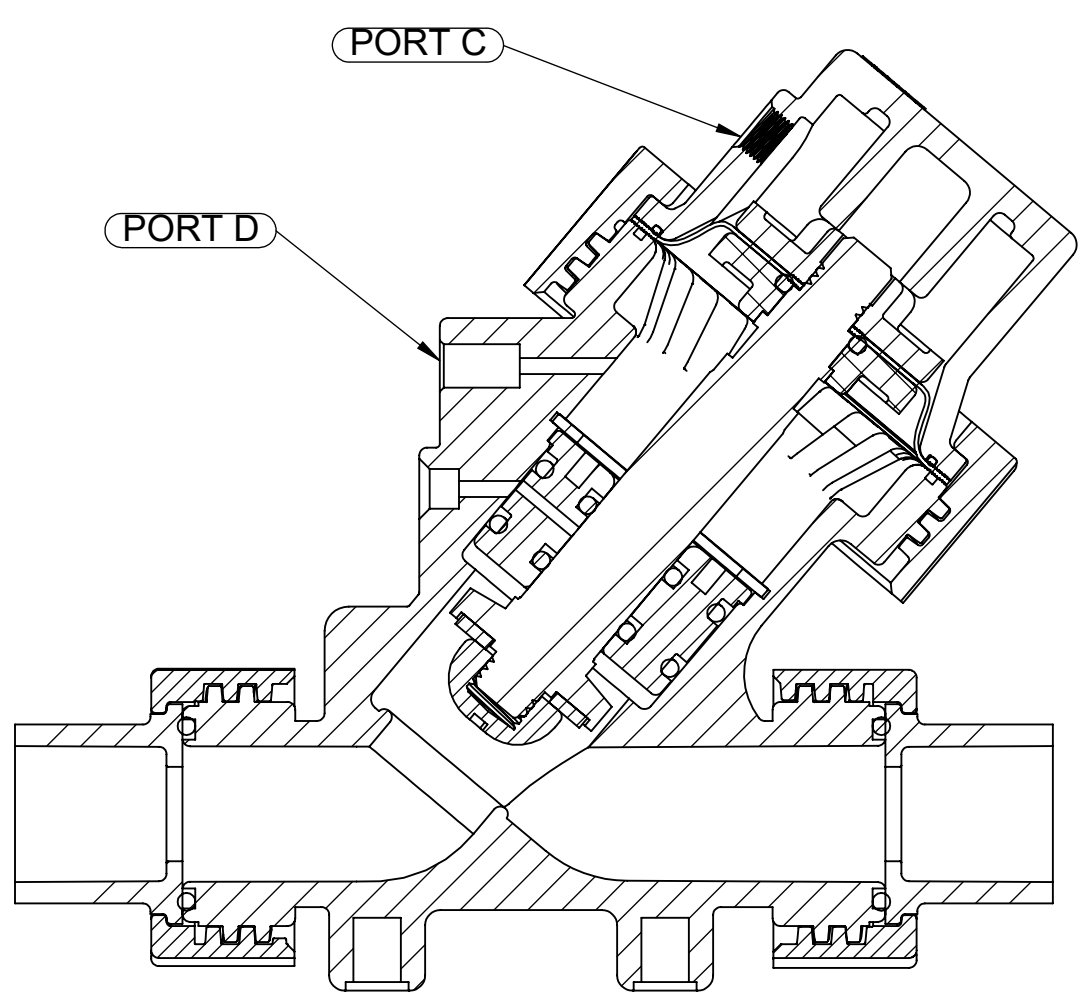
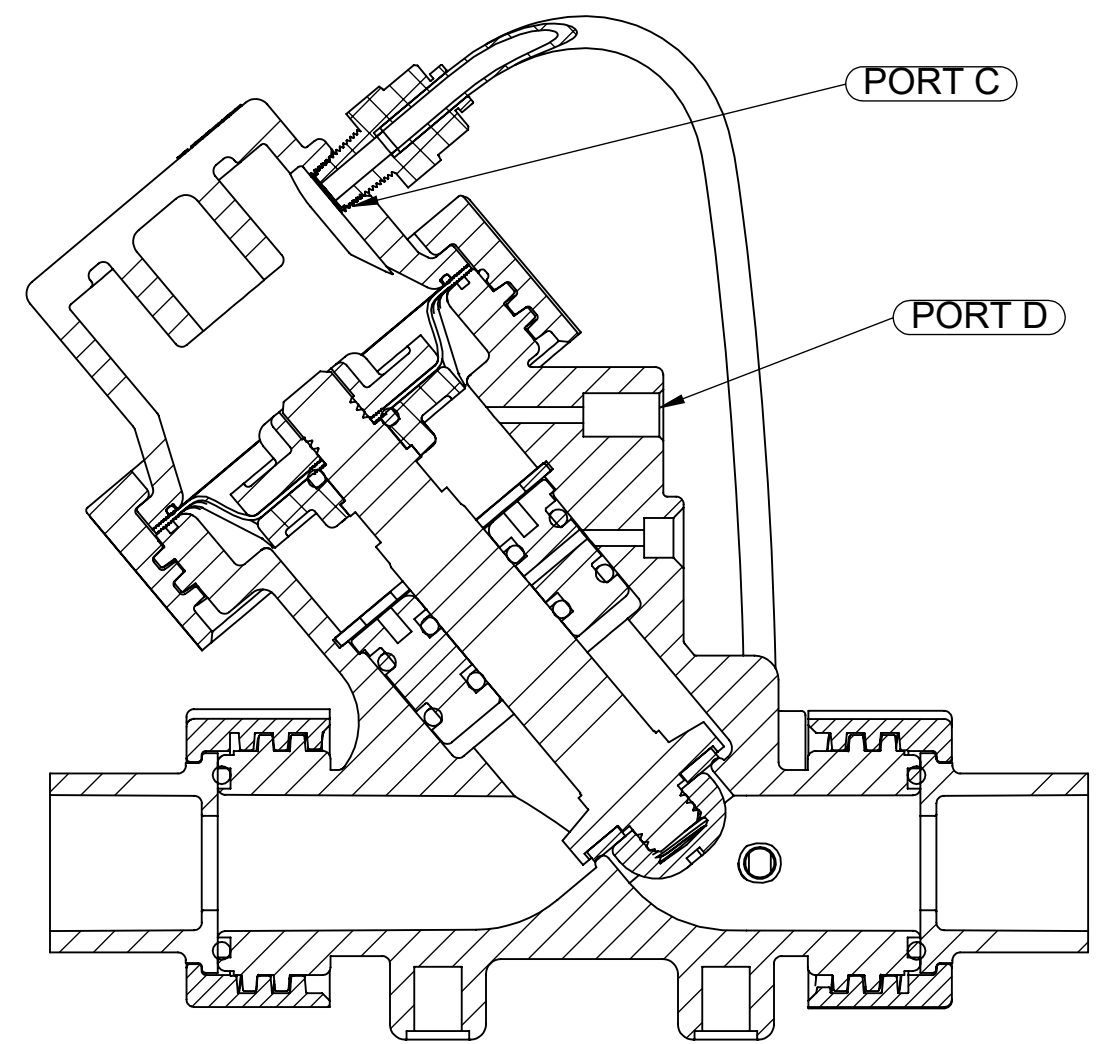


REVISIONS				
ECN	REV.	DESCRIPTION	DATE	APP'D
1588	C	NUMBER CONVERSION	11/27/02	MSM
1955	D	1-TRANSFER TO AQ TEMPLATE, 2-NORMALLY CLOSED VIEW CORRECTED TO SHOW EXTERNALLY NORMALLY CLOSED	10/07/21	KJB



**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.

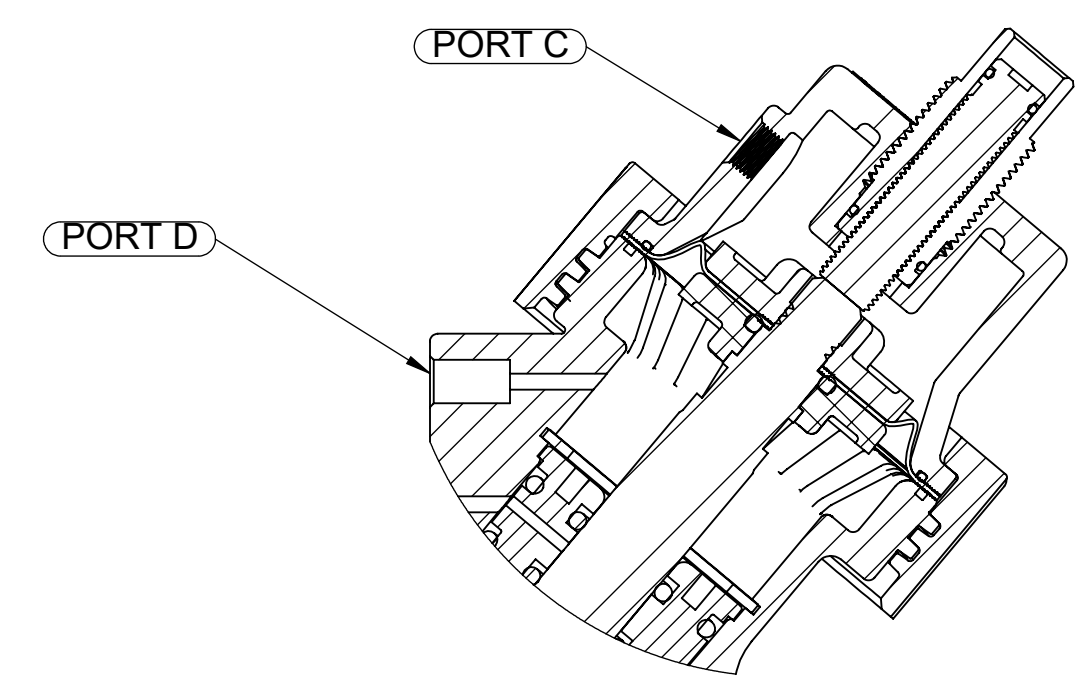


**EXTERNALLY NORMALLY CLOSED**

LINE PRESSURE AGAINST THE DISC, TRANSFERRED THRU AN EXTERNAL LINE TO PORT "C" AT 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:

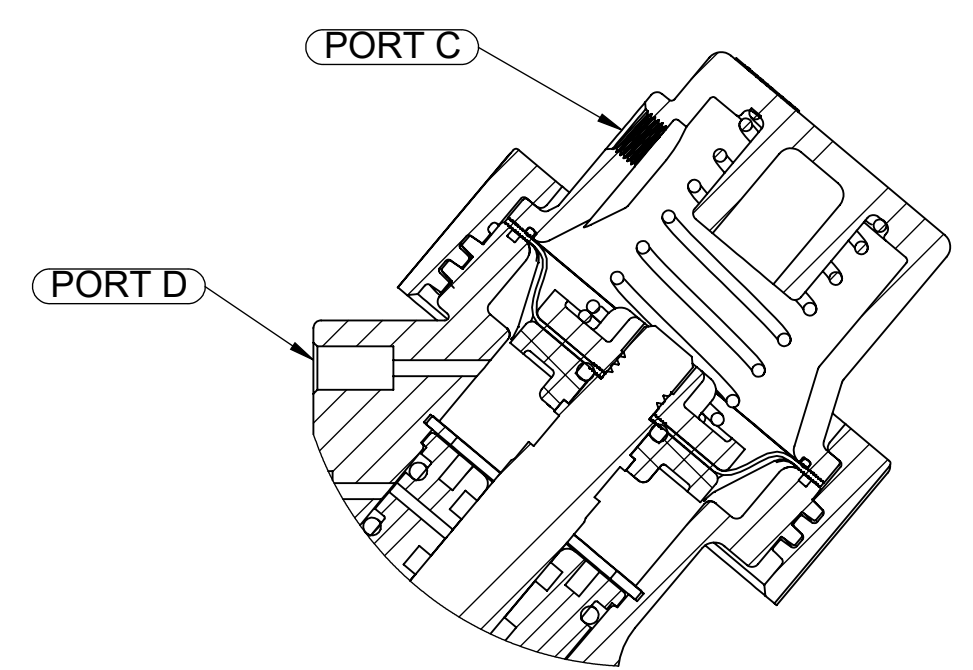
1. LOW PRESSURE AND/OR FLOW
2. VALVE DISCHARGES TO ATMOSPHERE

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



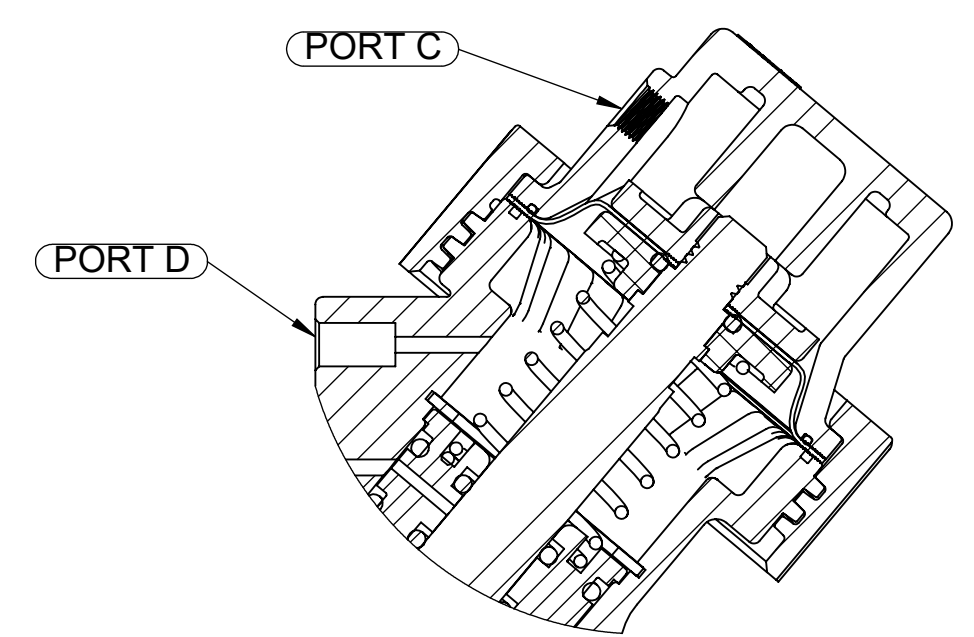
**LIMIT STOP**

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.



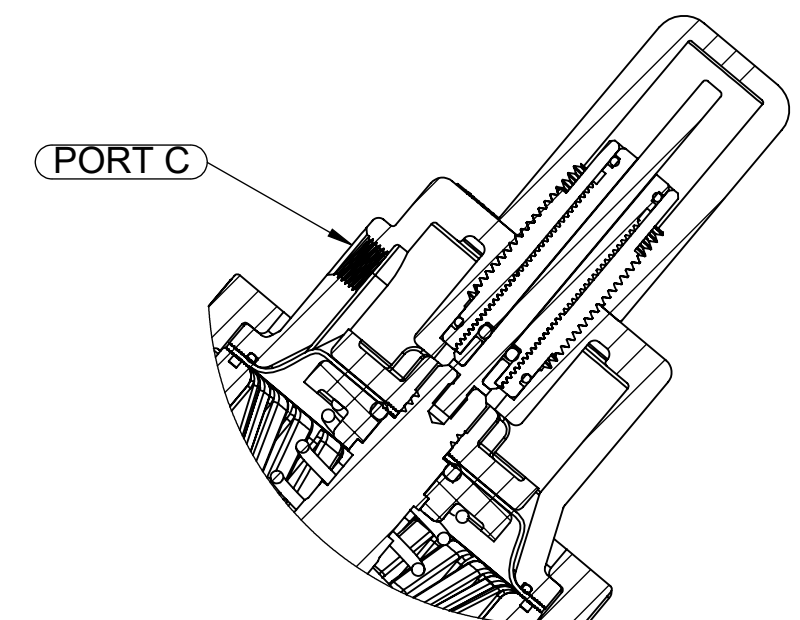
**SPRING ASSIST CLOSED**

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.



**POSITION INDICATOR**

INDICATOR ROD IS ATTACHED TO MAIN VALVE STEM TO SHOW POSITION OF VALVE. ONLY AVAILABLE WITH COMBINATION OF SPRING ASSIST AND LIMIT STOP OPTIONS.

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THIRD ANGLE PROJECTION				
APPROVALS	DATE	K53 SERIES CONFIGURATIONS & BASIC INFORMATION		
DRAWN MSM	11/27/02	SIZE C	DWG NO. 1084006	REV. D
CHECKED BY		SCALE 1:2	SOLIDWORKS FORMAT	SHEET 1 OF 2
APPROVED				

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DO NOT SCALE DRAWING. DIMS. ARE IN INCHES [mm] INTERPRET DIMS AND TOLERANCES PER ASME Y14.5M -1994 UNLESS OTHERWISE SPECIFIED:  
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]

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

## PLASTIC DIAPHRAGM VALVES (531 THRU 537)

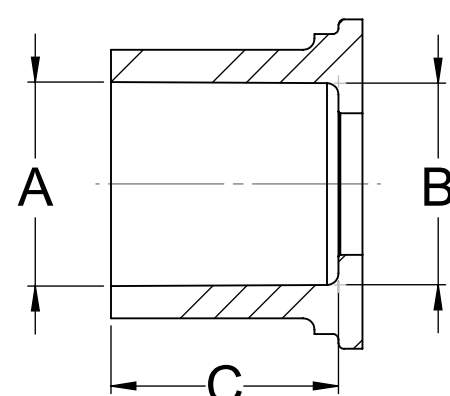
SERIES	PIPE SIZE	SEAT DIAMETER		SEAT AREA		DIAPHRAGM AREA		TOTAL STROKE		DIAPHRAGM CHAMBER (VOLUME)		Cv*	Kv**	FLOW RATE		PRESSURE DROP	
		IN.	CM.	SQ. IN.	SQ. CM.	SQ. IN.	SQ. CM.	IN.	CM.	CU. IN.	CU. CM.			@ 10 FT./SEC. (3 M./SEC.) NOTE 1 GAL./MIN CU.M/HR	@ 20FT./SEC. (6 M./SEC.) NOTE 1 GAL./MIN CU.M/HR	@ 10 FT./SEC. (3 M./SEC.) NOTE 1 PSI bar	@ 20FT./SEC. (6 M./SEC.) NOTE 1 PSI bar
531	3/4", 1"	1.062 2.70	0.89 5.73	3.43 22.1	0.86 2.18	6.21 102.0	18.0	16.0	27.7 6.3	55.3 12.6	2.3 0.16	9.4 0.65					
534	1-1/2"	1.562 3.97	1.92 12.4	6.06 39.1	1.33 3.38	10.4 170.0	42.0	36.0	60 13.6	120 27.2	2.04 0.14	8.16 0.56					
535	2"	2.062 5.24	3.34 21.5	8.82 56.9	1.75 4.45	25.3 414.0	84.0	72.0	104 23.4	208 46.8	1.53 0.11	6.13 0.42					
537	3"	3.062 7.78	7.36 47.5	15.6 101.0	2.50 6.35	65.3 1070	200.0	172.0	230 52.2	460 104.4	1.32 0.09	5.3 0.36					

\* 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



### FEMALE SOCKET WELD END CONNECTOR KITS

VALVE SERIES	STANDARD	PART NO.	DIAMETER A	DIAMETER B	DEPTH C
531	A.S.T.M 3/4"	1070411 (K531-577)	1.062"	1.050"	1.18"
	A.S.T.M. 1"	1070412 (K531-060)	1.330"	1.312"	1.18"
	J.I.S. 25MM	1070413 (K531-061)	1.282"	1.234"	1.18"
	I.S.O. 25MM	1070414 (K531-062)	1.269"	1.269"	1.18"
534	A.S.T.M. 1-1/2"	1070419 (K534-060)	1.920"	1.81"	1.37"
	J.I.S. 40MM	1070420 (K534-061)	1.895"	1.829"	1.36"
	I.S.O. 25MM	1070421 (K534-062)	1.978"	1.955"	1.36"
535	A.S.T.M. 2"	1070425 (K534-060)	2.393"	2.341"	1.50"
	J.I.S. 50MM	1070426 (K534-061)	2.392"	2.274"	1.50"
	I.S.O. 50MM	1070427 (K534-062)	2.493"	1.931"	1.50"
537	A.S.T.M. 3"	1070431 (K537-060)	3.522"	3.492"	1.95"
	J.I.S. 80MM	1070432 (K537-061)	3.537"	3.470"	1.95"
	I.S.O. 75MM	1070433 (K537-062)	3.557"	3.535"	1.95"

NOTE: ALL CONNECTOR KITS CONTAIN (2) CONNECTORS, (ONE KIT REQ'D PER VALVE)

FOR WATER AND LIQUIDS:

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

Q - FLOWRATE IN GAL./MIN.  
 $\Delta P$  - PRESSURE DROP (LB./SQ. IN.)  
 e - SPECIFIC GRAVITY (WATER = 1.00)

FOR AIR AND GAS:

WHEN  $P2 < .5P1$

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

WHEN  $P2 > .5P1$

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

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		APPROVALS	DATE
DRAWN	MSM	11/27/02	
CHECKED BY			
APPROVED			
<b>K53 SERIES CONFIGURATIONS &amp; BASIC INFORMATION</b>			
SIZE	C	DWG NO.	1084006
SCALE	1:1	SOLIDWORKS FORMAT	SHEET 2 OF 2