



Diaphragm Valves

1/2" to 2" - PVC, Corzan® CPVC, PPL



Superior Design Means Superior Performance

Hayward all-plastic diaphragm valves have been specifically designed to perform in the most demanding liquid, gas, and slurry applications in both on/off and modulating service.

Diaphragm Saver™

The Diaphragm Saver travel stop is a standard feature on all sizes of Hayward Diaphragm Valves. Its special design prevents overcompression of the diaphragm and prolongs its service life.

Positive, Visual Position Indication

Hayward's standard highly visible, beacon-type position indicator will always give positive position indication, unlike rising stem indicators that can be inaccurate because of misadjusted stems. Sight panels are made from clear Eastar®.

True Union Design

Hayward Diaphragm Valves with socket or threaded connections have a true union design so that they can be removed from the line without having to disconnect piping connections.

No Metal, No Corrosion

These valves have no wetted metal components. The valves will never fail because of corrosion and they do not require painting or epoxy coating to stand up to aggressive environments.

Features

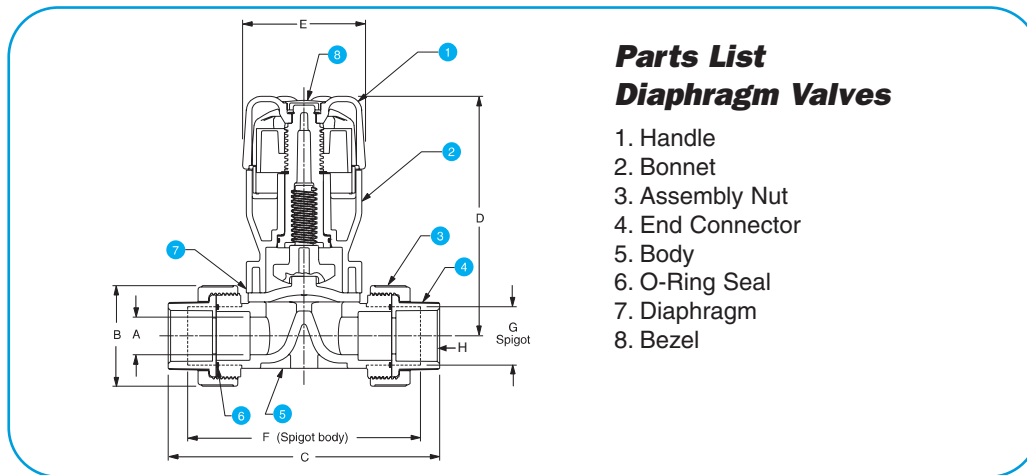
- Double Stem Seals
- Rated to 225 PSI
- Position Indicator
- Diaphragm Saver™
- Choice of EPDM, FPM or PTFE Lined Diaphragms

Options

- Automatic, Pneumatic Operation



Technical Information



Parts List Diaphragm Valves

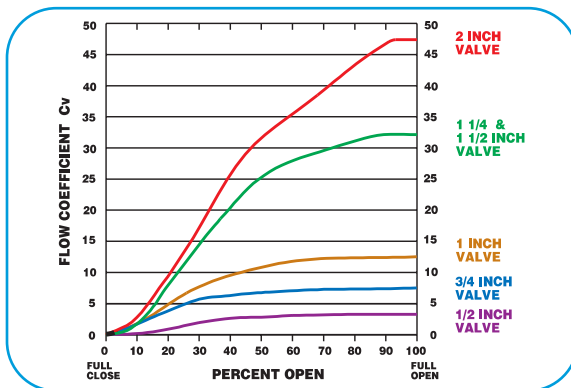
1. Handle
2. Bonnet
3. Assembly Nut
4. End Connector
5. Body
6. O-Ring Seal
7. Diaphragm
8. Bezel

Dimensions – Inches / Millimeters

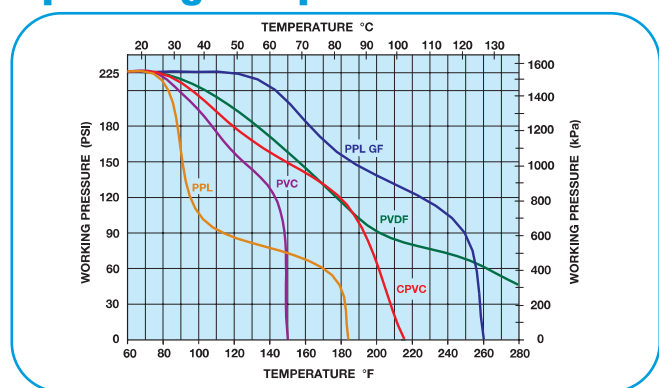
Size	A	B	C	D	E	F	G - PPL	H (Flange)	Weight (lb / kg)
1/2" / 20*	0.59 / 15	2.25 / 57	5.79 / 147	5.46 / 139	2.50 / 64	4.88 / 124	0.840"	7.91	1.5 / .68
3/4" / 25*	0.79 / 20	2.25 / 57	6.50 / 165	5.55 / 140	2.50 / 64	5.67 / 144	1.050"	8.88	2.0 / .90
1" / 32*	0.98 / 25	2.62 / 67	7.07 / 180	6.24 / 158	3.19 / 81	6.06 / 154	1.314"	9.82	3.3 / .90
1-1/4" / 40*	1.58 / 40	3.56 / 90	9.33 / 237	8.40 / 213	4.00 / 102	n/a	n/a	12.22	5.7 / 2.6
1-1/2" / 50*	1.58 / 40	3.56 / 90	9.89 / 251	8.40 / 213	4.00 / 102	7.64 / 194	1.900"	13.02	5.7 / 2.6
2" / 63*	1.97 / 50	4.00 / 102	11.15 / 283	8.71 / 221	4.00 / 102	8.82 / 224	2.375"	14.55	8.6 / 3.9

* Metric End Connections Available in: BSP – Straight Thread, BSP TR – Tapered Thread and Metric Socket

Flow Rates



Operating Temperature/Pressure



Note: Valves with PTFE diaphragms rated at 150 PSI only.

Selection Chart

Pressure Loss Calculation Formula

$$\Delta P = \left[\frac{Q}{Cv} \right]^2$$

ΔP = Pressure Drop
Q = Flow in GPM
Cv = Flow Coefficient

Size	Material	End Conn.	Diaphragm	Rating
1/2" - 2"	PVC/CPVC	Socket/Threaded	FPM, EPDM, PTFE	225 PSI manual 150 PSI actuated
1/2" - 2"	PPL*	Spigot**	FPM, EPDM	@ 70°F non-shock

* No 1-1/4" in PPL

** Spigot Not True Union

Note: Valves with PTFE diaphragms rated at 150 PSI only.



Large Size Diaphragm Valves

3", 4" and 6" - PVC, 3" and 4" Corzan® CPVC



Features

- Choice of PVC or CPVC Construction
- EPDM or PTFE Diaphragms (CPVC only)
- Flanged End Connections
- Plastic Construction
- Position Indicator

Corzan® is a registered trademark of Noveon, Inc.

Rugged Design

Hayward Large Size Diaphragm Valves are not just "scaled-up" versions of smaller size valves, but have been especially designed for use in the demanding applications that these types of valves typically see: liquid, gas and slurry applications, in both on/off and modulating services.

Application Versatility

Available with either EPDM or PTFE diaphragms, Hayward Large Size Diaphragm Valves will work in a wide variety of applications. And, you have your choice of PVC, or for higher temperature applications, CPVC.

Easy Operation

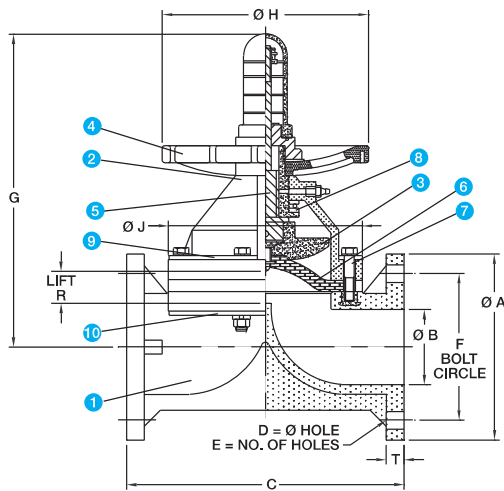
A rugged, sure-grip hand wheel makes it easy to open or close the valve with a minimal amount of effort. In modulating service, the hand wheel permits precise adjustment of the desired flow rate. A highly visible stem position indicator shows, at a glance, the position of the valve – open, closed, or any position in between.

No Metal, No Corrosion

The plastic construction of these valves means that they will never fail, jam, stick, or freeze in position because of rust or corrosion. They will never contaminate sensitive process fluids as a metal valve can. Another benefit of the plastic construction is that the valves never need to be painted or coated. They will withstand corrosive applications as supplied. Installation is easy, too, due to the lighter weight of plastic in relation to metal.



Technical Information



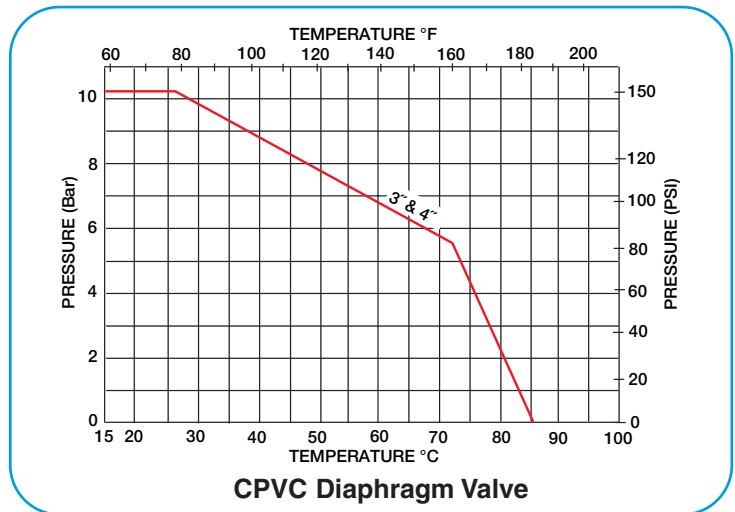
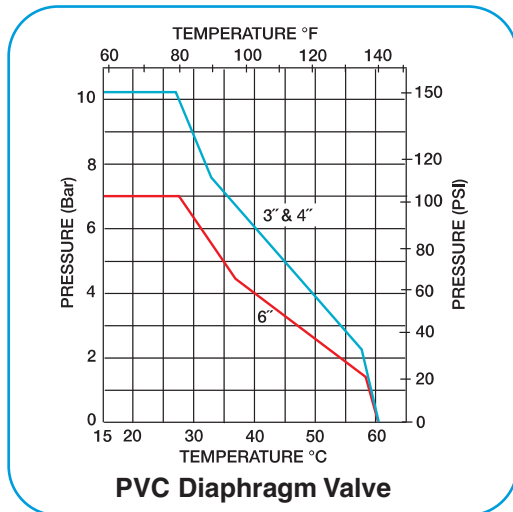
Parts List Diaphragm Valves

1. Body
2. Bonnet
3. Compressor
4. Hand Wheel
5. Stem
6. Diaphragm
7. Stud Bolt
8. Thrust Bearing
9. Upper Backing Ring
10. Lower Backing Ring

Dimensions - Inches / Millimeters

Size	A	B	C	D Bolt Hole	E No. Holes	F	G	H	J	T	R Lift
3 / 80	7.52 / 190	3.07 / 78	10.40 / 264	0.75 / 19	4	6.00 / 152	11.54 / 293	7.95 / 202	8.46 / 215	0.79 / 20	1.34 / 34
4 / 100	9.02 / 230	3.94 / 100	12.95 / 330	0.75 / 19	8	7.50 / 190	14.57 / 370	9.49 / 240	10.04 / 250	1.10 / 28	2.13 / 54
6 / 150	10.98 / 280	5.83 / 148	18.90 / 480	0.87 / 22	8	9.51 / 242	18.54 / 470	15.55 / 400	15.16 / 385	1.26 / 32	2.83 / 72

Operating Temperatures/Pressures



Cv Factors

Size	Factor
3"	160
4"	280
6"	700

Pressure Loss Calculation Formula

$$\Delta P = \left[\frac{Q}{C_v} \right]^2$$

ΔP = Pressure Drop
 Q = Flow in GPM
 C_v = Flow Coefficient

Selection Chart

Size	Material	End Conn.	Diaphragm	Rating
3", 4", 6"	PVC	Flanged	EPDM or PTFE	3" & 4" - 125 PSI 6" - 90 PSI @ 70°F, Non-Shock
				90 PSI @ 70°F, Non-Shock
3", 4"	CPVC			



Pneumatically Actuated Diaphragm Valves



Overview

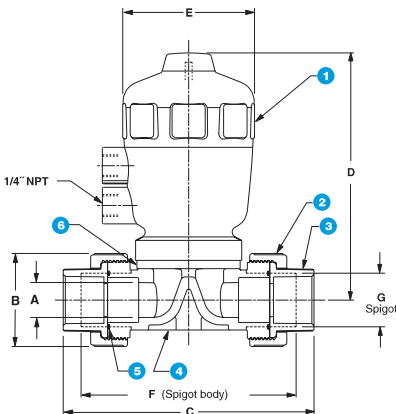
Diaphragm valves are designed for flow control of liquids in pipelines from 1/2" to 2" in size. The compact, lightweight actuator provides internal working pressure to 150 PSI, and a position indicator provides a visual open or closed status of the valve. The all-plastic valve and actuator housing will not corrode or contaminate process fluid and require no special maintenance. Available modular design options allow the valve to be configured for application-specific requirements.

Features

- 1/2" – 2" PVC, Corzan® CPVC, PPL
- Position Indicator
- Double Stem Seals
- PVC & CPVC are True Union Design
- PPL has Spigot Connections
- Air-to-Spring Fail-safe Operation
- FPM or EPDM Seals
- Rated to 150 PSI

Options

- Solenoid Valve
- Limit Switches
- Stroke Limiters
- Manual Override
- Double Acting–Air to Air Operation



Parts List

Pneumatically Actuated Diaphragm Valves

- 1 Actuator
- 2 Assembly Nut
- 3 End Connector
- 4 Body
- 5 O-Ring Seal
- 6 Diaphragm

Cv Factors

Size	Factor	Size	Factor
1/2"	4	1 1/4"	28
3/4"	7	1 1/2"	32
1"	12	2"	47

Pressure Loss Calculation Formula

$$\Delta P = \left[\frac{Q}{C_v} \right]^2$$

ΔP = Pressure Drop
 Q = Flow in GPM
 C_v = Flow Coefficient

Dimensions–Inches

Size	A	B	C	D	E	F	G-PPL	G-PVDF	Weight (lb/kg)
1/2 /20*	0.59	2.25	5.79	5.87	3.15	4.88	0.840	20	3.1/1.4
3/4 /25*	0.79	2.25	6.50	5.87	4.00	5.67	1.050	25	3.5/1.6
1 /32*	0.98	2.62	7.07	7.01	4.00	6.06	1.314	32	4.9/2.2
1 1/4 /40*	1.58	3.56	9.33	9.36	5.00	N/A	N/A	N/A	13.0/5.9
1 1/2 /50*	1.58	3.56	9.89	9.36	5.00	7.64	1.900	50	13.0/5.9
2 /63*	1.97	4.00	11.15	11.15	6.03	8.82	2.375	63	17.5/7.9

* Metric End Connections Available in: BSP – Straight Thread, BSP TR – Tapered Thread and Metric Socket



Pneumatically Actuated Diaphragm Valves

Actuator Specifications

Air Pressure Minimum:	80 PSI
Air Pressure Maximum:	120 PSI
Air Port Connections:	1/4" NPT
Housing Material:	Polyamide
Seals:	Nitrile
Position Indicator:	Visual

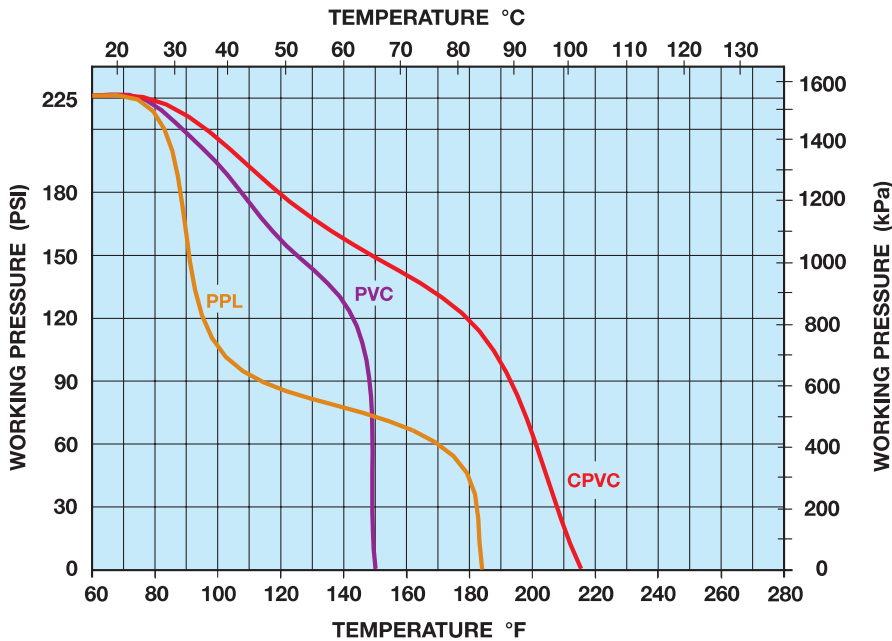
Diaphragm Valve Selection Chart

Size	Material	End Conn.	Diaphragm	Rating
1/4" – 2"	PVC/CPVC	Socket/Threaded	FPM, EPDM, PFTE	150 PSI @ 70°F Non-shock
1/2" – 2"	PPL**	Spigot*	FPM, EPDM	

* Not True Union

** No 1 1/4" in PPL

Operating Temperature/Pressure



Note: Maximum operating pressure with standard pneumatic operator is 150 PSI.