

SOLENOID CONTROLLED
PRESSURE REDUCING CONTROL VALVE
CATALOG





TYPHOON[®]



ABOUT US

Tayfur Water Systems, which was established by Tayfun Yazaroğlu in 2004 in Izmir. We continue our activities as "Tayfur Water Systems Machinery Engineering Industry and Trade Inc." since 2017.

Our company offers its products and experiences to the local market and international market. Tayfur Water Systems, while strengthening its recognition abroad, continues to expand its production, sales and marketing activities every day.

Our engineers and technical staff, technological infrastructure, manufacturing, sales, project-consulting, contracting and service planning meets the requirements of the sector.

Our company manufactures "TYPHOON" brand, hydraulic control valves, plastic hydraulic control valves, backwash valves, plastic backwash valves, impact-free dynamic suction cups, plastic suction cups, bottom clamps, filter reverse flushing control devices. It is progressing towards becoming a strong brand in both domestic and foreign markets by meeting the special demands of its domestic and foreign customers.

Our Quality Policy

In order to be a leader in quality in the sales, marketing and service sector by complying with legal conditions and to comply with the requirements of Quality Management System in order to meet the needs and expectations of our customers, to continuously improve the efficiency and to not compromise the quality under any circumstances.

Our Mission

To be a company aiming to present its synergy in the national and international market which has always taken its responsibilities, desires and expectations of our customers in a correct, reliable and timely manner, within the framework of high quality standards, transforming efficiency and competition into an advantage...

Our Vision

To be a leading, innovative, powerful and reputable enterprise in its sector.

Pressure Reducing Solenoid Control Valve

Hydraulic Control Valves

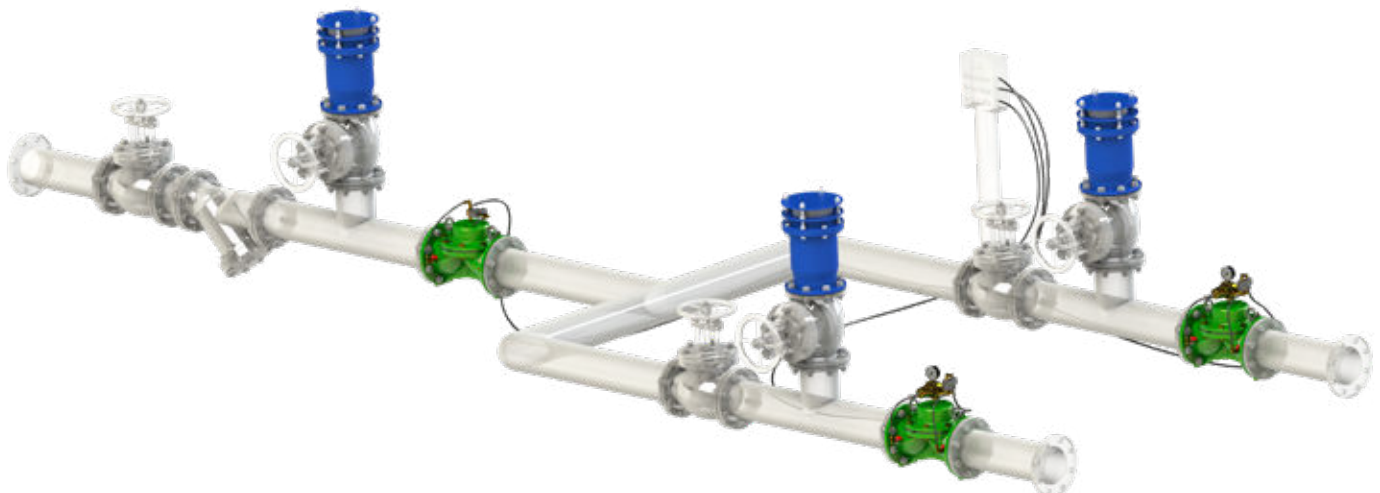
Solenoid Controlled Pressure Reducing Control Valve is a hydraulic control valve that reduces the input pressure value to the desired pressure value. The control of the main valve is effected by solenoid coils mounted on it.

The solenoid valve is provided with an electrical signal, a control device, a time relay, a switch, a PLC control unit, and control equipment. Thus, automation and control in application systems are easily achieved.

Order Information

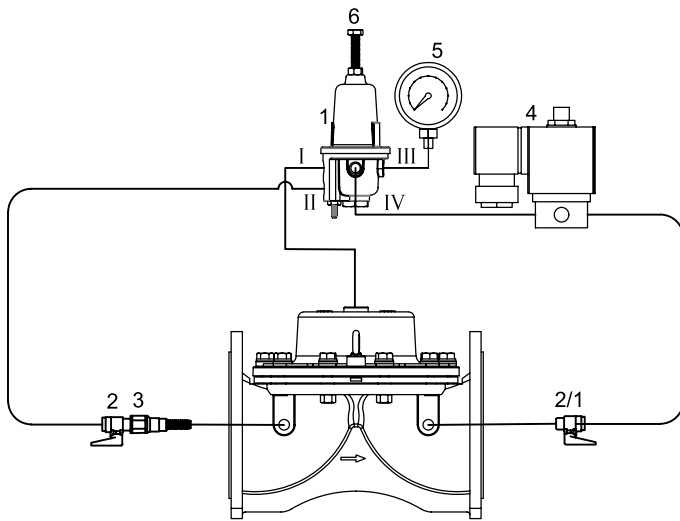
Please provide the following information in order

- Maximum flow rate m³/h
- Maximum mains / operating pressure bar
- Main pipeline diameter mm
- Valve connection type
- Maximum valve inlet pressure bar
- Minimum valve inlet pressure..... bar
- Desired outlet pressure value..... bar
- Electric voltage value to be used volt



Pressure Reducing Solenoid Control Valve

Large Metal Pilot (Burkert 24V AC) Installation / Adjustment



- 1 Pressure Reducing Pilot
- 2 Mini Ball Valves
- 3 Finger Filter
- 4 Solenoid Valve
- 5 Manometer
- 6 Pressure Adjustment Bolts

Assemble

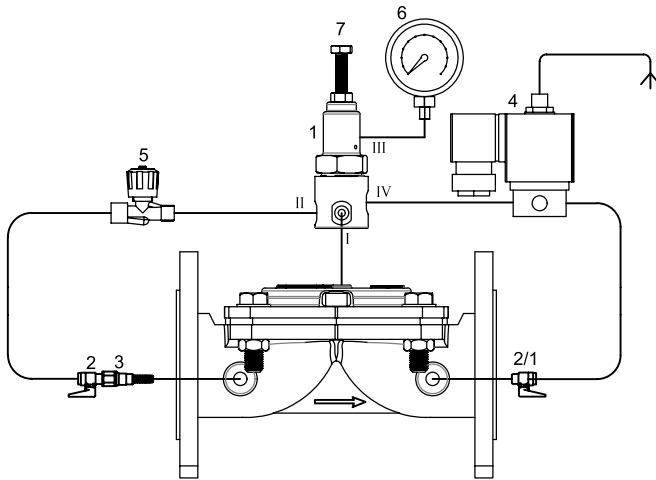
- After connect the in-line finger filter that is numbered "3" and the mini ball valve that is numbered "2" to the inlet of the valve , which the connection is provided to the pressure reducing pilot's outlet numbered "II" with copper and plastic pipe.
 - With required fitting parts , the outlet of metal pilot as shown "I" , is entered in to the cover of valve.
 - The mini ball valve which is shown as numbered "2/1" is connected to the outlet of valve. From this point , a connection is provided to the outlet of metal pilot that is numbered "IV". At last the gauge is connected to the outlet of metal pilot which is shown as "III".
 - Valve's nominal diameter has to be as same as the diameter of line or has to be less one size than line diameter.
 - Assemble the valve in accordance with the direction of arrow which is shown onto the valve.
 - Usage of the isolation valves (butterfly valves , gate valves etc) , air release valves ,
 - Quick pressure relief valve (QR) and strainers is recommended at the assemble in the pipe line.
- In the period of pressure reducing , the cavitation risk is dangerous for the body of valve. Adjust the outlet pressure value according to the cavitation schema and apply to our Company.

Adjust

- Run the pump or give the water to system as opening the main valve.
- Open the mini ball valve as shown number "2" and close the mini ball valve as shown number "2/1".
- Wait a bit period for the water's entering to the reservoir of the valve. When the Water reached to the control reservoir , the gauge's pointer will show the certain value of pressure.
- Adjust the desired value of the outlet's pressure with the adjusting bolt which is shown as "6" onto the pilot of valve that is shown as "1" while looking at the gauge.
- When you turn the adjust bolt in the direction of the clockwise , the outlet's pressure value will be increased and when turn the adjust bolt in the opposite direction of the clockwise , the outlet's pressure value will be reduced.
- After adjust the desired outlet's pressure value , tighten the nut which is under of the adjust bolt.
- Open the mini ball as shown as "2" and give the Water to the system. After open the valve as shown as "2/1" , the gauge will show the value as zero "0".
- Regularly check the outlet's pressure . If the valve don't make the regulation and apply to our company.

Pressure Reducing Solenoid Control Valve

Small Metal Pilot (Burkert 24V AC) Installation / Adjustment



- 1 Pressure Reducing Pilot
- 2 Mini Ball Valves
- 3 Finger Filter
- 4 Solenoid Valve
- 5 Needle Valve
- 6 Manometer
- 7 Pressure Adjustment Bolts

Assembly

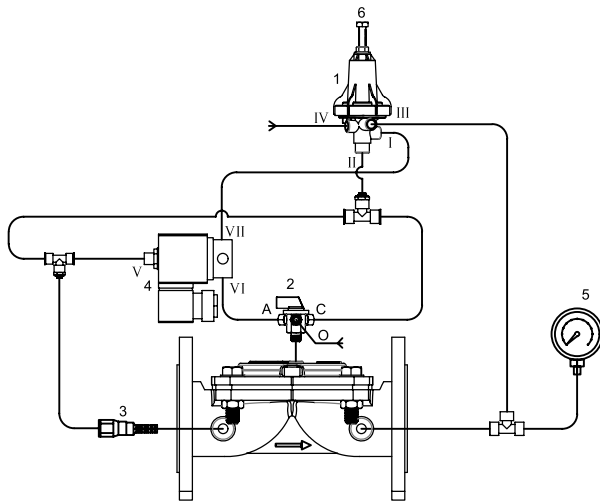
- After connect the in-line finger filter that is numbered "3" into the input of valve , which the connection is provided to the outlet "V" of solenoid valve and pressure reducing pilot's outlet numbered "II" with plastic pipe.
 - The outlet numbered "4" of solenoid valve is connected to the outlet as auto "A" of the 3way mini ball valve and to the outlet "I" of plastic pilot as shown "VII"
 - The outlet "II" of the plastic pilot is connected to the outlet "C" position as closed of 3way mini ball valve with the required fitting parts.
 - TE fitting part is connected to the output of the valve. One outlet of TE part is connected to the outlet "III" of plastic pilot and the gauge is connected to the other outlet position of TE.
 - Valve's nominal diameter has to be as same as the diameter of line or has to be less one size than line diameter.
 - Assemble the valve in accordance with the direction of arrow which is shown onto the valve.
 - Usage of the isolation valves (butterfly valves , gate valves etc) , air release valves ,
 - Quick pressure relief valve (QR) and strainers is recommended at the assemble in the pipe line.
- In the period of pressure reducing , the cavitation risk is dangerous for the body of valve. Adjust the outlet pressure value according to the cavitation schema and apply to our Company.

Adjust

- Run the pump or give the water to system as opening the main valve.
- Keep the mini ball valve as shown number "2" as auto position
- Adjust the adjusting bolt "5" of pressure reducing pilot as shown "1" according to the desired output pressure value while looking at the gauge "4"
- When you turn the adjust bolt in the direction of the clockwise , the outlet's pressure value will be increased and when turn the adjust bolt in the opposite direction of the clockwise , the outlet's pressure value will be reduced.
- After specified the adjust bolt , tighten the nut which is under of the adjust bolt.

Pressure Reducing Solenoid Control Valve

Plastic Pilot (Burkert 24V AC) Installation / Adjustment



- 1 Pressure Reducing Pilot
- 2 Three Way Valve
- 3 Finger Filter
- 4 Solenoid Valve
- 5 Manometer
- 6 Pressure Adjustment Bolts

Assembly

- After connecting the finger filter number 3 to the valve inlet, a connection is made to the "V" outlet of the solenoid valve and to the "II" outlet of the plastic pilot by means of a plastic pipe.
- "VI" output of solenoid valve number "4" is connected to auto "A" output of 3-way valve, "VII" output is connected to "I" output of plastic pilot.
- The "II" output of the plastic pilot is connected to the closed "C" outlet of the 3-way valve with the necessary fittings.
- T connection element is connected to the valve outlet. One output of the tee connection element is connected to the "III" output of the pilot and the manometer is connected to the other output.
- Valve nominal diameter must be the same as line diameter or one nominal diameter smaller.
- Mount the valve in the direction of the arrow indicated on it.
- It is recommended to use isolation valves (butterfly or gate valves etc.), air relief valve, quick pressure relief control valve (QR) and strainer valves in line-mounting of the valve.
- The risk of cavitation during pressure drop is dangerous for the valve body. Adjust the outlet pressure value you want to adjust by referring to the cavitation chart or contact our company.

Adjust

- Start the pump or open the main valve on the network and deliver water to the system.
- Keep the ball valve indicated with "2" in auto position.
- Adjust the adjustment bolt of the pressure reducing pilot valve indicated with "1" according to the desired output pressure value by looking at the "5" pressure gauge "4". When you turn the adjustment bolt clockwise, the output pressure value increases and decreases in the opposite direction.
- After determining the set point, tighten the contra nut under the adjustment bolt.

HYDRAULIC CONTROL VALVES

Flanged - Threaded - Angled - Victaulic

Typhoon hydraulic control valves are automatic valves with direct diaphragm shut-off working with line pressure. It is a comfortable, smooth flow in the minimum pressure loss of the body and diaphragm, which is kept in the foreground in its design.

In hydraulic control valves, worn parts such as shafts, bearings and bushings are longevity. The single moving part of valves is the diaphragm.

TYPHOON hydraulic control valves, in-line drinking water pump, agricultural irrigation, fire systems, filtration, industrial, etc. designed for use in areas.

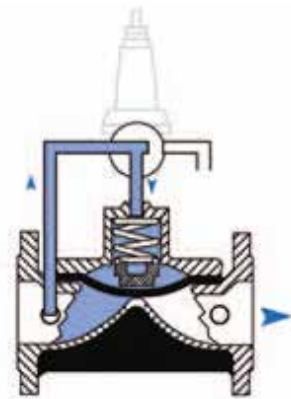
M	Manually Controlled Valve
PR	Pressure Reducing Control Valve
PRPS	Pressure Reducing + Pressure Sustaining Control Valve
PS	Pressure Sustaining Control Valve
PREL	Pressure Reducing + Solenoid Controlled Valve
EL	Solenoid Controlled Valve
QR	Quick Relief Control Valve
FL	Float Level Control Valve
FLEL	Electric Float Level Control Valve
DIFL	Differential Float Level Control Valve
PC	Pump (Booster) Control Valve
DPC	Deep Well (Submersible) Pump Control Valve
SA	Surge Anticipating Control Valve
HD	Hydraulic Check Valve



They are automatic control valves which are used hydraulically to perform the desired operations with line pressure without the need of energy sources in the mains line.

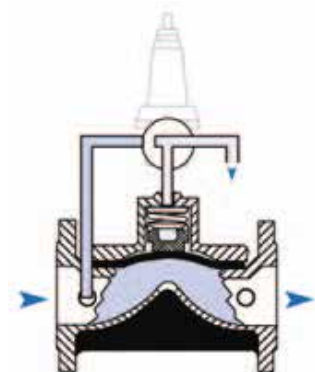
Valve Closing Mode

When the pilot discharge position on the main control valve in the closed position is reached, the pressurized water on the diaphragm of the main control valve is drained. When the line pressure reaches the position of spring force, hydraulic force is applied to the diaphragm of the control valve under water, so that the valve is in full open position.



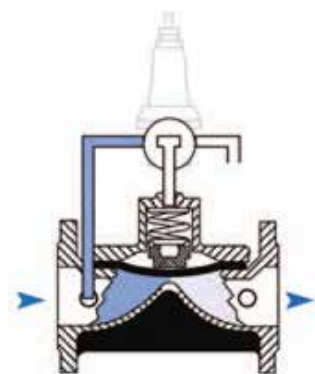
Valve Opening Mode

When the pilots on the main control valve reach the water pressure diaphragm, the water creates a hydraulic force. The resulting hydraulic force combines the diaphragm with the force applied by the spring to create a complete seal and close.



Modulation Mode

These are the pilot valves which are connected to the control valve which allows the main valve to operate in this position. According to the amount of flow and pressure to be adjusted, the water pressure on the diaphragm is controlled constantly, allowing it to operate in a modulated position.



HYDRAULIC CONTROL VALVES

Models

Flanged

Connection		Material		Body		Transmission Pressure			
Flanged		GGG40		Globe		PN10 - PN16 - PN25			
Available Diameters									
mm	50	65	80	100	125	150	200	250	300
inch	2	2½	3	4	5	6	8	10	12



Threaded

Connection		Material		Body		Transmission Pressure		
Threaded		GGG40		Globe		PN10 - PN16 - PN25		
Available Diameters								
mm	20	25	32	40	50	65	80	
inch	¾	1	1¼	1½	2	2½	3	



Victaulic

Connection		Material		Body		Transmission Pressure	
Victaulic		GGG40		Globe			PN10 - PN16 - PN25
Available Diameters							
mm	50	65	80	100	150	200	
inch	2	2½	3	4	6	8	



Angled

Connection		Material		Body		Transmission Pressure	
Flanged Threaded		GGG40		Globe		PN10 - PN16 - PN25	
Available Diameters							
mm	50	80	100	150			
inch	2	3	4	6			



Hydraulic Performance

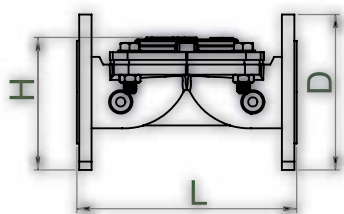
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
Valve Diameter	2	50	2½	65	3	80	4	100	5	125	6	150	8	200	10	250	12	300
Kv m³/h @ 1bar	88		88		174		187		187		419		1139		1698		2276	
Cv gmp @ 1psi	102		102		201		216		216		484		1316		1961		2629	

$$Kv(Cv) = Q \cdot \sqrt{G/\Delta P}$$

Kv : Valve flow coefficient (flow rate at 1 bar pressure loss m³/h @ 1 bar)
Cv : Valve flow coefficient (flow in pressure loss of 1 psi GPM @ 1 psi)
Q : Flow (m³/h, gpm)

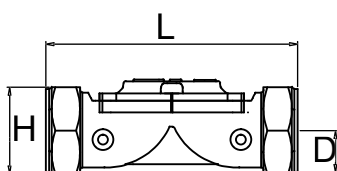
Cv = 1,155Kv
ΔP : Pressure Loss (bar, psi)
G : The specific gravity of water(Water=1.0)

Flanged



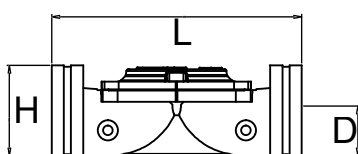
DN		D		L		H		Weight	
inch	mm	inch	mm	inch	mm	inch	mm	Lbs	Kg
2	50	6,50	165	8,66	220	5,87	149	17,60	8,00
2½	65	7,28	185	8,66	220	6,06	154	21,60	9,80
3	80	7,87	200	11,26	286	6,81	173	38,80	17,46
4	100	8,66	220	12,99	330	6,81	173	46,47	29,08
5	125	9,84	250	14,49	368	8,35	212	62,30	28,25
6	150	11,22	285	15,51	394	12,80	325	114,40	51,90
8	200	13,38	340	18,19	462	14,96	380	200,80	91,10
10	250	15,94	405	21,46	545	19,09	458	332,90	151,00
12	300	18,11	460	22,19	582	19,69	500	392,90	178,20

Threaded

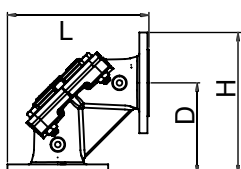
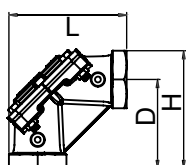


DN		D		L		H		Weight	
inch	mm	inch	mm	inch	mm	inch	mm	Lbs	Kg
3/4	20	0,9	23	5,2	132	2	50	2,2	1
1	25	0,9	23	5,2	132	2	50	2,2	1
1¼	32	1,35	34	6,8	173	3,6	92,3	6,3	2,85
1½	40	1,35	34	6,8	173	3,6	92,3	5,8	2,65
2	50	1,65	41,5	7,3	186	4,4	112	9	4,1
2½	65	1,8	46	8,9	226	4,6	118	11,7	5,3
3	80	2,05	52,5	12,5	318	5	127	26,4	12

Victaulic



DN		D		L		H		Weight	
inch	mm	inch	mm	inch	mm	inch	mm	Lbs	Kg
2	50	1,18	30	7,24	184	3,11	79	8,6	3,9
2½	65	1,46	37	8,9	226	3,74	95	9,92	4,5
3	80	1,77	45	11,42	290	3,7	94	13	5,9
4	100	2,26	57,5	12,48	317	4,19	106,5	13,6	6,2
6	150	3,3	84	17,87	454	5,24	133	66	30
8	200	4,53	115	21,40	544	13,10	332	143,3	



Angled

Threaded
Flanged

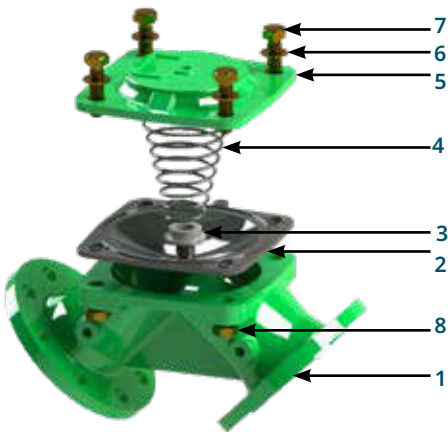
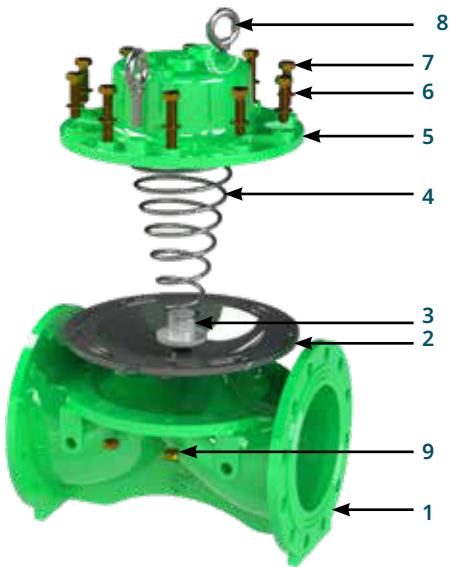
DN		D		L		H		Weight	
inch	mm	inch	mm	inch	mm	inch	mm	Lbs	Kg
2	50	4,4	112	6,05	154	6,05	154	9,47	4,3
3	80	7,1	180	9,45	240	9,45	240	29,3	13,3
2	50	4,4	112	7,44	189	7,44	189	19,07	8,65
3	80	7,1	180	10,95	278	10,95	278	39,02	17,7
4	100	7,48	190	12	305	12	305	60,19	27,3
6	150	9,05	230	14,92	379	14,92	379	106,26	48,2

HYDRAULIC CONTROL VALVES

Main Parts

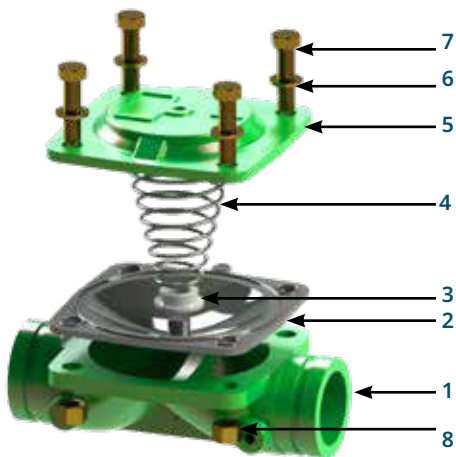
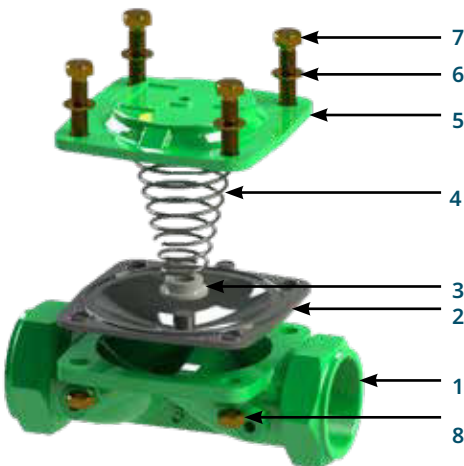
Flanged

Nr.	Material Name	Type Of Material
1	Body	GGG40
2	Diaphragm	Natural Rubber
3	Spring Seat	Polyamide
4	Spring	SST 302
5	Cover	GGG40
6	Washer	8.8 Coated Steel
7	Bolt	8.8 Coated Steel
8	Lifting Eyebolts	8.8 Coated Steel
9	Nut	8.8 Coated Steel



Threaded - Victaulic - Angled

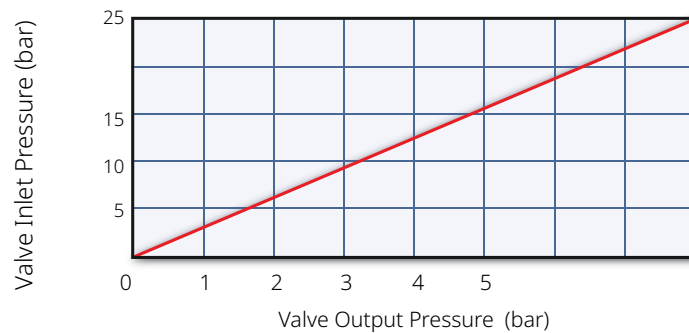
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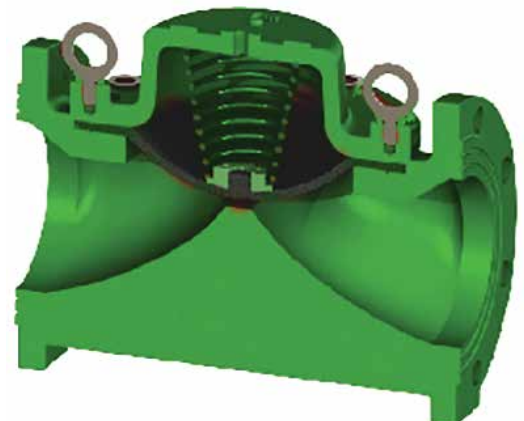
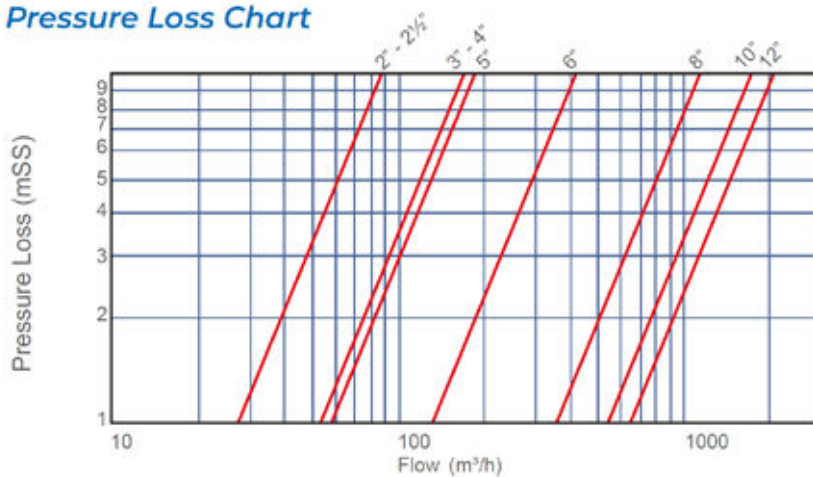
Technical Specifications

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	Minimum Operating Temp.	- 10 °C (14 °F) DIN 2401/2
	Maximum Operating Temp.	80 °C (176 °F) DIN 2401/2
Connection	Flanged	DIN 2501, ISO 7005 - 2
	Threaded	ISO (BSP) , ANSI (NPT)
Covering	Standard	Epoxy
	Optional	Polyester
Hydraulic Connections	Standard	Reinforced Nylon (Air Brake) Hydraulic Tube SAE J 844
	Optional	Copper DIN1057
Actuator Type	With Single Control Chamber Aperture With Diaphragm	

Cavitation Chart



Pressure Loss Chart





**Her
Fabrika** Bir
Kaledir*

H. Otatürk



*Every factory is a fortress

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+90 232 458 49 99 / +90 232 458 57 67

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