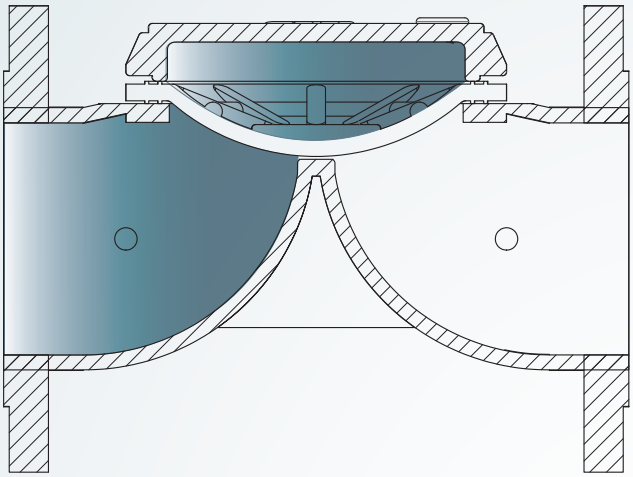
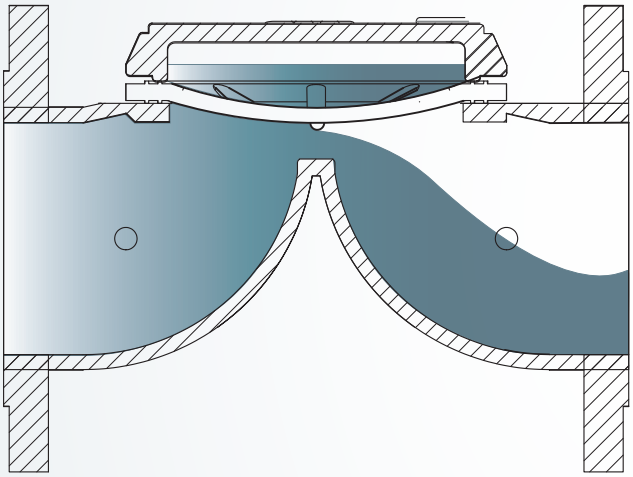
hidroconta
tecnología hidráulica

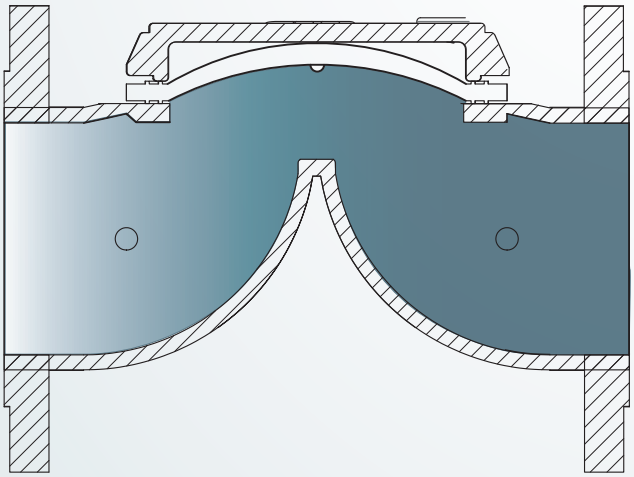
VALVES

hidrovalve
tecnología hidráulica

www.hidroconta.com







Hydrodynamic design

The Hidroconta HIDROVALVE valve is developed to eliminate water hammer by its slow opening and closing. In addition, its hydrodynamic design reduces possible internal turbulence and its body generates low losses of load.

Water Engineering

It uses the energy of the circulating fluid itself, with a single activation chamber and where the closure is produced by the diaphragm itself.
The assembly of all its components constitutes a conduit through which the water will pass, which we will strangle as we are interested through the position of the diaphragm.

Multifunctionality

HIDROVALVE valves are essential elements in any hydraulic installation due to its multifunctionality. Reduced pressure, limiter, relief, and multifunctional regulations are some of the possibilities of this valve.

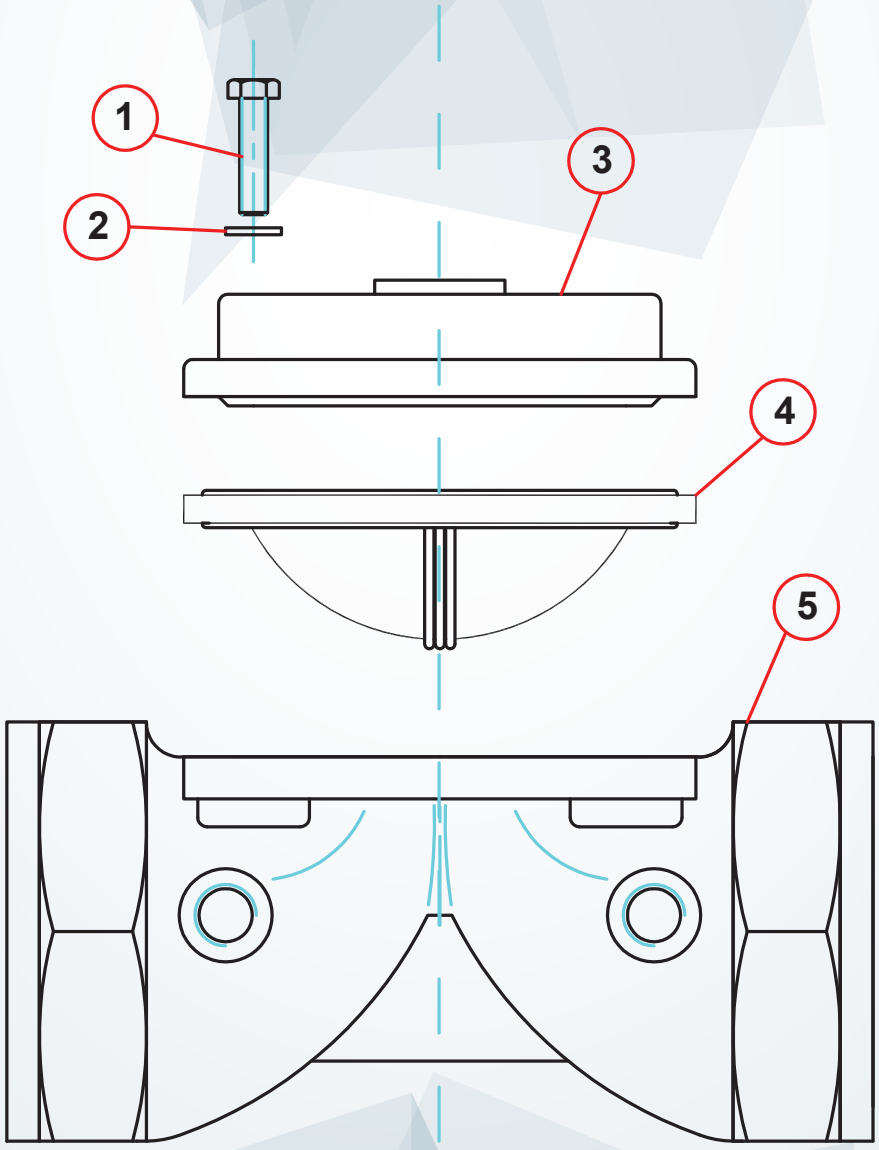
Easy Maintenance

A simple assembly including few moving parts allows on-site maintenance without dismantling the installation, besides guaranteeing a long useful life.

Assembly

Nº	Description	Material
1	Screw	Stainless steel or zinc steel
2	Ring	Stainless steel or zinc steel
3	Lid	Ductil/grey iron* epoxy coating
4	Diaphragm	Reinforced natural rubber
5	Body	Ductil/grey iron* epoxy coating

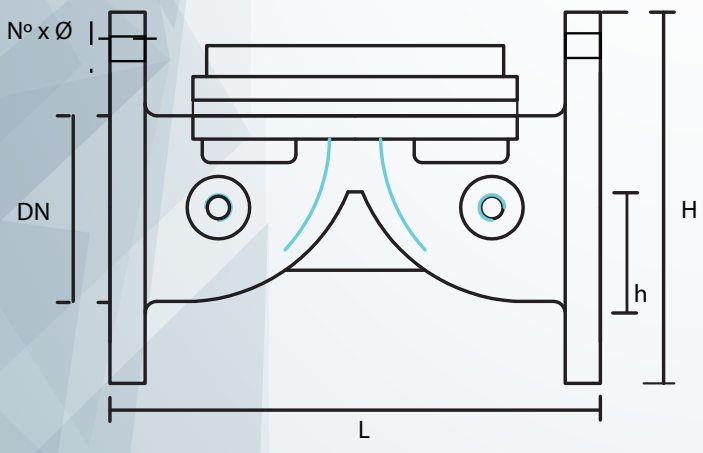
*Grey iron: 20-25-30-40-50-65-80 (threaded coupling)
* Ductil iron: 50-80-100-125-150-200-250-300 (flanged coupling)

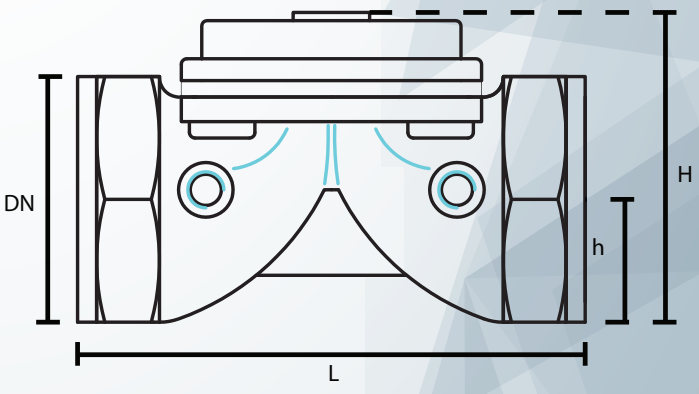


Dimensions

Calibre		L	h	H	Weight	Connections
mm	Inches		mm		Kg	
20	3/4"	184	32	94	3,0	Threaded BSP
25	1"	184	32	94	2,7	
32	1-1/4"	180	31	94	3,1	
40	1-1/2"	180	31	94	2,8	
50	2"	186	38	100	3,2	
65	2-1/2"	186	46	117	3,8	
80	3"	295	52	134	10,2	

Calibre		L	h	H	Weight	Connections
mm	Inches		mm		Kg	
50	2"	186	77	160	7,2	Flanged
80	3"	255	90	190	14,0	
100	4"	315	110	220	21,1	
125	5"	335	125	250	25,4	
150	6"	410	145	290	51,0	
200	8"	465	170	340	57,0	
250	10"	650	230	460	125,0	
300	12"	650	230	460	137,0	





Technical specifications

Calibre		Connection	Minimum working pressure	Maximum pressure	KV	CV
mm	inch		bar	bar	m3/h	US glm and psi
20	3/4"	Threaded	0,75	16	28,1	32,6
25	1"	Threaded	0,75	16	28,1	32,6
32	1-1/4"	Threaded	0,80	16	65,0	75,4
40	1-1/2"	Threaded	1,10	16	77,0	89,3
50	2"	Threaded	1,20	16	77,0	89,3
65	2-1/2"	Threaded	1,50	16	77,0	89,3
80	3"	Threaded	2,00	16	159,4	184,9
50	2"	Flanged	1,20	16	90,0	104,4
80	3"	Flanged	2,00	16	185,0	214,6
100	4"	Flanged	2,20	16	215,0	249,4
125	5"	Flanged	2,30	16	220,0	255,2
150	6"	Flanged	1,60	16	360,0	417,6
200	8"	Flanged	2,10	16	360,0	417,6
250	10"	Flanged	0,50	16	1.150,0	1.334,0
300	12"	Flanged	0,80	16	1.150,0	1.334,0

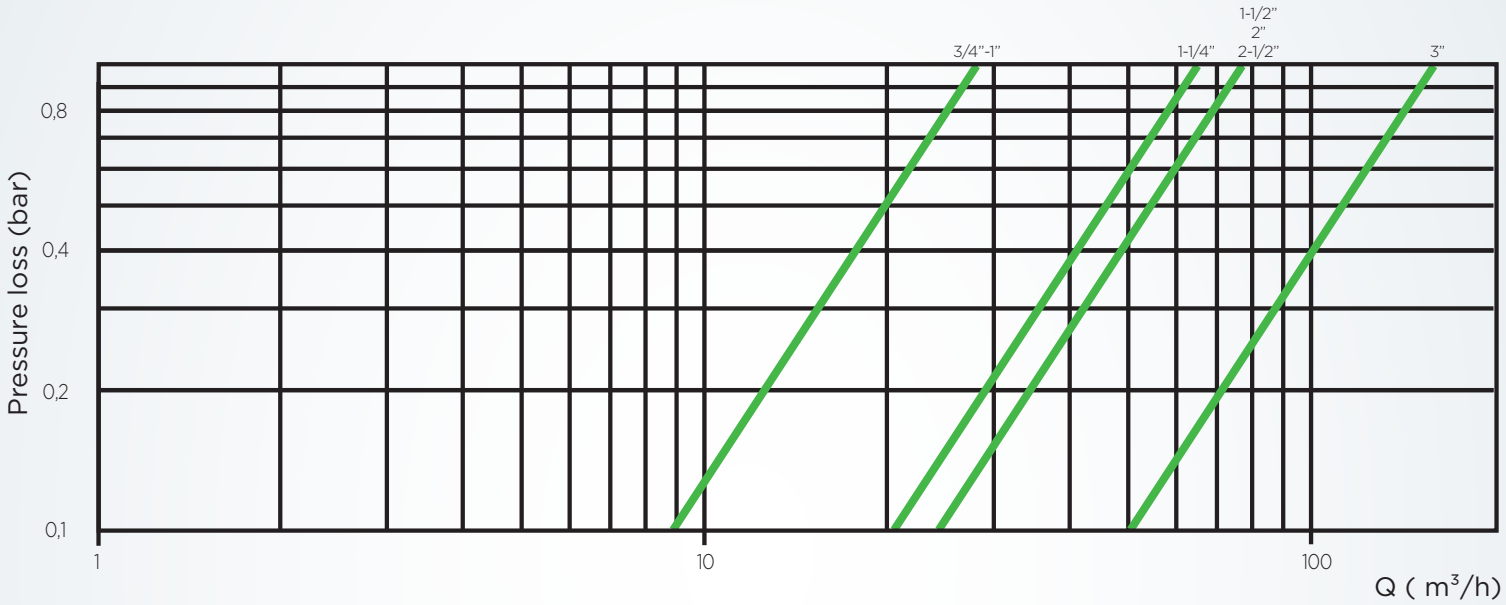
Calculation of coefficient Kv

qv	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 °C in kg / m^3
Δpv	is the loss pressure of the valve in bar

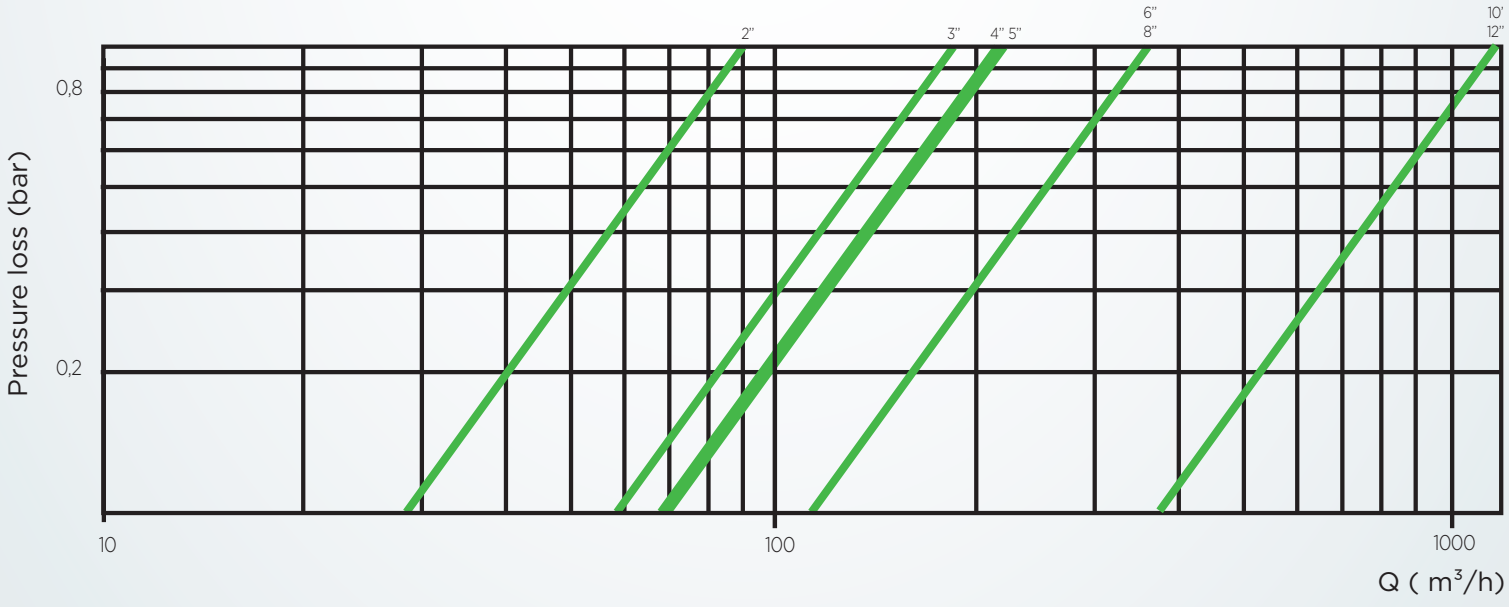
$$K_v = q_v \sqrt{\frac{\rho}{\Delta p_v \rho_0}}$$

Pressure loss curve

Vannes threaded



Vannes flanged



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.

Functioning

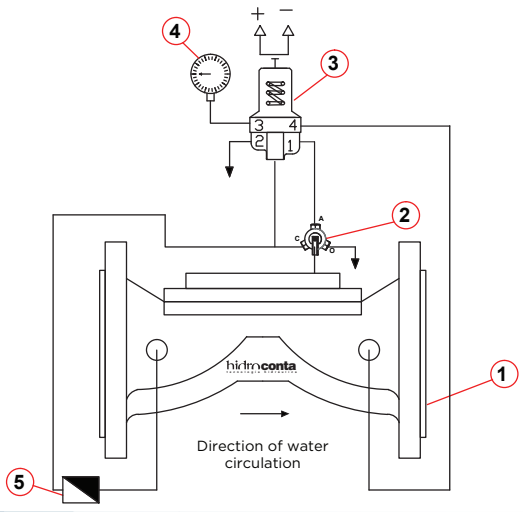
The pilot sets the downstream pressure regardless the inlet pressure. If the outlet pressure is less than the preset pressure, the valve is completely open. If the upstream pressure is less than the calibrated, the pilot will open the valve, it will act just when the pressure exceeds the set pressure

Ratios

Maximum reduction ratio: inlet pressure x 1/3
Precision Ratio: preset pressure ± 0.5 bar

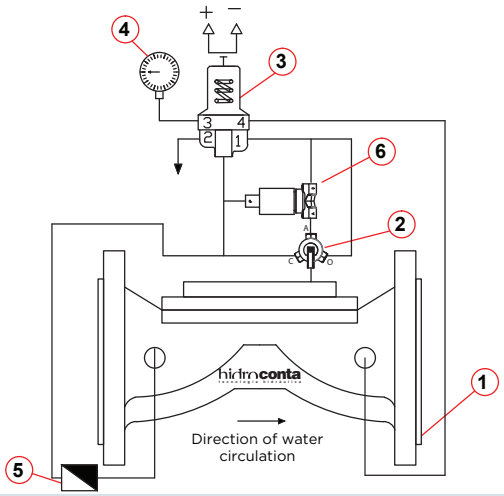
Funtional drawing

REDUCING PRESSURE VALVE



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

REDUCING PRESSURE VALVE WITH SOLENOIDE



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

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.

Functioning

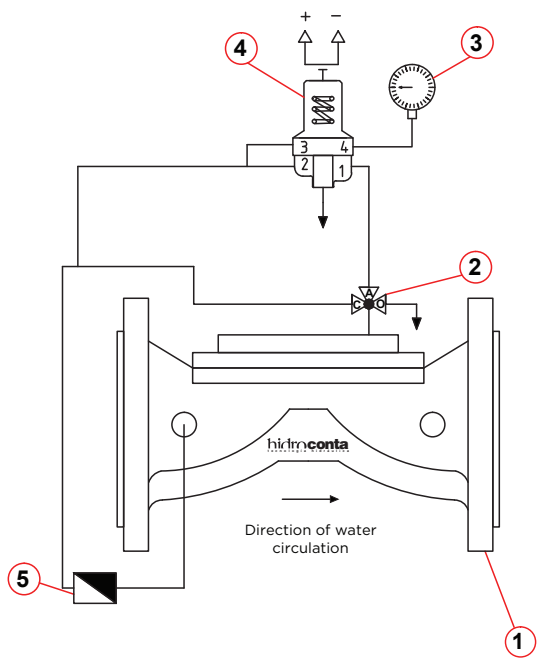
The pressure holding valve is designed to maintain a minimum upstream pressure if the pressure is higher than the set value. Otherwise the valve will close until the upstream pressure is equal to or greater than the tare.

Ratios

Standard working rate: from 1 bar to 6.5 bar
Precision Ratio: preset pressure ± 0.3 bar

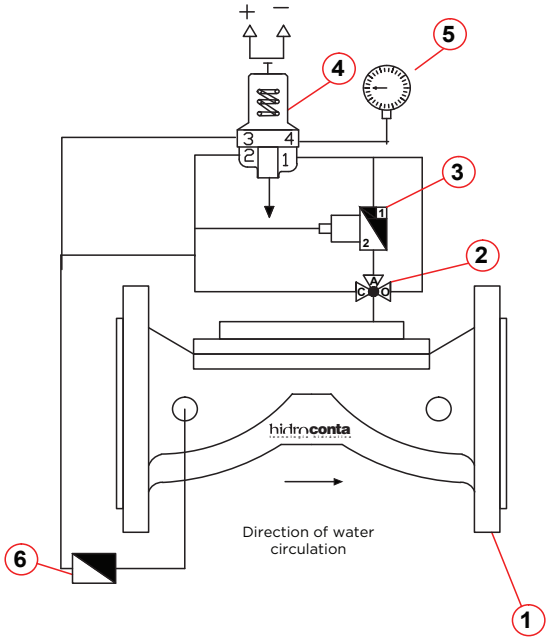
Funtional drawing

PRESSURE SUSTAINING VALVE



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

PRESSURE SUSTAINING VALVE WITH SOLENOID



1.- Valve hidrovalve.
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.

Functioning

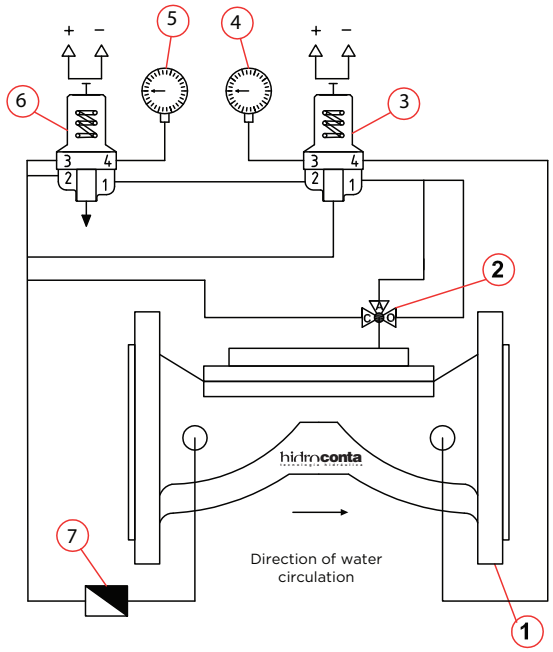
The reducing pilot acts on the valve so that it has a modulating function, in order to keep the downstream pressure constant for the set control value, the holding pilot acts on the valve so that it has a modulating function, in order to maintain the upstream pressure above the minimum control value.

Ratios

Maximum reduction ratio: inlet pressure x 1/3
Precision Ratio: preset pressure ± 0.3 bar
Standard operating ratio: 1 bar to 6.5 b

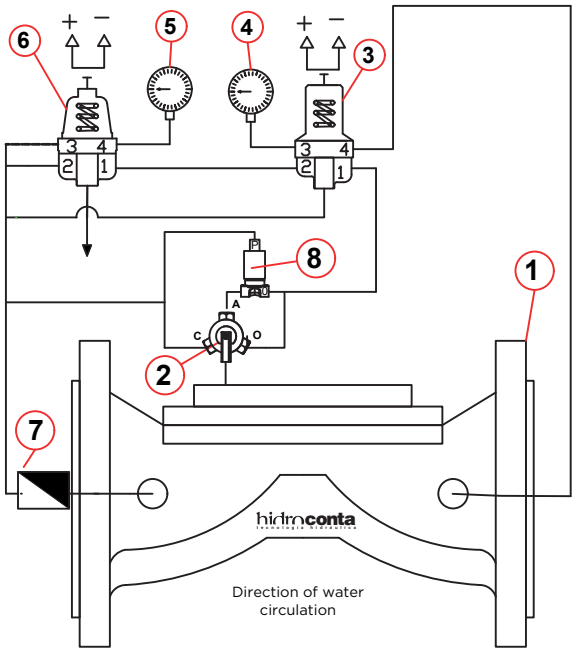
Funtional drawing

REDUCING AND SUSTAINING VALVE



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

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.

Functioning

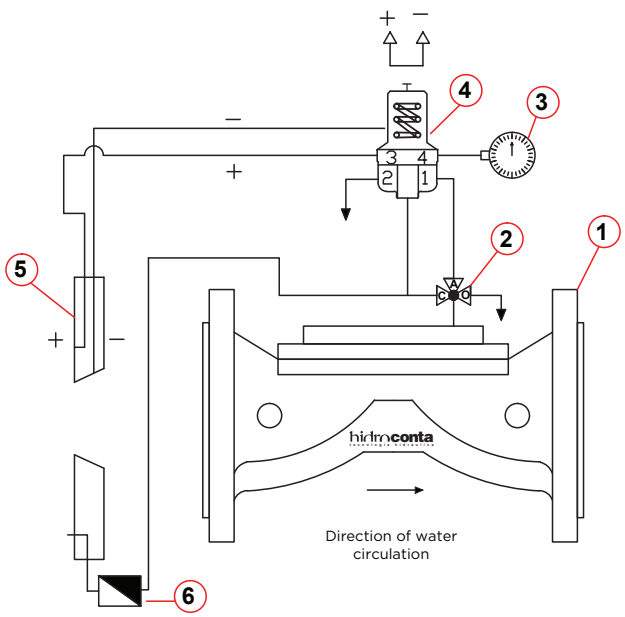
The pilot regulates the opening of the valve according to the differential pressure, providing the pre-set flow rate and keeping the flow constant. By actuating the screw of the pilot's tare it is possible to vary the flow rate. By means of two sensors, installed on both sides of an orifice plate that 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.

Ratios

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

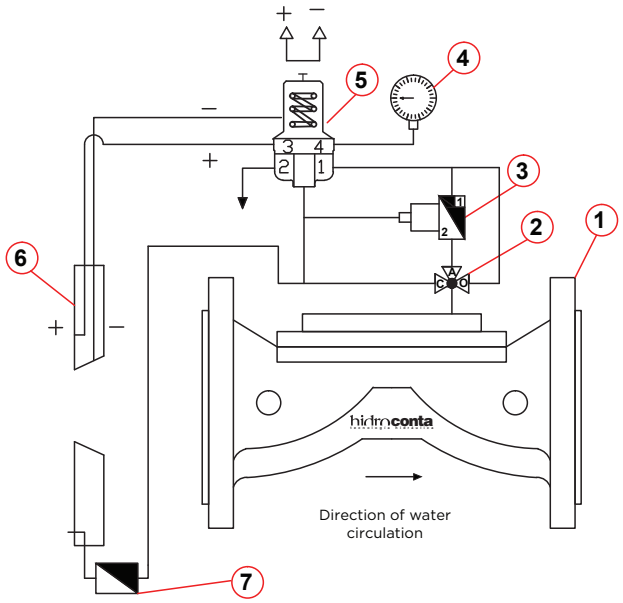
Funtional drawing

FLOW RATE VALVE



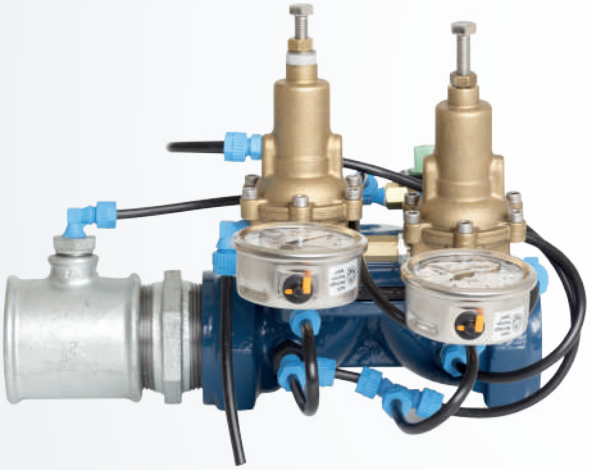
1.- Valve hidrovalve.
2.- 3 ways valve.
3.- Inlet pressure manometer.
4.- Limiter pilot.
5.- Hole disc.
6.- Filter.

FLOW RATE VALVE WITH SOLENOIDE



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

FLOW LIMITER AND PRESSURE REDUCER



Aplicactions

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.

Functioning

The limiting and reducing valve performs its function with the aid of a tared 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.

Ratios

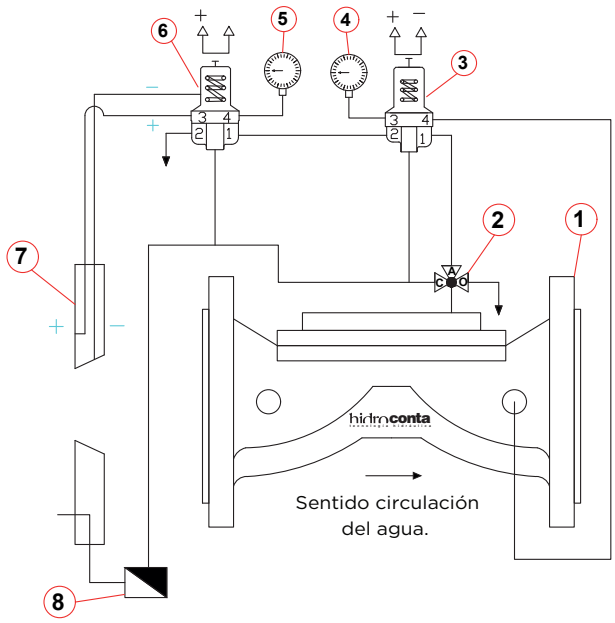
Maximum reduction ratio: inlet pressure x 1/3

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 ± 15%..

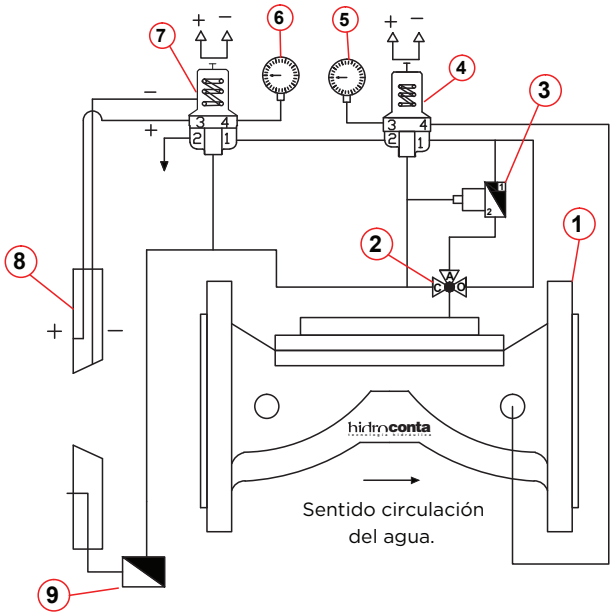
Funtional drawing

FLOW LIMITER AND PRESSURE REDUCER VALVE



1- Valve hidrovalve.
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 hidrovalve.
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

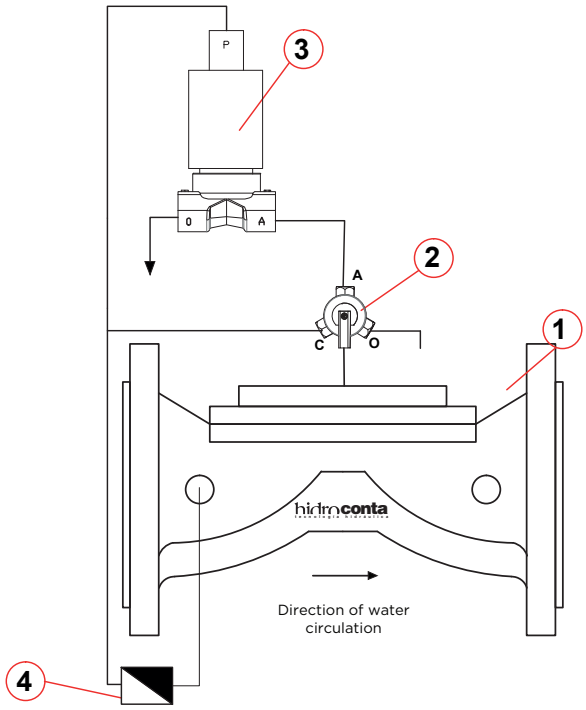
The installation of solenoid valves allows us to act remotely, we can control the opening and closing of the valve automatically.

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.

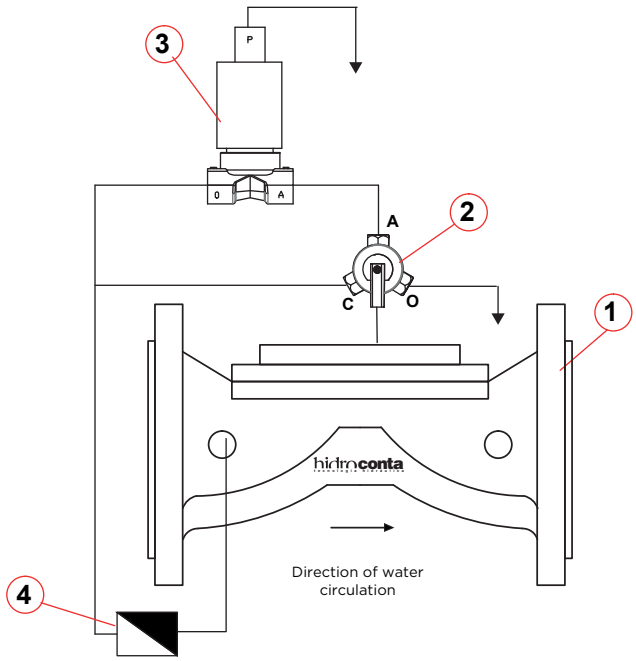
Funtional drawing

ELECTROVALVE NC



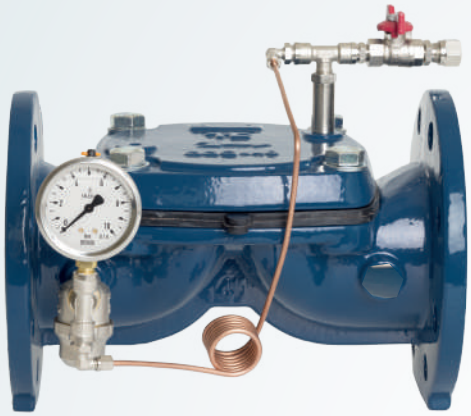
1.- Valve hidrovalve.
2.- 3 ways valve.
3.- Solenoid NO.
4.- Filtre.

ELECTROVALVE NO



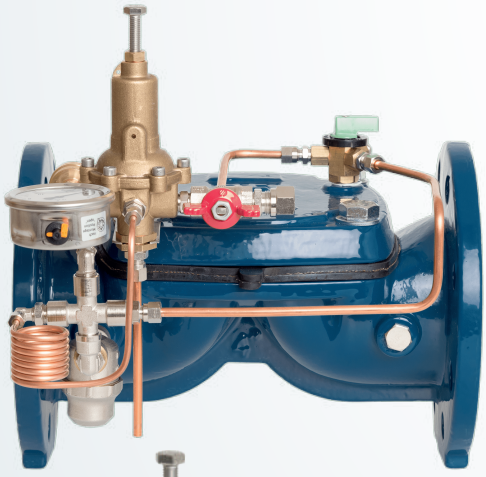
1.- Valve hidrovalve.
2.- 3 ways valve.
3.- Solenoid NC.
4.- Filtre.

FLOAT VALVE



Aplications

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.

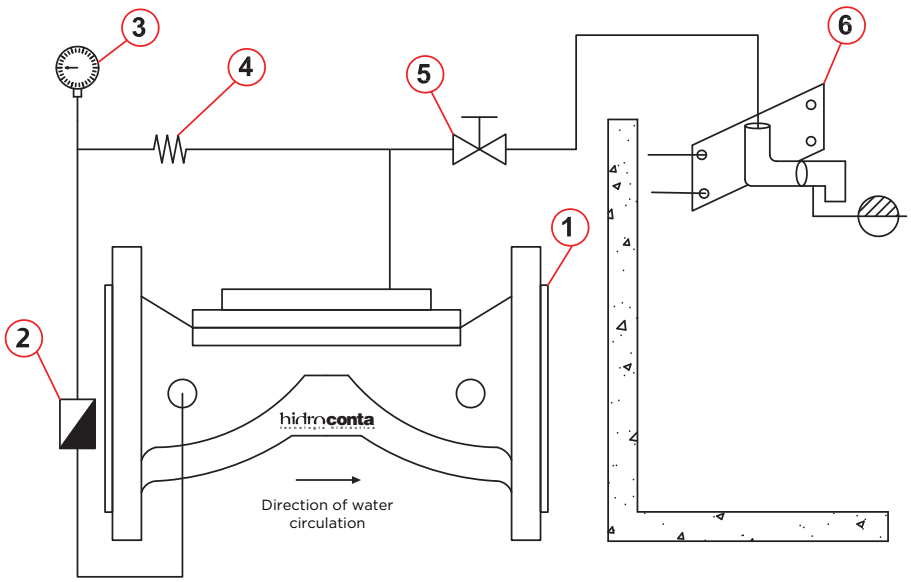


Functioning

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.

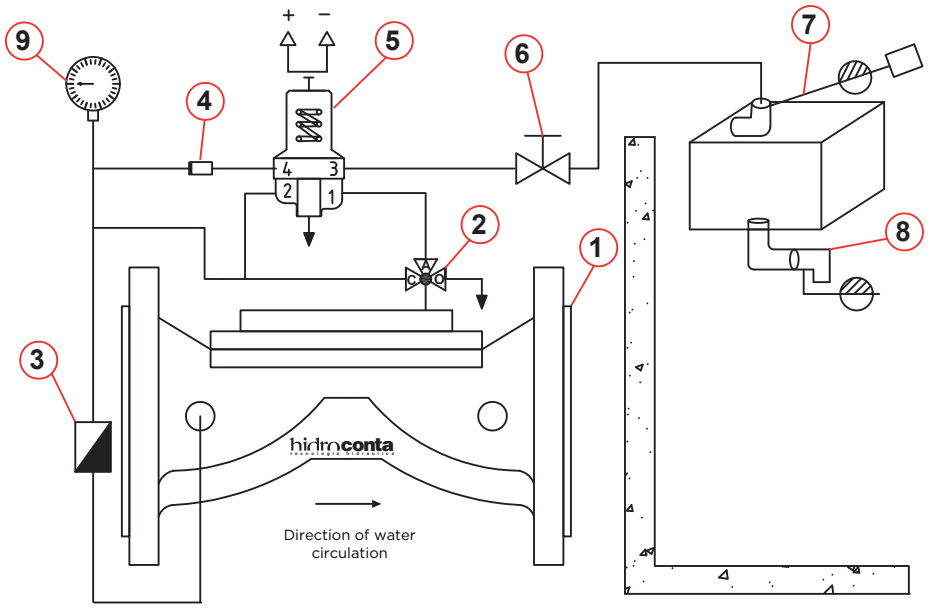
Funtional drawing

1 LEVEL FLOAT VALVE



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

2 LEVELS FLOAT VALVE



1.- Valve Hidrovalve.
2.- 3 ways valve.
3.- Filter.
4.- Needle valve pilot.
5.-Float pilot.
6.- Cut-off hidraulic valve.
7.- Maximum level float.
8.- Float hidraulic 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.

Functioning

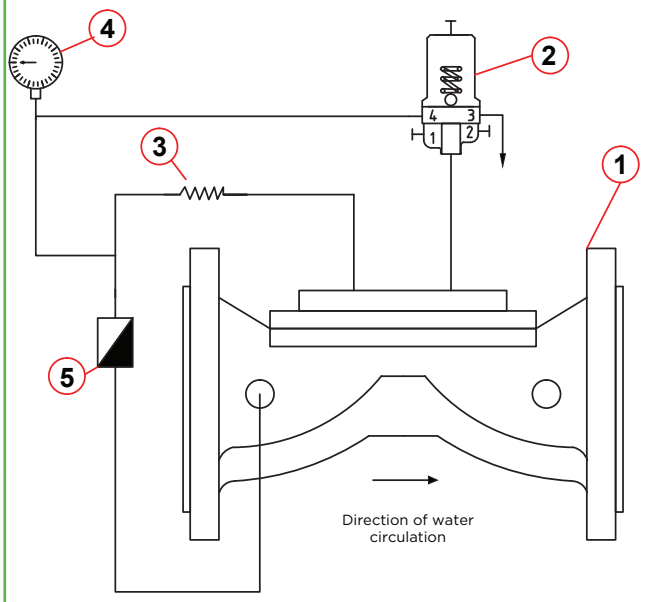
The pressure relief pilot sets the maximum tare pressure limit through a set screw.
If the upstream pressure exceeds the setting pressure, the piston is moved upwards by communicating the valve chamber and the atmospheric pressure. In this way the valve opens to reduce excess pressure.

Ratios

Working pressures: From 2-16 bar
Precision Ratio: ± 0.5 bar

Funtional drawing

PRESSURE RELIEF VALVE



1.- Valve Hirodrovalve.

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.

hidrovalve
tecnología hidráulica

WHEN WATER COUNTS

CUANDO EL AGUA ES LO QUE CUENTA

www.hidroconta.com

Ctra. Sta Catalina, 60
Murcia (30012)
España

T: +34 968 26 77 88
F: +34 968 34 11 49

hidroconta@hidroconta.com

AENOR ER Empresa Registrada ER-0362/2000

CERTIFIED IQNet MANAGEMENT SYSTEM