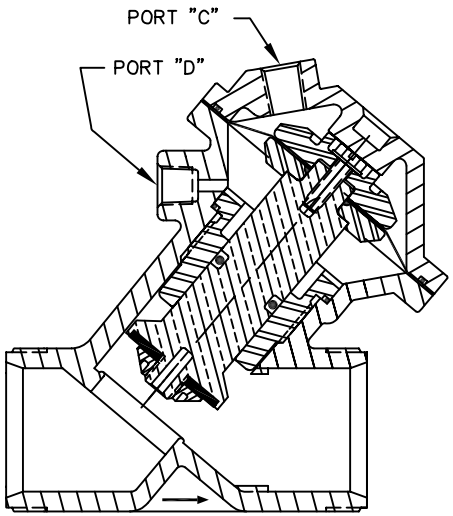
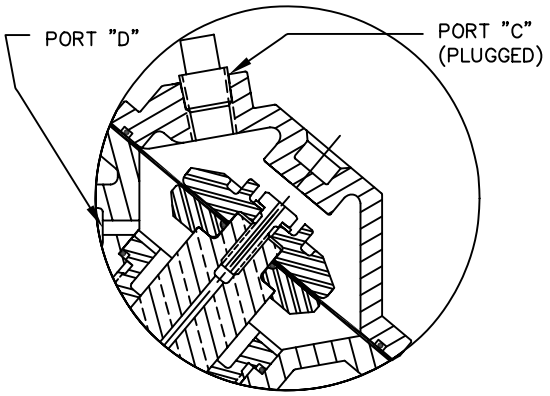
DIAPHRAGM VALVE CONFIGURATIONS - STANDARD MODEL



NORMALLY OPEN

LINE PRESSURE/FLOW AGAINST THE VALVE SEATING DISC WILL OPEN THE VALVE. CONTROL PRESSURE APPLIED TO THE TOP OF THE DIAPHRAGM (PORT "C") WILL CLOSE THE VALVE.

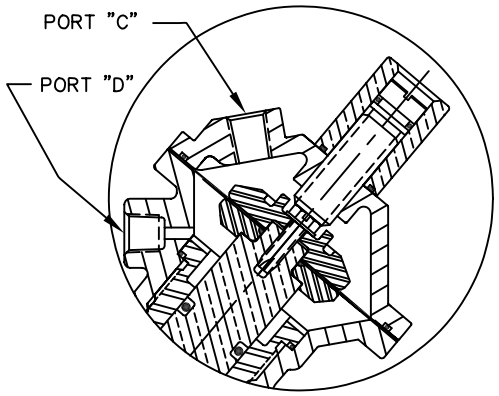


NORMALLY CLOSED

LINE PRESSURE AGAINST THE DISC, TRANSFERRED THRU THE VALVE'S HOLLOW SHAFT TO THE TOP OF THE DIAPHRAGM, WILL CLOSE THE VALVE. CONTROL PRESSURE AT PORT "D" WILL OPEN THE VALVE. ADDITION OF "SPRING ASSIST CLOSED" FEATURE IS RECOMMENDED FOR THE FOLLOWING CONDITIONS:

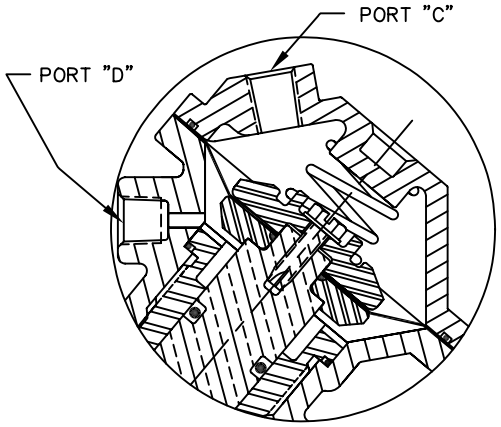
1. LOW PRESSURE AND/OR FLOW.
2. VALVE DISCHARGES TO ATMOSPHERE.

NORMALLY CLOSED FEATURE NOT RECOMMENDED FOR LINE MEDIA CONTAINING SOLIDS, HIGH TEMPERATURES OR OTHER MEDIA CONDITIONS WHICH MAY DAMAGE THE DIAPHRAGM.



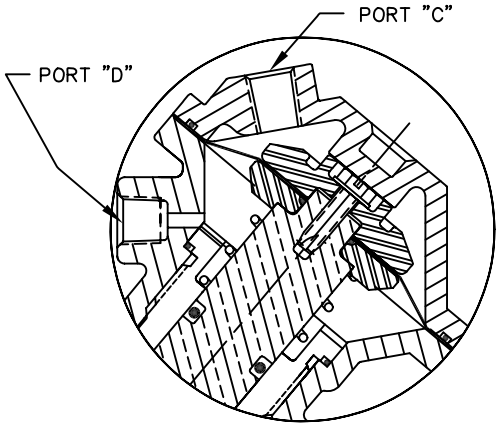
LIMIT STOP

INCLUDES AN ADJUSTMENT SCREW WHICH LIMITS THE VALVE STROKE. MAY BE USED TO CONTROL FLOW RATE, HOWEVER, FLOW RATE WILL VARY WITH CHANGES IN PRESSURE.



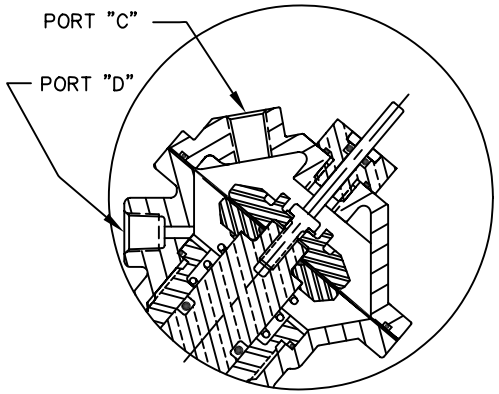
SPRING ASSIST CLOSED

SPRING SERVES AS AN ASSIST TO ASSURE FULL VALVE CLOSURE IN THE ABSENCE OF LINE AND CONTROL PRESSURES.



SPRING ASSIST OPEN

SPRING SERVES AS AN ASSIST TO ASSURE FULL VALVE OPENING IN THE ABSENCE OF LINE AND CONTROL PRESSURES. (STANDARD ON SERIES 520 VALVES.)



POSITION INDICATOR

INDICATOR ROD IS ATTACHED TO MAIN VALVE STEM TO SHOW POSITION OF VALVE. ONLY AVAILABLE WITH SPRING ASSIST OPEN OPTION.

FORM NO. 1081310

PRINTED IN U.S.A.

REV	DESCRIPTION	ECO	DWN	DATE	APVD
B	RELEASE NEW DESIGN	1416	JWB	25JUL01	VP

Pentair Water
20580 Enterprise Avenue
Brookfield, WI 53045
888.784.9065
www.Pentairwatertreatment.com

SERIES 520 DIAPHRAGM VALVES

SCALE	DRAWN	DATE	DWG. NO.
N/A	JWB	25JUL01	1078147

PLASTIC DIAPHRAGM VALVES (520 THRU 526)

SERIES	PIPE SIZE	SEAT DIAMETER IN. / CM.	SEAT AREA SQ. IN. / SQ. CM.	DIAPHRAGM AREA SQ. IN. / SQ. CM.	TOTAL STROKE IN. / CM.	DIAPHRAGM CHAMBER (VOLUME) CUBIC IN. / CUBIC CM.	* Cv	** Kv	FLOW RATE @ 10 FT./SEC. (3 M./SEC.) NOTE 1 GAL./MIN. / CU.M/HR	FLOW RATE @ 20 FT./SEC. (6 M./SEC.) NOTE 2 GAL./MIN. / CU.M/HR	PRESSURE DROP @ 10 FT./SEC. (3 M./SEC.) NOTE 1 P.S.I. / bar	PRESSURE DROP @ 20 FT./SEC. (6 M./SEC.) NOTE 2 P.S.I. / bar
520	1/2"	.507 / 1.28	.20 / 1.30	.52 / 3.35	.28 / .71	.55 / 9.00	4.0	3.4	6.2 / 1.4	12.4 / 2.8	2.4 / 0.16	9.6 / 0.66
521	1"	.996 / 2.52	.77 / 4.96	2.07 / 13.35	.56 / 1.42	3.05 / 49.90	15.0	13.0	24 / 5.4	48 / 10.8	2.5 / 0.17	10.2 / 0.7
524	1 1/2"	1.62 / 4.11	2.06 / 13.28	3.86 / 24.89	1.00 / 2.54	7.32 / 119	38.0	32.7	64 / 14.4	128 / 28.8	2.8 / 0.19	11.3 / 0.78
526	2 1/2"	2.37 / 6.01	4.40 / 28.38	8.32 / 53.66	1.62 / 4.11	12.20 / 200	100.0	86.0	136 / 31.0	272 / 62.0	1.8 / 0.12	7.4 / 0.51

* Cv – FLOWRATE (GAL./MIN.) OF WATER AT 60° F. AT 1 P.S.I. PRESSURE DROP

** Kv – FLOWRATE (CU. M./HR) OF WATER AT 15.5° C. AT 1 BAR PRESSURE DROP

NOTE 1: MAXIMUM CONTINUOUS VELOCITY THROUGH THE VALVE.

NOTE 2: MAXIMUM CONTINUOUS VELOCITY. EXTENDED SERVICE AT THIS VELOCITY MAY CAUSE CAVITATION.

TO DETERMINE FLOWRATE AT ANY GIVEN PRESSURE DROP, THE FOLLOWING FORMULAS CAN BE USED.

FOR WATER AND LIQUIDS:

$$Q = \frac{Cv\sqrt{\Delta P}}{\sqrt{e}}$$

FOR AIR AND GAS:

WHEN P2 < .5P1

$$Cv = \frac{CFM\sqrt{e}}{.5P1}$$

WHEN P2 > .5P1

$$Cv = \frac{CFM\sqrt{e}}{\sqrt{\Delta P\ P2}}$$

Q – FLOWRATE IN GAL./MIN.
ΔP – PRESSURE DROP (LB./SQ. IN.)
e – SPECIFIC GRAVITY (WATER = 1.00)

CFM – CU. FT./MIN. FLOW
e – SPECIFIC GRAVITY (AIR = 1.00)
P1 – INLET PRESSURE (LB./SQ. IN.)
P2 – OUTLET PRESSURE (LB./SQ. IN.)

THE DATA PRESENTED HERE IS BELIEVED TO BE RELIABLE AND OFFERED AS SUGGESTION ONLY. ACTUAL RESULTS MAY VARY DEPENDING UPON APPLICATION.

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Brookfield, WI 53045
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SERIES 520 DIAPHRAGM VALVES

FORM NO. 1081310

REV	DESCRIPTION	ECO	DWN	DATE	APVD
B	RELEASE NEW DESIGN	1416	JWB	25JUL01	VP

SCALE	DRAWN	DATE	DWG. NO.
N/A	JWB	25JUL01	1078147

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DIAPHRAGM VALVE INFORMATION - STANDARD MODEL