



PLASTIC SOLENOID CONTROL VALVE

TAYFUR WATER SYSTEMS

TYPHOON®

We **Care** About
Every Drop of
Water



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.

STORY OF US

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.



SOLENOID CONTROL VALVE

Plastic

The Solenoid Controlled Valve is the hydraulic control valve operated by line pressure and designed to ensure opening/closing process by means of built-in 3/2-way solenoid pilot valves controlled remotely with electric signal. Electric signal for solenoid pilot valves is ensured by means of a control device, time relay, main switch and PLC control units etc. Opening/Closing process may be realized easily thanks to manual control on solenoid pilot valve. Depending on desire, 24V AC 50Hz/60Hz or 12V DC, 9V DCLATCH and 12V DC latch normally open (N.O.) or normally closed (N.C.) solenoid coils may be used on main valve.

Pressure Range: PN 10
Diameters : 3/4" 1"-1 1/2" – 2" – 2 1/2" – 3"R - 3"-4"
DN80 - DN100 - DN150 Flanged

Order Information

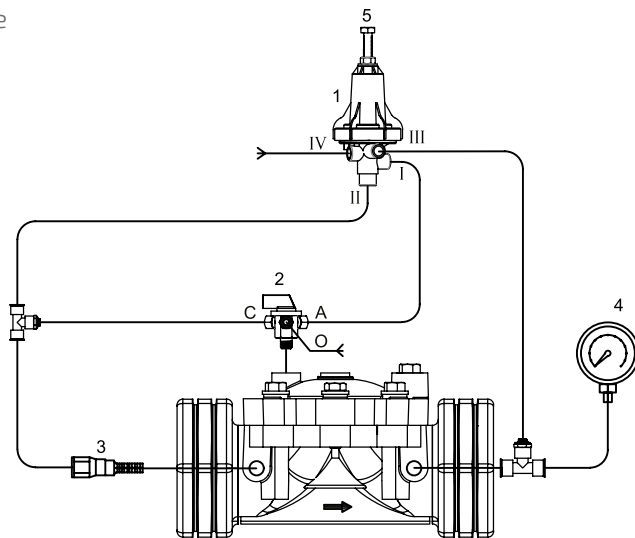
Please provide the following information in order

Maximum flow rate m³/h
Maximum mains / operating pressure bar
Main pipeline diameter mm
Valve connection type
Electric voltage value to be used volt



- After connecting the 2 number finger filter to the valve Inlet, connection to the "I" outlet of solenoid pilot is provided with the help of plastic pipe.
- Solenoid pilot's "II" number is connected to valve cover with connection elements.
- Valve outlet "3" is connected to the blind.
- 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.

1 Solenoid Valve
2 Finger Filter
3 Blind plug



Adjustment

- Connect the solenoid pilot valve wiring indicated by "1" to the control device in a suitable BIIIC.
- Turn on the pump or turn on the mains main valve and give water to the system.
- Switch setting on solenoid valve to Auto "a" position.
- Since solenoid valve is normally open "no", the valve will be closed as long as it does not receive the signal. For manual control, when Switch setting on solenoid valve is done open "O", valve opens and closes when closed "C" is done.

HYDRAULIC CONTROL VALVES

Plastic

TYPHOON Plastic Hydraulic Valves are automatic control valves with diaphragm working with line pressure. Hydraulic Control Valves are used in agricultural irrigation, drinking water lines, filtration and industrial areas.

TYPHOON Plastic Valves are automatic control valves with diaphragm closure working with line pressure. Valve body and diaphragm design ensure smooth flow with minimum pressure loss. Since there is no bearing, bush and shaft in the valve body, valve life is longer. The only moving part of the valve is the diaphragm.

TYPHOON Plastic Hydraulic Control Valves are used in agricultural irrigation, drinking water lines, filtration and industrial areas.

Features

- Easy operation and maintenance with simple structure
- Lower costs
- Wide pressure range operation
- Perfect modulation even at low flow rates
- Flexible diaphragm to open and close without impact
- Fully sealed with reinforced diaphragm and internal spring
- Wide range of control applications with different pilot valves
- Ability to work in horizontal and vertical positions in application areas



Working Principles

It is a fully automatic hydraulic control valve designed to perform the hydraulically desired modulation processes with the line pressure without the need for different energy sources such as electricity, pneumatic or mechanical in the main valve mains line.

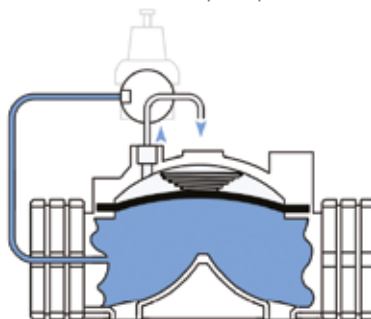
Valve Closing Mode

Pilot valves connected to the main valve create a hydraulic force on the valve diaphragm when the water pressure at the valve inlet reaches the actuator (control reservoir) of the valve. This hydraulic force that is created combines the diaphragm of the valve with the extra force exerted by the internal spring to ensure a tight seal.



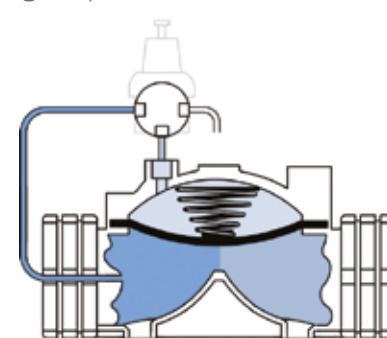
Valve Opening Mode

When the path of the pilot valve on the main valve in the closed position is set to the discharge position, the pressurized water in the control chamber on the diaphragm of the main valve is discharged. When the line pressure reaches the spring force, the valve diaphragm applies a hydraulic force to the diaphragm to bring the valve into the full open position.



Modulation Mode

The pilot valves that connect the actuator to the main valve allow the main valve to operate in the modulated position. The valve in the actuator of the main valve (control reservoir), according to the flow quantity or pressure conditions to be adjusted, ensures that the fluid continuously operates in the modulated position by controlling the pressure.



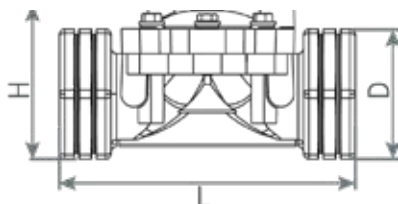
HYDRAULIC CONTROL VALVES

Plastic

Model

Connection	Threaded	
Material	Glass Reinforced Polyamide	
Body	Globe	
Available Diameters	inch	mm
	3/4	25
	1	32
	1 1/2	40
	2	50
	2 1/2	65
Max. Operating Pressure	3"R	80R
	10 Bar	

8



Dimensions and Weights

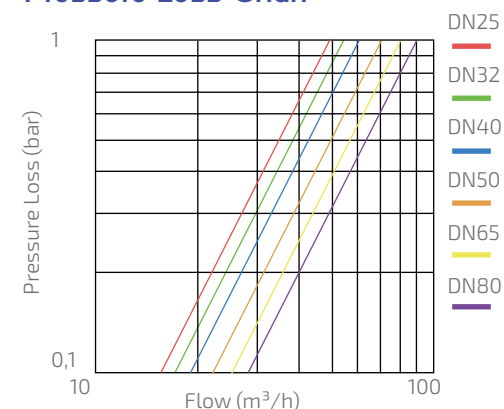
DN		D		L		H		Weight	
inch	mm	inch	mm	inch	mm	inch	mm	Lbs	Kg
3/4	20	1,73	44	5,51	140	2,36	62,50	0,66	0,30
1	25	1,73	44	5,51	140	2,36	62,50	0,66	0,30
1 1/2	40	2,48	63	7,91	201	4,28	100,00	2,54	1,15
2	50	2,95	75	8,07	211	4,33	105,50	2,65	1,20
2 1/2	65	3,66	93	8,64	219	4,64	112,50	3,09	1,40
3"R	80R	4,33	110	8,78	223	4,88	124,50	3,42	1,55



Main Parts

#	Material Name	Type of Material
1	Body	Glass Reinforced Polyamide
2	Diaphragm	Natural Rubber
3	Spring Seat	Polypropylene
4	Spring	SST 302
5	Cover	Glass Reinforced Polyamide
6	Washer	A2 Stainless Steel
7	Bolt	A2 Stainless Steel
8	Nut	Brass

Pressure Loss Chart



Hydraulic Performance

	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
Valve Diameter	3/4	25	1	32	1 1/2	40	2	50	2 1/2	65	3"R	80R
Kv m³/h@1bar	50		55		60		70		80		90	
Cv gmp@1psi	56		66		69		81		92		104	

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

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)

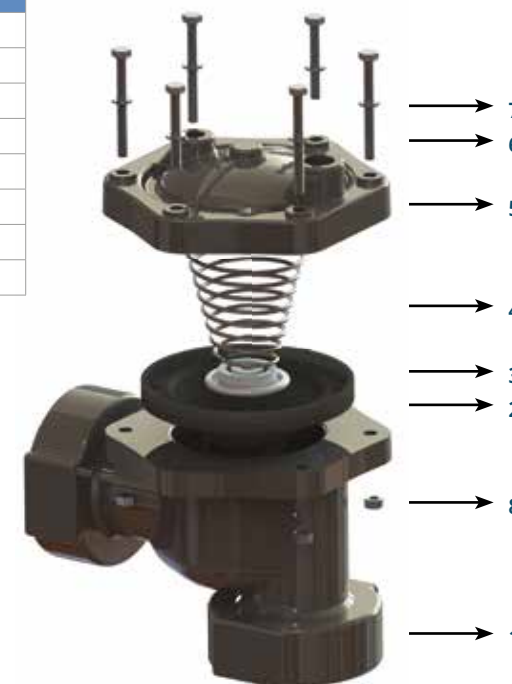
Model

Connection	Threaded	
Material	Glass Reinforced Polyamide	
Body	Angled Globe	
Available Diameters	inch	mm
	2	50
	2 1/2	65
	3"R	80R
Max. Operating Pressure	10 Bar	

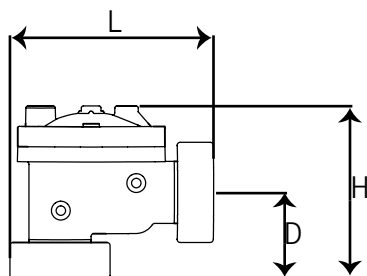
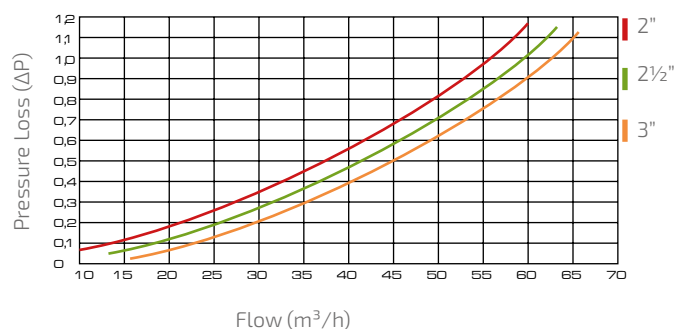
Main Parts

#	Material Name	Type of Material
1	Body	Glass Reinforced Polyamide
2	Diaphragm	Natural Rubber
3	Spring Seat	Polypropylene
4	Spring	SST 302
5	Cover	Glass Reinforced Polyamide
6	Bolt	A2 Stainless Steel
7	Washer	A2 Stainless Steel
8	Nut	Brass

Regular / Angled



Pressure Loss Chart



Dimensions and Weights

DN		D		L		H		Weight	
inch	mm	inch	mm	inch	mm	inch	mm	Lbs	Kg
2	50	3,4	86	8	203	6,77	172	2,86	1,30
2 1/2	65	3,4	86	8	203	6,77	172	2,86	1,20
3"R	80R	3,4	86	8	203	6,77	172	2,86	1,06

Hydraulic Performance

	inch	mm	inch	mm	inch	mm
Valve Diameter	2	50	2 1/2	65	3"R	80R
Kv m3 / h @1bar	51,0		56,0		66,0	
Cv gmp @1psi	58,9		64,7		76,2	

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

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)

HYDRAULIC CONTROL VALVES

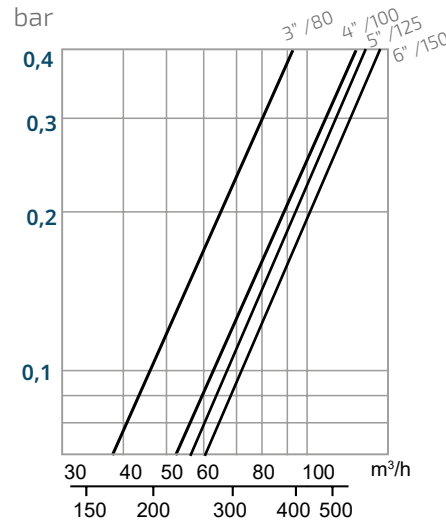
Plastic

Large Body / Flanged - Threaded

Model

Connection	Flanged - Threaded	
Material	Glass Reinforced Polyamide	
Body	Globe	
Available Diameters	inch	mm
	3	80
	4	100
	5	125
	6	150 (Flanged)
Max. Operating Pressure	10 Bar	

Pressure Loss Chart



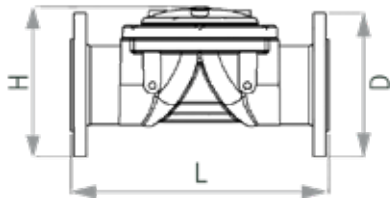
Main Parts

#	Material Name	Type of Material
1	Body	Glass Reinforced Polyamide
2	Flange Adapter	Glass Reinforced Polyamide
3	Flange	Glass Reinforced Polyamide
4	Diaphragm	Natural Rubber
5	Spring Seat	Polypropylene
6	Spring	SST302
7	Cover	Glass Reinforced Polyamide
8	Bolt	8.8 Coated Steel
9	Nut	8.8 Coated Steel
10	Rondela	8.8 Coated Steel

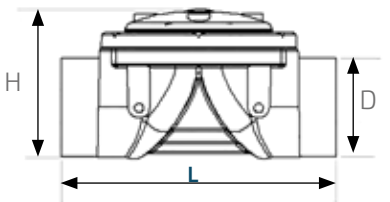


10

Dimensions and Weights



DN		D		L		H		Weight	
inch	mm	inch	mm	inch	mm	inch	mm	Lbs	Kg
3	80	7,87	200	14,57	370	8,66	220	14,52	6,60
4	100	9,00	227	14,57	370	9,17	233	16,28	7,40
5	125	10,11	257	13,35	390	9,96	253	16,53	7,5
6	150	11,02	280	15,55	395	10,43	265	16,76	7,6



DN		D		L		H		Weight	
inch	mm	inch	mm	inch	mm	inch	mm	Lbs	Kg
3	80	4,72	120	11,58	294	7,05	179	10,25	4,65
4	100	4,72	120	13,23	336	7,28	185	9,70	4,40

Hydraulic Performance

	inch	mm	inch	mm	inch	mm	inch	mm
Valve Diameter	3	80	4	100	5	125	6	150
Kv m³ / h @1bar	166		208		215		220	
Cv gmp @1psi	193		242		248		260	

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

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)

Plastic

Angled Large Body / Flanged - Threaded

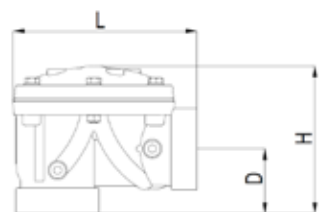
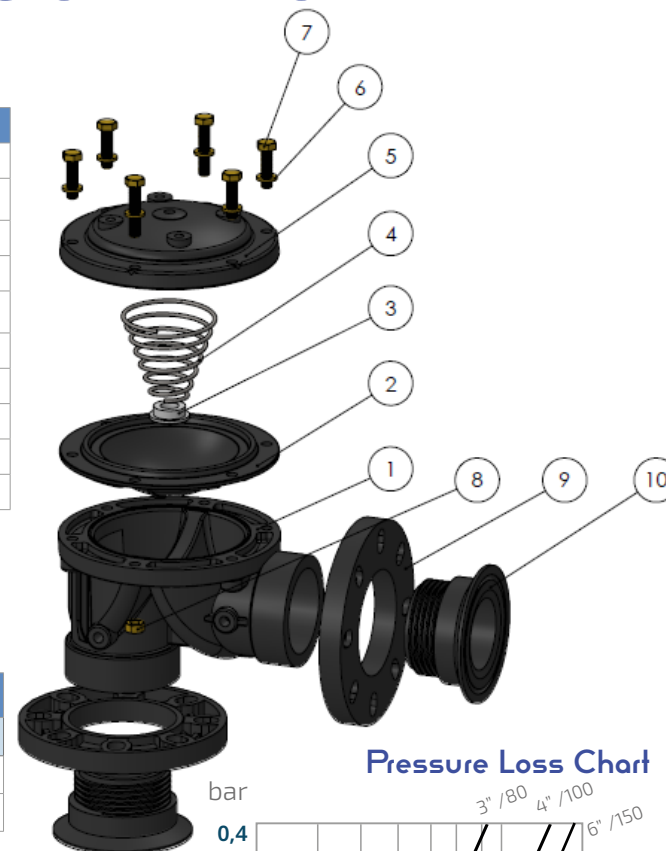
Model

Connection	Flanged - Threaded	
Material	Glass Reinforced Polyamide	
Body	Angled Globe	
Available Diameters	inch	mm
	3	80
	4	100
	6	150
Max. Operating Pressure	10 Bar	

Main Parts

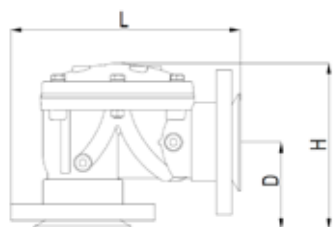
#	Material Name	Type of Material
1	Body	Glass Reinforced Polyamide
2	Diaphragm	Naturel Rubber
3	Spring Wedge	Polypropylene
4	Spring	SST 302
5	Cover	Glass Reinforced Polyamide
6	Washer	8.8 Coated Steel
7	Bolt	8.8 Coated Steel
8	Nut	8.8 Coated Steel
9	Flange	Glass Reinforced Polyamide
10	Adapter	Glass Reinforced Polyamide

HYDRAULIC CONTROL VALVES



Dimensions and Weights

DN		D		L		H		Weight	
inch	mm	inch	mm	inch	mm	inch	mm	Lbs	Kg
3	80	3,9	99	10,9	277	8,78	223	11,13	5,05
4	100	3,9	99	10,9	277	8,78	223	10,8	4,90



DN		D		L		H		Weight	
inch	mm	inch	mm	inch	mm	inch	mm	Lbs	Kg
3	80	5,08	129	13,42	341	9,96	253	15,43	7
4	100	5,35	136	14,84	377	10,28	261	17,19	7,8
6	150	6,38	162	16,18	411	11,14	283	17,64	8

$$K_v(C_v) = Q \cdot \sqrt{G/\Delta P}$$

K_v: Valve flow coefficient (flow rate at 1 bar pressure loss m³/h @ 1 bar)

C_v: Valve flow coefficient (flow in pressure loss of 1 psi GPM @ 1 psi)

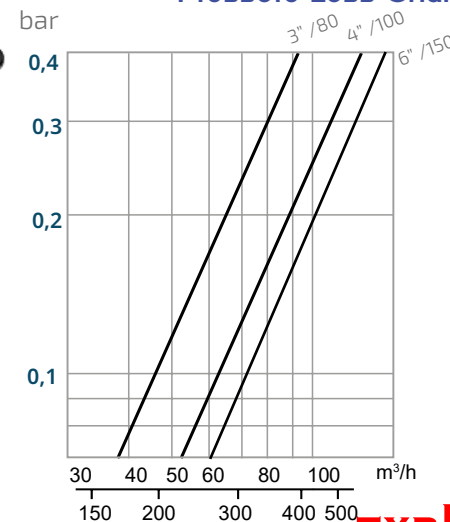
Q: Flow (m³/h, gpm)

C_v = 1,155K_v

ΔP: Pressure Loss (bar, psi)

G: The specific gravity of water(Water=1.0)

Pressure Loss Chart

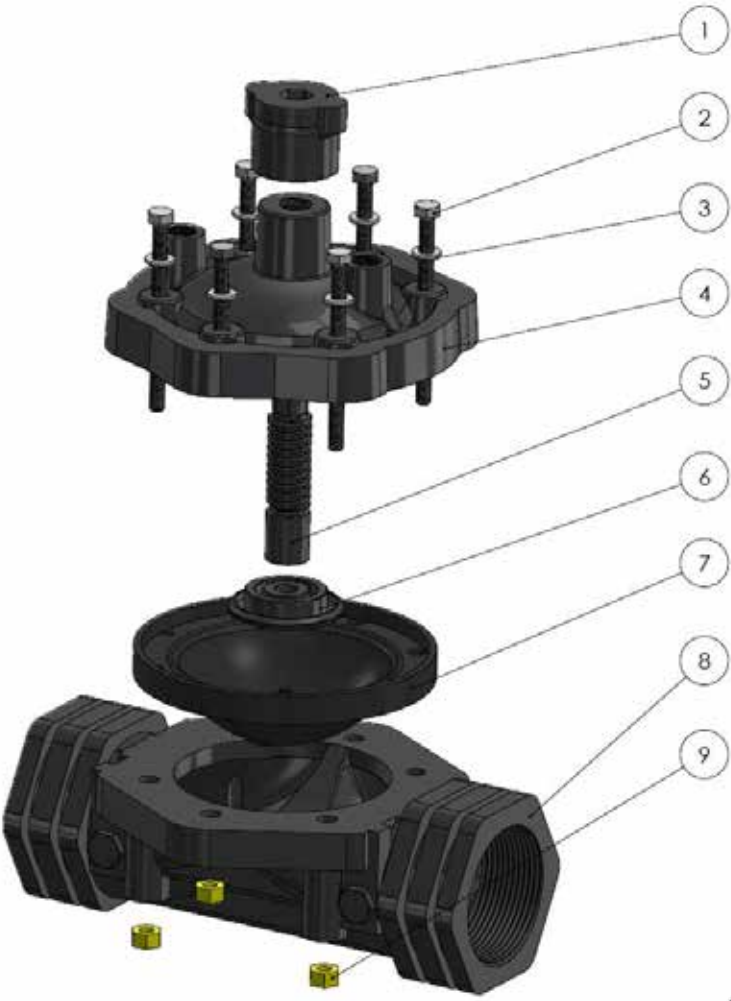


HYDRAULIC CONTROL VALVES

Plastic

Manual Flow Lever

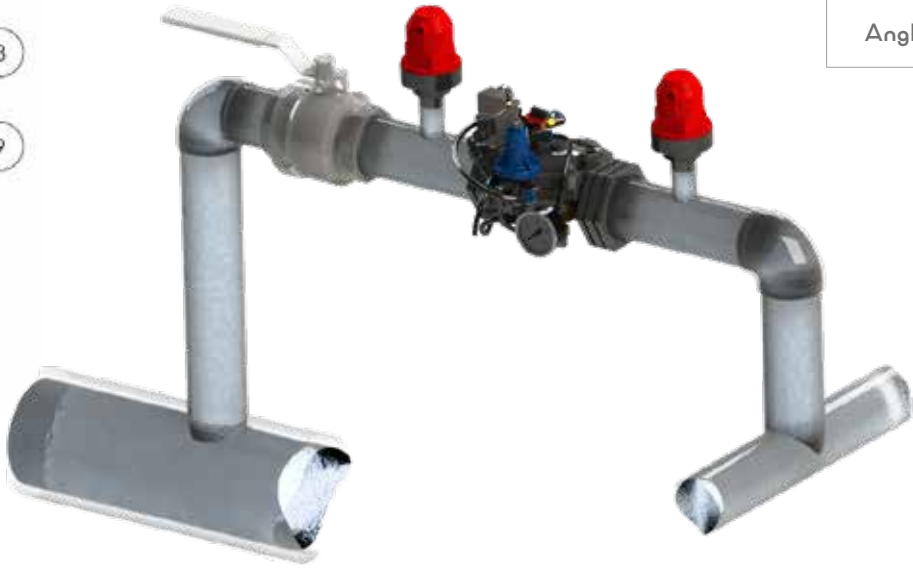
The flow rate in the line can be reduced by means of the flow lever on the cover.



#	Material Name	Type of Material
1	Flow Cover	Polypropylene
2	Bolt	Stainless Steel
3	Rondela	Stainless Steel
4	Cover	GRP
5	Flow Shaft	Polypropylene
6	Spring Printing Stamp	Polypropylene
7	Diaphragm	Natural Rubber
8	Body	GRP
9	Nut	Rice

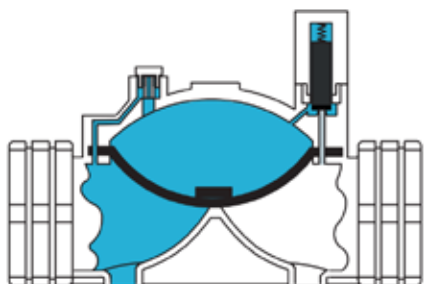
Available Diameters	
Gear	3/4"
	1"
	1 1/2"
	2"
	2 1/2"
	3"R
Flanged	3"L
	4"L
Angle Gear	DN80
	DN100
	2"
Angle Flange	2 1/2"
	3"
	DN80
	DN100

Assembly Application Example

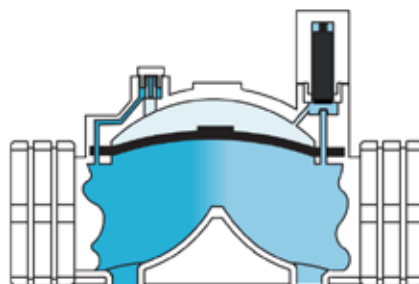


It is controlled by a 2-way solenoid valve connected to the main valve. The normally closed valve switches to the open position when signalled or manually intervened

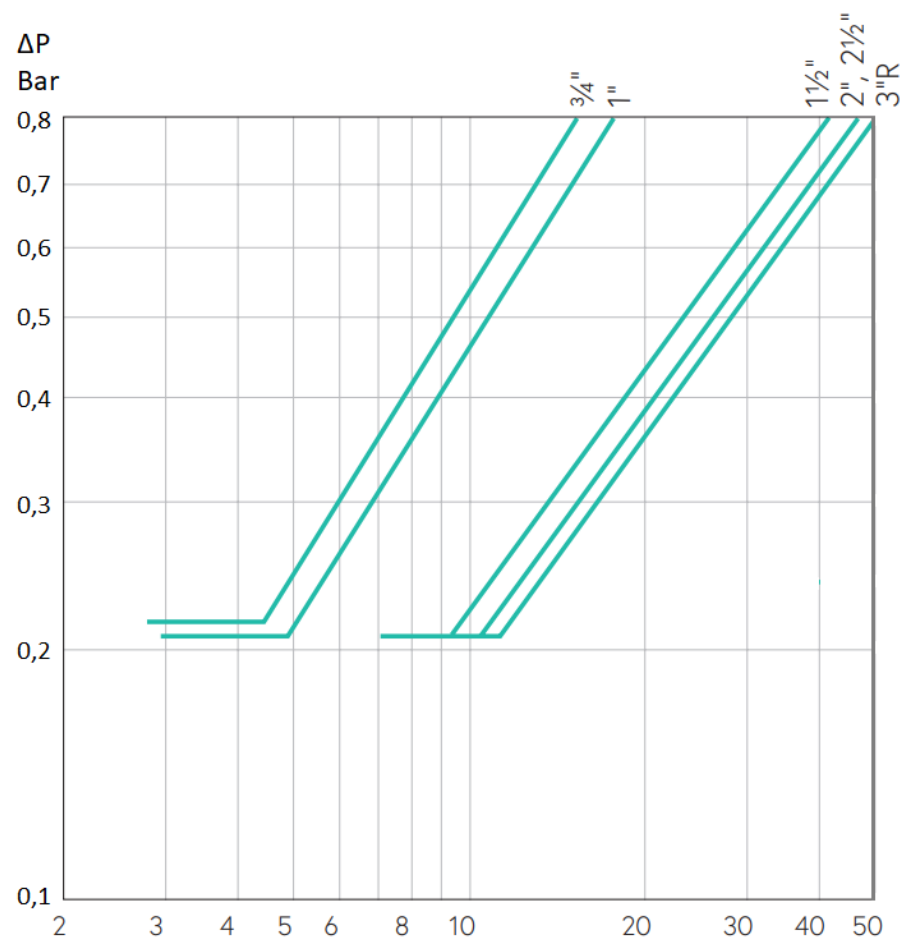
Valve Opening Mode



Valve Closing Mode



Pressure Loss Table



Y TYPE CONTROL VALVE

Plastic

TYPHOON Y Type Plastic Automatic Hydraulic Control Valves are designed in "Y" body model type, with high modulation capacity, to work with minimum pressure loss, cavitation and noise under difficult working conditions with high pressure differences.

TYPHOON Y Type Plastic Automatic Hydraulic Control Valves are close the flap with double chamber diaphragm actuator. It has double control chamber as standard. It can be used as a single chamber without using an extra control chamber. Through to the valve shaft, which is rigidly mounted on the valve body, it operates in a controlled and properly opens and closes fully sealed without causing impact.

TYPHOON Y Type Plastic Automatic Hydraulic Control Valves provide maximum performance under difficult conditions with glass reinforced nylon body structure. It is easy to assemble and disassemble with its simple and reliable structure. It has high chemical and corrosion resistance.

TYPHOON Y Type Automatic Hydraulic Control Valves can be obtained by adding various control equipments to the Basic valve body and valves that can make different tasks.

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

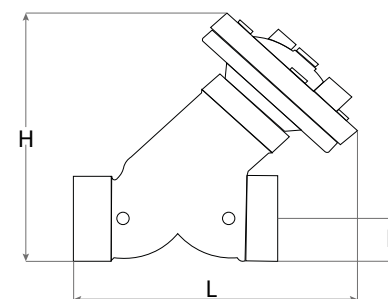
Features

- Easy to use and maintain with its simple structure
- Lower costs
- Working in wide pressure range
- Perfect modulation even at low flow rates
- Impact-free opening and closing with flexible diaphragm
- Fully sealing with reinforced diaphragm and inner spring
- High diaphragm resistance
- Wide control application area with different pilot mounts
- Ability to work in horizontal and vertical positions



Dimentions and Weights

DN		L		h		H		Weight	
inch	mm	inch	mm	inch	mm	inch	mm	Lbs	Kg
2	50	6,49	165	1,49	38	8,86	225	3,86	1,75
3/4	20	5,31	135	1,02	26	5,23	133	2,09	0,95
1	25	5,31	135	1,02	26	5,23	133	2,20	1,00
1 ^{1/4}	32	5,31	135	1,14	29	5,23	133	2,31	1,05
1 ^{1/2}	40	8,78	165	1,49	38	8,86	225	3,86	1,75
2	50	6,49	165	1,49	38	8,86	255	3,86	1,75



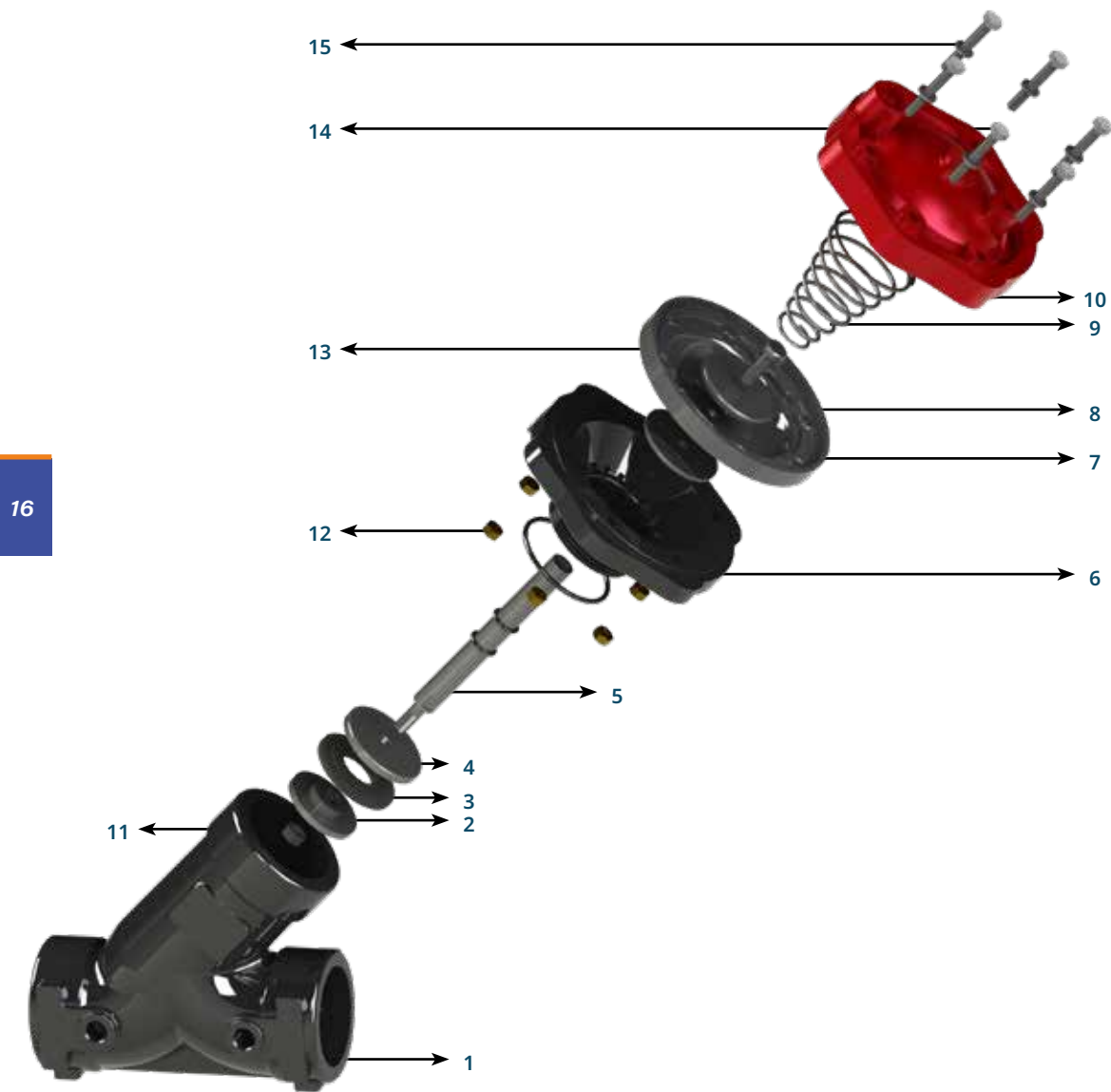
Working Temperature: Maximum 80°C

Working Pressure: Maximum 10 Bar



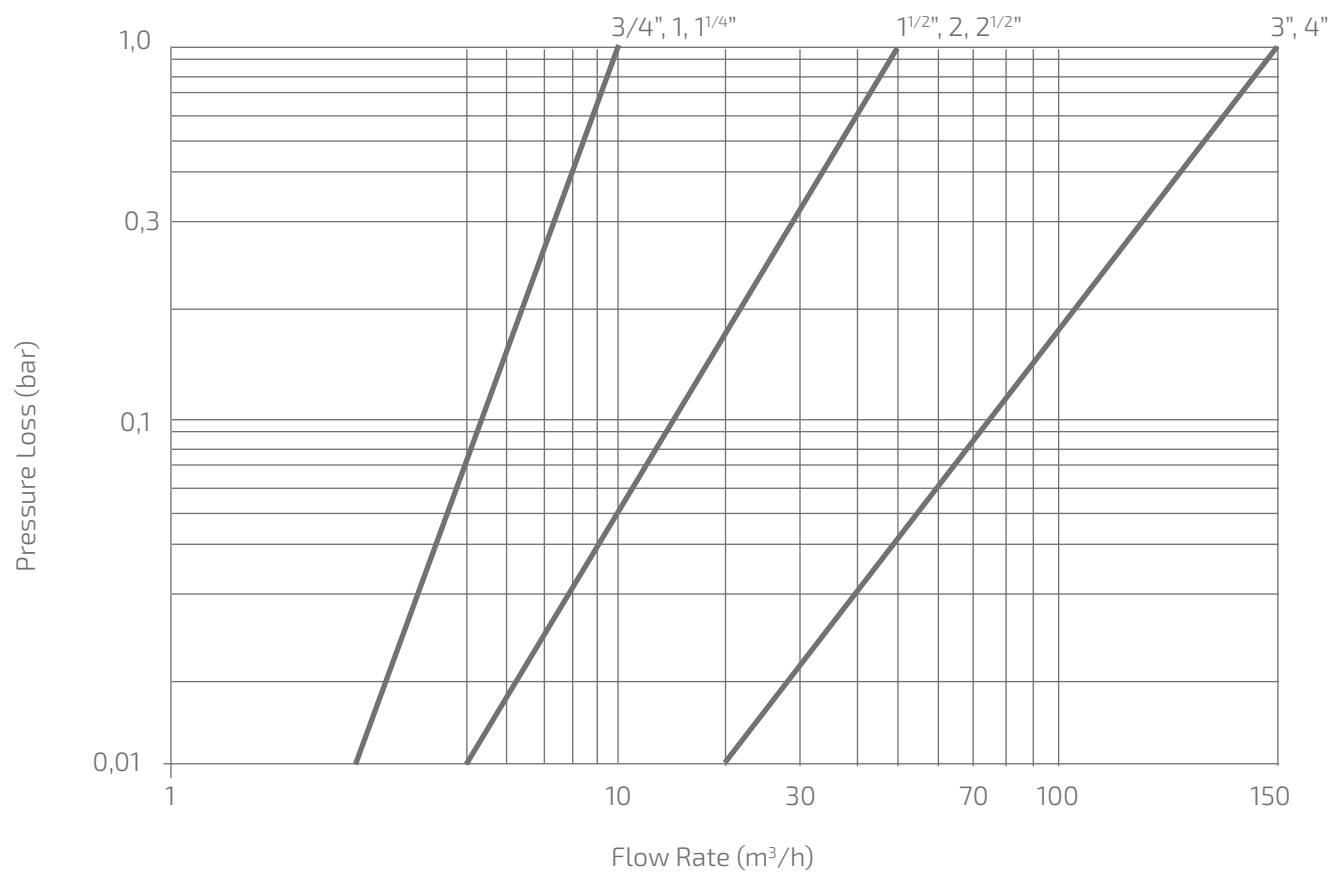
Y TYPE CONTROL VALVE

Plastic



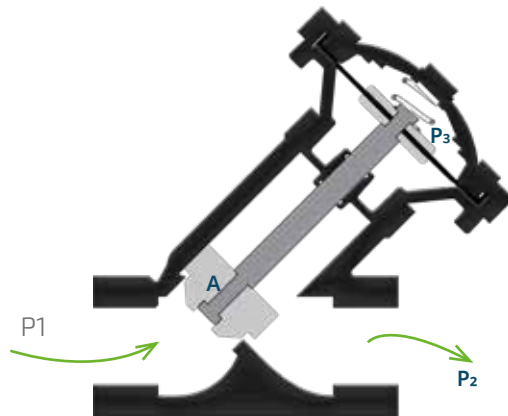
#	Material Name	Type Of Material
1	Body	Glass Fiber Reinforced Polyamide
2	Flap	Stainless Steel
3	Sealing Rubber	EPDM
4	Bowl	Stainless Steel
5	Shaft	Stainless Steel
6	Bottom Cover	Glass Fiber Reinforced Polyamide
7	Diaphragm	Natural Rubber
8	Diaphragm Support	Stainless Steel
9	Spring	Stainless Steel
10	Top Cover	Glass Fiber Reinforced Polyamide
11	Nut	Stainless Steel
12	Nut	Brass
13	Bolt	Stainless Steel
14	Bolt	Stainless Steel
15	Washer	Stainless Steel

Pressure Loss Chart



Y TYPE CONTROL VALVE

Plastic - Serie 1



Working Principles

They are automatic control valves with double chamber diaphragm actuators, which are used to perform hydraulically desired operations with line pressure without the need for energy sources in the network line.

P1 : Inlet Pressure
P2 : Outlet Pressure
P3 : Actuator Pressure

P_{spring} : Spring Force
A : The Valve's Influence

Valve Closing Mode

When the pilots on the main control valve bring the inlet pressure (P1) above the diaphragm, the water creates hydraulic force. Though to this force, the valve flap fits into the body bushing and ensures the valve to be closed in a fully sealed manner.

If the forces are examined in closing mode ;

$P_3 \times 3A + P_{spring} > P_1 \times A$
Inequality is achieved. If there is no external influence on the area indicated by the P_3 pressure, the P_3 pressure will be equal to the maximum P_1 pressure.

Valve Opening Mode

The inlet pressure of the main control valve is provided to open the valve by overcoming the spring force that helps the closing process and the force created by the pressure P3 on the diaphragm.
If the forces are examined in opening mode ;

$$P_1 \times A > P_{spring} + P_3 \times 3A$$

Inequality is achieved. As the area indicated by the pressure P3 is evacuated, the differential pressure becomes 0. Thus, $P_1 \times A$ force is overcome by spring force and the valve is opened. Spring force determines the minimum opening pressure that enables the valve to open.

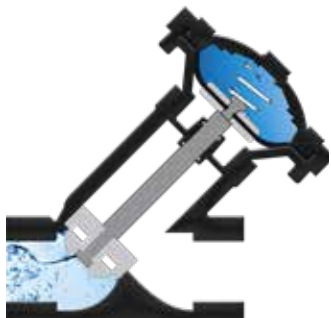
Modulation Mode

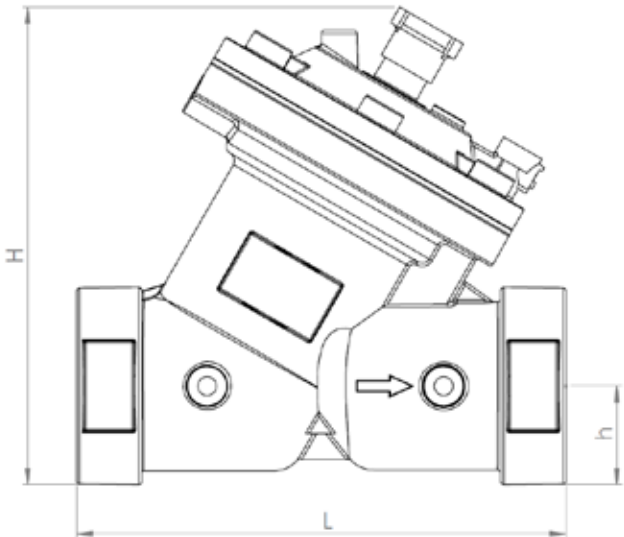
The pilots on the main control valve constantly control the pressure of the fluid and enable it to operate in modulation mode.

If the forces are examined in modulation mode ;

$$P_1 \times A + P_2 \times 3A = P_3 \times 3A + P_{spring} + P_2 \times A$$

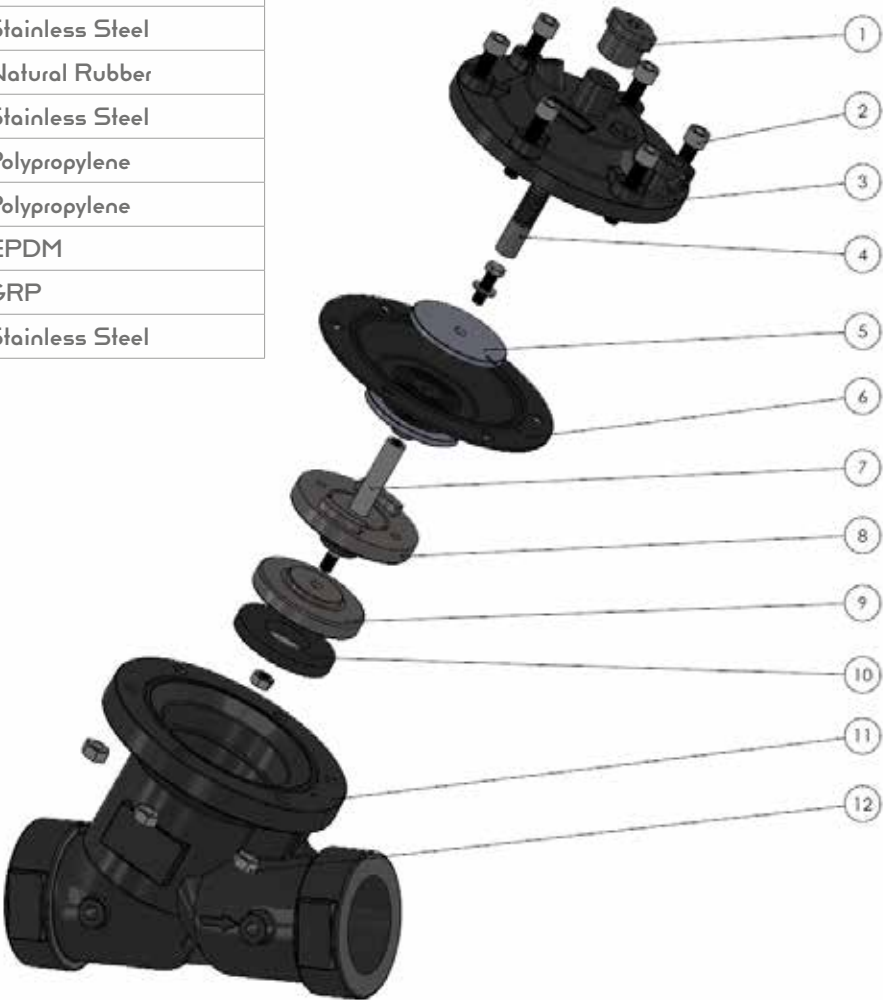
Equality is achieved. The pilot valve, which enables the valve to operate in modulation mode, regulates the pressures of P_2 and P_3 , providing force equality. Thus, the valve operates in modulation mode.





#	Material Name	Type Of Material
1	Flow Rate Clamp	Polypropylene
2	Bolt	Stainless Steel
3	Cover	GRP
4	Flow Shaft	Polypropylene
5	Aperture Support	Stainless Steel
6	Diaphragm	Natural Rubber
7	Mil	Stainless Steel
8	Bottom Cover	Polypropylene
9	Dish	Polypropylene
10	Sealing Rubber	EPDM
11	Body	GRP
12	Nut	Stainless Steel

Connection	DN		L		h		H	
	inch	mm	inch	mm	inch	mm	inch	mm
Threaded	3/4"	20	6,50	165	1,02	26,0	6,30	160
	1"	25	6,50	165	1,02	26,0	6,30	160
	1 1/4"	32	6,50	165	1,18	30,0	6,46	164
	1 1/2"	40	8,78	223	1,46	37,0	8,94	227
	2"	50	8,78	223	1,57	40,0	9,06	230
	2 1/2"	65	8,98	228	1,89	48,0	9,37	238
	3"	80	11,81	300	2,40	61,0	11,61	295
Flanged	4"	100	12,60	320	2,89	73,5	12,00	305
	2"	50	11,28	261	3,25	82,5	10,63	270
	2 1/2"	65	11,28	267	3,64	92,5	11,02	280
	3"	80	15,59	396	3,84	97,5	12,99	330
Victaulic	4"	100	15,59	396	4,47	113,5	13,62	346
	3"	80	11,81	300	2,05	52,0	11,22	285
	4"	100	11,81	300	2,26	57,5	11,42	290





EXHIBITIONS





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