



22262 Cuttler Road • New Caney, TX 77357 • *ph* 281-354-3699 • *fx* 281-354-4475
www.PathwayControl.com

500 Series Two Way, Low Pressure Valve

Application:

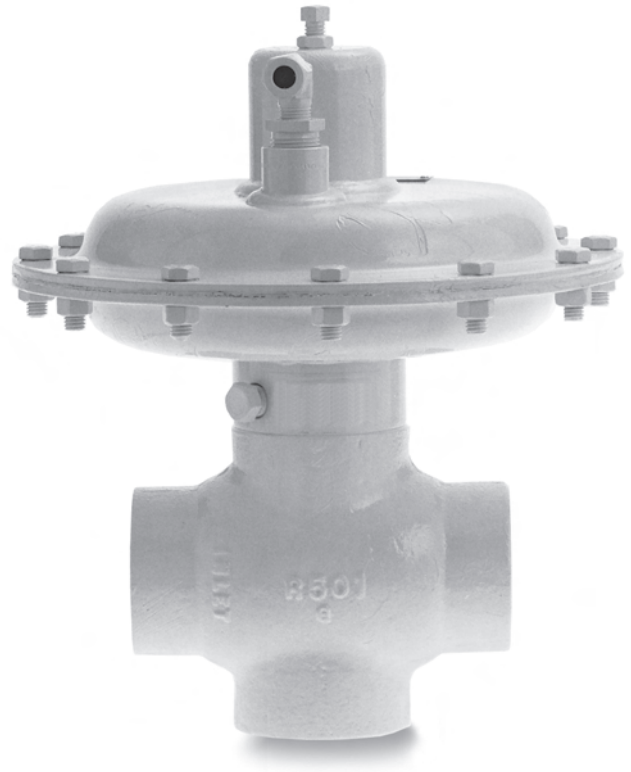
This valve is used for on-off or modulating control of water, oil or gas on low pressure applications. Oil and gas production separators, heater/treaters or any type of liquid accumulators are but a few of the many applications where the 500 Series valves are perfectly suited.

Operation:

In a normally closed application, a spring exerts a force onto the top side of the diaphragm, pushing the plug against the seat. To open the valve, pressure is applied to the lower side of the diaphragm overcoming the force, allowing flow through the valve. In a normally open application, the procedure is reversed. This valve may also be used with a hydraulic electric actuator.

Features:

- Easily serviced with internal parts removable from the top of the valve without having to remove the valve body from the line.
- Stainless steel stem working in a replaceable bushing ensures a longer packing life.
- Soft trim of molded nitrile provides a bubble tight shut off. Other trim options are available.
- Spring closing will hold the following back pressure:
1" = 100 psig; 2" = 100 psig; 3" = 50 psig;
4" = 50 psig
Higher pressures are available.



Fluid Capacity

Liquid Flow (Barrels/Day) Steady Flow

Pressure Drop PSI	Valve Size			
	1"	2"	3"	4"
5	1230	3470	6170	8500
10	1740	4900	8710	12100
25	2740	7700	13700	19000
50	3890	10980	19500	27000
100	5500	15400	27400	38200
150	6720	18900	34600	46700
200	7780	21800	38900	54000
250	8700	24400	43400	60300
300	9520	26800	47600	66000
350	10300	28900	51400	71300

Values based on water.

For gravity correction multiply BBLs/DAY by: $\frac{1}{\sqrt{\text{Specific Gravity}}}$

Maximum Gas Capacity (MMSCFD)

Steady Flow

Inlet Pressure PSIG	Valve Size			
	1"	2"	3"	4"
5	.32	.90	1.59	2.22
10	.40	1.12	1.99	2.77
25	.64	1.81	3.22	4.46
50	1.05	2.94	5.23	7.27
100	1.85	5.22	9.26	12.9
150	2.67	7.50	13.3	18.5
200	3.48	9.77	17.4	24.1
250	4.28	12.0	21.4	29.8
300	5.10	14.4	25.5	35.4
350	5.90	29.5	16.6	40.9

Values Based on Natural Gas .75 Specific Gravity @ 60°F.

Outlet pressure (psia) is assumed to be 1/2 inlet pressure (psia) or less.

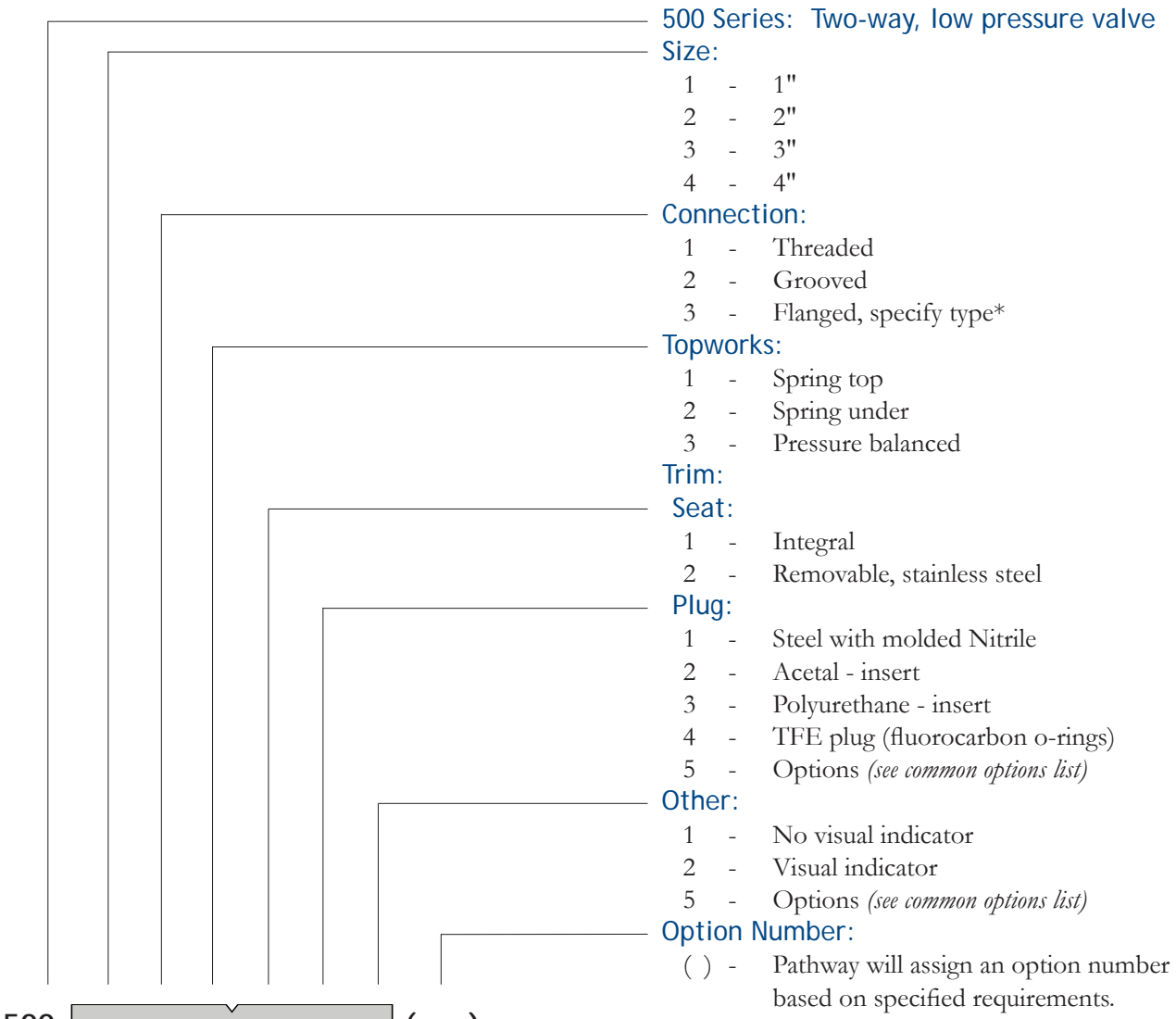
500 Series

Two Way, Low Pressure Valve

Specifications:

Size:	1" Globe	2" Globe	3" Globe	4" Globe
Working Pressure:	600 psig	600 psig	600 psig	300 psig
Effective Area:	23 sq. in	45 sq. in	62 sq. in.	62 sq. in.
C_v Factor:	16	45	80	111
Temperature:	-20°F to + 180°F; available to + 240°F			
Topworks:	Pressed steel housing with nylon reinforced nitrile diaphragm; 50 psig maximum supply pressure.			
Trim:	Integral in the valve body or removable stainless steel.			
Seat:	Steel with molded nitrile standard; optional fabricated acetal, polyurethane or TFE inserts.			
Plug:	Steel with molded nitrile standard; optional fabricated acetal, polyurethane or TFE inserts.			
Materials:	Ductile ASTM A395			
Body:	Stainless steel			
Stem:	Poly Pak and/or o-rings			
Packing:	Poly Pak and/or o-rings			

Ordering Chart:

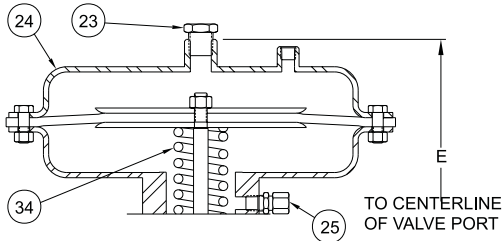
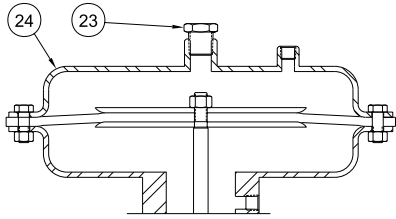


500  ()
Example: 500-111-121

**flanged models available in 150# or 300# RF*

500 Series

Two Way, Low Pressure Valve

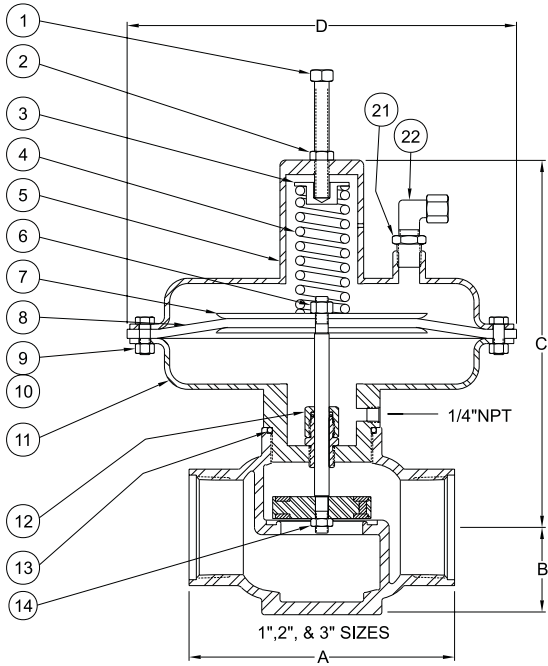


Dimensions

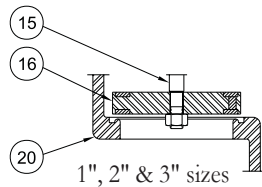
Size	1"	2"	3"	4"
A	5"	6 1/2"	9 1/8"	11"
B	1 9/16"	2 3/4"	3"	3 3/8"
C	7 5/8"	9 1/2"	12 1/4"	13 3/4"
D	9"	10 1/2"	13 1/16"	13 1/16"
E	6 1/4"	8"	9 1/4"	10 3/4"

Flanged Models

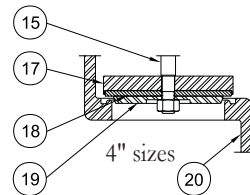
Flange	Face to Face	W.P. @ 100°F
2" 150# RF	6 1/2"	275 psig
2" 300# RF	9 1/8"	600 psig
3" 150# RF	9 1/8"	275 psig
3" 300# RF	12"	600 psig
4" 150# RF	11"	275 psig



500-311-111 SHOWN

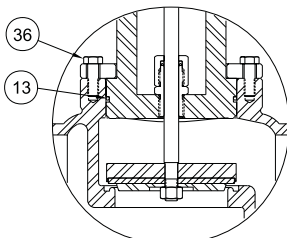


1", 2" & 3" sizes

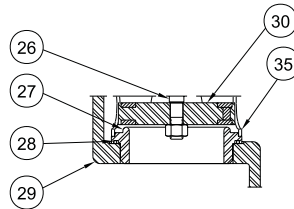


4" sizes

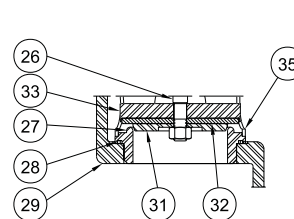
INTEGRAL SEAT



4" SIZE



26, 27, 28, 29



26, 27, 28, 29, 30, 31, 32, 33, 35

REMOVABLE SEAT

500 Series Two Way, Low Pressure Valve

Model	1"	2"	3"	4"	Description	Material	Qty
Item	Part #	Part #	Part #	Part #			
1	10210	10210	10213	10213	Adjustment Screw	Plated	1
2	10177	10177	10182	10182	Jam Nut	Plated	1
3	20582	20628	20602	20602	Spring Retainer	Carbon Steel	1
4	10051	10075	10043	10060	Spring	Oil Tempered Steel	1
5	30043	30045	30051	30051	Upper Diaphragm Housing	Fabricated Carbon Steel	1
6	10172	10172	10180	10180	Lock Nut	Plated	1
7	20622	20696	30071	30071	Diaphragm Plate	Cold Rolled Steel Plate	2
8	10100	10094	10028	10028	Diaphragm	Nylon Reinforced Nitrile	1
9	10206	10207			Cap Screw	Plated	12
			10207	10207	Cap Screw	Plated	16
10	10175	10175			Hex Nut	Plated	12
			10175	10175	Hex Nut	Plated	16
11	30044	30057	30054	30050	Lower Diaphragm Housing	Fabricated Carbon Steel	1
12	21409	21212	21348	21348	Packing Gland Assembly	Brass/Nitrile	1
13	10135	10138	10144	10147	O-Ring	Nitrile	1
14	10173	10173	10181	10181	Lock Nut	18-8 ss	1
15	20072	20630	20690	20640	Stem, Integral Seat	303 ss	1
16	20232	20384	20833		Plug	Molded Nitrile	1
17				20641	Plug Disc	Carbon Steel	1
18A				10559	Plug Insert	Nitrile	1
18B				20642	Plug Insert	Polyurethane	1
18C				20884	Plug Insert	Acetal	1
18D				20995	Plug Insert	TFE	1
19				20643	Plug Retainer	Carbon Steel	1
20A	20621	30068	30085	40075	Body, Threaded, Integral Seat	Ductile ASTM A395	1
20B	20410	30076	30077	40074	Body, Grooved, Integral Seat	Ductile ASTM A395	1
20C		30107	40077	50023	Body, 150# RF Flanged, Integral Seat	Ductile ASTM A395	1
20D		30385	40547		Body, 300# RF Flanged, Integral Seat	Ductile ASTM A395	1
21	10748	10748	10748	10748	Bushing	Plated	1
22	23339	23339	23339	23339	Vent Assembly	Plated	1
23	10346	10346	10346	10346	Plug	Plated	1
24	30012	30049	30101	30101	Upper Diaphragm Housing	Fabricated Carbon Steel	1
25	23338	23338	23338	23338	Vent Assembly	Plated	1
26	21006	20629	20480	20483	Stem, Removable Seat	303 ss	1
27	21005	20631	20635	30073	Seat	303 ss	1
28	10724	10136	10141	10146	O-Ring	Nitrile	1
29A	21007	30083	30084	40076	Body, Threaded, Removable seat	Ductile, ASTM A395	1
29B	21585	30082	30086	40073	Body, Grooved, Removable seat	Ductile, ASTM A395	1
29C		30081	40078	50022	Body, 150# RF Flange, Removable seat	Ductile, ASTM A395	1
29D		30144	40546		Body, 300# RF Flanged, Removable seat	Ductile, ASTM A395	1
30				20237	Plug	Molded Nitrile	1
31	21002	20626	20638		Plug Retainer	303 ss	1
				20851	Plug Retainer	Carbon Steel	1
32A	21003	20627	20639	20996	Plug Insert	Polyurethane	1
32B	21587	21140	21144	20880	Plug Insert	Acetal	1
32C	21363	21419	21143	20850	Plug Insert	TFE	1
32D	10745				Plug Insert	Buna-N	1
33	21004	20625	20637		Plug Disc	303 ss	1
				20849	Plug Disc	Carbon Steel	1
34	10085	10075	10043	10043	Spring	Oil Tempered Steel	1
35				30072	Cage	Carbon Steel	1
36				10207	Cap Screw	Plated	8
	10016	10016	10016	10016	Name Plate (not shown)	18-8 ss	1
	10324	10324	10324	10324	Drive Screw (not shown)	18-8 ss	2