SOLENOID VALVES - FLOAT VALVES - STRAINERS - PUMPS - INJECTORS

李元畅@上海盛晖流体
上海 松江
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Industrial Products Catalog













DEMA®

DEMA Engineering Company
10020 Big Bend Boulevard - St. Louis, Missouri 63122
Telephone: 800-325-3362 - Fax: 314-965-8319

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.

Five decades later, DEMA has become a world leader in both the chemical dispensing and fluid control industries. The company has over 400 employees working at five manufacturing facilities worldwide, including locations in Australia, the Netherlands, and three in the St. Louis, Missouri area. DEMA now manufacturers 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 max psi	min psi	max bar	min bar	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
Standard Duty													
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
Mini ValvesNormally Closed													
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		disc .1.06 or 2.38 gpm		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		disc .5 - 1.0 - 1.5 gpm		
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		disc .5 - 1.0 - 1.5 gpm		
P404J	Diaphragm	125	3	8.5	0.204	CELCON	3/8	.375	1/2	1.00	7.75	29.33	9
Mini Valves Normally Open													
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 FILLED POLY	1/4	.250	1/4	1.00	7.75	29.33	9
OPP443	Diaphragm	125	3	8.5	0.204	GLASS FILLED POLY	1/4	.250	3/8	1.00	7.75	29.33	9
Diaphragm Valves Normally Closed													
463PS	Diaphragm	150	3	10.2	0.204	303 SS	3/8	.375	3/8	2.00	15.50	58.67	7
464PS	Diaphragm	150	3	10.2	0.204	303 SS	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	303 SS	3/4	.750	3/4	5.00	38.75	146.67	5
Diaphragm Valves Normally Open													
O463PS	Diaphragm	150	3	10.2	0.204	303 SS	3/8	.375	3/8	2.00	15.50	58.67	9
O464PS	Diaphragm	150	3	10.2	0.204	303 SS	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
Corrosive Liquids													
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
Round Body, Single Station Valves													
491Sxxx	Direct	150	0	10.2	0	303 SS	1/8	.125	1/8	0.27	2.09	7.92	6
492Sxxx	Direct	150	0	10.2	0	303 SS	1/8	.125	1/4	0.27	2.09	7.92	6
							3/32 available						
Manifold Valves													
491Mxxx	Direct	150	0	10.2	0	BRASS BLOCK /	1/8	.125	1/8	0.27	2.09	7.92	6
492Mxxx	Direct	150	0	10.2	0	SS SEATS	1/8	.125	1/4	0.27	2.09	7.92	6
							3/32 available						
492MSSxxx	Direct	150	0	10.2	0	303 SS	1/8	.125	1/4	0.27	2.09	7.92	6
High Pressure Normally Closed													
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
High Pressure Normally Open													
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, noncorrosive and nonexplosive liquids. Valves are rated for 200ºF/93ºC fluid and 120ºF/49ºC ambient except for the Mini Valves which are rated for 180ºF/82ºC fluid and 120ºF/49ºC 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.

	LEADS	MOLDED SPADE	
12 VDC/24 VDC	Black	12 VDC/24 VDC	Black
24/50-60 AC	Orange	24/60 VAC	Blue
120/50-60 AC	Blue	120/60 VAC	Green
208-240/50-60 AC	Red	240/60 VAC	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.

Direct Acting Valves

Normally Closed
Application: Water, air, light oil, noncorrosive and nonexplosive 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) 303 SS

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	303 SS	*Buna N	max 150 psi min 0 psi	1/8 N.P.T.	1/8	0.27
492S-8	303 SS	*Buna N	max 150 psi min 0 psi	1/4 N.P.T.	1/8	0.27
With Metering					3/32 available	
492SM-8	303 SS	*Buna N	max 150 psi min 0 psi	1/4 N.P.T.	1/8	0.27
					3/32 available	

* Available with EPDM and Viton (see page 6)

Pilot-Piston Valves

Normally Closed
Application: Water, air, light oil, noncorrosive and nonexplosive 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

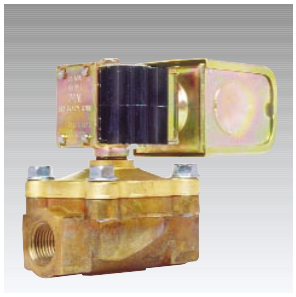
A413P

A414P

A416P

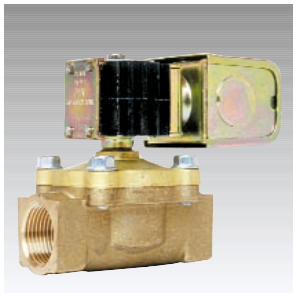
A418P

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, noncorrosive and nonexplosive 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	303 SS	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

Direct Acting Single Station and Manifold Valves

Normally Closed

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

303 Stainless steel single station round body valve

Metering "screw available on 1/4"(NPT model).

Model No.	No. Sta.	Coil/Voltage	Seal	Pipe Size	Orifice	CV Flow-Factor
Less Metering		*	**			
491S-8-3	1	Spade 24 vac	Buna N	1/8 NPT	1/8	0.27
491S-8-6	1	Spade 120 vac	Buna N	1/8 NPT	1/8	0.27
492S-8-3	1	Spade 24 vac	Buna N	1/4 NPT	1/8	0.27
492S-8-6	1	Spade 120 vac	Buna N	1/4 NPT	1/8	0.27
With Metering						
492SM-8-3	1	Spade 24 vac	Buna N	1/4 NPT	1/8	0.27
492SM-8-6	1	Spade 120 vac *add (D) for DIN	Buna N	1/4 NPT	1/8	0.27

** available with Viton and EPDM

MANIFOLD NUMBERING SYSTEM

Model No. **492M3M**__ __ __ __

- Pipe Size NPT, 1=1/8", 2=1/4"
- Manifold
- Number of Stations
- Metering
- Orifice Size in 1/64", 6=3/32", 8=1/8"
- Material: Buna is standard (V=Viton, E=EP)
- Coil Voltage: 3 = 24 vac, 6 = 120 vac
- D = Din

Manifold Valves

Brass

Stainless steel valves mounted on a solid brass manifold block.
Common inlet port for "chemical supply to all valves on both ends. Metering screw available on 1/4"" NPT model."

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

*** 1/8 NPT available non metered only

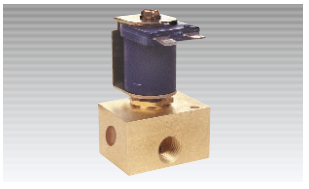
Stainless Steel

303 Stainless steel block. Common inlet port for chemical supply to all valves on both ends.

Model No.	# Sta.	Coil/Voltage	Seal	Pipe Size	Orifice	CV Flow-Factor
Less Metering		*	**			
492MSS2-8-3	2	Spade 24 vac	Buna N	1/4 NPT	1/8	0.27
492MSS2-8-6	2	Spade 120 vac	Buna N	1/4 NPT	1/8	0.27
492MSS3-8-3	3	Spade 24 vac	Buna N	1/4 NPT	1/8	0.27
492MSS3-8-6	3	Spade 120 vac	Buna N	1/4 NPT	1/8	0.27
492MSS4-8-3	4	Spade 24 vac	Buna N	1/4 NPT	1/8	0.27
492MSS4-8-6	4	Spade 120 vac	Buna N	1/4 NPT	1/8	0.27
492MSS5-8-3	5	Spade 24 vac	Buna N	1/4 NPT	1/8	0.27
492MSS5-8-6	5	Spade 120 vac *add (D) for DIN	Buna N	1/4 NPT	1/8	0.27
With Metering						
492MSS2M-8-3	2	Spade 24 vac	Buna N	1/4 NPT	1/8	0.27
492MSS2M-8-6	2	Spade 120 vac	Buna N	1/4 NPT	1/8	0.27
492MSS3M-8-3	3	Spade 24 vac	Buna N	1/4 NPT	1/8	0.27
492MSS3M-8-6	3	Spade 120 vac	Buna N	1/4 NPT	1/8	0.27
492MSS4M-8-3	4	Spade 24 vac	Buna N	1/4 NPT	1/8	0.27
492MSS4M-8-6	4	Spade 120 vac	Buna N	1/4 NPT	1/8	0.27
492MSS5M-8-3	5	Spade 24 vac	Buna N	1/4 NPT	1/8	0.27
492MSS5M-8-6	5	Spade 120 vac *add (D) for DIN	Buna N	1/4 NPT	1/8	0.27

** available with Viton and EPDM

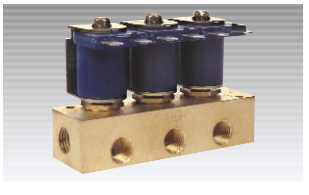
492SM Single Station



492M1M One Station

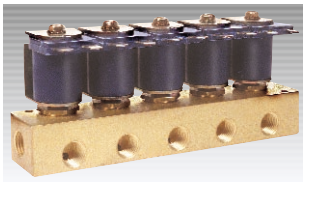
492MSS2 Two Station

492MSS3 Three Station



492M3M Three Station

492MSS4M Four Station



492M5M Five Station

Mini Diaphragm Valves

Normally Closed
Application: Water, air, light oil, noncorrosive and nonexplosive liquids.

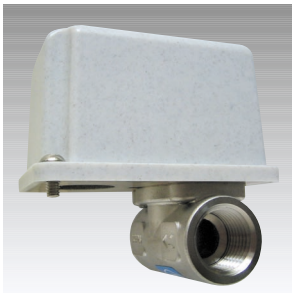
60 mesh stainless steel filter on series 442 and 443, rated for 180˚F/82˚C fluid and 120˚F/49˚C ambient.
Available with EPDM (Std) Viton or Buna N diaphragm

442P, 443P

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

463PS, 464PS 303SS
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	303 SS	EPDM	max 125 psi min 3 psi	3/8 N.P.T.	3/8	2	Yes
463PS-D	303 SS	EPDM	max 125 psi min 3 psi	3/8 N.P.T	3/8	2	Yes
463PSJ	303 SS	EPDM	max 125 psi min 3 psi	3/8 N.P.T	3/8	2	Yes
464PS	303 SS	EPDM	max 125 psi min 3 psi	1/2 N.P.T	3/8	2	Yes
464PS-D	303 SS	EPDM	max 125 psi min 3 psi	1/2 N.P.T	3/8	2	Yes
464PSJ	303 SS	EPDM	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, noncorrosive and nonexplosive 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, noncorrosive and nonexplosive liquids.

- Ideal for weep systems
- 442 and 443 series valves rated for 180˚F/82˚C fluid and 120˚F/49˚C 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	303 SS	EPDM	max 125 psi min 3 psi	3/8 N.P.T.	3/8	2	Yes
O464PS	303 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, noncorrosive and nonexplosive 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

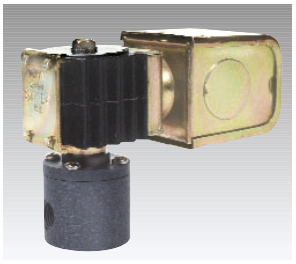
466P

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

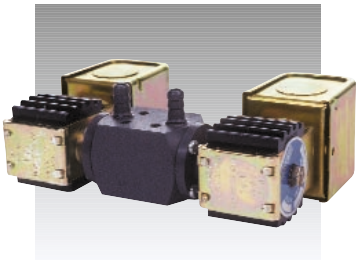
Direct Acting Valves for Corrosive Liquids

Normally closed



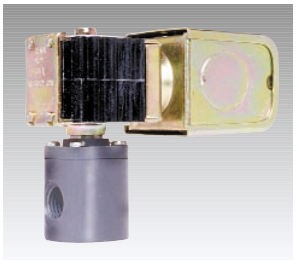
481P*

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.

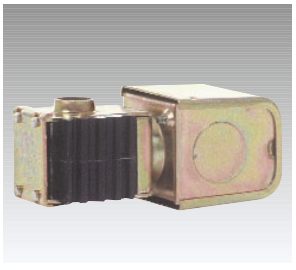
* Can be injector mounted by using Kit 24-50 for 1/4 inch metering knob (see page 15).

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

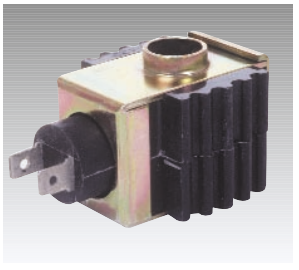
Coils rated NEMA 1, Conduit and Din Coils NEMA 4

59-98 NEMA 4 Wiring Connector for #5 & #7 Spade Coils 18"Leads



Junction Box

Conduit



Spade

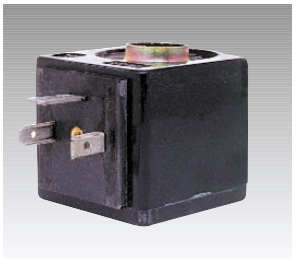
Molded Spade

*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 Watts	AC Volts	AMPERES INRUSH 50Hz	AMPERES INRUSH 60Hz	AMPERES HOLDING 50Hz	AMPERES HOLDING 60Hz	DC Watts	DC Volts	DC Amps
Coil No. 1 Used On 401P, 473P, 474P, 476P, O473P, O474P, O476P, 481P, 482-2, 466P	10	24	1.8	1.5	1.0	.75	15	12	1.25
			120	.38	.33	.21		24	0.625
		208	.16	.14	.12	.09			
		240	.19	.16	.10	.07			
Coil No. 2 Used On 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	0.75
		208	.41	.35	.19	.14			
		240	.36	.30	.16	.12			
Coil No. 5 Used On 442P, 443P, P442, P443, P462, P463, 463PS, 464PS, 463PS-D, 464PS-D, 463PSJ, 464PSJ, P404J	10	24	na	.67	na	.48	10	12	0.83
		120	na	.15	na	.102		24	0.42
		240	na	.075	na	.05			
Coil No. 7 Used On 491M, 492M, 491S, 492S, 492SM, 476PS	10	24	na	.67	na	.48	13	24	.54
		120	na	.15	na	.102			

Valve Repair Kits

Model	Kit P/N	O-Ring	Closing Spring	Plunger Spring	Plunger	Valve Seat	Piston Ring	Backup Spring	Piston Assembly	Diaph-ragm	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	41-33	Y	Y	Y	Y		Y	Y	Y			
458PS	41-33-2	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" Orfice)	Y		Y	Y	Y			Y			
	*49-1-6 (3/32" Orfice)	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 (420 microns) or 80 mesh (177 microns) 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

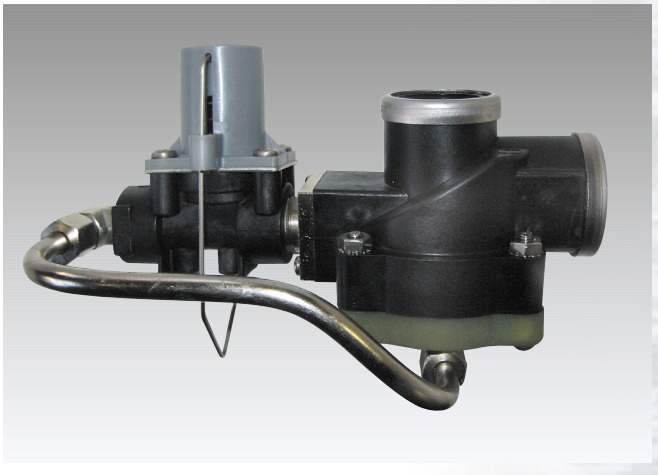
Maximum Pressure 125 psi at 180 F

- Large capacity screen has open area 3 times the pipe area
- Corrosion resistant: Delrin plastic body
- 100 mesh (150 microns) stainless steel screen
- FDA approved: All materials have FDA approval for use in food and beverage preparation equipment

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

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 theses 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).

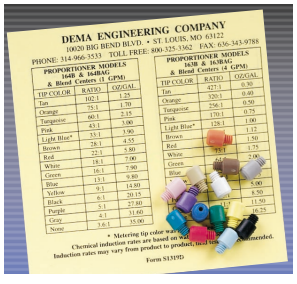
NOTE: Three nozzle bushings are supplied with each C series injector for precise sizing of the injector to water flow within the ranges shown. The maximum injection quantities can be doubled by using a nozzle bushing one size smaller than specified, but the pressure loss will be 50%. If your flow is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

C Series Injectors

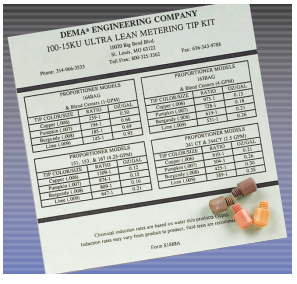
Pressure:
Ryton metering knob and check valve core for high chemical resistance.
700 PSI (48 Bar) water at room temperature.
500 PSI (34 Bar) water at 150 degrees F (66 degrees C).
Stainless steel metering knob (S) for high pressure
(700-3000 PSI or 48-204 Bar)

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.



100-15K



100-15KU

100-15K Tip kit
100-15KU Ultra lean tip kit
44-61P Capillary metering tip for lean dilutions

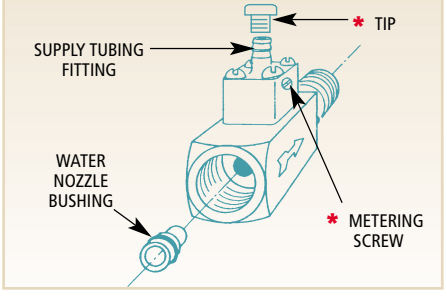
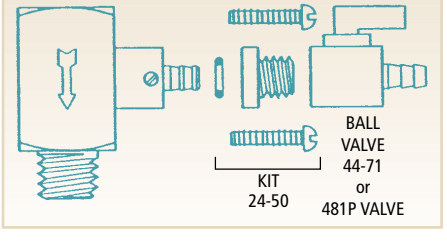


Figure No. 1

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

Figure No. 2



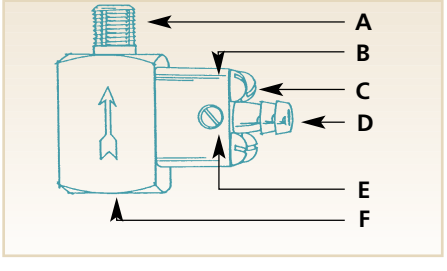


Figure No. 3

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.

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)

C Series Injector Selection Table

Total Spray Nozzle Flow - GPM

Model	Pipe Size NPT	Nozzle Bushing	Pump Discharge Pressure PSI (Inlet) 15	30	45	60	75	90	120	150	230	300	390	Max. Injection OZ/MIN *Viscosity - CPS 1	75	220	500
200-3C		02	.10 .12	.13 .16	.15 .19	.17 .21	.19 .22	.21 .26	.24 .30	.26 .33	.31 .37	.37 .44	.41 .49				
and	1/8	03	.12 .16	.16 .21	.19 .24	.21 .28	.22 .27	.26 .33	.30 .38	.33 .42	.37 .45	.44 .53	.49 .59	3	0.5	0.3	0.2
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		1	.20 .25	.26 .32	.30 .38	.34 .43	.39 .46	.41 .52	.47 .59	.52 .66	.65 .77	.76 .91	.85 1.0				
and	1/8	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	5	1.5	0.5	0.3
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		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				
and	1/8	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	7	4	2	1
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		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				
and	1/4	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	11	6	2.5	1.3
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		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				
and	3/8	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	21	7	3	1.3
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		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				
and	1/2	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	14 16	15 18	17 20	30	8	3.5	1.3
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		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				
and	3/4	17	7.9 10	10 13	12 15	14 18	16 19	17 21	19 24	21 27	26 31	30 36	34 40	55	33	18	12
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		19	13 16	16 20	19 24	22 27	24 30	26 33	30 38	33 42	40 50	47 59	52 65				
and	1	20	16 20	20 26	24 31	27 35	30 37	33 42	38 48	42 54	50 56	59 66	65 74	60	33	18	12
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				

Model	Pipe Size NPT	Nozzle Bushing	Pump Discharge Pressure PSI (Inlet) 460	540	620	*700	*770	*930	*1100	*1230	*1540	*2000	*3000	Max. Injection OZ/MIN *Viscosity - CPS 1	75	220	500
200-3C		02	.44 .53	.48 .57	.51 .61	.54 .65	.57 .68	.62 .75	.67 .81	.72 .86	.80 .95	.90 1.1	1.1 1.3				
and	1/8	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	3	0.5	0.3	0.2
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		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				
and	1/8	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	5	1.5	0.5	0.3
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		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				
and	1/8	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	7	4	2	1
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		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				
and	1/4	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	11	6	2.5	1.3
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		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				
and	3/8	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	21	7	3	1.3
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		13	15 19	16 20	17 21	18 23	19 24	20 26	22 28	24 30	26 33	30 40	36 49				
and	1/2	14	19 22	20 24	21 26	23 27	24 28	26 31	28 34	30 36	33 40	40 47	49 58	30	8	3.5	1.3
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		16	30 37	32 40	34 42	36 45	38 47	41 52	45 56	48 60	53 66	62 76	75 93				
and	3/4	17	37 43	40 47	42 49	45 53	47 56	52 61	56 66	60 70	66 78	76 91	93 99	55	33	18	12
206CT		18	43 57	47 61	49 65	53 69	56 73	61 80	66 86	70 92	78 99	91 99					
208C		19	57 71	61 77	65 82	69 87	73 91	80 99	86 99	92 99							
and	1	20	71 80	77 86	82 92	87 98	91 99							60	33	18	12
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

Water flow adjusting screw

204B

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.

Fluid Viscosity CPS	Maximum Injection Ounces Per Minute 3/8 NPT	3/8 NPT	1/2 NPT	3/4 NPT
	202B	203B	204B	206B
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)

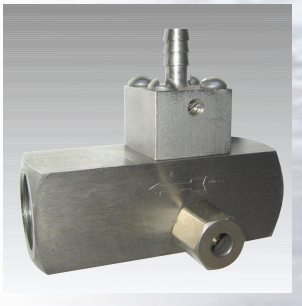
Inlet Pressure PSI	Operating Range GPM 3/8 NPT	3/8 NPT	1/2 NPT	3/4 NPT
	202B	203B	204B	206B
10	.25-2.0	.50-3.5	2.0-6.4	3.6-11
20	.30-2.3	.55-4.4	2.3-7.5	4.2-13
40	.37-2.9	.70-5.4	2.9-9	5.3-17
60	.43-3.4	.80-6.4	3.4-11	6.2 -19
100	.54-4.2	1.0-8.0	4.2-14	7.7-24
200	.73-5.7	1.4-11	5.7-19	11-33
400	1.0-7.9	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
303 SS (same flow as 203B)



204BS-2
303 SS (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

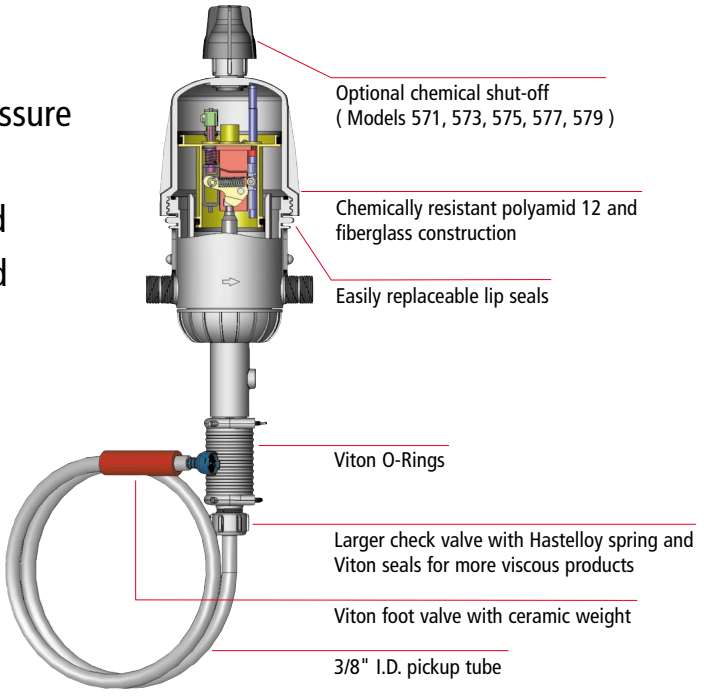
- Dual Injector
- Dual Solenoids
- "B" Series - Adjustable
- PVC Valve manifold

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
- Incudes 7 ft. inlet tubing and foot valve strainer
- Dimensions are 19 1/2" high, 7" wide
- 3/4" Hose barbs with swivel for easy installation included, or attach a 3/4" garden hose

571

574

579IN

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	Ml/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
BYPASS							
576IN	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
577IN	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		
578IN	2.9 - 85 PSI	.19-5.8 BAR	250:1 to 25:1	.4% to 4%	.51 to 5.0	4 to 40	
579IN	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

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
3/4"NPT
200 Mesh (80 Micron) Strainer
recommended on all MixRite installations.

50-42 Replacement Mesh

50-42-1
Tee adapter to induct two chemicals
simultaneously.

MixRite Parts Kits

KIT No.		MODEL
57-1	Cover Kit with on/off	571, 573, 575, 577IN, 579IN
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, 576IN, 578IN
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, 576IN, 577IN
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%	576IN, 577IN
57-K4B-244	Chemical Piston Kit Bypass 4%	578IN, 579IN
57-15-V	Chemical Inlet Tubing Kit	All
57-K02-00S	Lip Seal and Piston Kit 2%	570, 571, 576IN, 577IN
57-K04-012	Lip Seal and Piston Kit 4%	572, 573, 578IN, 579IN
57-K10-013	Lip Seal and Piston Kit 10%	574, 575
57-2B-10	Engine Repair Kit	574, 575
57-2B-BP	Engine Repair Kit	576IN, 577IN, 578IN, 579IN
50-42	Replacement Mesh for 50-41-1	
50-42-1	Tee Adapter	All

* *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

VEHICLE WASH PANEL
500:1 to 50:1 ratio (.2%-2%)

Space saving wall mounted Plexiglas panel. Preplumbed panel for easy installation for one product induction.

Central Cleaning/Sanitizing Carwash
- Tire Cleaner
- Presoak
- Drying Agent

Unit includes same as 570VFP less air regulator, gauge and valve. (See page 21)
** For higher inductions specify 572 MixRite.*

Drop Station

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

570VFP-3
VEHICLE FOAMING PANEL

VEHICLE FOAMING PANEL

Foaming Panel System
570VFP-1 one station
570VFP-3 three station
500:1 to 50:1 ratio (.2%-2%)

Space saving wall mounted Plexiglas panel.
Preplumbed panel for easy installation.
No storage tank needed.
Saves floor space.

Car Wash
- Tri-foam
- Tire Cleaner
- Foam Brush
- Presoak

Unit includes 570 MixRite*, Inlet ball valve for strainer maintenance, 200 mesh strainer, Outlet PVC check valve, 3/4" DEMA solenoid valve, one inlet ball valve per station, 1/2" stainless steel diaphragm valve and air regulator with pressure gauge.

** For higher inductions specify 572 MixRite.*

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) ÷ $\sqrt{\text{pressure drop (PSIG)}}$

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

Gravity PSI = .432 x hight (in feet)

Centipoise (CPS), Viscosity of fluid

1	Water
75	10 weight oil
200	30 weight oil
500	Honey

SEAL MATERIAL / GENERALLY RESISTANT TO:

Buna N	-40°F/-40°C to 250°F/120°C	oil, grease, hydraulic fluids, water, alcohols
EPDM	-60°F/-50°C to 300°F/150°C	animal and vegetable oils, ozone, oxidizing chemicals. (Not to be used with petroleum based fluids)
Viton	-20°F/-29°C to 400°F/205°C	resistant to swelling (citrus based products)
Teflon	-75°F/-60°C to 450°F/230°C	extreme temperatures
MOPD		Maximum Operating Pressure Differential Maximum differential against which solenoid valve can open
MRP		Maximum Rated Pressure Maximum pressure which can be applied to the valve
GPM		Gallons per minute flow
PSIG		Pounds per square inch gauge
Nozzle numbering system at 40 PSI		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	.034	Ounces
Bar	14.5	PSI
Millimeters	0.0394	Inches
Celsius	9/5C+32	Fahrenheit