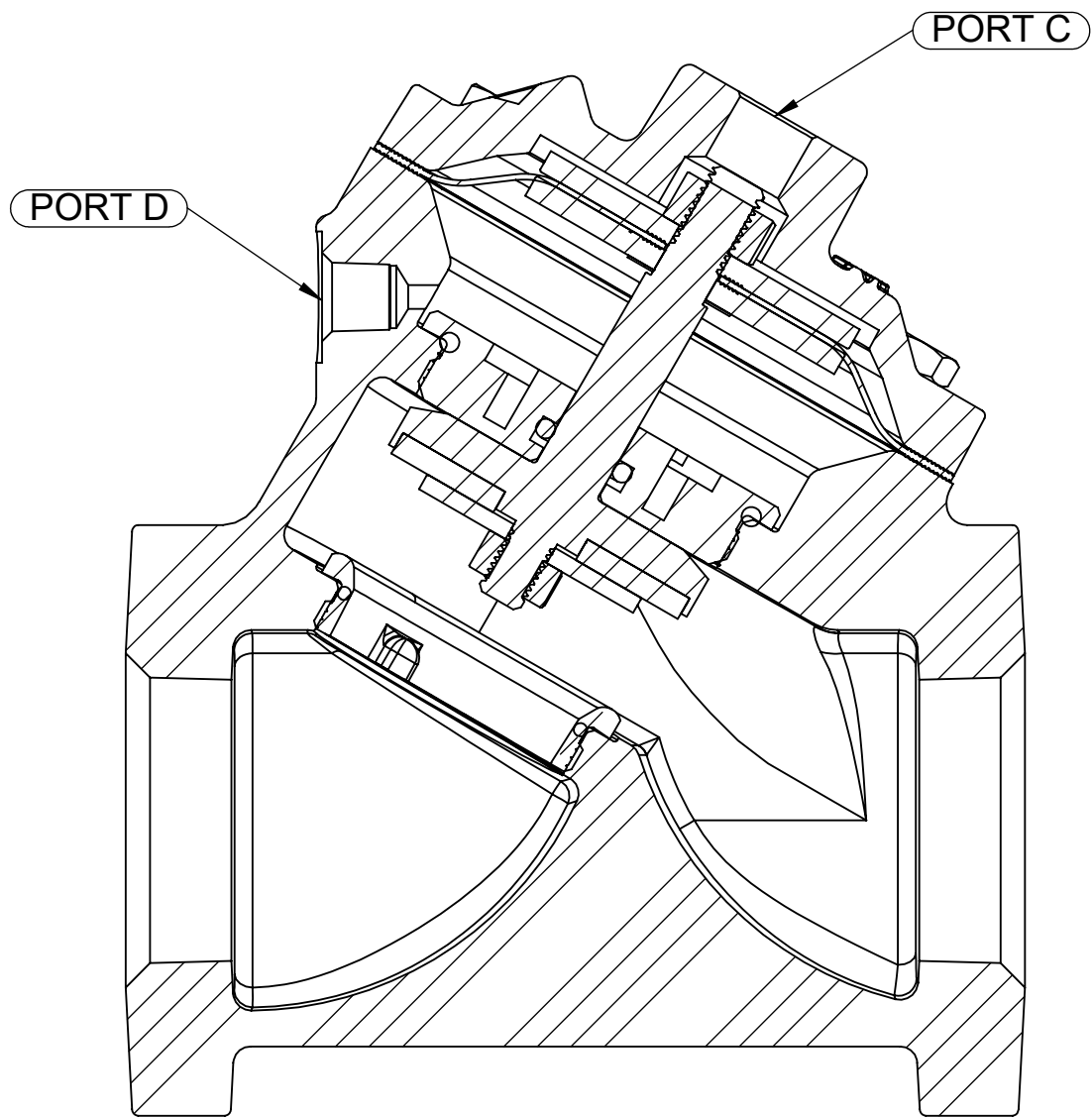
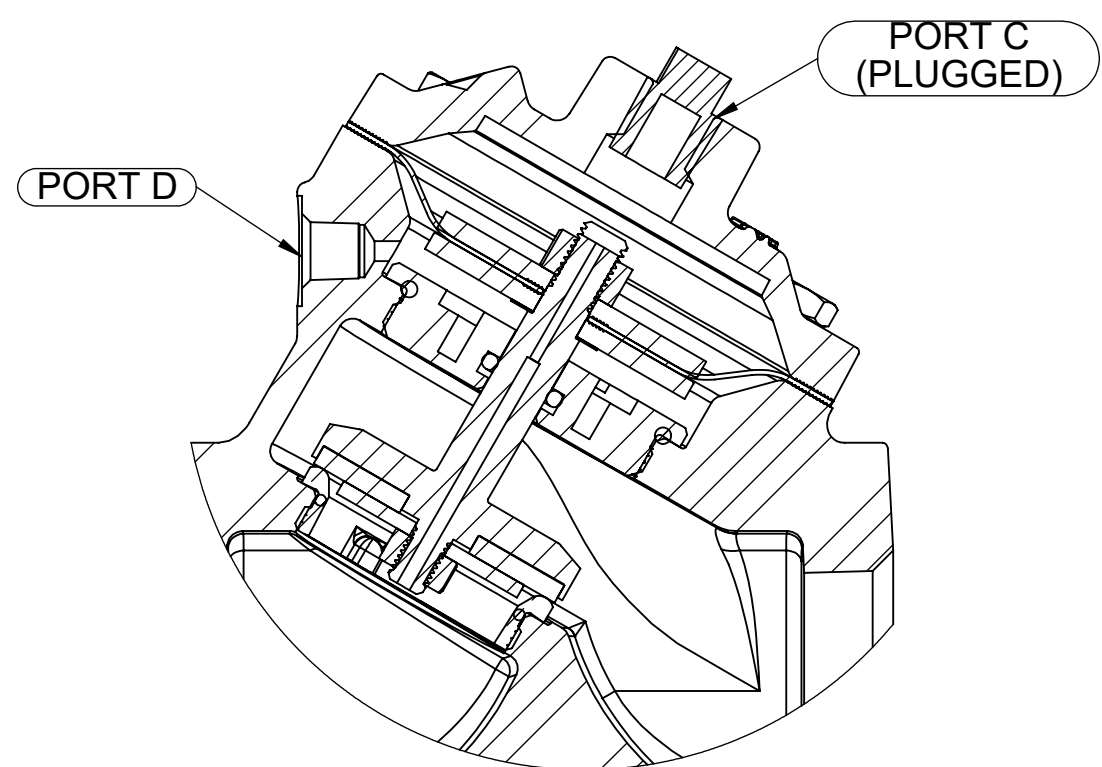


REVISIONS				
ECN	REV.	DESCRIPTION	DATE	APP'D
1429	C	INITIAL RELEASE	09/21/01	VKP
1815	D	TRANSFER TO AQ TEMPLATE	01/06/21	KJB



**NORMALLY OPEN**

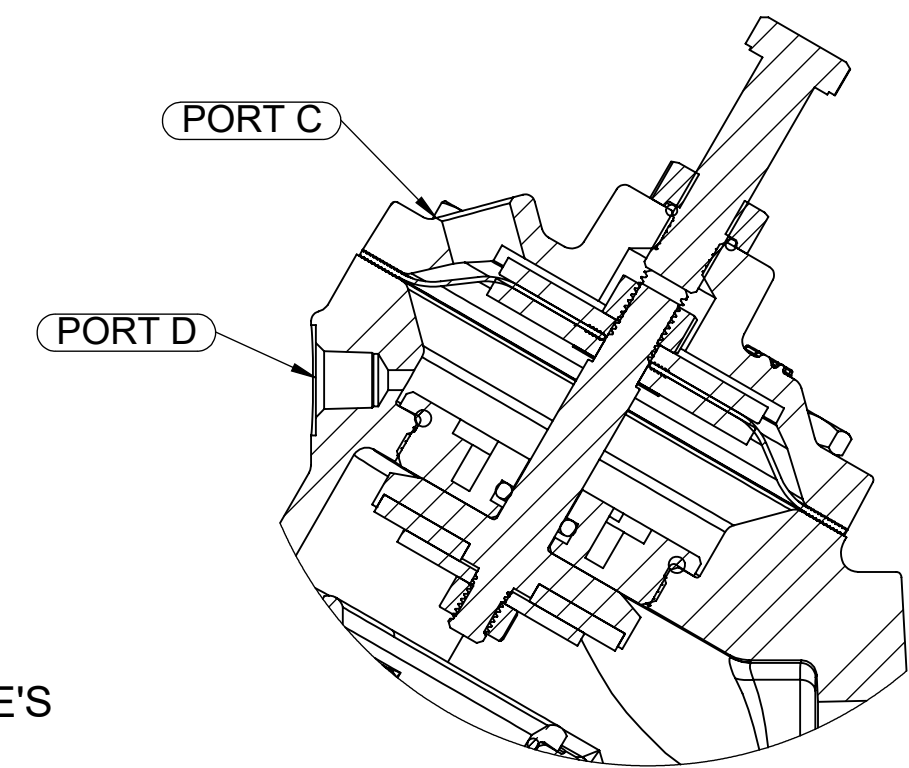
LINE PRESSURE/FLOW AGAINST THE VALVE SEATING DISC WILL OPEN THE VALVE. CONTROL PRESSURE APPLIED TO THE TOP OF THE DIAPHRAGM (PORT "C") WILL CLOSE THE VALVE.



**NORMALLY CLOSED**

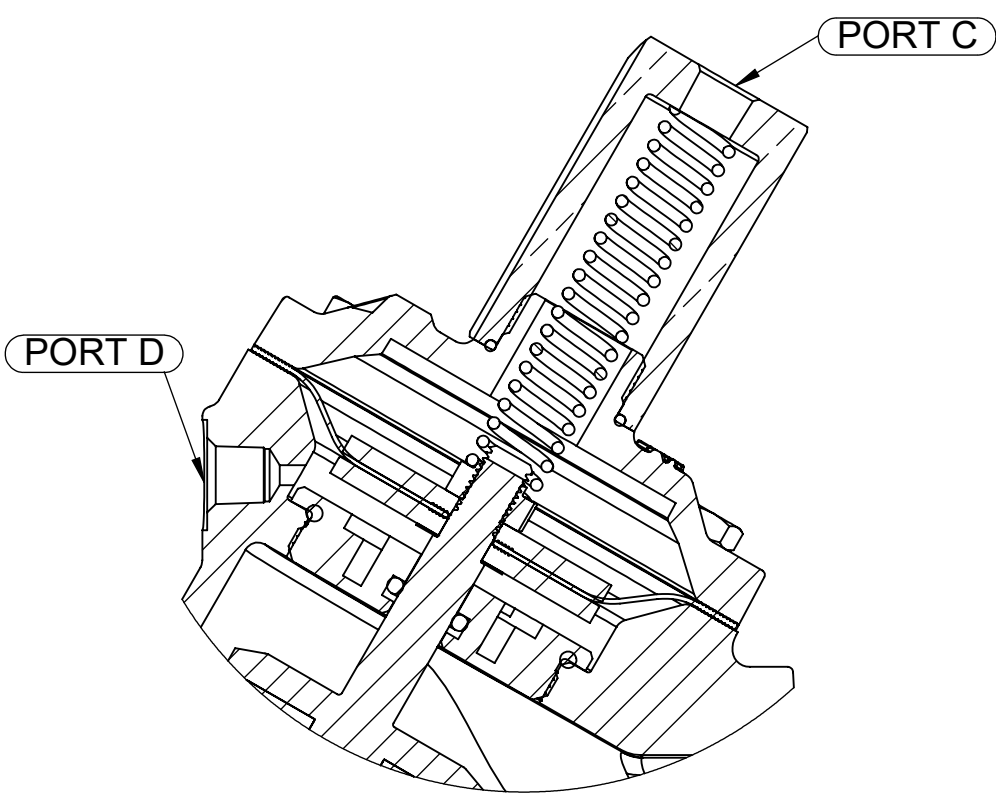
LINE PRESSURE AGAINST THE DISC, TRANSFERRED THRU THE VALVE'S HOLLOW SHAFT TO THE TOP OF THE DIAPHRAGM, WILL CLOSE THE VALVE. CONTROL PRESSURE AT PORT "D" WILL OPEN THE VALVE. ADDITION OF "SPRING ASSIST CLOSED" FEATURE IS RECOMMENDED FOR THE FOLLOWING CONDITIONS:  
 1. LOW PRESSURE AND/OR FLOW.  
 2.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

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



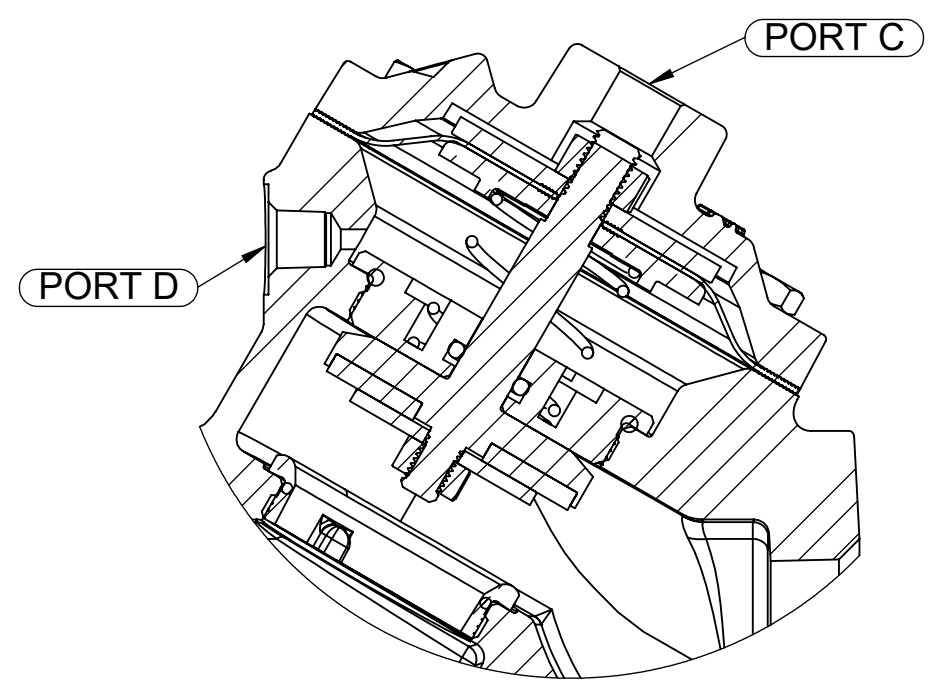
**LIMIT STOP**

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.



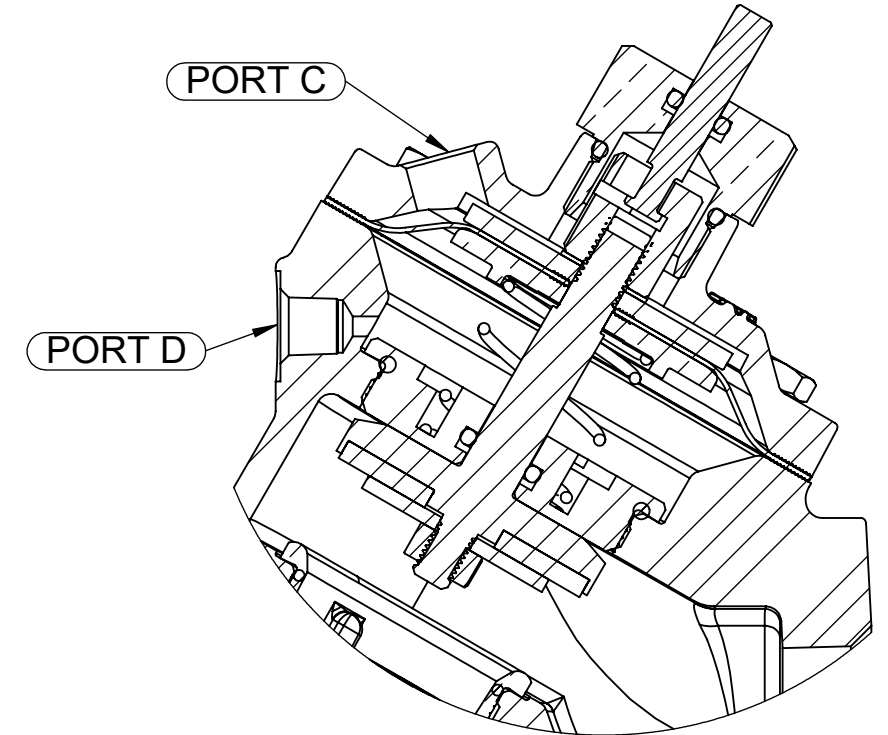
**SPRING ASSIST CLOSED**

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.



**POSITION INDICATOR**

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

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INTERPRET DIMENSIONS AND TOLERANCES PER ASME Y14.5M - 1994

UNLESS OTHERWISE SPECIFIED:  
 DIMENSIONS ARE IN INCHES [mm]  
 CORNER FILLETS R.005-.020 [.127-.508]  
 TOLERANCES:  
 ANGLES: ± 1°  
 1 PLACE .X: ± .100 [2.54]  
 2 PLACE .XX: ± .010 [0.25]  
 3 PLACE .XXX: ± .005 [0.13]

THE COMPONENT OR PRODUCT DESCRIBED IN THIS DOCUMENT MUST COMPLY WITH RoHS 3 EU (EUROPEAN UNION) DIRECTIVE 2015/863				
THIRD ANGLE PROJECTION		AQ-MATIC VALVES AND CONTROLS		
APPROVALS	DATE	DESCRIPTION		
DRAWN VKP	09/21/01	V42 SERIES CONFIGURATIONS & BASIC INFORMATION		
CHECKED BY		SIZE C	DWG NO. 1078117	REV. D
APPROVED		SCALE	SOLIDWORKS FORMAT	SHEET 1 OF 2

REVISIONS				
ECN	REV.	DESCRIPTION	DATE	APP'D
		SEE SHEET 1 FOR A LIST OF ALL CHANGES.		

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) CU. IN. CU. CM.	Cv*	Kv**	FLOW RATE		PRESSURE DROP	
									@ 10 FT./SEC. (3 M./SEC.) NOTE 1	@ 20 FT./SEC. (6 M./SEC.) NOTE 2	@ 10 FT./SEC. (3 M./SEC.) NOTE 1	@ 20 FT./SEC. (6 M./SEC.) NOTE 2
									GAL/MIN CU M/HR	GAL/MIN CU M/HR	P.S.I. bar	P.S.I. bar
V42B	3/4"	0.97 2.5	0.74 4.8	2.10 13.0	0.47 1.2	2.06 33.8	11.4	9.8	23 5	46 10	4.1 0.3	16.3 1.12
V42C	1"	0.97 2.5	0.74 4.8	2.10 13.0	0.47 1.2	2.06 33.8	12.8	11.0	23 5	46 10	3.2 0.22	13.0 0.9
V42D	1 1/4"	1.34 3.4	1.41 9.1	6.49 41.9	0.61 1.5	5.20 85.2	26.5	23	44 10	88 20	2.8 0.2	11.0 0.7
V42E	1 1/2"	1.34 3.4	1.41 9.1	6.49 41.9	0.61 1.5	5.20 85.2	32.5	28	44 10	88 20	1.8 0.12	7.3 0.5
V42F	2" (425)	2.02 5.1	3.20 20.6	11.04 71.2	0.70 1.8	10.50 172.1	56	48	100 23	200 46	3.2 0.22	12.7 0.87
V42G	2" (426)	2.31 5.9	4.19 27.0	15.03 97.0	0.99 2.5	16.34 267.8	68	59	130 29	260 58	3.7 0.25	14.7 1.01
V42H	2 1/2"	2.31 5.9	4.19 27.0	15.03 97.0	0.99 2.5	16.34 267.8	84	72	130 29	260 58	2.4 0.16	9.7 0.67
V42J	3"	2.96 7.5	6.88 44.4	22.69 146.4	1.05 2.7	32.80 537.6	134	116	214 49	428 98	2.6 0.18	10.2 0.7
V42K	4"	3.84 9.7	11.58 74.7	33.82 218.2	1.92 4.9	78.83 1292.0	275	238	360 83	720 166	1.7 0.12	6.9 0.47
V42L	6"	6.06 15.4	28.84 186.1	120.28 776.0	1.70 4.3	296.52 4860.0	680	588	899 204	1798 408	1.8 0.12	7.0 0.5

\* 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

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

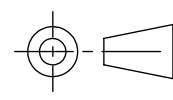

WHEN P2 > .5P1

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

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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THIRD ANGLE PROJECTION		 <b>AQ-MATIC</b> VALVES AND CONTROLS	
APPROVALS	DATE	DESCRIPTION	
DRAWN VKP	09/21/01	V42 SERIES CONFIGURATIONS & BASIC INFORMATION	
CHECKED BY		SIZE C	DWG NO. 1078117
APPROVED		SCALE	SOLIDWORKS FORMAT SHEET 2 OF 2
<small>INTERPRET DIMENSIONS AND TOLERANCES PER ASME Y14.5M -1994</small>		<small>UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES (mm) CORNER FILLETS R.005-.020 (.127-.508) TOLERANCES: ANGLES: ± 1° 1 PLACE .X: ± .100 (2.54) 2 PLACE .XX: ± .010 (0.25) 3 PLACE .XXX: ± .005 (0.13)</small>	