тypHooN®

PRESSURE REDUCING
HYDRAULIC CONTROL VALVES

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 Control Valves are hydraulic control valves that reduce the input pressure value to the desired pressure value by means of a pressure reducer pilot mounted on it. The pressure reducer control valve constantly controls the output pressure value to be set without being influenced by the flow rate and inlet pressure values. When there is no flow in the system, the valve closes itself. When the valve inlet pressure value in the system falls below the set outlet pressure value, the valve opens itself. The valve can be used in horizontal or vertical position on the system.

Pressure Range: PN 10

Diameters : 1"-1 ½" – 2" – 2 ½" – 3"R - 3"-4" - 6R

            DN80 - DN100 - DN150 Flanged

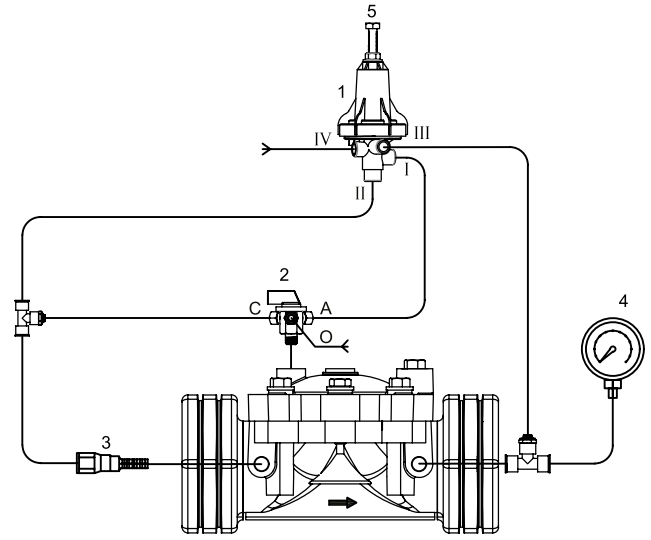# Plastic Hydraulic Control Valves
Pressure Reducing Control Valve

Assembly

• 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.

Adjustment

• 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 Manometre
5 Pressure Adjustment Bolt

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 springu
• Wide range of control applications with different pilot valves
• Ability to work in horizontal and vertical positions in application areas

Type Y

Plastic Hydraulic Control Valve

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.

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

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.

P_1: Inlet Pressure P_{spring}: Spring Force
P_2: Outlet Pressure   A: The Valve's Influence
P_3: Actuator Pressure
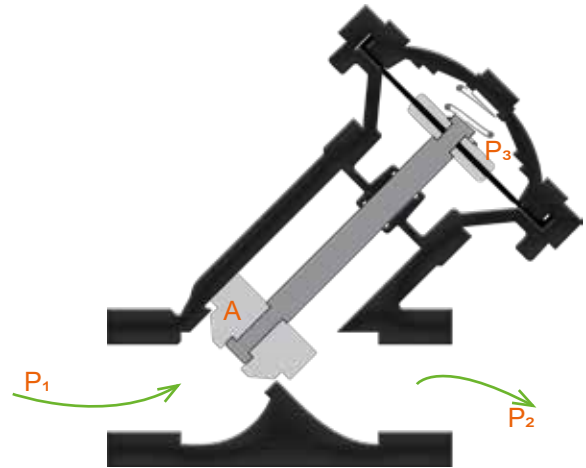
Valve Closing Mode

When the pilots on the main control valve bring the inlet pressure (P_1) 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 exemined 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.
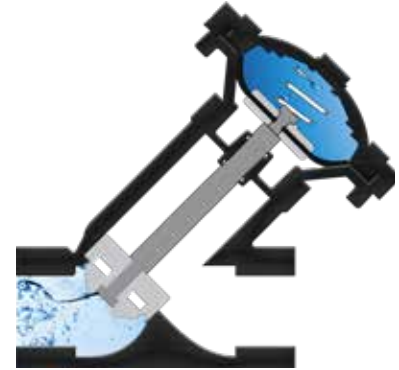
Valve Opening Mode

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 exemined in opening mode ;

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

Inequality is achieved. As the area indicated by the pressure P_3 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.
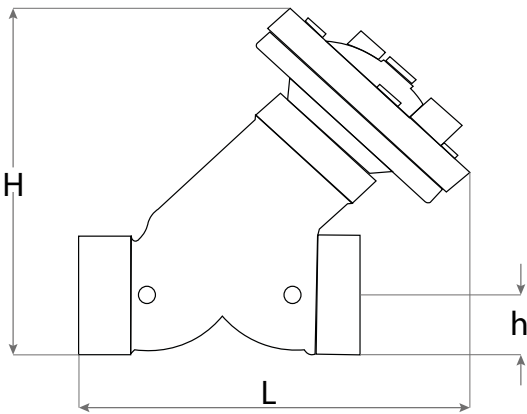If the forces are exemined in modulation mode ;
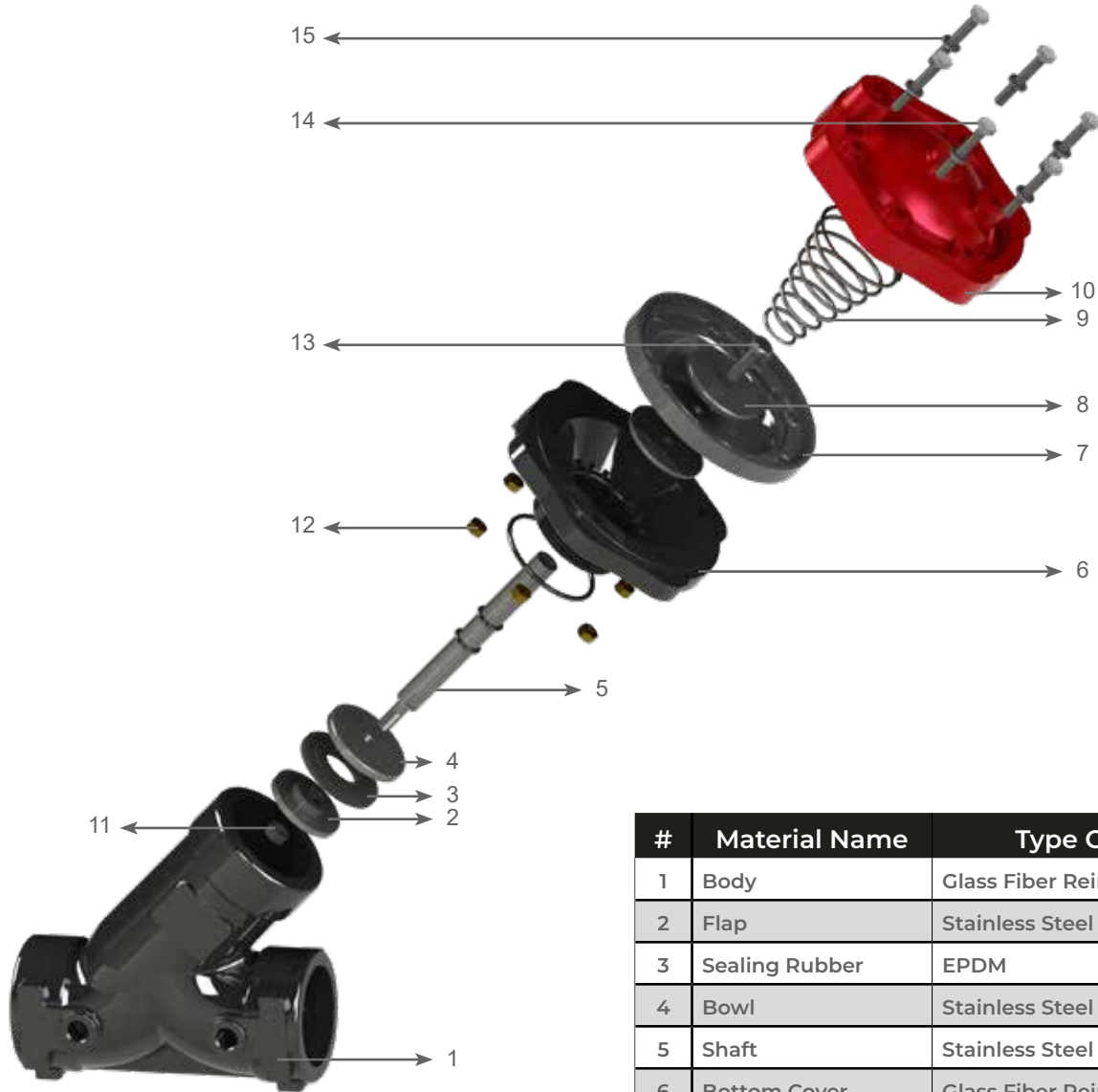
$P_1 \times A + P_2 \times 3A = P_3 \times 3A + P_{spring} + P_2 \times A$

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.

Type Y

Plastic Hydraulic Control Valve

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#	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

Dimensions 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

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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 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.
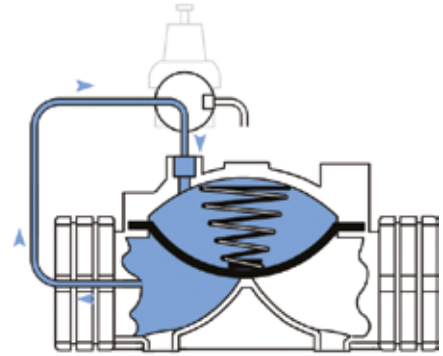
Valve Opening Mode

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.
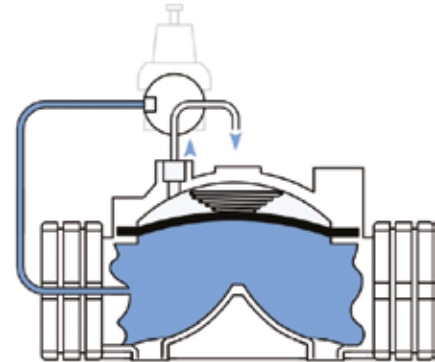
Modulation Mode

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.

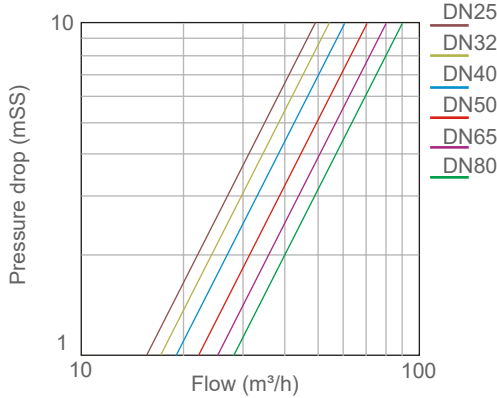TYPHOON®
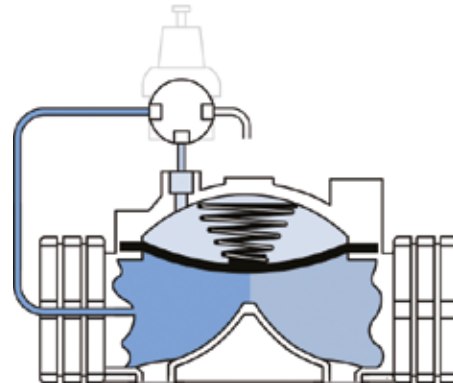
Plastic Hydraulic Control Valves

Threaded

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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

Model

Connection	Threaded	
Material	Glass Reinforced Polyamide	
Body	Globe	
	inch	**mm**
	3/4	25
	1	32
Available Diameters	1½	40
	2	50
	2½	65
	3R	80
Max. Operating Pressure	10 Bar	

Pressure Loss Chart

DN25
DN32
DN40
DN50
DN65
DN80

Pressure drop (mSS) vs Flow (m³/h)

HYDRAULIC PERFORMANCE

	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
Valve Diameter	¾	25	1	32	1½	40	2	50	2½	65	3R	80
Kv m³/h@1bar	50		55		60		70		80		90	
Cv gmp@1psi	56		66		69		81		92		104	

Kv : Valve Flow Coefficient (1 bar pressure loss per m3 / h @ 1 bar)
Cv : Valve Flow Coefficient (flow rate per 1 psi pressure gpm @ 1 psi)
Q : Flow (m³/h, gpm)

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

Cv=1,155Kv   **ΔP**: Pressure Loss (Bar, psi)   **G**: Specific gravity of water (for water = 1.0)
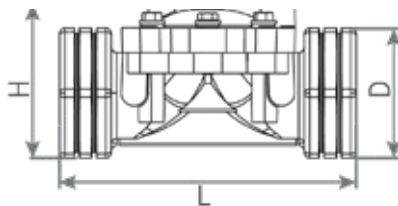
DN		D		L		H		Weight	
inch	mm	inch	mm	inch	mm	inch	mm	Lbs	Kg
¾	20	1,73	44	5,51	140	2,36	62,50	0,66	0,30
1	25	1,73	44	5,51	140	2,36	62,50	0,66	0,30
1½	40	2,48	63	7,91	201	4,28	100,00	2,54	1,15
2	50	2,95	75	8,07	211	4,33	105,50	2,65	1,20
2½	65	3,66	93	8,64	219	4,64	112,50	3,09	1,40
3	80	4,33	110	8,78	223	4,88	124,50	3,42	1,55

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Main Parts

#	Material Name	Type of Material
1	Body	Glass Reinforced Polyamide
2	Flange Adapter	Glass Reinforced Polyamide
3	Flange	Glass Reinforced Polyamide
4	Diaphgram	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

Model

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

Pressure Loss Chart
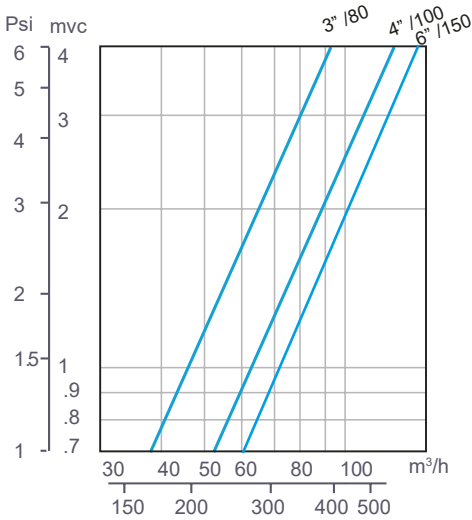
HYDRAULIC PERFORMANCE

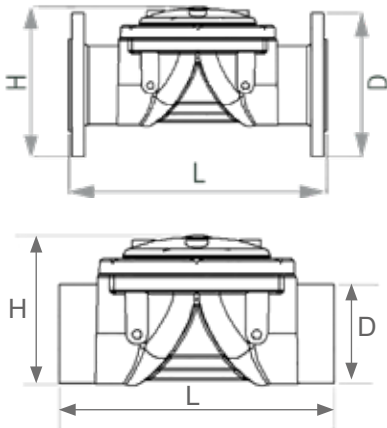|	inch	mm	inch	mm	inch	mm
Valve Diameter	3	80	4	100	6	150
Kv m³/h@1bar	166		208		220	
Cv gmp@1psi	193		242		260	

Kv : Valve Flow Coefficient (1 bar pressure loss per m³ / h @ 1 bar)
Cv : Valve Flow Coefficient (flow rate per 1 psi pressure gpm @ 1 psi)
Q : Flow (m³/h, gpm)

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

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

Dimensions and Weights

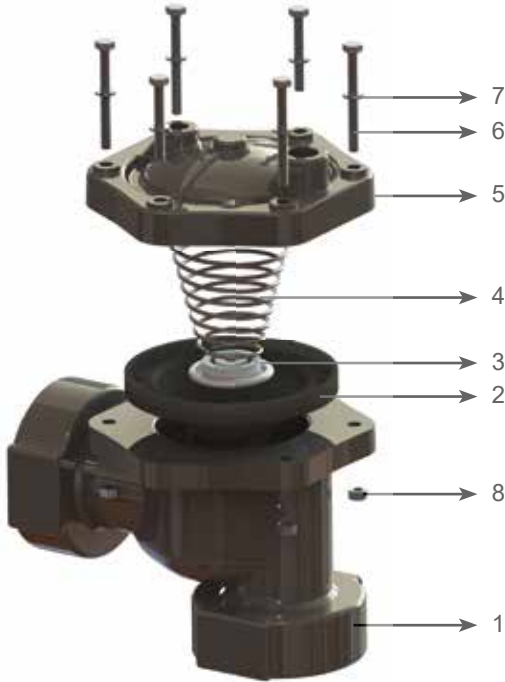| DN		D		L		H		Weight	
inch	mm	inch	mm	inch	mm	inch	mm	Lbs	Kg
3	80	7,87	200	14,57	370	8,66	220	14,52	6,60
4	100	9,00	227	14,57	370	9,17	233	16,28	7,40
6	150	11,02	280	15,55	395	10,43	265	16,76	7,6

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

TYPHOON®

Plastic Hydraulic Control Valves

Angled

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

Model

Connection	Threaded	
Material	Glass Reinforced Polyamide	
Body	Angled Globe	
	inch	**mm**
Available Diameters	2	50
	2½	65
	3R	80
Max. Operating Pressure	10 Bar	

Flow - Pressure Loss Graphic

Pressure Loss (ΔP) vs Flow (m³/h)
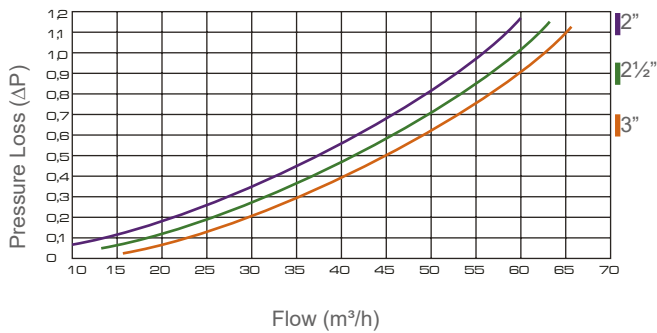
HYDRAULIC PERFORMANCE

	inch	mm	inch	mm	inch	mm
Valve Diameter	2	50	2½	65	3R	80
Kv m³/h@1bar	51,0		56,0		66,0	
Cv gmp@1psi	58,9		64,7		76,2	

Kv : Valve Flow Coefficient (1 bar pressure loss per m³ / h @ 1 bar)
Cv : Valve Flow Coefficient (flow rate per 1 psi pressure gpm @ 1 psi)
Q : Flow (m³/h, gpm)

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

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

Dimensions and Weights
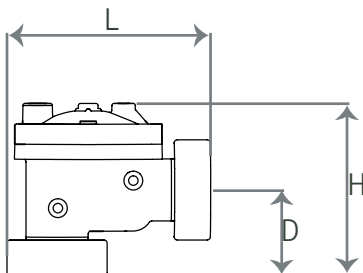
DN		D		L		H		Weight	
inch	mm	inch	mm	inch	mm	inch	mm	Lbs	Kg
2	50	3,4	86	8	203	6,77	172	2,86	1,30
2½	65	3,4	86	8	203	6,77	172	2,86	1,20
3R	80	3,4	86	8	203	6,77	172	2,86	1,06

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Her
Fabrika
Bir
Kaledir*

* Every Factory is a Fortress

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