 24 vac	Buna N	max 150 psi min 0 psi	1/8 NPT	1/8	0.27
491M3M-8-6	3	Spade 120 vac	Buna N	max 150 psi min 0 psi	1/8 NPT	1/8	0.27
492M3M-8-3	3	Spade 24 vac	Buna N	max 150 psi min 0 psi	1/4 NPT	1/8	0.27
492M3M-8-6	3	Spade 120 vac	Buna N	max 150 psi min 0 psi	1/4 NPT	1/8	0.27
Less Metering						**3/32 available	
491M4-8-3	4	Spade 24 vac	Buna N	max 150 psi min 0 psi	1/8 NPT	1/8	0.27
491M4-8-6	4	Spade 120 vac	Buna N	max 150 psi min 0 psi	1/8 NPT	1/8	0.27
492M4-8-3	4	Spade 24 vac	Buna N	max 150 psi min 0 psi	1/4 NPT	1/8	0.27
492M4-8-6	4	Spade 120 vac	Buna N	max 150 psi min 0 psi	1/4 NPT	1/8	0.27
With Metering						**3/32 available	
491M4M-8-3	4	Spade 24 vac	Buna N	max 150 psi min 0 psi	1/8 NPT	1/8	0.27
491M4M-8-6	4	Spade 120 vac	Buna N	max 150 psi min 0 psi	1/8 NPT	1/8	0.27
492M4M-8-3	4	Spade 24 vac	Buna N	max 150 psi min 0 psi	1/4 NPT	1/8	0.27
492M4M-8-6	4	Spade 120 vac	Buna N	max 150 psi min 0 psi	1/4 NPT	1/8	0.27
Less Metering						**3/32 available	
491M5-8-3	5	Spade 24 vac	Buna N	max 150 psi min 0 psi	1/8 NPT	1/8	0.27
491M5-8-6	5	Spade 120 vac	Buna N	max 150 psi min 0 psi	1/8 NPT	1/8	0.27
492M5-8-3	5	Spade 24 vac	Buna N	max 150 psi min 0 psi	1/4 NPT	1/8	0.27
492M5-8-6	5	Spade 120 vac	Buna N	max 150 psi min 0 psi	1/4 NPT	1/8	0.27
With Metering						**3/32 available	
491M5M-8-3	5	Spade 24 vac	Buna N	max 150 psi min 0 psi	1/8 NPT	1/8	0.27
491M5M-8-6	5	Spade 120 vac	Buna N	max 150 psi min 0 psi	1/8 NPT	1/8	0.27
492M5M-8-3	5	Spade 24 vac	Buna N	max 150 psi min 0 psi	1/4 NPT	1/8	0.27
492M5M-8-6	5	Spade 120 vac	Buna N	max 150 psi min 0 psi	1/4 NPT	1/8	0.27
		*add (D) for Din				**3/32 available	



492M3M Three Station



492M4M Four Station



492M5M Five Station



## Mini Diaphragm Valves

Normally Closed

Application: Water, air, light oil, and other noncorrosive liquids.

60 mesh stainless steel filter on series 442 and 443, rated for 180°F/82°C fluid and 120°F/49°C ambient.



442P, 443P



P442, P443  
NSF Std. 61, C-2 Approved



463PS, 464PS  
NSF Std. 61, C-2 Approved



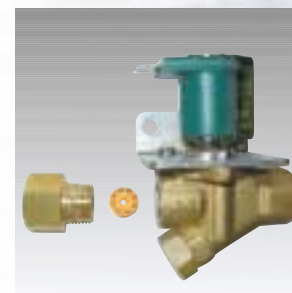
463PS-D, 464PS-D  
NSF Std. 61, C-2 Approved



463PSJ, 464PSJ  
NSF Std. 61, C-2 Approved



P462, P463  
NSF Std. 61, C-2 Approved



443PFB Flow Disc,  
\*Optional disc available

Model No.	Body	Seal	Pressure	Pipe Size	Orifice	CV Flow-Factor	NSF Std. 61, C-2 Approved
442P	Brass	EPDM	max 125 psi min 3 psi	1/4 N.P.T.	1/4	1	No
443P	Brass	EPDM	max 125 psi min 3 psi	3/8 N.P.T.	1/4	1	No
443PFB	Brass	EPDM	max 125 psi min 3 psi	3/8 N.P.T.	1/4	2.38 or 1.06 gpm flow disc*	No
P442	Celcon	EPDM	max 125 psi min 3 psi	1/4 N.P.T.	1/4	1	Yes
P443	Celcon	EPDM	max 125 psi min 3 psi	3/8 N.P.T.	1/4	1	Yes
PP442	Polypropylene	EPDM	max 125 psi min 3 psi	1/4 N.P.T.	1/4	1	No
PP443	Polypropylene	EPDM	max 125 psi min 3 psi	3/8 N.P.T.	1/4	1	No
P462	Celcon	EPDM	max 125 psi min 3 psi	1/4 N.P.T.	1/4	1	Yes
P463	Celcon	EPDM	max 125 psi min 3 psi	3/8 N.P.T.	1/4	1	Yes
P462F-5	Celcon	EPDM	max 125 psi min 3 psi	1/4 N.P.T.	1/4	.5 gpm flow disc	Yes
P462F-10	Celcon	EPDM	max 125 psi min 3 psi	1/4 N.P.T.	1/4	1.0 gpm flow disc	Yes
P462F-15	Celcon	EPDM	max 125 psi min 3 psi	1/4 N.P.T.	1/4	1.5 gpm flow disc	Yes
P463F-5	Celcon	EPDM	max 125 psi min 3 psi	3/8 N.P.T.	1/4	.5 gpm flow disc	Yes
P463F-10	Celcon	EPDM	max 125 psi min 3 psi	3/8 N.P.T.	1/4	1.0 gpm flow disc	Yes
P463F-15	Celcon	EPDM	max 125 psi min 3 psi	3/8 N.P.T.	1/4	1.5 gpm flow disc	Yes
463PS	Stainless	EPDM	max 125 psi min 3 psi	3/8 N.P.T.	3/8	2	Yes
463PS-D	Stainless	EPDM	max 125 psi min 3 psi	3/8 N.P.T.	3/8	2	Yes
463PSJ	Stainless	EPDM	max 125 psi min 3 psi	3/8 N.P.T.	3/8	2	Yes
464PS	Stainless	EPDM	max 125 psi min 3 psi	1/2 N.P.T.	3/8	2	Yes
464PS-D	Stainless	EPDM	max 125 psi min 3 psi	1/2 N.P.T.	3/8	2	Yes
464PSJ	Stainless	EPDM <sup>o</sup>	max 125 psi min 3 psi	1/2 N.P.T.	3/8	2	Yes

# SOLENOID VALVES

## Normally Open Diaphragm Valves

**Application:** Water, air, light oil, and other noncorrosive liquids.

Valves rated 200F/93C fluid, 120F/49C ambient

- Stainless steel seat



O473P



O474P



O476P Shown with Din

Model No.	Body	Seal	Pressure	Pipe Size	Orifice	CV Flow-Factor
O473P	Brass	Buna N	max 150 psi min 1 psi	3/8 N.P.T.	9/16	3.5
O474P	Brass	Buna N	max 150 psi min 1 psi	1/2 N.P.T.	9/16	4.0
O476P	Brass	Buna N	max 150 psi min 1 psi	3/4 N.P.T.	3/4	5.0

## Normally Open High Pressure Valves Up to 1000 psi

**Application:** Water (S) designates stainless steel piston

Valves rated 200F/93C fluid, 120F/49C ambient



O453P

Model No.	Body	Seal	Pressure	Pipe Size	Orifice	CV Flow-Factor
O453P	Brass	Teflon	max 1000 psi min 10 psi	3/8 N.P.T.	11/32	1.8
O453S	Brass	Teflon	max 1000 psi min 10 psi	3/8 N.P.T.	11/32	1.8

## Normally Open Mini Diaphragm Valves

**Application:** Water, air, light oil, and other noncorrosive liquids.

- Ideal for weep systems
- 442 and 443 series valves rated for 180F/82C fluid and 120F/49C ambient.



O442P/O443P



OP442/OP443  
NSF Std. 61, C-2 Approved



OPP442/OPP443



O463PS/O464PS

NSF Std. 61, C-2 Approved

## Normally Open Mini Diaphragm Valves

*Continued*

Model No.	Body	Seal	Pressure	Pipe Size	Orifice	CV Flow-Factor	NSF Std. 61, C-2 Approved
OP442	Celcon	EPDM	max 125 psi min 3 psi	1/4 N.P.T.	1/4	1	Yes
OP443	Celcon	EPDM	max 125 psi min 3 psi	3/8 N.P.T.	1/4	1	Yes
O442P	Brass	EPDM	max 125 psi min 3 psi	1/4 N.P.T.	1/4	1	No
O443P	Brass	EPDM	max 125 psi min 3 psi	3/8 N.P.T.	1/4	1	No
OPP442	Polypropylene	EPDM	max 125 psi min 3 psi	1/4 N.P.T.	1/4	1	No
OPP443	Polypropylene	EPDM	max 125 psi min 3 psi	3/8 N.P.T.	1/4	1	No
O463PS	SS	EPDM	max 125 psi min 3 psi	3/8 N.P.T.	3/8	2	Yes
O464PS	SS	EPDM	max 125 psi min 3 psi	1/2 N.P.T.	3/8	2	Yes

## Special Purpose Valves

**Normally Closed**

**Application:** Water, air, light oil, and other noncorrosive liquids.

Manifolding diaphragm valves can be joined together to form a manifold without bushings or connectors.



P404J

\* 30% Glass Filled Polypropylene



P404J

(two valves coupled together)

\* 30% Glass Filled Polypropylene



466P

Model No.	Body	Seal	Pressure	Pipe Size	Orifice	CV Flow-Factor
P404J	*	EPDM	max 125 psi min 3 psi	1/2 N.P.T.	3/8	1.0
466P	Glass Filled Nylon	Viton	max 150 psi min 3 psi	3/4 N.P.T.	3/4	10.0



# SOLENOID VALVES

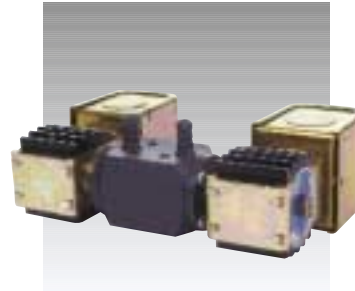
## Direct Acting Valves for Corrosive Liquids

Normally closed



**481P\***

Direct acting diaphragm used on vacuum lines with corrosive liquids.



**481-2** 200 PSI maximum pressure

Injector mounted, dual inlet used with corrosive liquids. Can be mounted on all B and C series injectors.



**482-2**

Direct acting diaphragm used on vacuum lines with corrosive liquids, adjustable.

\* Can be injector mounted by using Kit 24-50 for 1/4 inch metering knob (see page 15).

Model No.	Body	Seal	Pressure	Pipe Size	Orifice	CV Flow-Factor
481P*	PVC	EPDM	vacuum	1/8 N.P.T.	5/32	0.27
481-2	PVC	EPDM	vacuum	Injector Mounted	5/32	0.27
482-2	PVC	EPDM	vacuum	1/4 N.P.T.	5/32	0.27

## Coil Options

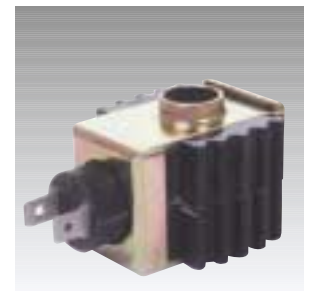
Coils rated NEMA 1,  
Conduit and Din Coils NEMA 4



Junction Box



Conduit



Spade



Spade

\* Available on:  
442 & 443 Series  
P462, P463, P404J, 463PS  
476PS, 464PS, 463PSJ, 464PSJ,  
491S, 492S, 492SM, 491M's,  
and 492M's Series



Flying lead coil

24 VAC and 120 VAC only  
\* Available on:  
442 & 443 Series  
P462, P463, P404J, 463PS, 476PS,  
464PS, 463PSJ, 464PSJ, 491S,  
492S, 492SM, 491M's, and  
492M's Series



Din



Din Female connector  
41-77-100110

Additional connectors with alternate size and wiring available by special order

Electrical Connection
JB - Junction Box Standard
C - Conduit
D - Din
S - Spade

Coil Designation	Voltage	Color
2	12VDC	Black
4	24 VDC	Black
3	24VAC	Blue
6	120VAC	Green
9	240VAC	Red

## Electrical Specifications

Coil No.	AC						DC		
	Watts	Volts	AMPERS INRUSH		AMPERS HOLDING		Watts	Volts	Amps
			50Hz	60Hz	50Hz	60Hz			
<b>Coil No. 1 Used On</b> 401P, 473P, 474P, 476P, O473P, O474P, O476P, 481P, 482-2, 466P	10	24	1.8	1.5	1.0	.75	15	12	1
		120	.38	.33	.21	.15		24	0.05
		208	.16	.14	.12	.09			
		240	.19	.16	.10	.07			
<b>Coil No. 2 Used On</b> 411P, 412P, A413P, A414P, A416P, A418P, 453P, 454P, 458P, 458PS, O453P, O453S	15	24	3.7	3.0	1.6	1.2	18	12	1.5
		120	.73	.60	.33	.24		24	0.07
		208	.41	.35	.19	.14			
		240	.36	.30	.16	.12			
<b>Coil No. 5 Used On</b> 442P, 443P, P442, P443, P462, P463, 463PS, 464PS, 463PS-D, 464PS-D, 463PSJ, 464PSJ, P404J	10	24	na	.67	na	.48	10	12	0.74
		120	na	.15	na	.102		24	0.37
		240	na	.075	na	.05			
<b>Coil No. 7 Used On</b> 491M, 492M, 491S, 492S, 492SM, 476PS	10	24	na	.67	na	.48	na	na	na
		120	na	.15	na	.102	na	na	na

## Valve Repair Kits

Model	Kit P/N	O-Ring	Closing Spring	Plunger Spring	Plunger	Valve Seat	Piston Ring	Backup Spring	Piston Assembly	Diaphragm	Valve Operator	Enclosing Assembly
401P	41-24	Y		Y	Y	Y						
412P	41-26	Y	Y	Y	Y		Y	Y	Y			
A413P	41-27	Y	Y	Y	Y		Y	Y	Y			
A414P	41-28	Y	Y	Y	Y		Y	Y	Y			
A416P	41-29	Y	Y	Y	Y		Y	Y	Y			
A418P	41-30	Y	Y	Y	Y		Y	Y	Y			
442P & 443P	61-78		Y		Y					Y		
P442 & P443	61-78		Y		Y					Y		
P462 & P463	61-78		Y		Y					Y		
463PS & 464PS	61-78		Y		Y					Y		
OP462 & OP463	41-44-1									Y		Y
OP442 & OP443	41-44-1									Y		Y
OPP442 & OPP443	41-44-1									Y		Y
O463PS & OP464PS	41-44-1									Y		Y
453P & 453S	41-31	Y	Y	Y	Y		Y	Y	Y			
454P	41-32	Y	Y	Y	Y		Y	Y	Y			
458P & 458PS	41-33	Y	Y	Y	Y		Y	Y	Y			
O453P & O453S	41-58	Y	Y				Y	Y	Y		Y	
473P & 474P	41-47	Y		Y	Y					Y		
O473P & O474P	41-50	Y	Y							Y	Y	
O476P	41-50-1	Y	Y							Y	Y	
476P	41-49	Y		Y	Y					Y		
466P & 466PV	No Kit Number, Order Individual Parts											
492M	* 49-1-8 (1/8" Orifice)	Y		Y	Y	Y			Y			
	* 49-1-6 (3/32" Orifice)	Y		Y	Y	Y			Y			

\*Note: Add suffix (B) Buna, (E) EP, (V) Viton i.e. 49-1-8V

# Y TYPE STRAINERS



S2B Forged Brass



S3B Forged Brass



S4B Forged Brass



S6B Forged Brass



S10B Cast Bronze



S2P



S3P

## Y-Type Line Strainers

For use in waterlines ahead of solenoid valves, chemical injectors, spray nozzles, or any equipment where operation could be impaired by foreign matter.

### Brass or Cast Bronze

For water applications and other liquids.

Model No.	Size NPT
S2B	1/4
S3B	3/8
S4B	1/2
S6B	3/4
S10B	1

**Maximum Pressure** 300 psi at 150 F  
150 psi at 375 F

- Large capacity screen has open area 3 times the pipe area
- Quick cleaning: screen assembly easily removed
- Corrosion resistant stainless steel screen
- 40 mesh or 80 mesh stainless steel wire screens available

### Delrin

For line pressure water applications and fluids corrosive to brass.

Model No.	Size NPT
S2P	1/4
S3P	3/8

**Maximum Pressure** 125 psi at 180 F

- Large capacity screen has open area 3 times the pipe area
- Corrosion resistant: Delrin plastic body
- 100 mesh stainless steel screen
- FDA approved: All materials have FDA approval for use in food and beverage preparation equipment



# FLOAT VALVES

## Float Valves

Automatically maintains a desired level of proportioned mixture in any drum, tank or other type reservoir. Magnetically activated “snap acting” float valves provide full water flow to activate the chemical proportioners. Ideal for car washes, carpet cleaning machines, and rapid filling of totes.



440-23



437PN

Model No.	Body	Seal	Pressure	Pipe Size	Description	Flow Rate	Max. Oz/Gal Induction
440N	Celcon	Buna N		Std. Hose.	float valve only	6 GPM at 50 psi	-
440-23BT	Celcon	Buna N	Max 150 psi Min 15 psi	Std. Hose.	float valve with small barb and tip	4 GPM at 50 psi	12
440-23T	Celcon	Buna N	Max 150 psi Min 15 psi	Std. Hose.	float valve with large barb and tip	4 GPM at 50 psi	35
440-22BT	Celcon	Buna N	Max 150 psi Min 15 psi	Std. Hose.	float valve with small barb and tip, no backflow preventer	4 GPM at 50 psi	12
440-23AG	Celcon	Buna N	Max 150 psi Min 15 psi	Std. Hose.	float valve with large barb and tip with air gap	4 GPM at 50 psi	35
440-24	Celcon	Buna N	Max 150 psi Min 15 psi	Std. Hose.	float valve, high induction	2.5 GPM at 50 psi	70
437-PN	*	Buna N		Std. Hose.	float valve only	64 GPM at 50 psi	-
437P-21	*	Buna N	Max 150 psi Min 15 psi	Std. Hose.	float valve high flow	22 GPM at 50 psi	10

\* 30% Glass Filled Nylon

# INJECTORS

## Inline Chemical Injectors for injecting fluids or air into lines conveying liquid under pressure.

The DEMA injector is a jet pump. A liquid under pressure, usually water, enters the injector and accelerates into a jet through the nozzle. This high velocity jet creates a vacuum, which causes fluid to be drawn through the suction tube and into the injector. The mixture then flows into a diverging (venturi) passage where pressure is recovered as the flow slows down. A portion of the energy of the water is imparted to the injected fluid so the reconverted pressure cannot be as high as the pressure supply. In effect the fluid is pumped into the water line; the reduction in pressure reflects the energy required to operate the "pump".

*A minimum 35% pressure drop is required to create the vacuum.*

### Advantages of the Injector

Injectors have no moving parts, nothing to wear out or lubricate, resulting in extremely low maintenance. They are compact, needing no foundation or mounting bracket, and can be installed in any position. Injectors require no wiring, are self-priming and need no bleeding or filling. Injection rate is simple to set and can be quickly adjusted during operation. There is nothing to drain for seasonal shut down.

### General Information

Standard C series have a molded Ryton knob with a stainless steel metering screw.

For special requirements add the following suffixes to the model number.

P: Special C20 stainless steel metering screw for highest corrosion resistance.

S: Stainless steel knob for high pressures (over 700psi).

T: Uses metering tip kit. (see page 15)

All injectors have a check valve to prevent backflow into the fluid container when there is no water flowing or while rinsing. An 8 ft. length of flexible vinyl suction tubing with a foot strainer is supplied.

### Application and Selection

DEMA injector selection must be based on the water flow and pressure at the location where the injector is to be installed. DO NOT size the injector by pipe size. If these quantities are known, choose correct model from Tables on (pages 16 and 17). If these quantities are not known, it is permissible to use spray nozzle rating at any pressure for selection. Once an injector has been matched to a spray nozzle system, it will continue to function regardless of fluctuations in line pressure, as the water flow will also fluctuate in proportion. Flow rating of 40 psi is the basis of the spray nozzle numbering system see glossary on (page 21) and is, therefore, most frequently used. Lengthy piping, hose, or other restrictions resulting in pressure loss must be added to the rated pressure before selection.

### Injection Capabilities

Every injector is supplied with a metering screw or metering tips (T) for setting injection rates within maximum and minimum capacities shown in Tables. Maximum injections of viscous fluids (above 75cps) can be increased by ordering the high induction metering knob kit, p/n 24-56 (page 15).

**NOTE:** Three nozzle bushings are supplied with each C series injector for precise sizing of the injector to water flow within the ranges shown. The maximum injection quantities can be doubled by using a nozzle bushing one size smaller than specified, but the pressure loss will be 50%. If your flow is in the lower third of the GPM range, order the next smallest injector to double the injection rate.

# C Series Injectors

## Pressure:

Ryton metering knob and check valve core for high chemical resistance.  
 700 PSI (48 Bar) water at room temperature.  
 500 PSI (34 Bar) water at 150 degrees F (66 degrees C).  
 Stainless steel metering knob (S) for high pressure (700-3000 PSI or 48-204 Bar)

## Chemical adjustment:

Metering screw standard on "C" Series injectors (i.e. 204C).  
 Metering tips are color-coded orifices of different sizes used to proportion the chemical (add a "T" to the model number (i.e. 204CT).  
 Tip Kit ordered separately

Metering knob assembly (bolted onto the body with four screws) can be oriented in any direction for ease of access in tight spots. Small (1/4 inch barb) and large (3/8 inch barb) metering knobs are interchangeable on all inline injectors.



204C



208C

Each injector is supplied with 3 water nozzle bushings (Figure No. 1) for precise sizing of the injector to water flow within the ranges shown. Nozzle selection is specified in the installation instructions included with each injector. All injectors are equipped with a metering screw or metering tips "T" to adjust injection rate up to figures shown in tables (page 16).

For applications using caustic or acidic solutions order metering tip adjustment and metering tip kit, specify "T" after the model number. Metering tip adjusts injection rate instead of metering screw.

## HIGH INDUCTION METERING KNOB KIT No. 24-56, 24-56T, 24-56S

Higher induction rates (especially of viscous liquids) can be obtained by replacing the standard metering knob with a high capacity metering knob and check valve parts.

## DRUM MOUNTING KIT No. 24-32DM

Allows injector sizes up through 204C to be mounted directly on a drum or tote with a 2 inch bung.

## DRUM MOUNTING KIT No. 23-26CDM, 23-26CTDM

Allows injector sizes 206C and 208C to be mounted on a drum or tote with a 2 inch bung.

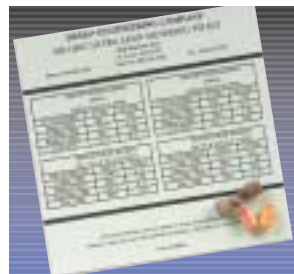
## PIPE ADAPTER KIT No. 24-50 FOR MOUNTING A VALVE ON THE INJECTOR CHEMICAL INTAKE BARB: Model 44-71 PVC Ball Valve or Model 481P Solenoid Valve (Figure No. 2)

May be placed in the chemical supply line to turn the chemical supply on or off. **DEMA Kit 24-50** slips over the metering knob barb and provides a 1/8" MNPT (Male National Pipe Taper) for the valves to screw directly onto the metering knob for models 200-3C through 204C.

**Models 206 and 208** use metering knob part number 23-33-1.



100-15K



100-15KU

100-15K Tip kit

100-15KU Ultra lean tip kit

44-61P Capillary metering tip for lean dilutions

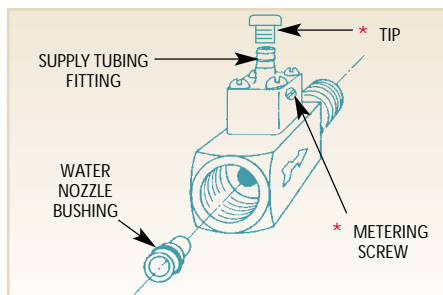


Figure No. 1

\* Metering Knobs are either screw or tip type, not both.

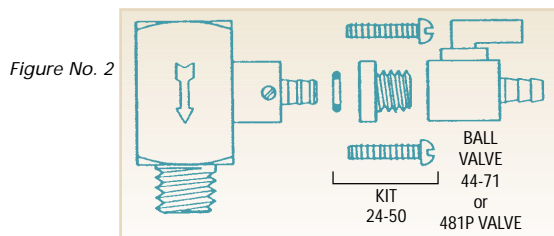


Figure No. 2

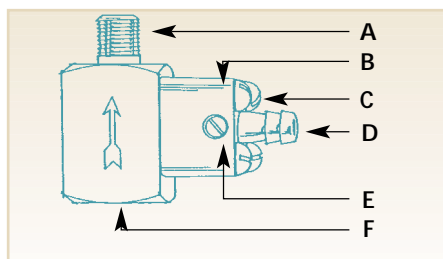


Figure No. 3

## Figure No. 3

- A. MNPT Outlet (Male National Pipe Taper)
- B. Metering Knob
- C. Mounting screws
- D. Metering Tip (optional, add a "T" to the model number if you want metering tips for chemical adjustment)
- E. Metering Screw (is standard when metering tips are not specified)
- F. FNPT Inlet (Female National Pipe Taper)



# INJECTORS

## C Series Injector Selection Table

### Total Spray Nozzle Flow - GPM

Pipe Model	Nozzle Size NPT	Bushing	Pump Discharge Pressure PSI (Inlet)												Max. Injection OZ/MIN *Viscosity - CPS													
			15	30	45	60	75	90	120	150	230	300	390	1	75	220	500											
200-3C	and	02	.10	.12	.13	.16	.15	.19	.17	.21	.22	.21	.26	.24	.30	.26	.33	.31	.37	.44	.41	.49	3	0.5	0.3	0.2		
		03	.12	.16	.16	.21	.19	.24	.21	.28	.22	.27	.26	.33	.30	.38	.33	.42	.37	.45	.44	.53					.49	.59
200-3CT		04	.16	.20	.21	.26	.24	.30	.28	.34	.27	.39	.33	.41	.38	.47	.42	.52	.45	.65	.53	.76					.59	.85
200C	and	1	.20	.25	.26	.32	.30	.38	.34	.43	.39	.46	.41	.52	.47	.59	.52	.66	.65	.77	.76	.91	.85	1.0	5	1.5	0.5	0.3
		2	.25	.32	.32	.41	.38	.48	.43	.55	.46	.56	.52	.66	.59	.76	.66	.84	.77	.92	.91	1.1	1.0	1.2				
200CT		3	.32	.39	.41	.51	.48	.60	.55	.68	.56	.76	.66	.82	.76	.95	.84	1.0	.92	1.3	1.1	1.5	1.2	1.7				
201C	and	4	.39	.49	.51	.64	.60	.76	.68	.86	.76	.96	.82	1.0	.95	1.2	1.0	1.3	1.3	1.6	1.5	1.9	1.7	2.1	7	4	2	1
		5	.49	.63	.64	.82	.76	.97	.86	1.1	.96	1.2	1.0	1.3	1.2	1.5	1.3	1.7	1.6	1.9	1.9	2.3	2.1	2.5				
201CT		6	.63	.79	.82	1.0	.97	1.2	1.1	1.4	1.2	1.5	1.3	1.6	1.5	1.9	1.7	2.1	1.9	2.5	2.3	2.9	2.5	3.3				
202C	and	7	.79	.98	1.0	1.3	1.2	1.5	1.4	1.7	1.5	1.9	1.6	2.1	1.9	2.4	2.1	2.6	2.5	3.2	2.9	3.8	3.3	4.2	11	6	2.5	1.3
		8	.98	1.3	1.3	1.6	1.5	1.9	1.7	2.2	1.9	2.3	2.1	2.6	2.4	3.0	2.6	3.4	3.2	3.7	3.8	4.5	4.2	5.0				
202CT		9	1.3	1.6	1.6	2.0	1.9	2.4	2.2	2.7	2.3	3.0	2.6	3.3	3.0	3.8	3.4	4.2	3.7	5.0	4.5	6.0	5.0	6.7				
203C	and	10	1.6	2.0	2.0	2.6	2.4	3.0	2.7	3.4	3.0	3.6	3.3	4.1	3.8	4.7	4.2	5.2	5.0	6.0	6.0	7.1	6.7	7.9	21	7	3	1.3
		11	2.0	2.5	2.6	3.3	3.0	3.9	3.4	4.4	3.6	4.8	4.1	5.3	4.7	6.0	5.2	6.7	6.0	8.0	7.1	9.1	7.9	10				
203CT		12	2.5	3.2	3.3	4.1	3.9	4.8	4.4	5.5	4.8	6.1	5.3	6.6	6.0	7.6	6.7	8.3	8.0	10	9.1	12	10	13				
204C	and	13	3.2	3.9	4.1	5.1	4.8	6.0	5.5	7.6	6.1	8.2	6.6	8.3	7.6	9.4	8.3	10	10	14	12	15	13	17	30	8	3.5	1.3
		14	3.9	5.1	5.1	6.6	6.0	7.7	7.6	8.8	8.2	9.6	8.3	11	9.4	12	10	14	16	15	18	17	20					
204CT		15	5.1	6.3	6.6	8.2	7.7	9.7	8.8	11	9.6	13	11	13	12	15	14	17	16	21	18	24	20	27				
206C	and	16	6.3	7.9	8.2	10	9.7	12	11	14	13	16	13	17	15	19	17	21	21	26	24	30	27	34	55	33	18	12
		17	7.9	10	10	13	12	15	14	18	16	19	17	21	19	24	21	27	26	31	30	36	34	40				
206CT		18	10	13	13	16	15	19	18	22	19	24	21	26	24	30	27	33	31	40	36	47	40	52				
208C	and	19	13	16	16	20	19	24	22	27	24	30	26	33	30	38	33	42	40	50	47	59	52	65	60	33	18	12
		20	16	20	20	26	24	31	27	35	30	37	33	42	38	48	42	54	50	56	59	66	65	74				
208CT		21	20	25	26	33	31	39	35	44	37	48	42	53	48	61	54	67	56	80	66	94	74	99				
Outlet Pressure			10	20	30	40	50	60	80	100	150	200	250															

Pipe Model	Nozzle Size NPT	Bushing	Pump Discharge Pressure PSI (Inlet)											Max. Injection OZ/MIN *Viscosity - CPS														
			460	540	620	*700	*770	*930	*1100	*1230	*1540	*2000	*3000	1	75	220	500											
200-3C	and	02	.44	.53	.48	.57	.51	.61	.54	.65	.57	.68	.62	.75	.67	.81	.72	.86	.80	.95	.90	1.1	1.3	3	0.5	0.3	0.2	
		03	.53	.64	.57	.69	.61	.74	.65	.78	.68	.82	.75	.89	.81	.97	.86	1.0	.95	1.1	1.1	1.3	1.3					1.6
200-3CT		04	.64	.92	.69	1.0	.74	1.1	.78	1.1	.82	1.2	.89	1.3	.97	1.4	1.0	1.5	1.1	1.7	1.3	1.9	1.6					2.3
200C	and	1	.92	1.1	1.0	1.2	1.1	1.2	1.1	1.3	1.2	1.4	1.3	1.5	1.4	1.7	1.5	1.8	1.7	2.0	1.9	2.3	2.3	2.8	5	1.5	0.5	0.3
		2	1.1	1.3	1.2	1.4	1.2	1.5	1.3	1.6	1.4	1.7	1.5	1.8	1.7	2.0	1.8	2.1	2.0	2.4	2.3	2.7	2.8	3.3				
200CT		3	1.3	1.8	1.4	2.0	1.5	2.1	1.6	2.2	1.7	2.3	1.8	2.5	2.0	2.7	2.1	2.9	2.4	3.2	2.7	3.7	3.3	4.5				
201C	and	4	1.8	2.3	2.0	2.5	2.1	2.7	2.2	2.8	2.3	3.0	2.5	3.2	2.7	3.5	2.9	3.7	3.2	4.1	3.7	4.7	4.5	5.8	7	4	2	1
		5	2.3	2.7	2.5	3.0	2.7	3.2	2.8	3.4	3.0	3.5	3.2	3.8	3.5	4.2	3.7	4.4	4.1	4.9	4.7	5.6	5.8	6.9				
201CT		6	2.7	3.6	3.0	3.8	3.2	4.1	3.4	4.3	3.5	4.6	3.8	5.0	4.2	5.4	4.4	5.8	4.9	6.4	5.6	7.3	6.9	8.9				
202C	and	7	3.6	4.6	3.8	4.9	4.1	5.3	4.3	5.6	4.6	5.9	5.0	6.4	5.4	6.9	5.8	7.4	6.4	8.2	7.3	9.4	8.9	11	11	6	2.5	1.3
		8	4.6	5.4	4.9	5.8	5.3	6.2	5.6	6.6	5.9	6.9	6.4	7.6	6.9	8.2	7.4	8.7	8.2	9.7	9.4	11	11	13				
202CT		9	5.4	7.3	5.8	7.9	6.2	8.4	6.6	8.9	6.9	9.3	7.6	10	8.2	11	8.7	12	9.7	13	11	15	13	18				
203C	and	10	7.3	8.6	7.9	9.2	8.4	9.9	8.9	10	9.3	11	10	12	11	13	12	14	13	15	15	18	18	21	21	7	3	1.3
		11	8.6	11	9.2	12	9.9	13	10	13	11	14	12	15	13	17	14	18	15	20	18	23	21	28				
203CT		12	11	15	12	16	13	17	13	18	14	19	15	20	17	22	18	24	20	26	23	30	28	36				
204C	and	13	15	19	16	20	17	21	18	23	19	24	20	26	22	28	24	30	26	33	30	40	36	49	30	8	3.5	1.3
		14	19	22	20	24	21	26	23	27	24	28	26	31	28	34	30	36	33	40	40	47	49	58				
204CT		15	22	30	24	32	26	34	27	36	28	38	31	41	34	45	36	48	40	53	47	62	58	75				
206C	and	16	30	37	32	40	34	42	36	45	38	47	41	52	45	56	48	60	53	66	62	76	75	93	55	33	18	12
		17	37	43	40	47	42	49	45	53	47	56	52	61	56	66	60	70	66	78	76	91	93	99				
206CT		18	43	57	47	61	49	65	53	69	56	73	61	80	66	86	70	92	78	99	91	99						
208C	and	19	57	71	61	77	65	82	69	87	73	91	80	99	86	99	92	99							60	33	18	12
		20	71	80	77	86	82	92	87	98	91	99																
208CT		21	80	99	86	99	92	99	98	99																		
Outlet Pressure			300	350	400	450	500	600	700	800	1000	1300	1950															

Injector outlet pressure - Spray nozzle pressure plus line losses

160F /77C maximum fluid temperature

\* For pressures above 700 PSI specify Model with suffix (S) Stainless Steel Metering Knob

Note: Injection figures are for a nominal 35% pressure loss. By sizing the injector for a 50% or greater loss the figures indicated can be doubled. On Models 200-3C through 204C higher induction rates (especially of viscous materials) can also be obtained by replacing the standard metering knob with a High Capacity Metering Knob DEMA Kit No. 24-56, 24-56T or 24-56S.

**\*Note: Viscosity - CPS**

1	Water
75	10 wt. Oil
200	30 wt. Oil or dish detergent
500	Honey

**Knob Kit NO. 24-56**

	Under 700psi	700 - 3000psi
	Ryton plastic	Stainless Steel
Standard	23-32 (with metering screw)	23-32S (with metering screw)
Special	23-32T (with metering tips)	23-32ST (with metering tips)

# B Series Injectors



### Externally adjustable injectors with external water flow ranges

- External adjusting screw for easy compensation to system variations.
- Efficiently adjusts to flow or pressure changes after installation.
- Allows system to operate at maximum performance level without a teardown.
- Useful in high pressure pump discharge line applications when it is desired to keep pressure loss to a minimum.

## 204B

Fluid Viscosity CPS	Maximum Injection Ounces Per Minute			
	3/8 NPT	3/8 NPT	1/2 NPT	3/4 NPT
	<b>202B</b>	<b>203B</b>	<b>204B</b>	<b>206B</b>
1	8	16	36	42
75	4	8	13	18
220	2	4	5	8
500	1	2	2	4
1000	0.5	1	1	1

Note: Add suffix "T" for metering tip knob  
 For highly viscous fluids order part #24-56, 24-56T or 24-56S  
 high induction metering knob kit on (page 15)

Inlet Pressure PSI	Operating Range GPM			
	3/8 NPT	3/8 NPT	1/2 NPT	3/4 NPT
	<b>202B</b>	<b>203B</b>	<b>204B</b>	<b>206B</b>
10	.25-2.0	.50-3.5	2.0-6.4	3.6-11
20	.30-2.3	.55-4.4	2.3-7.5	4.2-13
40	.37-2.9	.70-5.4	2.9-9	5.3-17
60	.43-3.4	.80-6.4	3.4-11	6.2-19
100	.54-4.2	1.0-8.0	4.2-14	7.7-24
200	.73-5.7	1.4-11	5.7-19	11-33
400	1.0-7.9	1.9-15	7.9-26	15-46
500	1.2-8.9	2.1-17	8.9-29	17-51
*700	1.4-11	2.5-20	11-35	20-60
*1000	1.6-13	3.0-23	13-41	23-70
*1500	2.0-16	3.5-28	16-50	28-87
*2000	2.2-18	4.7-37	18-58	33-100
*3000	2.7-20	5.0-45	20-70	40-100

\*Specify "S" Stainless Steel Knob Part #24-32S for pressure exceeding 700psi

## Special Injectors for Corrosive Applications



**P203C**  
 Polypropylene Plastic  
 (same flow as 203C with # 11 nozzle bushing)  
 125 PSI maximum pressure

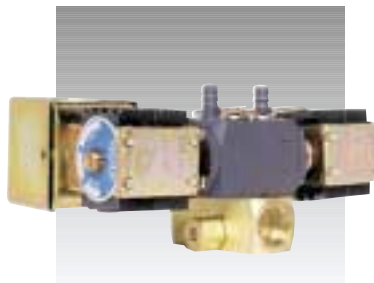


**203BS-2**  
 Stainless Steel  
 (same flow as 203B)



**204BS-2**  
 Stainless Steel  
 (same flow as 204B)

## Multiple Injection Capabilities



**203B2V2**  
 Top dual assembly is p/n 481-2,  
 200 PSI maximum pressure

### B Series

- 203B2V2 3/8 inch
- 204B2V2 1/2 inch
- 206B2V2 3/4 inch

- Dual Injector
- Dual Solenoids
- "B" Series - Adjustable
- PVC Valve manifold

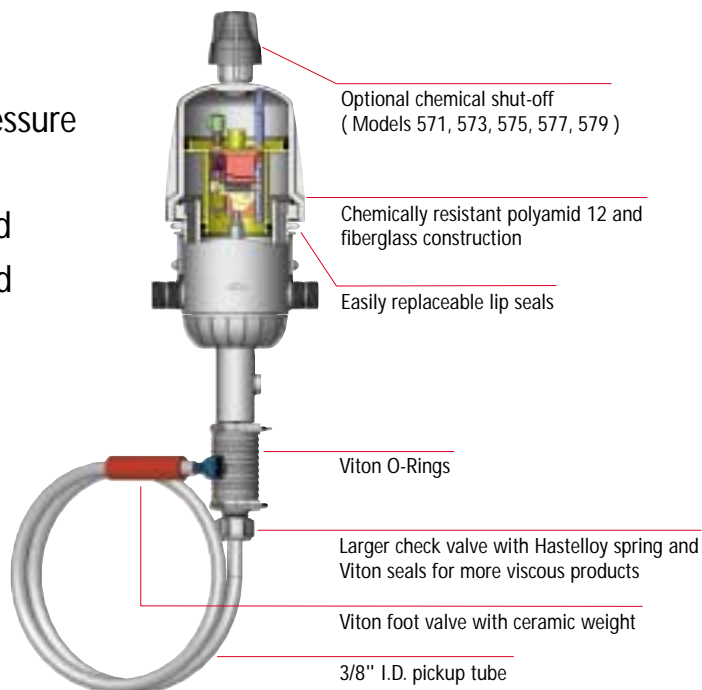
Note: Add suffix "T" for metering tip knob



**295CS-2**  
 High Pressure Foaming Includes:  
 • Injector  
 • Plastic backup washer  
 • Spray wand, aerator and nozzle  
 • Plastic tubing with foot strainer

# MixRite Water Powered Proportioning Pump

- Accurate Dispensing
- Uses only 20% of pressure to drive the pump
- No electricity required
- Low maintenance and easy to adjust



## SPECIFICATIONS:

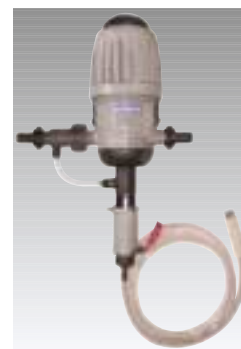
- Available with or without control valve that allows the shutoff of chemical while water is still flowing through the unit
- Injection rate from .2% to 10%
- Injection ratios from 1:500 to 1:10
- Flows from .09 gpm to 11 gpm
- Water pressure from 2.9 psi to 85 psi
- Chemical resistant construction, Buna upper seals and 302 stainless springs
- Viton O-ring and hastelloy spring chemical check valve
- Bypass models for harsh chemicals
- Includes 7 ft. inlet tubing and foot valve strainer
- Dimensions are 19 1/2" high, 7" wide
- Hose barbs with swivel for easy installation



571



574



578

## MixRite 10 Models to meet your applications

FLOW RANGE .09-11 GPM (.34-41.6 LPM)

OPERATING TEMP. 39F-122 F (4C-50 C) Note: Models 576 and 577 39F-104 F (4C-40C)

MODEL	PRESSURE		INDUCTION				OPTIONS
			Ratio	Percent	Oz/Gal	MI/Liter	
570	2.9 - 85 PSI	.19-5.8 BAR	500:1 to 50:1	.2% to 2%	.25 to 2.5	2 to 20	* Tip Kit
571	2.9 - 85 PSI	.19-5.8 BAR	500:1 to 50:1	.2% to 2%	.25 to 2.5	2 to 20	Chemical On/Off * Tip Kit
* Note: With Tip Kit 57-11-1		2000:1 to 750:1	.05% to .13%	.06 to .17	.5 to 1.3		
572	2.9 - 85 PSI	.19-5.8 BAR	250:1 to 25:1	.4% to 4%	.51 to 5.0	4 to 40	
573	2.9 - 85 PSI	.19-5.8 BAR	250:1 to 25:1	.4% to 4%	.51 to 5.0	4 to 40	Chemical On/Off
574	2.9 - 60 PSI	.19-4.08 BAR	33:1 to 10:1	3% to 10%	3.8 to 12.8	3 to 100	
575	2.9 - 60 PSI	.19-4.08 BAR	33:1 to 10:1	3% to 10%	3.8 to 12.8	3 to 100	Chemical On/Off
<b>BYPASS</b>							
576	2.9 - 85 PSI	.19-5.8 BAR	500:1 to 50:1	.2% to 2%	.25 to 2.5	2 to 20	* Tip Kit
577	2.9 - 85 PSI	.19-5.8 BAR	500:1 to 50:1	.2% to 2%	.25 to 2.5	2 to 20	Chemical On/Off * Tip Kit
* Note: With Tip Kit 57-11-1		2000:1 to 750:1	.05% to .13%	.06 to .17	.5 to 1.3		
578	2.9 - 85 PSI	.19-5.8 BAR	500:1 to 50:1	.4% to 4%	.51 to 5.0	4 to 40	
579	2.9 - 85 PSI	.19-5.8 BAR	500:1 to 50:1	.4% to 4%	.51 to 5.0	4 to 40	Chemical On/Off

INDUCTION RATIOS ARE BASED ON WATER THIN PRODUCTS (1CPS); HIGHER VISCOSITIES WILL AFFECT INDUCTIONS

## MixRite Accessories



### 57-11-1 Tip Kit for Lean Dilution Ratios

750:1  
1000:1  
1500:1  
2000:1

Includes 4 metering tips,  
8 ft. 1/4" vinyl hose (not shown) and  
1/4"x3/8" barb adapter



### 50-41-1 Strainer

200 Mesh (80 Micron) Strainer  
recommended on all MixRite installations

## MixRite Parts Kits

KIT No.		MODEL
57-1	Cover Kit with on/off	571, 573, 575, 577, 579
57-2B	Engine Repair Kit	570, 571, 572, 573
57-3B (Buna)	Chemical Piston Kit 2%	570, 571
57-3V (Viton)	Chemical Piston Kit 2%	570, 571
57-4B	Cover and Air Release Kit	570, 572, 574, 576, 578
57-5B	Chemical Check Valve Kit Buna	*
57-5V*	Chemical Check Valve Kit Viton	*
57-8B (Buna)	Chemical Piston Kit 4%	572, 573
57-8V (Viton)	Chemical Piston Kit 4%	572, 573
57-10-65	Mounting Bracket	All
57-11-1	Tip Kit	570, 571, 576, 577
50-41-1	200 Mesh Strainer (80 Micron)	All
57-K10-210	Chemical Piston Kit 10%	574, 575
57-K2B-222	Chemical Piston Kit Bypass 2%	576, 577
57-K2B-244	Chemical Piston Kit Bypass 4%	578, 579
57-15-V	Chemical Inlet Tubing Kit	All
57-K57-011	Lip Seal Kit	All
57-2B-10	Engine Repair Kit	574, 575
57-2B-BP	Engine Repair Kit	576, 577, 578, 579

\* Viton Standard on all Models



# SPECIALTY APPLICATIONS



## Wall Mount FOAM SYSTEM

Compressed Air Foam Systems that include MixRite, foam chamber, 25' hose, and foam wand. (Wall mount spray systems also available).

MODEL No.	WALL MOUNT	INDUCTION
570WS	Spray Dispenser	.2% to 2%
573WSR	Spray Dispenser with Rinse	.4% to 4%
573WAFR	Compressed Air Foam Dispenser	.4% to 4%
579WBAF	Compressed Air Foam Dispenser with Chemical Bypass	.4% to 4%

*All models include dispenser, hose, spray gun or foam wand*

## Cart Mount

Mobil Cleaning/Sanitizing Systems that include MixRite, 25' hose and spray gun. (Mobile Foam systems also available).



MODEL No.	CART MOUNT	INDUCTION
570CS	Spray Dispenser	.2% to 2%
573CSR	Spray Dispenser with Rinse	.4% to 4%
573CAFR	Compressed Air Foam Dispenser	.4% to 4%
579CBAF	Compressed Air Foam Dispenser with Chemical Bypass	.4% to 4%

*All models include dispenser, hose, spray gun or foam wand*



570 VWP-1

## Panel System

Central Cleaning/Sanitizing Carwash

- Tri-foam
- Wheel cleaning
- Presoak

Unit includes MixRite, filter, check valve, and DEMA solenoid valve mounted to a Plexiglas panel.

*Custom units available upon request.*



## Drop Station

Central Foam Systems can be built using any MixRite and multiple drop station dispensers throughout a facility.

# GLOSSARY

**To find the gpm of a valve multiply the rated CV (flow factor) by the square root of the pressure drop across the valve.**

**CV (Flow Factor)** Quantity of 60F/16°C water in GPM that will pass through a valve with a PSIG drop of one.

**GPM =** (CV flow factor) X  $\sqrt{\text{pressure drop across valve}}$

**CV Flow Factor=** (GPM)  $\div \sqrt{\text{pressure drop (PSIG)}}$

**Pressure Drop (PSIG)=**  $\left(\frac{\text{GPM}}{\text{CV}}\right)^2$

<b>Centipoise (CPS), Viscosity of fluid</b>	1	Water
	75	10 weight oil
	200	30 weight oil
	500	Honey
<b>Gravity PSI =</b>	.432 x hight (in feet)	

**SEAL MATERIAL**

Buna N	-40°F/-40°C to 250°F/120°C
EPDM	-60°F/-50°C to 300°F/150°C
Viton	-20°F/-29°C to 400°F/205°C
Teflon	-75°F/-60°C to 450°F/230°C

**GENERALLY RESISTANT TO:**

oil, grease, hydraulic fluids, water, alcohols  
 animal and vegetable oils, ozone, oxidizing chemicals. (Not to be used with petroleum based fluids)  
 resistant to swelling (citrus based products)  
 extreme temperatures

<b>MOPD</b>	Maximum Operating Pressure Differential Maximum differential against which solenoid valve can open
<b>MRP</b>	Maximum Rated Pressure Maximum pressure which can be applied to the valve
<b>GPM</b>	Gallons per minute flow
<b>PSIG</b>	Pounds per square inch gauge
<b>Nozzle numbering system at 40 PSI</b>	First two numbers designate the spray angle Second two numbers, move decimal left one place designates the gpm i.e. nozzle number 2540 is 25 degree spray at 4 gpm

**METRIC CONVERSIONS:**

To go from	Multiply by	To get
Gallons	3.785	Liters
Ounces	29.57	Milliliters
PSI	0.068	Bar
Inches	25.4	Millimeters
Fahrenheit	5/9(F-32)	Celsius
Liters	0.2642	Gallons
Milliliters	0.34	Ounces
Bar	14.5	PSI
Millimeters	0.0394	Inches
Celsius	9/5C+32	Fahrenheit



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