TYPHOON®

PRESSURE REDUCING & SUSTAINING CONTROL VALVES

2022

tayfur su sistemleri

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.

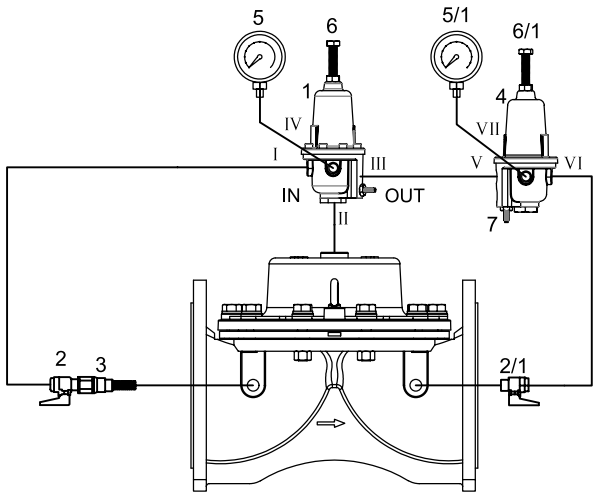
Pressure Reducing and Sustaining Control Valve

The Pressure Reducing and Sustaining Control Valve is the control valve that reduces the output pressure to the desired value by holding the input pressure. There are two pilots on the valve. The pilot in the inlet direction is the pressure stabilization pilot and fixes the inlet pressure. The other pilot ensures that the pressure reducer remains constant by reducing the pilot pressure and the output pressure to the desired value. The pressure reducing and stabilizing control valve allows the system to operate at normal values by reducing excessive flow in the downward slope direction and lowering the high pressure. The valve keeps constantly controlling the inlet pressure and outlet pressure without being influenced by the flow rate changes.

Sample Application

Hydraulic Control Valves

Large Metal Pilot Mount / Adjustment



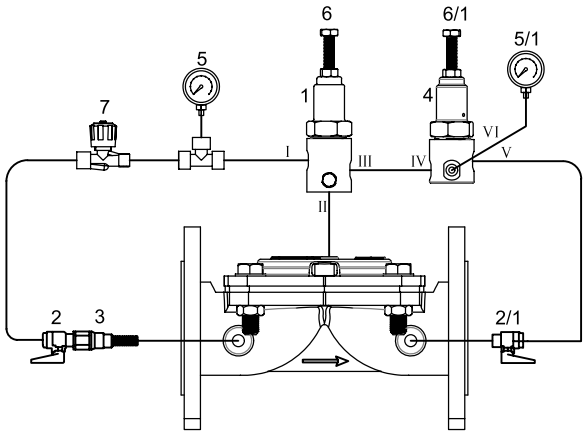
1 Pressure Sustaining Pilot
2 Mini Ball Valves
3 Finger Filter
4 Pressure Reducing Pilots
5 Manometer
6 Pressure Adjustment Bolts
7 Needle Valve

Assemby

• After connecting the finger filter number 3 and the mini ball valve number 2 to the valve inlet, connection to the “I” outlet of the pressure stabilizer pilot is provided with the help of copper or plastic pipes.
• “II” outlet of the pressure stabilizing pilot is entered to the valve cover with the necessary fittings.
• “III” outlet of the pressure stabilizing pilot is connected to the “V” outlet of the pressure reducing valve.
• A mini ball valve numbered 2/1 is connected to the valve outlet. From here, a connection to the “IV” outlet of the pressure reducing pilot is provided. Finally, a manometer is connected to the “IV” output of the pressure stabilizing pilot and to the “VII” output of the pressure reducing pilot.
• 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 deliver water to the system by opening the main valve on the network.
• Open ball valve indicated with “2” and close ball valve indicated with “2/1”.
• Adjust the desired upstream pressure value by looking at the pressure gauge with the adjustment bolt on the pressure sustaining pilot valve indicated with “1”. After determining the set point, tighten the contra nut.
• Adjust the pressure reducing pilot valve indicated with “4” by looking at the pressure gauge thanks to the adjustment bolt “6” on it. The manometer on the pressure reducing pilot valve shows the valve downstream pressure value.
• When you turn the adjustment bolt of both pilot valves clockwise, the pressure value will increase and when you turn it in the opposite direction, the pressure value will decrease.
• After determining the desired pressure point in both pilot valves, open the ball valve indicated with “2/1” and deliver water to the system. During the normal operation of the valve, the inlet manometer will show the valve upstream pressure value and the outlet manometer will show the zero value. To see the downstream pressure value, close the “2/1” ball valve.



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

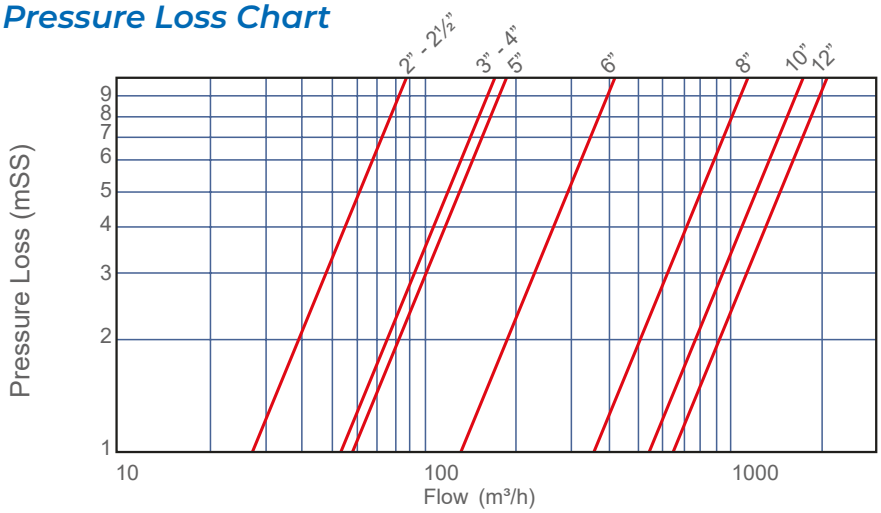
Assembly

• After connecting the finger filter number 3 and the mini ball valve number 2 to the valve inlet, connection to the “I” outlet of the pressure stabilizer pilot is provided with the help of copper or plastic pipes.
• “II” outlet of the pressure stabilizing pilot is entered to the valve cover with the necessary fittings.
• “III” outlet of the pressure stabilizing pilot is connected to the “IV” outlet of the pressure reducing valve.
• A mini ball valve numbered 2/1 is connected to the valve outlet. From here, a connection to the “V” outlet of the pressure reducing pilot is provided. Finally, a manometer is connected to the “VI” outlet of the pressure reducing pilot and to the tee connection element.
• 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.

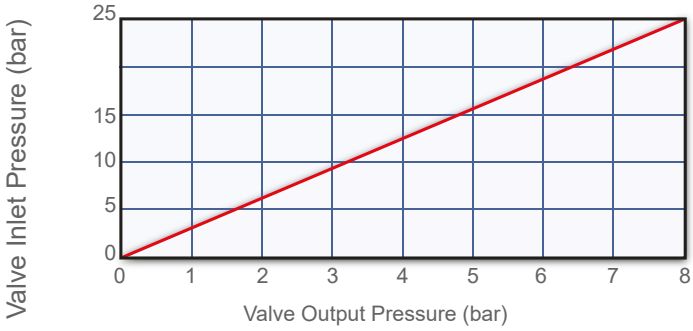
Adjust

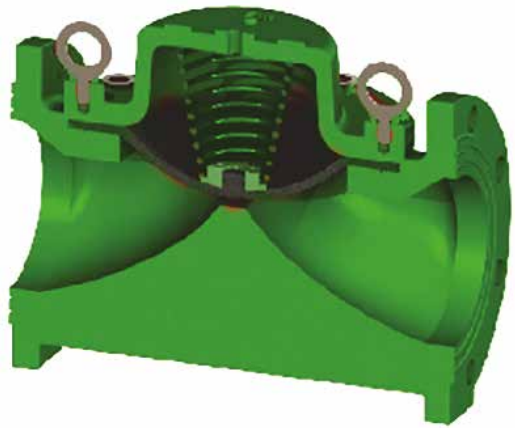
• Start the pump or deliver water to the system by opening the main valve on the network.
• Open ball valve indicated with “2” and close ball valve indicated with “2/1”.
• Adjust the desired upstream pressure value by looking at the pressure gauge with the adjustment bolt “6” on the pressure sustaining pilot valve indicated with “1”. After determining the set point, tighten the contra nut.
• Adjust the pressure reducing pilot valve indicated with “4” by looking at the pressure gauge thanks to the adjustment bolt “6/1”. The manometer on the pressure reducing pilot valve shows the valve downstream pressure value.
• When you turn the adjustment bolt of both pilot valves clockwise, the pressure value will increase and when you turn it in the opposite direction, the pressure value will decrease.
• After determining the desired pressure point in both pilot valves, open the ball valve indicated with “2/1”.
water to the system by opening. During the normal operation of the valve, the inlet manometer, the valve upstream pressure
value, and the output manometer will show the zero value. To see the downstream pressure value, close the “2/1” ball valve.

Pressure Loss Chart



Cavitation Chart





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	

Hydraulic Control Valves

Flanged • Threades • 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.

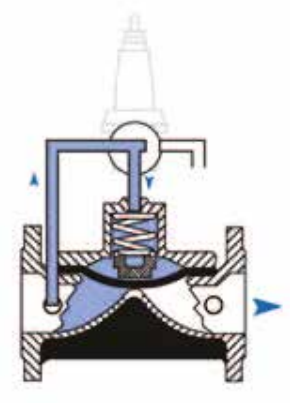
- M Manually Controlled Valve
- PR Pressure Reducing Control Valve
- PRPS Pressure Reducing + Pressure Sustaining Control Valve
- PS Pressure Sustaining Control Valve
- PREL Pressure Reducing + Solenoid Controlled Valve
- EL Solenoid Controlled Valve
- QR Quick Relief Control Valve
- FL Float Level Control 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

TYPHOON®

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.

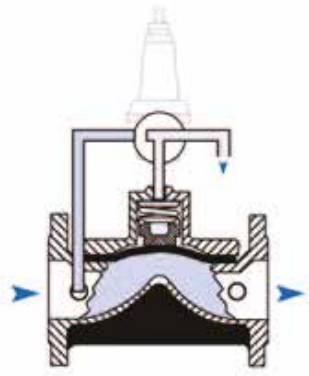
Valve Closing Mode

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.



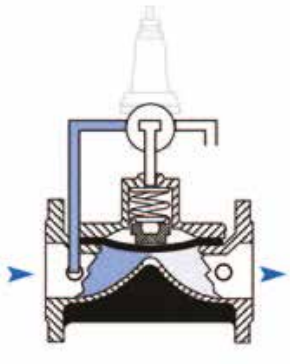
Valve Opening Mode

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.



Flanged

Connection	Material	Body	Transmition 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	Transmition Pressure
Threaded	GGG40	Globe	PN10-PN16-PN25

AVAILABLE DIAMETERS

mm	20	25	32	40	50	65	80	
inch	3/4	1	1¼	1½	2	2½	3	

Victaulic

Connection	Material	Body	Transmition Pressure
Victaulic	GGG40	Globe	PN10-PN16-PN25

AVAILABLE DIAMETERS

mm	50	65	80	100	150	
inch	2	2½	3	4	6	

Angled

Connection	Material	Body	Transmition Pressure
Flanged-Threaded	GGG40	Globe	PN10-PN16-PN25

AVAILABLE DIAMETERS

mm	50	80	100	150	
inch	2	3	4	6	

$$Kv(Cv)=Q.\sqrt{\frac{G}{\Delta P}}$$

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)

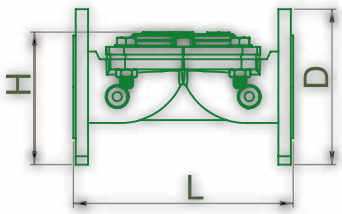
Cv=1,155Kv **ΔP**: Pressure Loss(bar, psi) **G**: The specific gravity of water(Water=1.0)

HYDRAULIC PERFORMANCE

	inch	cm	inch	cm	inch	cm	inch	cm	inch	cm	inch	cm	inch	cm	inch	cm	inch	cm
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	

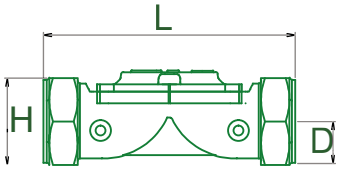
Hydraulic Control Valves

Size and Weight



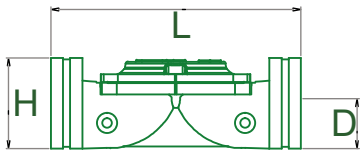
Flanged

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



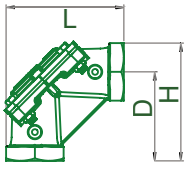
Threaded

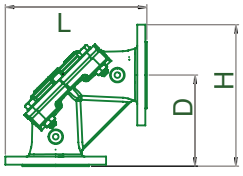
DN		D		L		H		Weight	
inch	mm	inch	mm	inch	mm	inch	mm	Lbs	Kg
¾	20	0,90	23,00	5,20	132	2,00	50,00	2,20	1,00
1	25	0,90	23,00	5,20	132	2,00	50,00	2,20	1,00
1¼	32	1,35	34,00	6,80	173	3,60	92,30	6,30	2,85
1½	40	1,35	34,00	6,80	173	3,60	92,30	5,80	2,65
2	50	1,65	41,50	7,30	186	4,40	112,00	9,00	4,10
2½	65	1,80	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



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	79,00	8,60	3,9
2 ½	65	1,46	37	8,90	226	3,74	95,00	9,92	4,5
3	80	1,77	45	11,42	290	3,70	94,00	13	5,9
4	100	2,26	57,5	12,48	317	4,19	106,50	13,6	6,2
6	150	3,30	84,0	17,87	454	5,24	133,00	66,0	30,0





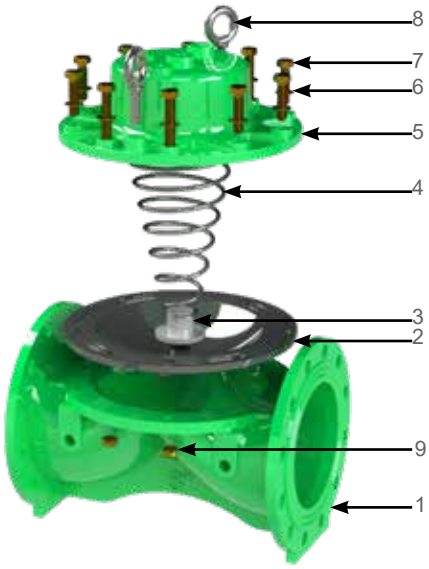
Angled

Threaded

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	9,47	4,3
3	80	7,10	180,0	9,45	240	9,45	240	29,30	13,3

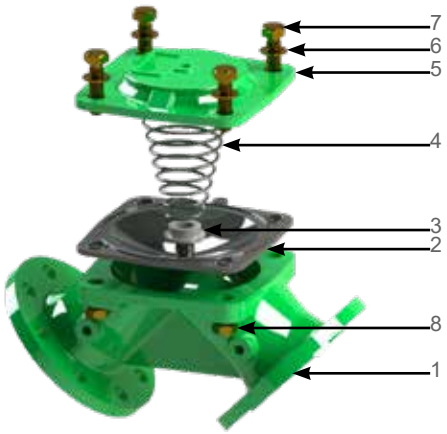
Flanged

2	50	4,40	112,0	7,44	189	7,44	189	19,07	8,65
3	80	7,10	180,0	10,95	278	10,95	278	39,02	17,70
4	100	7,48	190,0	12,00	305	12,00	305	60,19	27,30
6	150	9,05	230,0	14,92	379	14,92	379	106,26	48,20



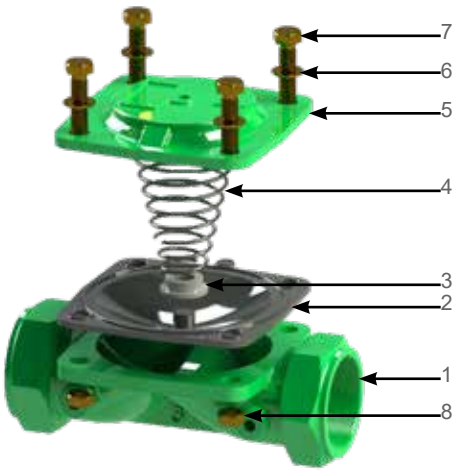
Flanged

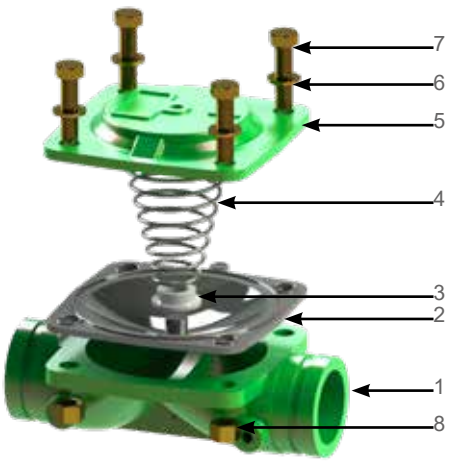
#	Material Name	Type of Material
1	Body	GGG40
2	Diaphragm	Natural Rubber
3	Spring Seat	Polyamide
4	Spring	SST 302
5	Cover	GGG40
6	Washer	8.8 Coated Steel
7	Bolt	8.8 Coated Steel
8	Lifting Eyebolts	8.8 Coated Steel
9	Nut	8.8 Coated Steel



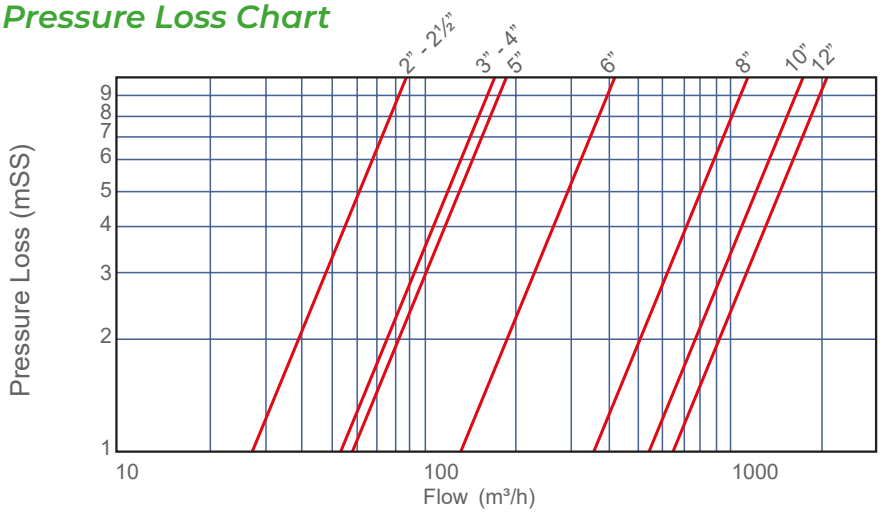
Threaded- Victaulic - Angled

#	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	Nut	8.8 Coated Steel

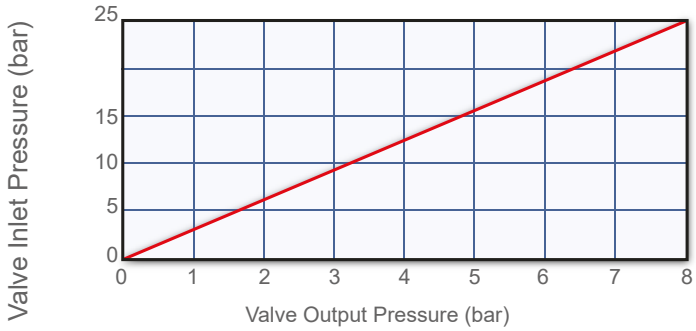


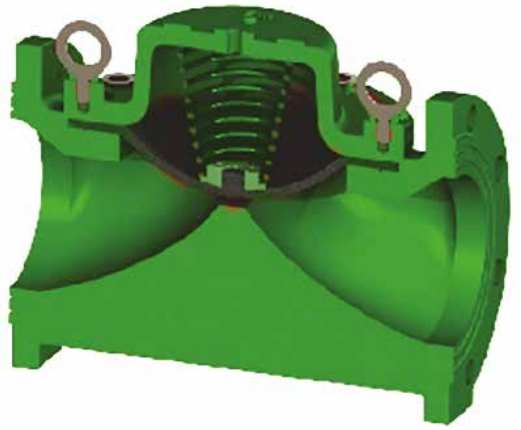


Pressure Loss Chart



Cavitation Chart





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	

* Every Factory is a Fortress

@TayfurWaterSystemsTr

@tayfursusistemleri

@tayfursusistemleri

@TayfurSu

Tayfur Su Sistemleri

TURK PATENT

UKAS MANAGEMENT SYSTEMS 5965

TSEK

Karacaoğlan Mah. 6172 Sok. No:19/A Işıkkent - Bornova - İzmir | +90 232 458 49 99 • +90 232 458 57 67

www.tayfursu.com.tr | info@tayfursu.com.tr