

DVS Series

Diaphragm Valve - Actuated

Material:	PP or PVDF
Size:	20mm - 63mm True Union Socket 20mm - 110mm Spigot ½" - 4" ANSI Flanged
Seal/Diaphragm:	EPDM, FPM, or TEFLON
Connections:	Metric Socket (True Union) Metric Spigot (Non-Union) ANSI Flanged



ISO 9002 CERTIFIED

Engineering Guide Specification

Materials - Body:

- PP:** Class PP 110B76383 per ASTM D4101
- PVDF:** Type 1 per ASTM D3222
- Diaphragms:** EPDM, FPM or PTFE
- Union Seals:** EPDM or FPM

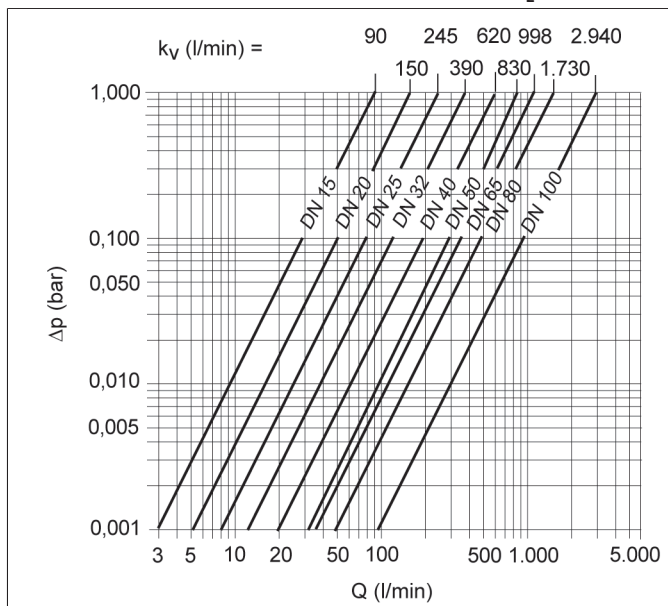
Guide Specification: Diaphragm valves shall be weir pattern body molded from the material indicated. Diaphragms shall be as indicated. (PTFE diaphragm shall be two piece assembly consisting of solid PTFE diaphragm with a reinforced EPDM backing cushion.) Visual indicator is standard, as manufactured by SIMTECH.

Special Features

- Compact designed pneumatically operated valve
- Visual position indicator
- Air connection according to NAMUR
- High Cv Value for better flow
- Maximum control pressure 90psi
- Actuation options easily retrofitted / installed
 - Solenoids
 - Limit Switches
 - Positioners

Pressure Loss

Pressure Loss Curve (Standard Values for H₂O, 20°C)



ΔP = Pressure Loss
Q = Flow

Pressure loss and k_v value

The diagram shows the pressure loss ΔP in relation to the flow Q.

Conversion aid:

$$c_v = k_v * 0.07$$

$$f_v = k_v * 0.0585$$

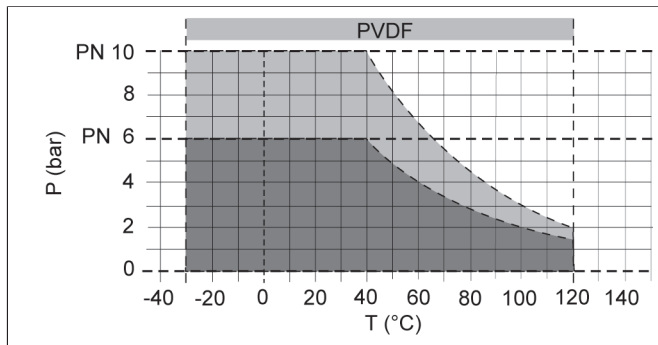
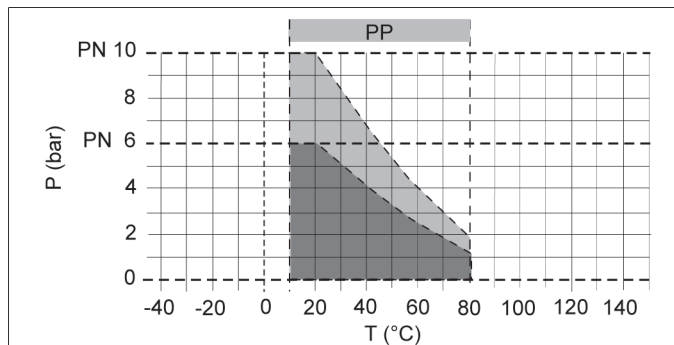
Units:

k_v (l/min)
 c_v (gal/min) US
 f_v (gal/min) GB

DWS Series

Pressure/Temperature Graph:

Pressure/Temperature Diagram

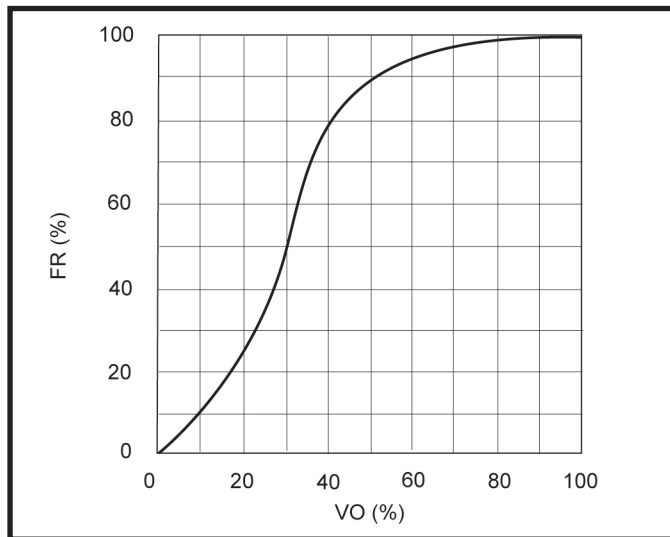


P = Operating Pressure

T = Temperature

The pressure/temperature limits are applicable for the stated nominal pressures and a computed operating life factor of 25 years. These are standard values for harmless media (DIN 2403), to which the valve material is resistant. For other media please refer to the chemical resistance guide. The durability of wear parts depends on the operating conditions of the application. For temperatures below 0°C (PP < +10°C) please specify the precise operating conditions of the application. The rated pressure depends on the valve size and material.

Flow Rate

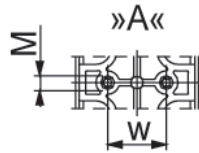
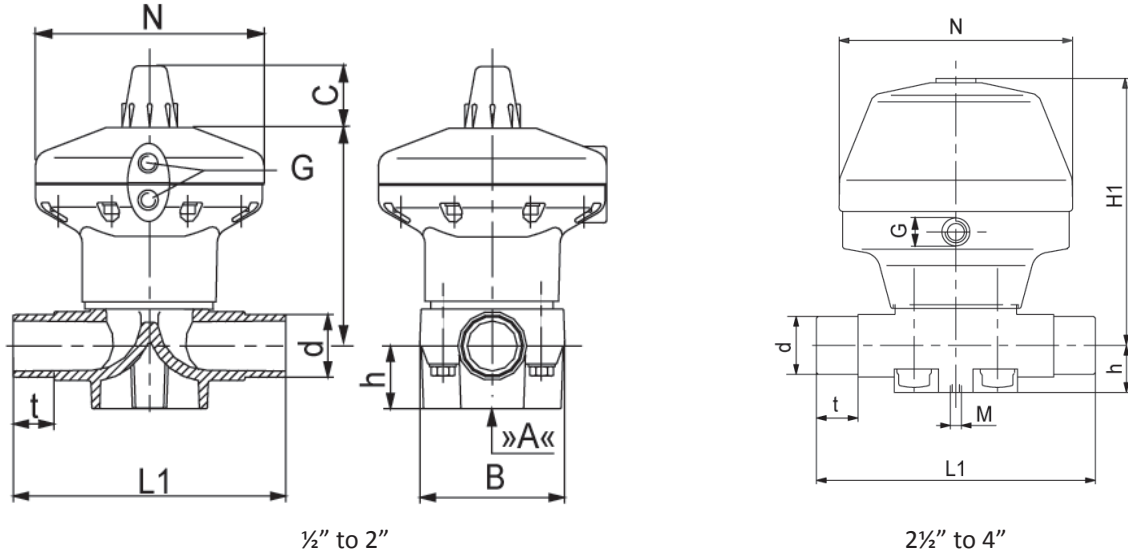


VO = valve opening

FR = K_v value

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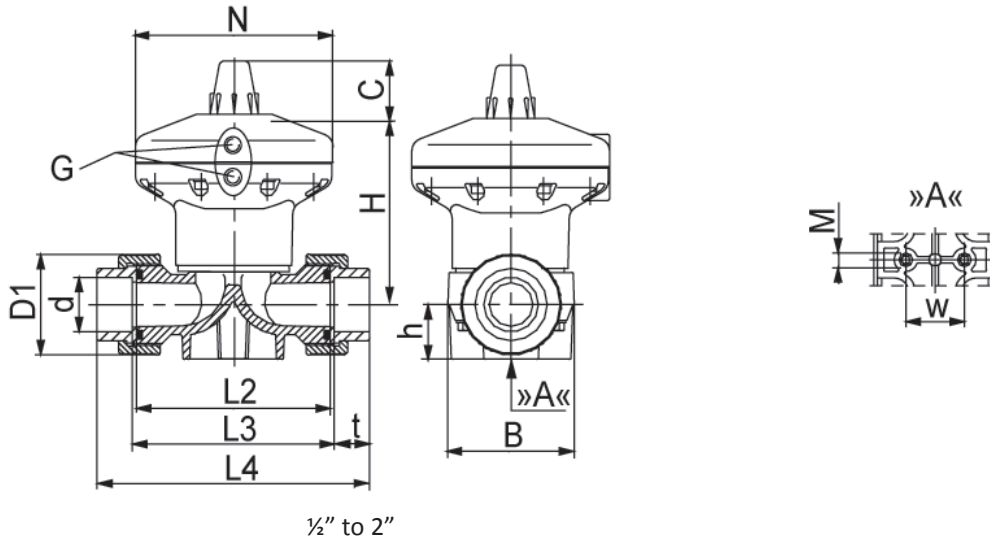
Dimensional Data - Spigot



Nom. Size	B	C - DA/NO	C - NC	d	G	h	H - DA/NO	H - NC	L1	M	N	W
½"	2.83	1.61	1.14	0.79	¼"	1.02	4.45	5.35	4.88	M6	4.80	1.02
¾"	2.83	1.61	1.14	0.98	¼"	1.02	4.45	5.35	5.67	M6	4.80	1.02
1"	3.62	1.61	1.14	1.26	¼"	1.02	5.47	6.89	6.06	M6	5.98	1.02
1¼"	3.62	1.61	1.14	1.57	¼"	1.57	5.47	6.89	6.85	M8	5.98	1.77
1½"	4.69	1.61	1.61	1.97	¼"	1.57	6.10	8.15	7.64	M8	7.56	1.77
2"	4.69	1.61	1.61	2.48	¼"	1.57	6.10	8.15	8.82	M8	7.56	1.77
2½"	-	-	-	2.95	¼"	2.17	12.01	12.80	11.18	M12	10.16	3.94
3"	-	-	-	3.54	¼"	2.17	12.01	12.80	11.81	M12	10.16	3.94
4"	-	-	-	4.33	¼"	2.52	12.99	13.98	13.39	M12	10.16	4.72

DVS Series

Dimensional Data - True Union

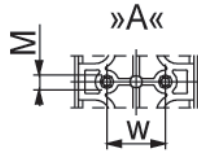
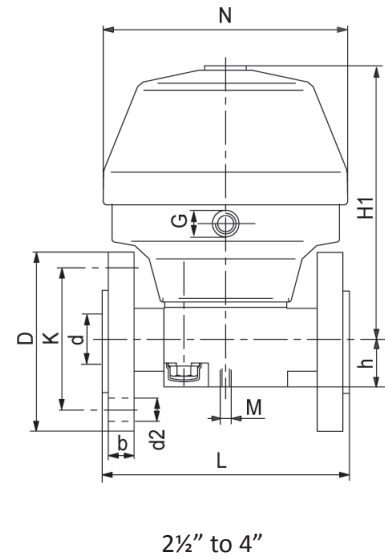
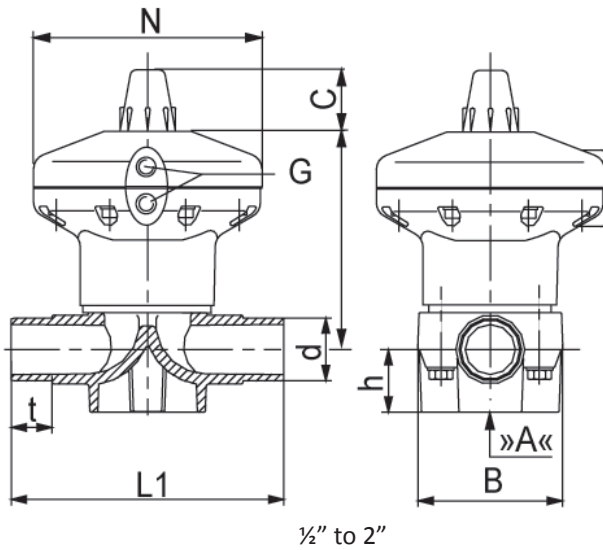


Nom. Size	B	C - DA/NO	C - NC	D1 - PP	D1 - PVDF	G	h	H - DA/NO	H - NC
½"	2.83	1.61	1.14	1.81	1.85	¼"	1.02	4.45	5.35
¾"	2.83	1.61	1.14	2.20	2.24	¼"	1.02	4.45	5.35
1"	3.62	1.61	1.14	2.60	2.52	¼"	1.02	5.47	6.89
1¼"	3.62	1.61	1.14	3.11	3.07	¼"	1.57	5.47	6.89
1½"	4.69	1.61	1.61	3.43	3.50	¼"	1.57	6.10	8.15
2"	4.69	1.61	1.61	4.21	4.29	¼"	1.57	6.10	8.15

Nom. Size	L1	L2	L3	L4 - PP	L4 - PVDF	M	N	W
½"	4.88	3.54	3.78	4.92	5.04	M6	4.80	1.02
¾"	5.67	4.25	4.49	5.75	5.91	M6	4.80	1.02
1"	6.06	4.57	4.80	6.22	6.38	M6	5.98	1.02
1¼"	6.85	5.28	5.51	7.13	7.24	M8	5.98	1.77
1½"	7.64	6.06	6.30	8.15	8.27	M8	7.56	1.77
2"	8.82	7.24	7.48	9.61	9.76	M8	7.56	1.77

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Dimensional Data - Flanged

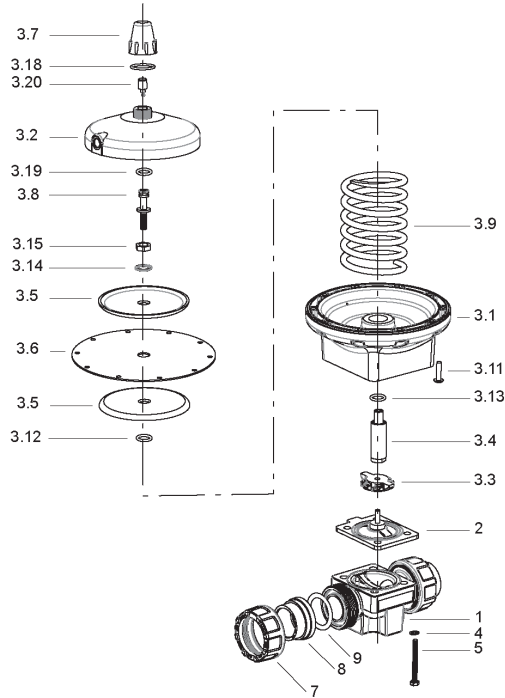


Nom. Size	b - PP	b - PVDF	C - DA/NO	C - NC	d	d2	D	f	G	H - DA/NO	H - NC
½"	0.47	0.51	1.61	1.14	0.79	0.55	3.74	0.24	¼"	4.45	5.35
¾"	0.55	0.57	1.61	1.14	0.98	0.55	4.13	0.28	¼"	4.45	5.35
1"	0.59	0.61	1.61	1.14	1.26	0.55	4.53	0.28	¼"	5.47	6.89
1¼"	0.67	0.69	1.61	1.14	1.57	0.71	5.51	0.31	¼"	5.47	6.89
1½"	0.67	0.69	1.61	1.61	1.97	0.71	5.91	0.31	¼"	6.10	8.15
2"	0.71	0.75	1.61	1.61	2.48	0.71	6.50	0.35	¼"	6.10	8.15
2½"	0.71	0.75	-	-	2.95	0.71	7.28	-	¼"	12.01	12.80
3"	0.79	0.83	-	-	3.54	0.71	7.87	-	¼"	12.01	12.80
4"	0.79	0.87	-	-	4.33	0.71	8.66	-	¼"	12.99	13.98

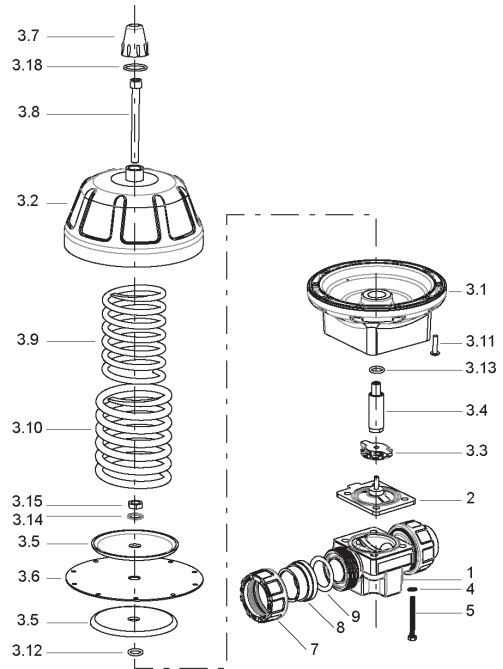
Nom. Size	K	L	M	N	t - PP	t - PVDF	W	Z
½"	2.56	5.12	M6	4.80	0.63	0.63	1.02	0.16
¾"	2.95	5.91	M6	4.80	0.75	0.75	1.02	0.16
1"	3.35	6.30	M6	5.98	0.83	0.87	1.02	0.16
1¼"	3.94	7.09	M8	5.98	0.91	1.02	1.77	0.16
1½"	4.33	7.87	M8	7.56	1.02	1.22	1.77	0.16
2"	4.92	9.06	M8	7.56	1.18	1.54	1.77	0.16
2½"	5.71	11.42	M12	10.16	1.32	1.73	3.94	0.16
3"	6.30	12.20	M12	10.16	1.50	2.05	3.94	0.31
4"	7.09	13.78	M12	10.16	1.63	2.40	4.72	0.31

DVS Series

Parts Listing



Normally Open



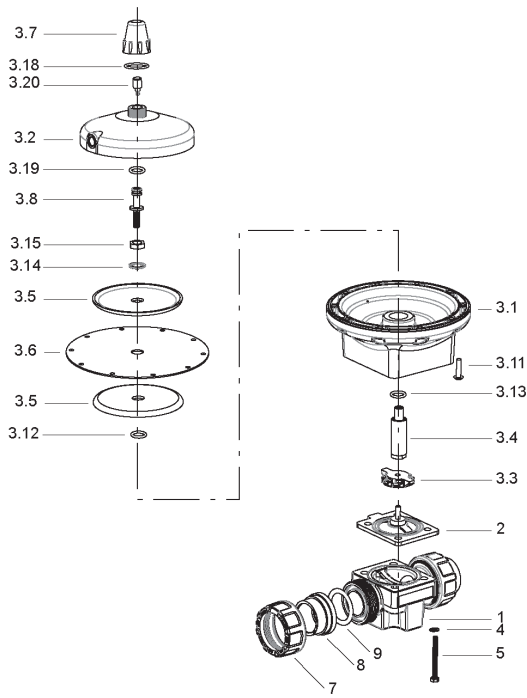
Normally Closed

Number	Description	Qty
1	Housing / Body	1
2	Valve Diaphragm	1
3.1	Bottom Housing	1
3.2	Upper Housing	1
3.3	Compressor	1
3.4	Actuator Rod	1
3.5	Diaphragm Disc	2
3.6	Actuator Diaphragm	1
3.7	Indicator Cap	1
3.8	Adjustment Screw	1
3.9	Pressure Spring	1
3.12	Cap Screw	8/10
3.13	Washer	8/10
3.14	Circlip	1
3.15	Hex Nut	1
3.16	O-Ring	1
3.17	O-Ring	1
3.18	O-Ring	1
3.19	O-Ring	1
4	Washer	4
5	Hex Bolt	4
7	Union Nut	2
8	Union End	2
9	O-Ring	2

Number	Description	Qty
1	Housing / Body	1
2	Valve Diaphragm	1
3.1	Bottom Housing	1
3.2	Upper Housing	1
3.3	Compressor	1
3.4	Actuator Rod	1
3.5	Diaphragm Disc	2
3.6	Actuator Diaphragm	1
3.7	Indicator Cap	1
3.8	Adjustment Screw	1
3.9	Pressure Spring	1
3.10	Pressure Spring	1
3.11	Cap Screw	8/12
3.14	Circlip	1
3.15	Hex Nut	1
3.18	O-Ring	1
4	Washer	4
5	Hex Bolt	4
7	Union Nut	2
8	Union End	2
9	O-Ring	2

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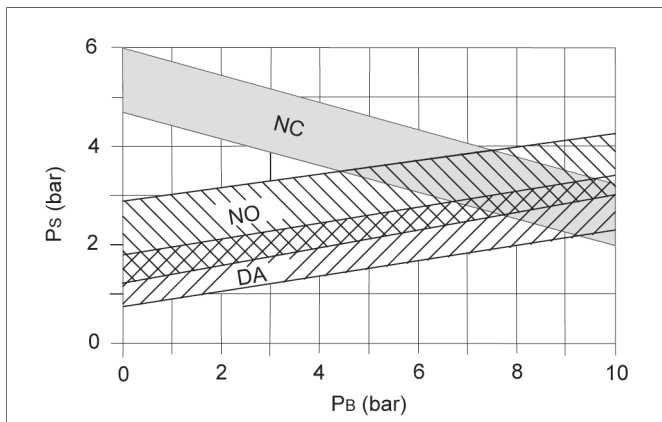
Parts Listing



Double Acting

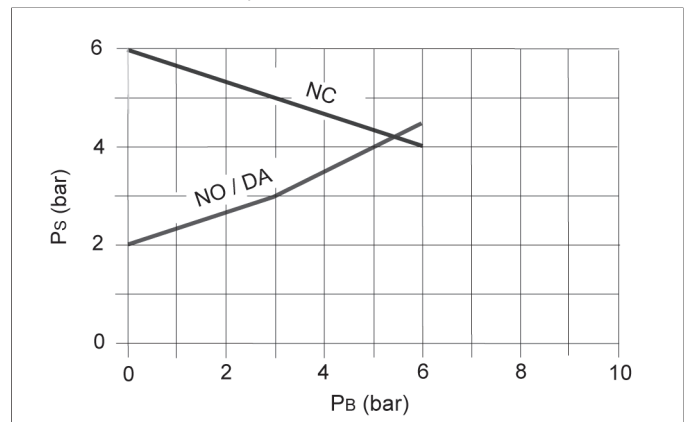
Number	Description	Qty
1	Housing / Body	1
2	Valve Diaphragm	1
3.1	Bottom Housing	1
3.2	Upper Housing	1
3.3	Compressor	1
3.4	Actuator Rod	1
3.5	Diaphragm Disc	2
3.6	Actuator Diaphragm	1
3.7	Indicator Cap	1
3.8	Adjustment Screw	1
3.12	Cap Screw	8/10
3.13	Washer	8/10
3.14	Circlip	1
3.15	Hex Nut	1
3.16	O-Ring	1
3.17	O-Ring	1
3.18	O-Ring	1
3.19	O-Ring	1
3.20	Indicator Pin	1
4	Washer	4
5	Hex Bolt	4
7	Union Nut	2
8	Union End	2
9	O-Ring	2

Control Curve:



pB = operating pressure
pS = control pressure

1/2" to 2"



pB = operating pressure
pS = control pressure

2 1/2" to 4"