V961 Pressure Reducing Valves

Proval V961 Pressure reducing valves pressure reducing control valves are hydraulic control valves which give high inlet pressure to the desired low pressure value thanks to the pilot mounted on them.The valve keeps the desired output(low) pressure constant without being affected by the flow rate and inlet(high) pressure values.

The valve automatically closes itself when there is no flow in the system.When the valve in the system drops below the pressure value, the valve opens itself.

Pressure reducing valves can be used horizontally or vertically in the system. The outlet pressure setting of the valve is set at the factory as 2,5 bar.

Proval V961 Pressure reducing valves are used in water distribution and filtration systems.

Thanks to the design of the Proval V961 Pressure reducing valves, high corrosion resistance is achieved.

Technical Specifications

OPERATING PRESSURE	Standard	0,7 - 16 bar (10 - 240 psi)
	Low Pressure Range	0,5 - 10 bar (7,5 - 160 psi)
	High Pressure Range	0,7 - 25 bar (10 - 360 psi)
TEMPERATURE	Min. Operating Temp.	- 10 °C (14 °F) DIN 2401/2
	Max. Operating Temp.	80 °C (176 °F) DIN 2401/2
PORT	Flanged	DIN 2501, ISO 7005 - 2
	Threaded	ISO (BSP) , ANSI (NPT)
COATING	Standard	Epoxy
	Optional	Polyester
HYDRAULIC LINKS	Standard	Reinforced Nylon (Air Brake)) Hydraulic pipe SAE J 844
	Optional	Copper DIN 1057
ACTUATOR TYPE	Single-Control Housing | Aperture Actuator, Aperture Off	

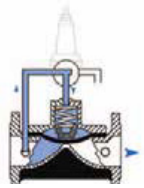
Features

Easy operation and maintenance with simple structure

- Low cost
- Working at wide pressure value range
- Perfect modulation even at low flow rates
- Continuous on / off with flexible aperture
- Full seal with reinforced diaphragm and inner spring
- Long life with epoxy-polyester coating
- Wide range of control area with the use of different pilot valves
- Ability to work in horizontal and vertical positions in application areas

Working Principles

Automatic control valves are used to perform the required operations as hydraulic with line pressure without the need for energy sources in the network line.

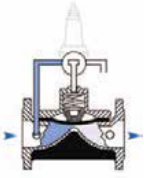


Valve Closing Mode

When the water pressure reaches the diaphragm, the water creates hydraulic force.
This hydraulic force diaphragm, combined with the force applied by the spring creates a complete seal and allows it to close.

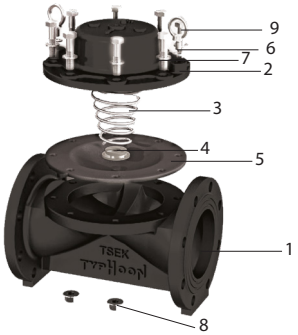
Valve Opening Mde

When the pilot on the main control valve in the closed position is placed in the evacuation position, pressurized water on the diaphragm of the main control valve is discharged. When the line pressure reaches the position to overcome the spring force, it applies hydraulic force from the bottom to the diaphragm of the control valve and allows the valve to reach the full open position.



Modulation Mode

When the pilot on the main control valve in the closed position is placed in the evacuation position, pressurized water on the diaphragm of the main control valve is discharged. When the line pressure reaches the position to overcome the spring force, it applies hydraulic force from the bottom to the diaphragm of the control valve and allows the valve to reach the full open position.



Main Parts

No.	Part Name	Material
1	Body	GG25 - GGG40
2	Cover	GG25 - GGG40
3	Spring	Stainless Steel
4	Bow Printing Stamp	Polyamide
5	Diaphragm	Natural Rubber
6	Bolt	8.8 Coated Steel
7	Washer	8.8 Coated Steel
8	Nut	8.8 Coated Steel
9	Aybolt (Ring)	8.8 Coated Steel

Flanged

Port	Flange							
Material	GG25 - GGG40							
Body	Globe							
Transmission Pressure	PN 10 - PN 16 - PN 25							
AVAILABLE DIAMETERS								
mm	50	65	80	100	125	150	200	250

Andeled

Port	Flange - threaded			
Material	GG25 - GGG40			
Body	Globe			
Transmission Pressure	PN 10 - PN 16 - PN 25			
AVAILABLE DIAMETERS				
mm	50	80	100	150
inch	2	3	4	6

Threaded

Port	Threaded					
Material	GG25 - GGG40					
Body	Globe					
Transmission Pressure	PN 10 - PN 16 - PN 25					
AVAILABLE DIAMETERS						
mm	25	40	50	65	80x50	80
inch	1	1 ½	2	2 ½	3x2x3	3

Victaulic

Port	Threaded				
Material	GG25 - GGG40				
Body	Globe				
Transmission Pressure	PN 10 - PN 16 - PN 25				
AVAILABLE DIAMETERS					
mm	50	65	80	100	150
inch	2	2 ½	3	4	6

Hydraulic Performance

	inch	cm	inch	cm	inch	cm	inch	cm	inch	cm	inch	cm	inch	cm	inch	cm	inch	cm
VALVE DIAMETER	2	50	2 ½	65	3	80	4	100	5	125	6	150	8	200	10	250	12	300
Cv m3/h @ 1 bar	88		88		174		187		187		419		1139		1698		2276	
Kv gpm @ 1 psi	102		102		201		216		216		484		1316		1961		2629	

Kv.(Cv)=Q

Cv=1,155 KZ

$$\sqrt{\frac{G}{\Delta P}}$$

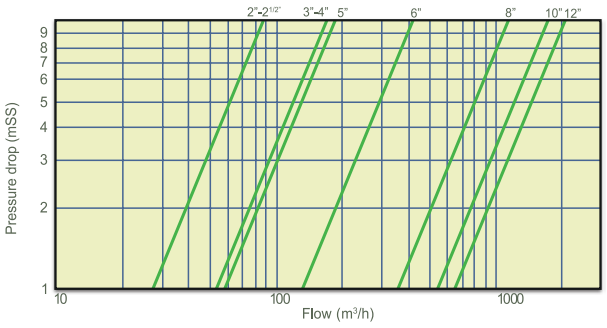
KV: VALVE FLOW COEFFICIENT (FLOW RATE AT 1 BAR PRESSURE LOSS M^3/H @ 1 BAR)

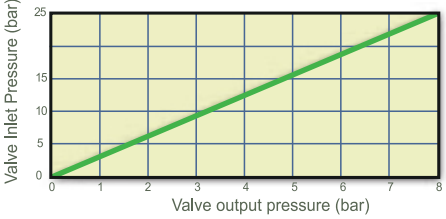
CV: VALVE FLOW COEFFICIENT (FLOW IN PRESSURE LOSS OF 1 PSI GPM @ 1 PSI)

Q: FLOW(M3/H, GPM

ΔP:PRESSURE LOSS (BAR, PSI)

G:SPECIFIC GRAVITY OF WATER (FOR WATER=1.0)



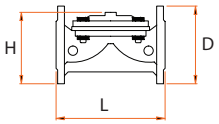


Catalogue 2020

Dimensions & Weight

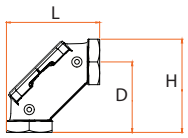
Flanged

DN		D		L		H		Weight	
inch	mm	inch	mm	inch	mm	inch	mm	Lbs	kg
2	50	6,50	165	8,35	212	5,87	149	17,60	8,00
2 ½	65	7,28	185	8,66	220	6,06	154	21,60	9,80
3	80	7,87	200	11,26	286	6,81	173	40,70	18,45
4	100	8,66	220	12,99	330	6,81	173	42,50	19,30
5	125	9,84	250	14,49	368	8,35	212	62,30	28,25
6	150	11,22	285	15,51	394	12,80	325	114,40	51,90
8	200	13,38	340	18,19	462	15,43	392	200,80	91,10
10	250	15,94	405	21,46	545	19,09	485	348,30	158,00
12	300	18,11	460	22,91	582	19,69	500	392,90	178,20

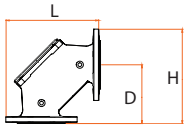


Angled

DN		D		L		H		Weight	
inch	mm	inch	mm	inch	mm	inch	mm	Lbs	kg
2	50	4,40	112,0	6,05	154	6,05	154	7,70	3,5
3	80	7,10	180,0	9,45	240	9,45	240	20,90	9,5

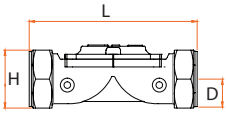


DN		D		L		H		Weight	
inch	mm	inch	mm	inch	mm	inch	mm	Lbs	kg
2	50	4,40	112,0	7,44	189	7,44	189	16,94	7,7
3	80	7,05	179,5	10,95	278	10,95	278	29,70	13,5
4	100	7,48	190,0	12,00	305	12,00	305	41,80	19,0
6	150	9,05	230,0	14,92	379	14,92	379	74,80	34,0



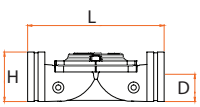
Threaded

DN		D		L		H		Weight	
inch	mm	inch	mm	inch	mm	inch	mm	Lbs	kg
3/4	20	0,90	23,00	5,20	132	2,00	50,00	2,20	1,00
1	25	0,90	23,00	5,20	132	2,00	50,00	2,20	1,00
1¼	32	1,35	34,00	6,80	173	3,60	92,30	6,30	2,85
1½	40	1,35	34,00	6,80	173	3,60	92,30	5,80	2,65
2	50	1,65	41,50	7,30	186	4,40	112,00	9,00	4,10
2½	65	1,80	46,00	8,90	226	4,60	118,00	11,70	5,30
3	80	2,05	52,50	12,50	318	5,00	127,00	26,40	12,00
10	250	15,94	405	21,46	545	19,09	485	348,30	158,00
12	300	18,11	460	22,91	582	19,69	500	392,90	178,20



Victaulic

DN		D		L		H		Weight	
inch	mm	inch	mm	inch	mm	inch	mm	Lbs	kg
2	50	1	30,15	7,16	182	2	60,30	5,5	2,5
3	80	1½	44,45	11,40	290	3	88,90	13,0	5,9
4	100	2	57,15	12,50	317	4	114,30	13,6	6,2
6	150	3	84,15	17,90	454	6	168,30	66,0	30,0



Large Casting Pilot Installation / Adjustment

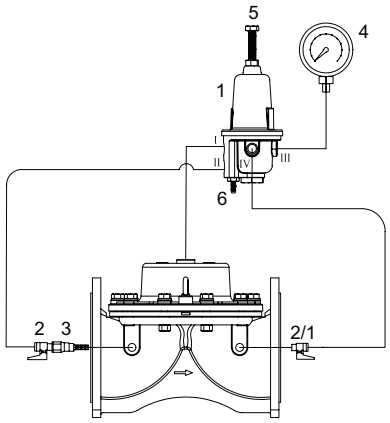
Installation

• The connection to the "II" output of the pressure reducing pilot is provided with the help of copper or plastic pipe after connecting to the valve Inlet, finger filter number 3 and mini ball valve number 2.
• The "I" output of the metal pilot is entered to the valve cover with the necessary connection elements.
• Valve output is connected to mini ball valve No. 2/1. Connection to the "IV" output of the metal pilot is provided from here. Finally, manometer is connected to the "III" output of the metal pilot.
• Valve rated diameter should be the same or a small rated diameter as the line diameter.
• In the direction of the arrow indicated on the valve Mount.
• Isolation valves (butterfly or sliding valve etc.) in the line Assembly of the valve.B) it is recommended to use air discharge valve, quick pressure discharge

Adjusting

• Turn on the pump or turn on the mains main valve and give water to the system.
• Turn on the ball valve indicated by "2" and turn off the ball valve indicated by "2/1".
• Wait for a while for water to reach the valve control chamber. When water reaches the control chamber, the manometer needle will show a certain pressure value.
• Set the desired output pressure value by looking at the manometer with the adjustment Bolt indicated by "5" on pilot valve indicated by "1".
• When you turn the adjustment screw clockwise, the output pressure value will increase in the opposite direction when you turn the output pressure value will decrease.
• After adjusting the desired output pressure value, tighten the Contra nut under the adjustment Bolt. Turn on the ball valve indicated by "2" and give water to the system. After opening valve "2/1", the manometer will display a value of zero.
•Check the output pressure value continuously. If Valve does not perform regulation, contact our company

1) Pressure Lowering Pilot
2) Mini Ball Valve
3) Finger Filter
4) Manometer
5) Pressure Adjustment Bolt
6) Needle Valve



Plastic Pilot Installation / Adjustment

Installation

• After connecting the 3 number finger filter to the valve Inlet, the connection to the "II" outlet of the pressure reducing pilot and the "C" outlet of the 3-way valve is provided.
• The "I" output of the plastic pilot is connected to the auto "A" output of the 3-way valve with the necessary connection elements.
• Te connection element is connected to Valve outlet • One output of the Te connection element is connected to the pilot's "III" output and the other is connected to the manometer.
• Valve rated diameter should be the same or a small rated diameter as the line diameter.
• In the direction of the arrow indicated on the valve Mount.
• Isolation valves (butterfly or sliding valve etc.) in the line Assembly of the valve.B) it is recommended to use air discharge valve, quick pressure discharge control valve (QR) and dirt retaining valves.
• Cavitation risk during pressure drop is dangerous for valve body. Adjust the output pressure value you want to adjust by looking at the cavitation chart or contact our company.

Adjusting

•Turn on the pump or turn on the mains main valve and give water to the system.
• Keep the spherical valve indicated by "2" in auto position.
• Adjust the adjustment bolt of the pressure reducing pilot valve indicated by "1" by looking at "4" to "5" manometers according to the desired output pressure value. When you turn the adjustment Bolt Clockwise, the output pressure value increases, otherwise it decreases in the direction.
• After setting the adjustment point, tighten the control nut under the adjustment bolt

1) Pressure Lowering Pilot
2) Three-Way Valve
3) Finger Filter
4) Manometer
5) Pressure Adjustment Bolt