

VALVES



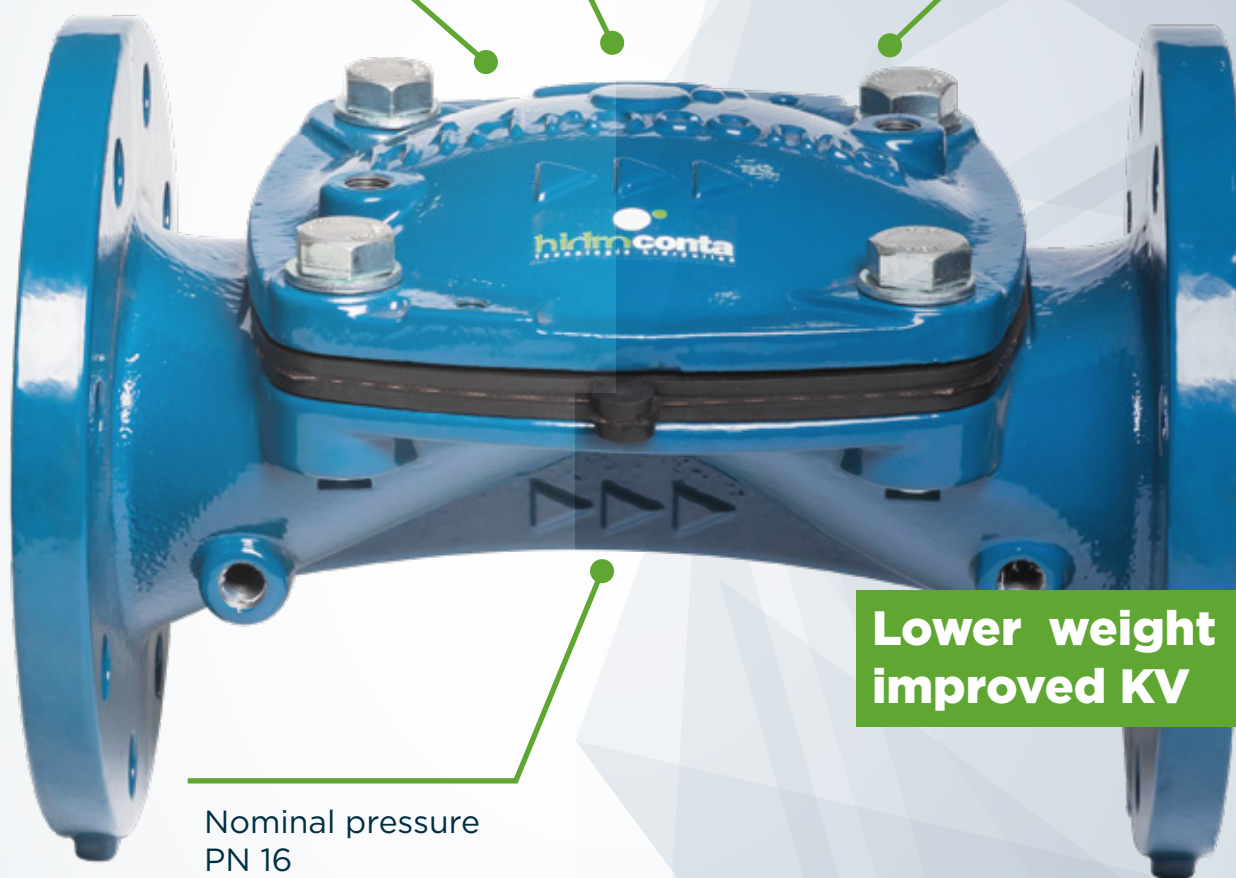
leopard

leopard

Low maintenance

Internal spring
optional

Diameter:
2" - 3" - 3"R - 4"



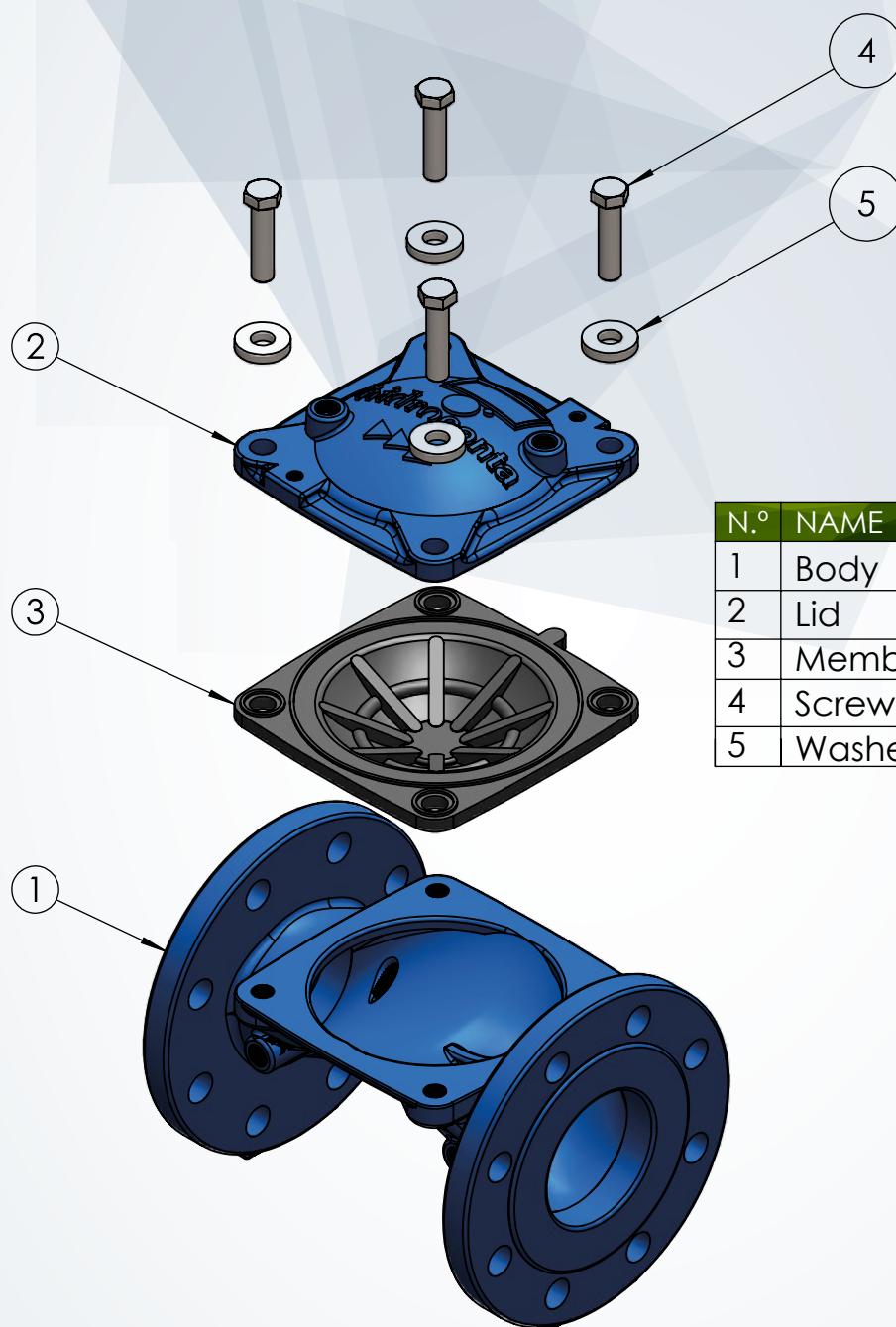
**Lower weight
improved KV**

Nominal pressure
PN 16





Despiece

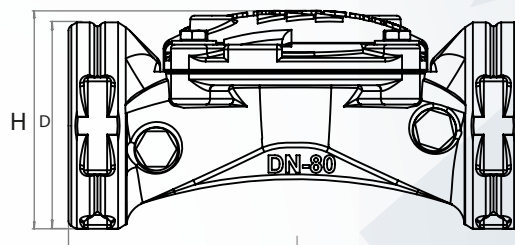
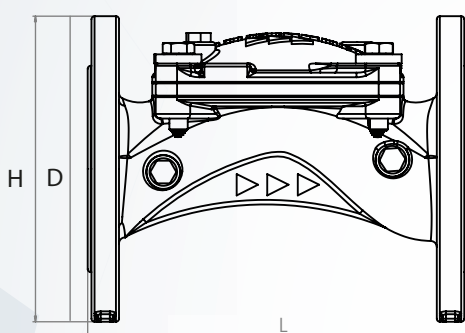


N.º	NAME	MATERIAL
1	Body	Ductil Iron
2	Lid	Ductil Iron
3	Membrane	Natural ruber
4	Screw	Zinc plated steel
5	Washer	Zinc plated steel



Dimensions

Diameter		L	H	D	Weight	Connections
mm	Inch	mm			Kg	
50	2"	189	166	166	6,6	FLANGE
80	3"	250	201	201	10,8	FLANGE
80	3R"	235	113	107	5,4	THREAD
100	4"	311	222	222	16,2	FLANGE



Technical specifications

Diameter		Minimum opening pressure	Maximum pressure	KV	CV
		bar	bar	m³/h	US gpm y psi
50	2"	0,3	PN16	101	117,15
80	3"	0,3	PN16	233	270,28
80	3R"	0,3	PN16	150	174,0
100	4"	0,3	PN16	328	380,48



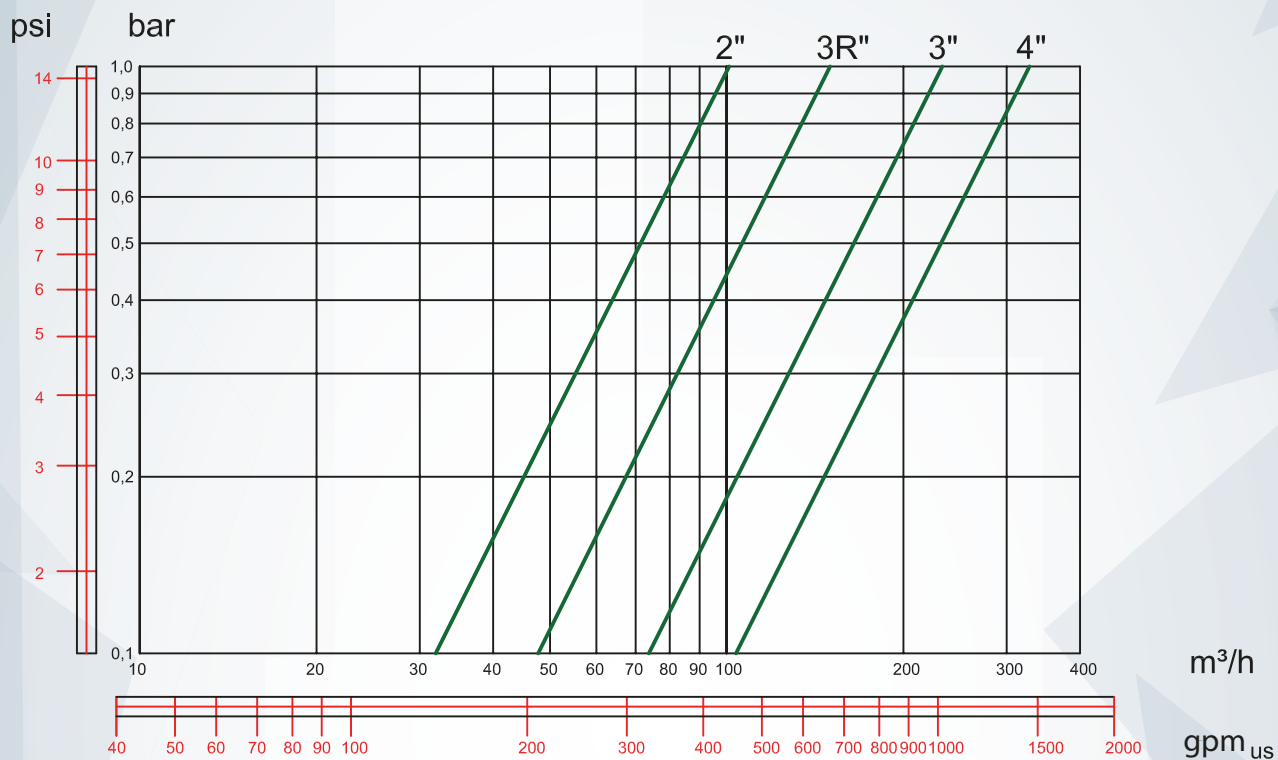
Calculation of coefficient Kv

- q_v is the flow rate in m^3 / h
 ρ is the density of water in kg / m^3
 ρ_0 is the density of water at $15^\circ C$ in kg / m^3
 Δp_v is the loss pressure of the valve in bar

$$K_v = q_v \sqrt{\frac{\rho}{\Delta p_v \rho_0}}$$



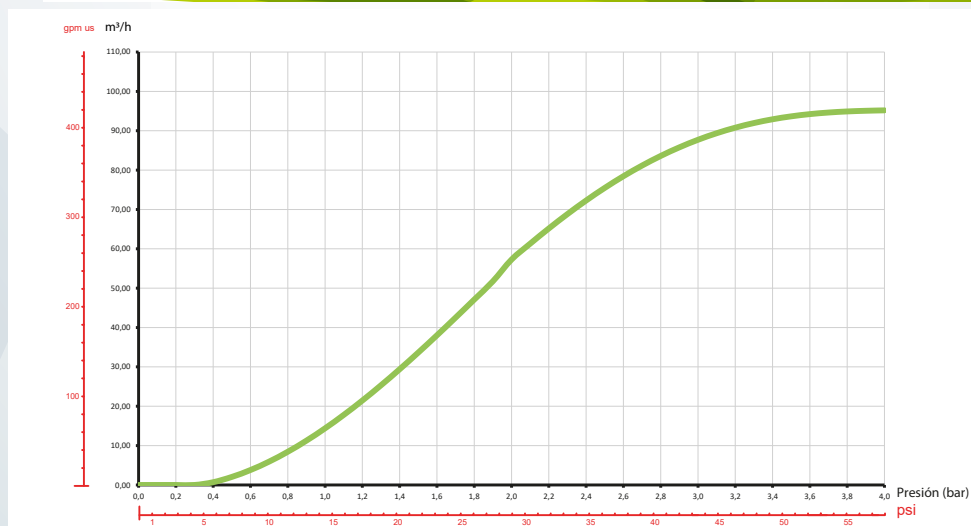
Pressure loss curve



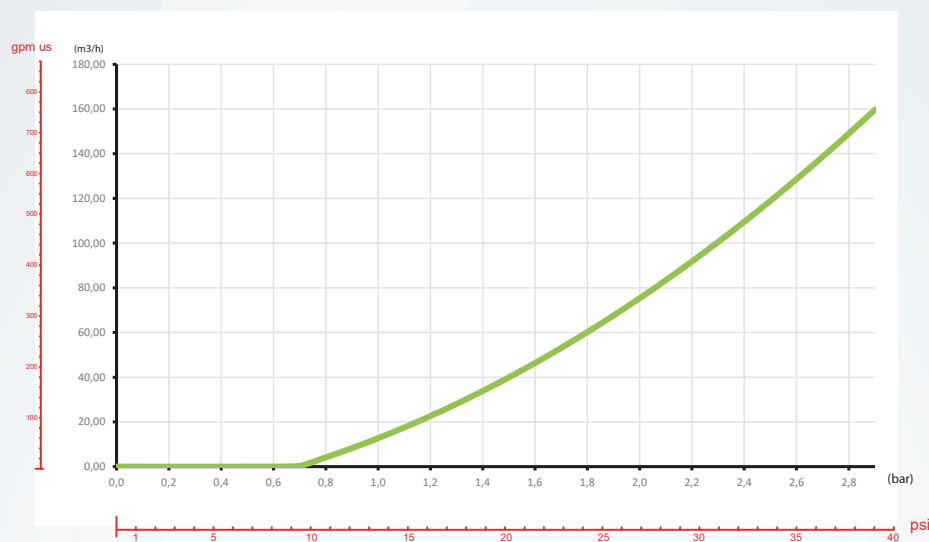
Operating curves

* Data in non-pressurized downstream conditions.

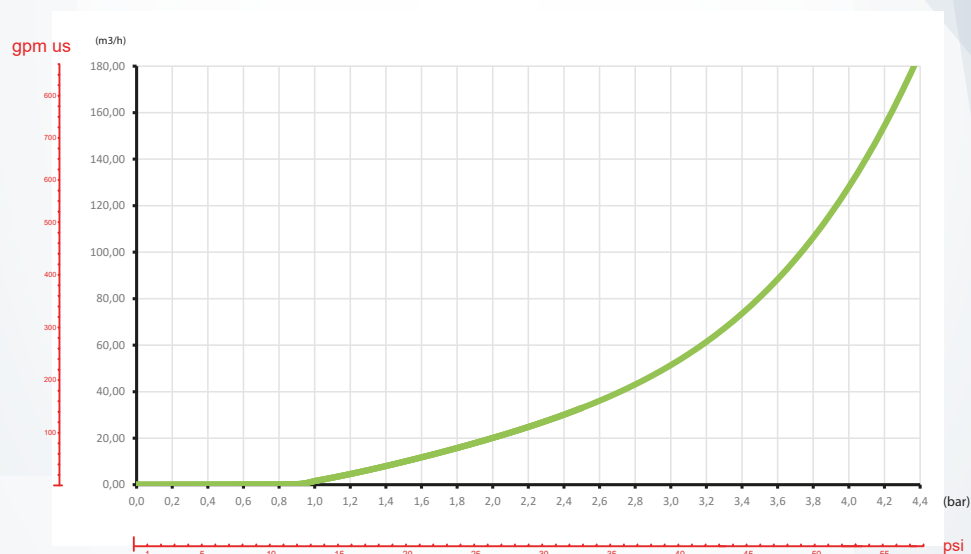
DN 50



DN 80



DN 100



PRESSURE REDUCING VALVE



Applications

Used in places where pressure is needed for:

- ✓ - Adjust the pressure to consumption.
- ✓ - Protect instalations.
- ✓ - Break the static pressure.

The pilot acts on the valve so that it has a modulating function, in order to keep the downstream pressure constant for the setting value.



Ratios

Maximum reduction ratio: inlet pressure x 1/3

Precision Ratio: preset pressure \pm 0.5 bar



Functioning

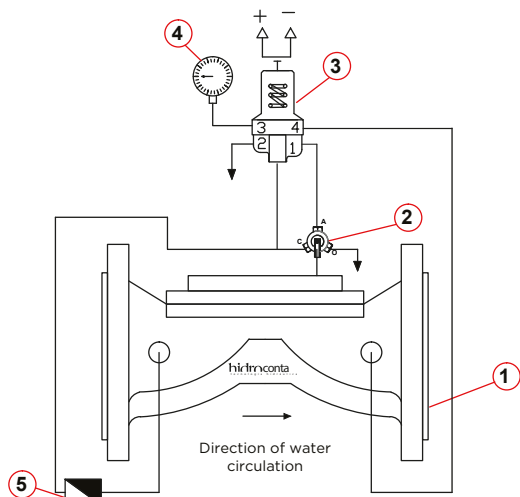
The pilot sets the downstream pressure regardless the inlet pressure. If the outlet pressure is less than the preset pressure, the valve is completely open. If the upstream pressure is less than the calibrated, the pilot will open the valve, it will act just when the pressure exceeds the set pressure





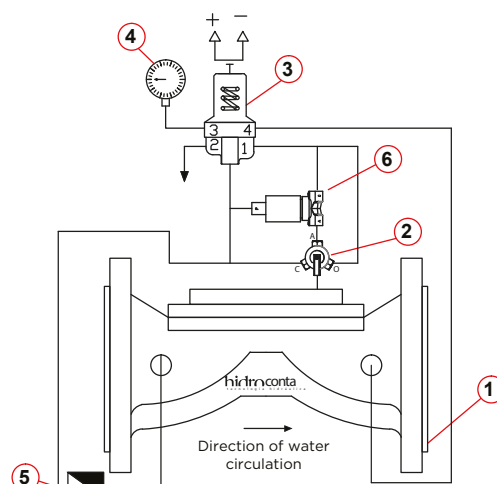
Functional drawing

REDUCING PRESSURE VALVE



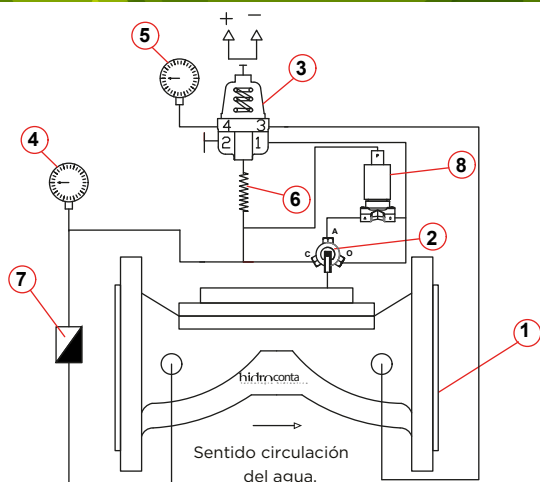
- 1.- Valve Leopard.
- 2.- 3 ways valve.
- 3.- 3 ways reducer pilot.
- 4 - Inlet pressure manometer.
- 5.- Filter.

REDUCING PRESSURE VALVE WITH SOLENOID



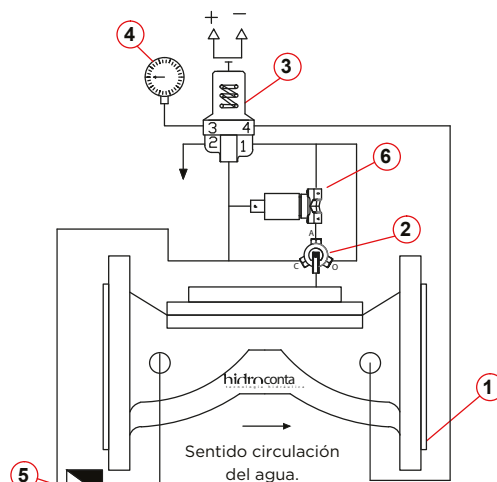
- 1.- Valve Leopard.
- 2.- 3 ways valve.
- 3.- 3 ways reducer pilot.
- 4 Outlet pressure manometer.
- 5.- Filter.
- 6.- Solenoid NA/Lacth.

2 WAYS REDUCING PRESSURE VALVE WITH SOLENOID



- 1.- Leopard valve.
- 2.- 3 valve.
- 3.- 2-Way Reducer Pilot.
- 4.- Inlet Pressure manometer..
- 5.- Outlet Pressure manometer.
- 6.- Needle spiral.
- 7.- Filter.
- 8.- Solenoid.

3 WAYS REDUCING PRESSURE VALVE WITH SOLENOID



- 1.- Leopard valve.
- 2.- 3-way valve.
- 3.- 3-Way Reducer Pilot.
- 4 - Outlet Pressure manometer.
- 5.- Cigarette filter.
- 6.- NA / Lacth solenoid.

SUSTAINING VALVE



Applications

It is used in installations where it is desired to maintain a minimum hydraulic pressure, such as:

- ✓ - Pumping groups.
- ✓ - Pipe lines with different consumption.
- ✓ - Filtering equipment.

The installation of this type of valves allows to maintain a minimum pressure upstream set by the user.



Ratios

Standard working rate: from 1 bar to 6.5 bar

Precision Ratio: preset pressure ± 0.3 bar



Functioning

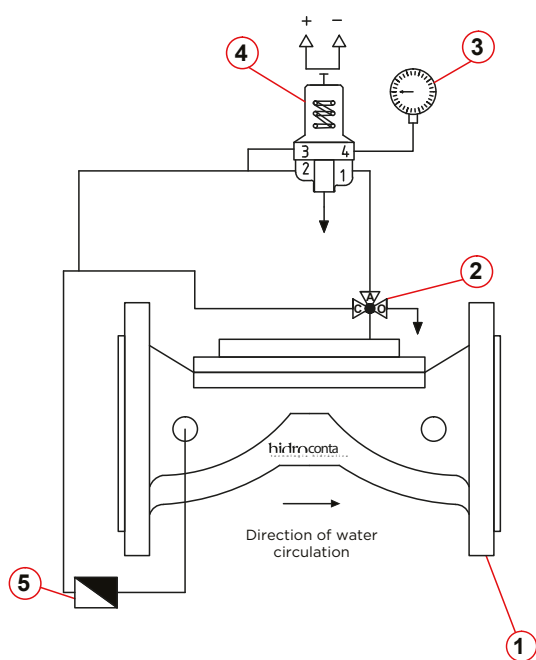
The pressure holding valve is designed to maintain a minimum upstream pressure if the pressure is higher than the set value. Otherwise the valve will close until the upstream pressure is equal to or greater than the tare.





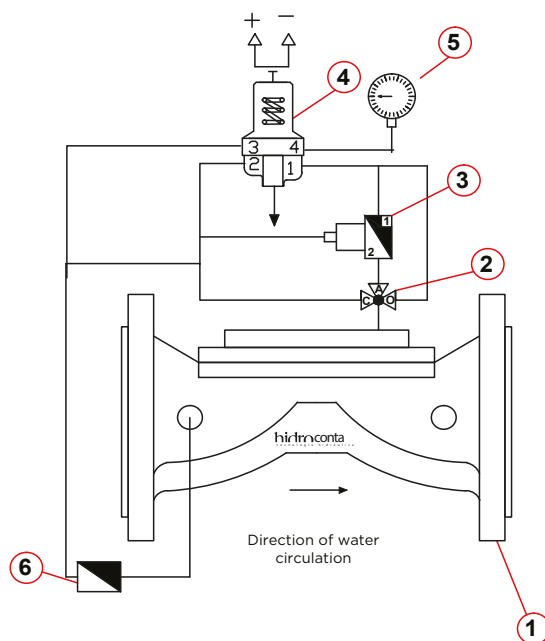
Functional drawing

PRESSURE SUSTAINING VALVE



- 1.- Leopard Valve.
- 2.- 3 ways valve.
- 3.- Inlet pressure manometer.
- 4.- 3 ways sustenance pilot.
- 5.- Filter.

PRESSURE SUSTAINING VALVE WITH SOLENOID



- 1.- Leopard Valve.
- 2.- 3 ways valve.
- 3.- Solenoid.
- 4.- 3 ways sustenance pilot.
- 5.- Inlet pressure manometer.
- 6.- Filter.

REDUCING AND SUSTAINING VALVE



Applications

The combined reducing and sustaining valve performs both functions independently. Prevents on-site generation:

- ✓ - Pressure drops.
- ✓ - Overpressures.

It is mainly used to automatically reduce downstream pressure in the distribution network and hold a minimum of pressure in the main high pressure line regardless of the demand for distribution.



Ratios

Maximum reduction ratio: inlet pressure x 1/3

Precision Ratio: preset pressure \pm 0.3 bar

Standard operating ratio: 1 bar to 6.5 b



Functioning

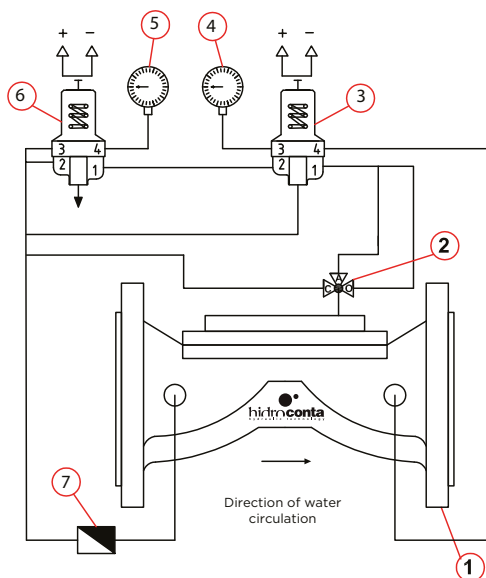
The reducing pilot acts on the valve so that it has a modulating function, in order to keep the downstream pressure constant for the set control value, the holding pilot acts on the valve so that it has a modulating function, in order to maintain the upstream pressure above the minimum control value.





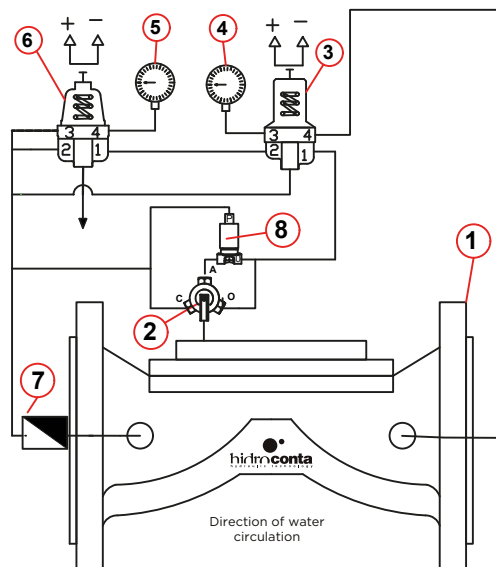
Functional drawing

REDUCING AND SUSTAINING VALVE



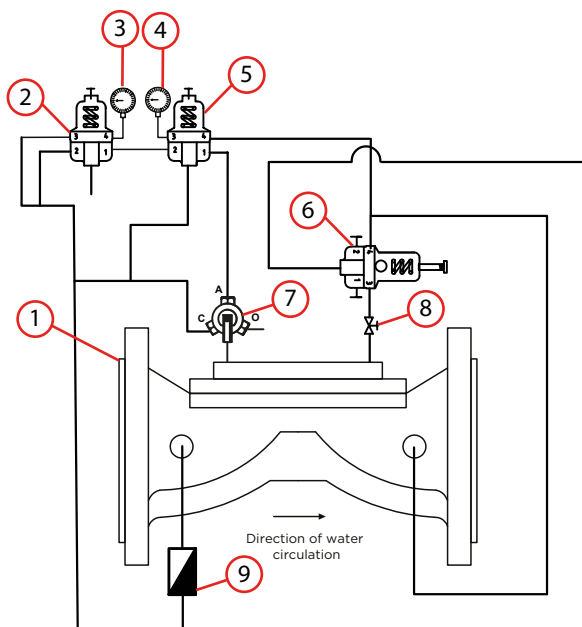
- 1.- Valve Leopard.
- 2.- 3 ways valve.
- 3.- Reducer pilot.
- 4.- Outlet pressure manometer.
- 5.- Inlet pressure manometer.
- 6.- Sustenance pilot.
- 7.- Filter.

REDUCING AND SUSTAINING VALVE WITH SOLENOIDE



- 1.- Valve Leopard.
- 2.- 3 ways valve.
- 3.- Reducer pilot.
- 4.- Outlet pressure manometer.
- 5.- Inlet pressure manometer.
- 6.- Sustenance pilot.
- 7.- Filter.
- 8.- Solenoid.

REDUCING AND SUSTAINING VALVE (with accelerator pilot)



- 1.- Valve Leopard. (DN150-DN300).
- 2.- Sustenance pilot.
- 3.- Inlet pressure manometer.
- 4.- Outlet pressure manometer.
- 5.- Reducer pilot.
- 6.- Accelerator pilot.
- 7.- 3 ways valve.
- 8.- Cut-off hydraulic valve.
- 9.- Filter.

FLOW CONTROL VALVE



Applications

The installation of limiter flow control valves allows to:

- ✓ - Avoid excessive consumption.
- ✓ - Avoid pressure drops and therefore supply deficiencies at points away from the grid.

The flow limiting valves allow to limit the flow of circulating water, ensuring that it is equal to or less than adjusted.



Ratios

After preselecting the flow to be limited, the pilot is able to modify the flow rate set at $\pm 15\%$.



Functioning

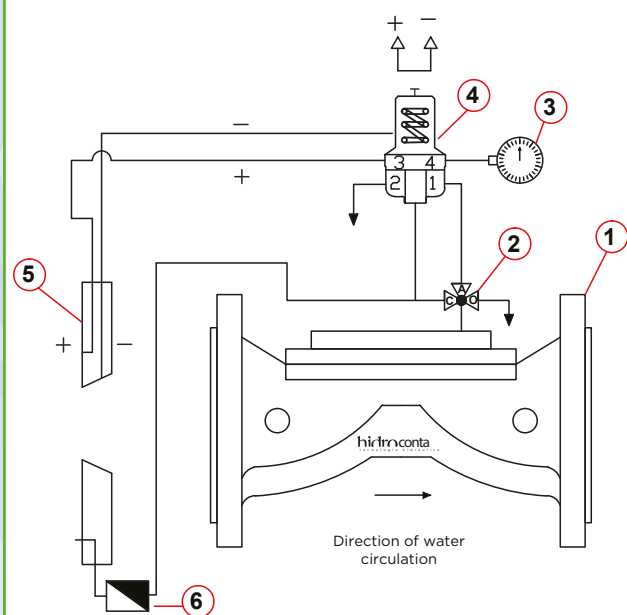
The pilot regulates the opening of the valve according to the differential pressure, providing the pre-set flow rate and keeping the flow constant. By actuating the screw of the pilot's tare it is possible to vary the flow rate. By means of two sensors, installed on both sides of an orifice plate that produces a certain pressure drop, the circulating flow is obtained, closing the hydraulic valve partially until only allowing the determined flow if this flow is to be exceeded.





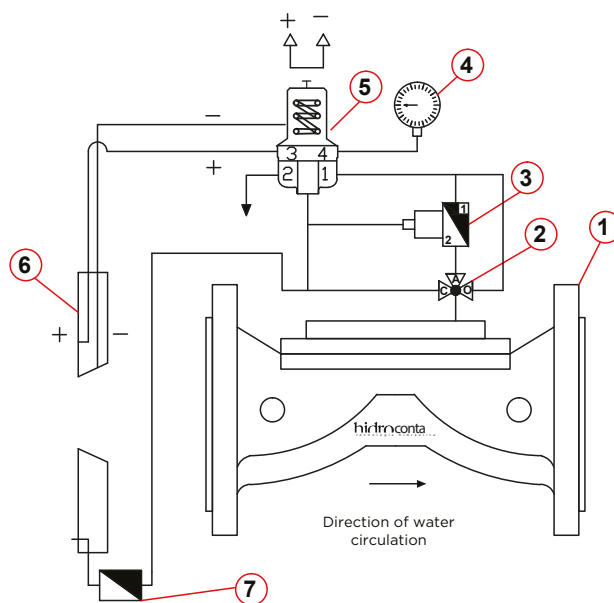
Functional drawing

FLOW RATE VALVE



- 1.- Valve Leopard.
- 2.- 3 ways valve.
- 3.- Inlet pressure manometer.
- 4.- Limiter pilot.
- 5.- Hole disc.
- 6.- Filter.

FLOW RATE VALVE WITH SOLENOIDE



- 1.- Valve Leopard.
- 2.- 3 ways valve.
- 3.- Solenoid.
- 4.- Inlet pressure manometer.
- 5.- Limiter pilot.
- 6.- Hole disc.
- 7.- Filter.

FLOW LIMITER AND PRESSURE REDUCER



Applications

The combined reducing and limiting valve performs both functions independently. Prevents on-site generation:

- ✓ - Excessive consumption
- ✓ - Pressure drops and therefore supply deficiencies at points away from the grid.
- ✓ - Adjust the pressure to the consumption.
- ✓ - Protect facilities.



Ratios

Maximum reduction ratio: inlet pressure $\times 1/3$

Precision Ratio: preset pressure ± 0.3 bar

After preselecting the flow to be limited, the pilot is able to modify the flow rate set at $\pm 15\%$.



Functioning

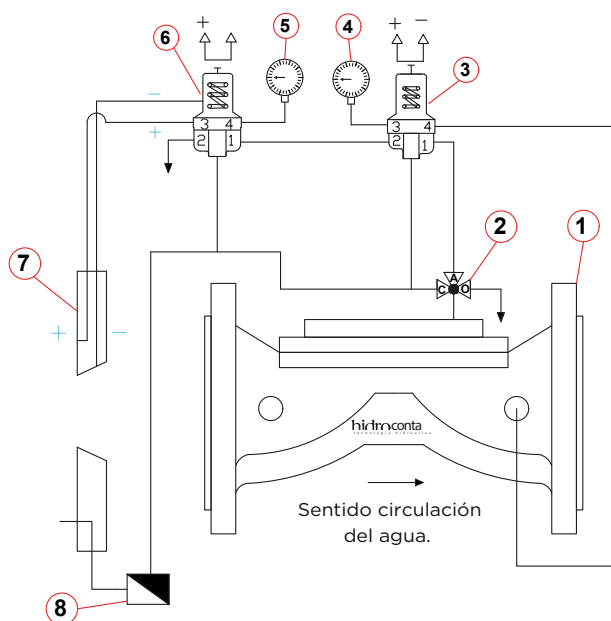
The limiting and reducing valve performs its function with the aid of a tapered orifice plate installed upstream. It includes a differential pilot that regulates the opening of the valve in function of the differential pressure, proportional to the flow, maintaining the constant flow. The reducing pilot acts on the valve so that it has a modulating function in order to keep the downstream pressure constant for the set control value.





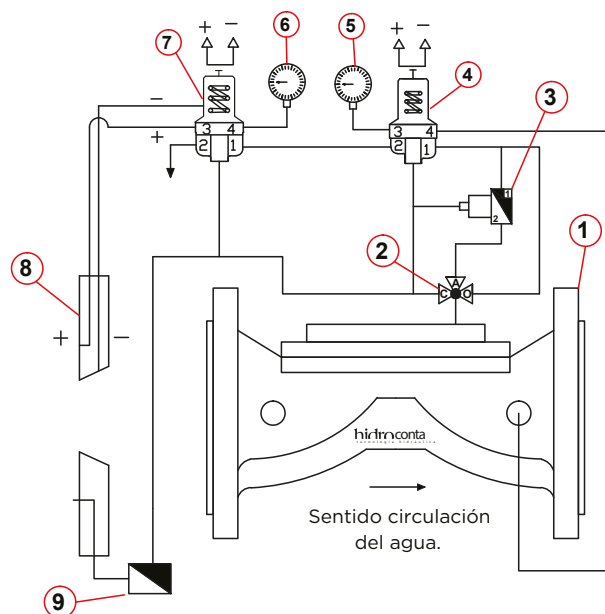
Functional drawing

FLOW LIMITER AND PRESSURE REDUCER VALVE



- 1- Valve Leopard.
- 2- 3 ways valve.
- 3- Reducer pilot.
- 4- Outlet pressure manometer.
- 5- Inlet pressure manometer.
- 6- Limiter pilot.
- 7- Hole disc.
- 8- Filter.

FLOW LIMITER AND PRESSURE REDUCER VALVE WITH SOLENOID



- 1- Valve Leopard.
- 2- 3 ways valve.
- 3- Solenoid.
- 4- Reducer pilot.
- 5- Inlet pressure manometer.
- 6- Outlet pressure manometer.
- 7- Limiter pilot.
- 8- Hole disc.
- 9- Filter.

ELECTROVALVE



Applications

The installation of solenoid valves allows us to act remotely, we can control the opening and closing of the valve automatically.



Functioning

The VHM valve with solenoid or electrovalve is an on / off valve. The valve will operate fully open or fully closed when the solenoid is energized.

The valve uses the own pressure of the network for its operation.

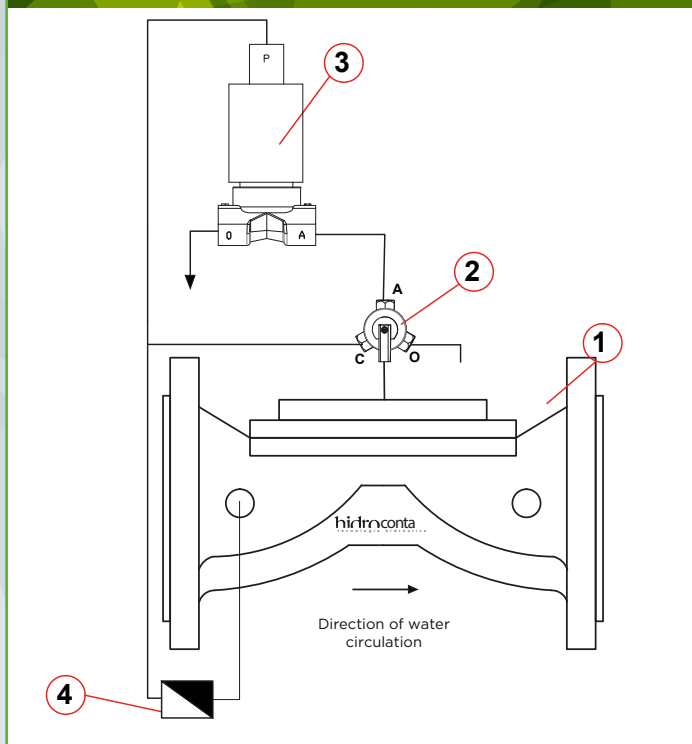
In case of low pressure in the network any external source of pressure can be used.





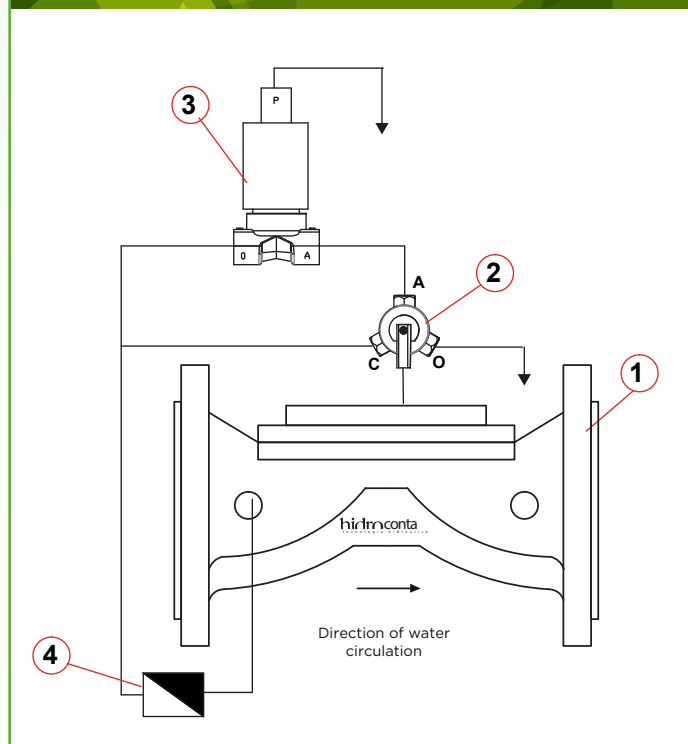
Functional drawing

ELECTROVALVE NC



- 1.- Valve Leopard.
- 2.- 3 ways valve.
- 3.- Solenoid NO.
- 4.- Filtre.

ELECTROVALVE NO



- 1.- Valve Leopard.
- 2.- 3 ways valve.
- 3.- Solenoid NC.
- 4.- Filtre.

FLOAT VALVE



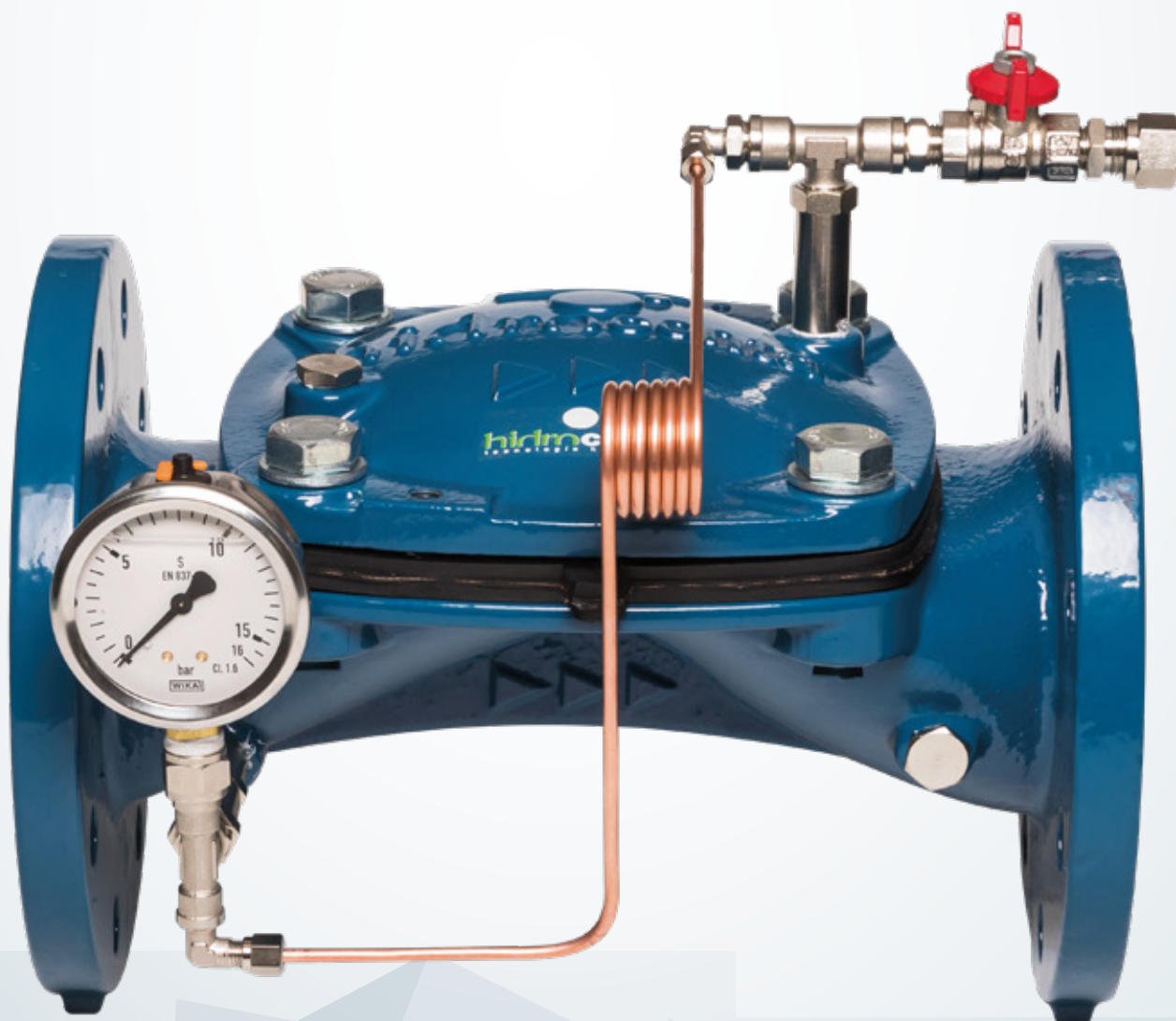
Applications

Float valves are used in water tanks or regulation tanks. It is designed to fully open when the water level reaches a preselected low and closes tightly when it reaches the selected high level.



Functioning

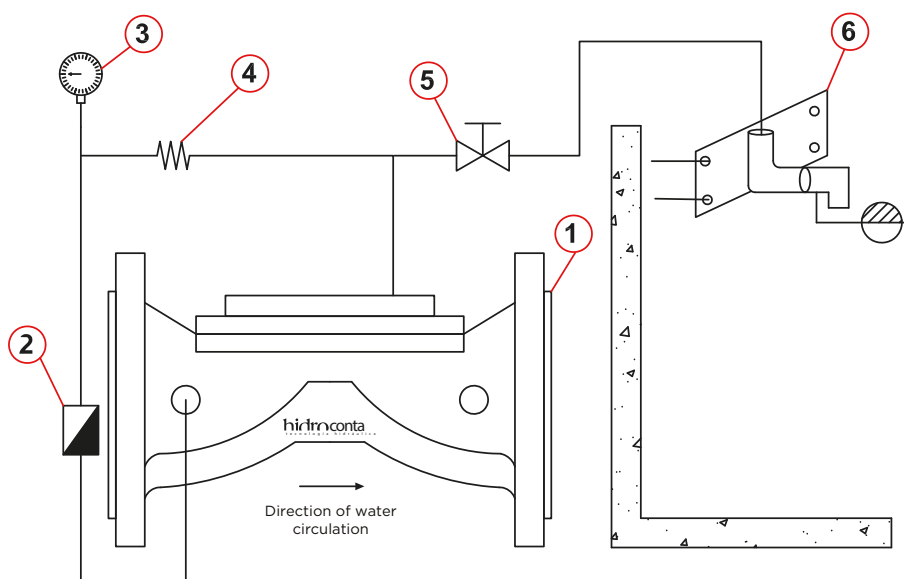
When the water level in the tank reaches its maximum point, the buoy pilot closes the water passage, accumulating the water pressure in the valve chamber and closing it. When the water level in the tank drops due to consumption, the buoy pilot also descends, opening the water passage and draining the chamber, which opens the hydraulic valve.





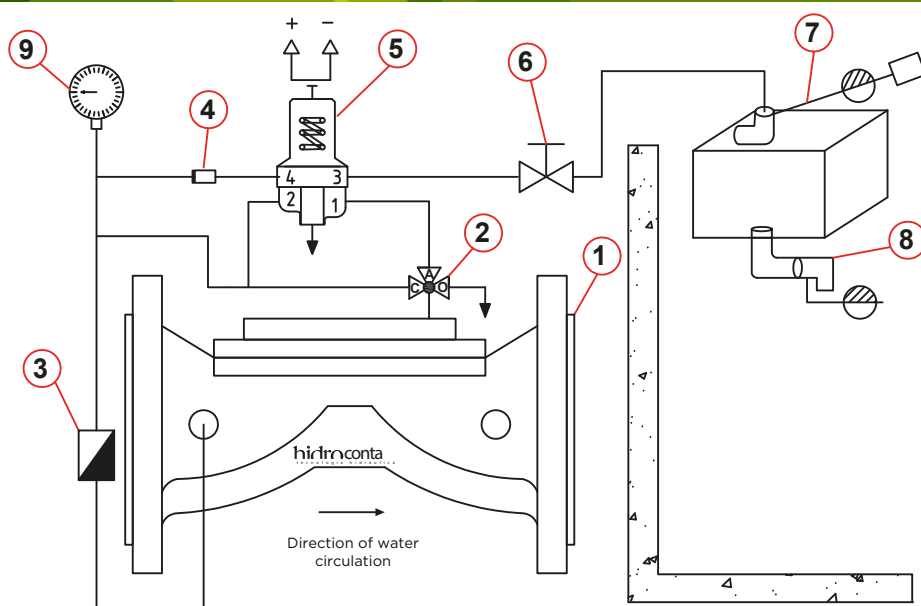
Functional drawing

1 LEVEL FLOAT VALVE



- 1.- Valve Leopard.
- 2.- Filter.
- 3.- Inlet pressure manometer.
- 4.- Spiral 4 mm.
- 5.- Cut-off hydraulic valve.
- 6.- 1 level float.

2 LEVELS FLOAT VALVE



- 1.- Valve Leopard.
- 2.- 3 ways valve.
- 3.- Filter.
- 4.- Needle valve pilot.
- 5.- Float pilot.
- 6.- Cut-off hydraulic valve.
- 7.- Maximum level float.
- 8.- Float hydraulic switch.
- 9.- Manometre.

PRESSURE RELIEF VALVE



Aplicactions

The relief valve is designed to open in case of exceeding a preset maximum pressure. This valve is installed with outlet to the atmosphere, relieving by opening the overpressure in the pipe.

- ✓ - Protection of hydraulic installations.



Ratios

Working pressures: From 2-16 bar

Precision Ratio: ± 0.5 bar



Functioning

The pressure relief pilot sets the maximum tare pressure limit through a set screw.

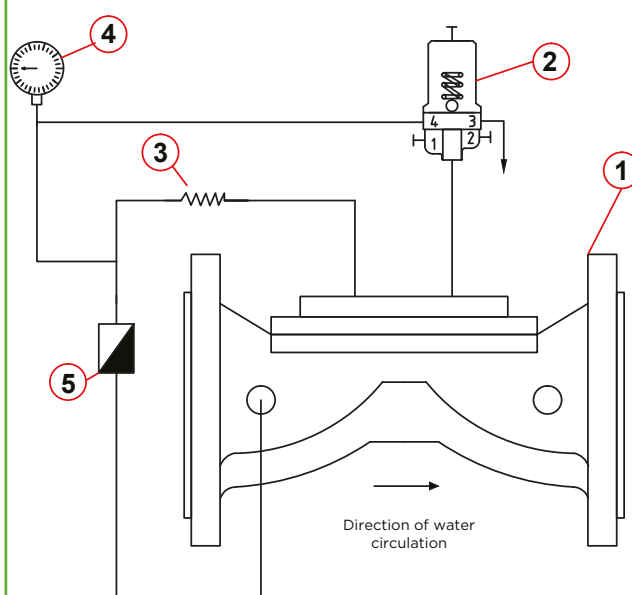
If the upstream pressure exceeds the setting pressure, the piston is moved upwards by communicating the valve chamber and the atmospheric pressure. In this way the valve opens to reduce excess pressure.





Functional drawing

PRESSURE RELIEF VALVE



- 1.- Valve Leopard.
- 2.- 2 ways rapid relief valve.
- 3.- Spiral 4 mm.
- 4.- Manometer 0-16 Bar.
- 5.- Filter.



Information of order

General characteristics	
Valve diameter	DN / mm / inches
Valve type	membrane / piston
Maximum input pressure	bar / MPa
Fittings	plastic / metalic
Accesories	plastic / metalic
Pilots	plastic / metalic
Solenoid (Yes/Not)	latch/24VDC/24VAC/220VAC
Estado de la válvula en reposo	abierta/ cerrada

Reducer valve characteristics	
Output pressure	bar / MPa
Maximum flow	m ³ / h
Minimum flow	m ³ / h

Sustaining valve characteristics	
Pressure to hold	bar / MPa
Maximum flow	m ³ / h
Minimum flow	m ³ / h
Working flow	m ³ / h

Electrovalve characteristics	
Solenoid voltage	V
Nº of wires	2 / 3
Use of the valve	open / close

Float characteristics	
Filling point	1 / 2

Pressure relief characteristics	
Pressure relief	bar / MPa



FAQ

1- Why does not the valve open?

There may be insufficient pressure at the inlet pressure valve, you should examine the insulation valves of the system upstream and downstream, if they are closed open to allow the passage of water and generate pressure.

Another reason may be that the solenoid is calcified, clean it and replace parts as necessary.

2- Why does not the valve regulate at the desired control point?

It may be caused by the pilot because it is not adjusted properly, check it by tightening and loosening the screwdriver to see if there is a pilot reaction, so you can adjust the pilot to the desired opening and closing speed.

Check if the upstream filter is clogged and causes insufficient pressure to reach the pilot to activate the valve at the desired control point.

3- Why does not the valve close?

It may be that the filter is clogged, to check it, disconnect the copper line from the lid to see if there is water flow in the inlet. In this case clean the filter mesh.

If the main valve membrane fails, it can also give this result, replace the membrane for repair.

Another reason may be that the solenoid is calcified, clean it and replace parts as necessary.

4- Why does the membrane leak water?

It is usually produced by the accumulation of dirt between the membrane and its closing support, closing the valve manually, if the problem persists open the valve to clean the area.

leopard

LEOPARD VALVE

WHEN WATER COUNTS

CUANDO EL AGUA ES LO QUE CUENTA

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