

hidroconta
metering technology

WHEN WATER COUNTS



hydraulic valve

taurus

hidroconta.com

Look through valve

Connections
Threaded or
flanged

Pressure
16 bar



Integrated
shut - off valve

Low pressure loss
and high KV

REV4



Hidroconta's TAURUS valve is an innovative solution for flow control in different hydraulic applications.

This valve has a polyamide fibreglass body that guarantees durability and corrosion resistance.

Hydrodynamic design

Hidroconta's Taurus valve is designed in a "Y" shape, which allows a high flow capacity while maintaining a very low pressure loss.

The operation of the Taurus hydraulic valve is based on the use of the energy of the circulating fluid, the opening and closing of the diaphragm is produced by the pressure injected by the water in the chamber of the valve body.

Low pressure drop and high KV

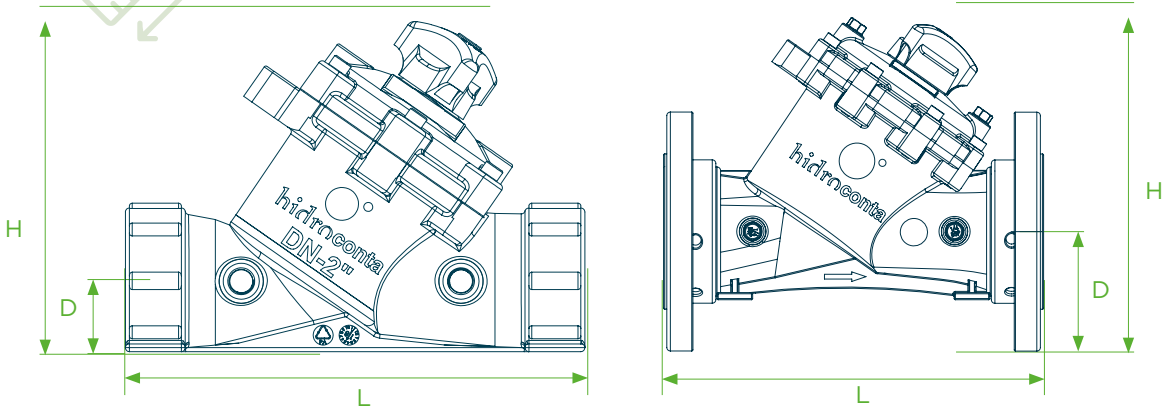
The Taurus valve body, made of glass fibre polyamide, has a very low head loss, as it is a free flow valve without any obstacle in the pipeline, eliminating also the possible water hammer, which may arise in the pipeline.

Multifunctionality

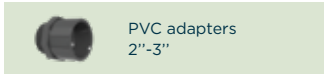
Diaphragm valves are essential elements in any hydraulic installation due to their multifunctionality.

The Taurus valve can be configured as a pressure reducing valve, flow limiting valve, quick pressure relief valve, flow accelerator and other regulations and multifunctionalities.

Dimensions

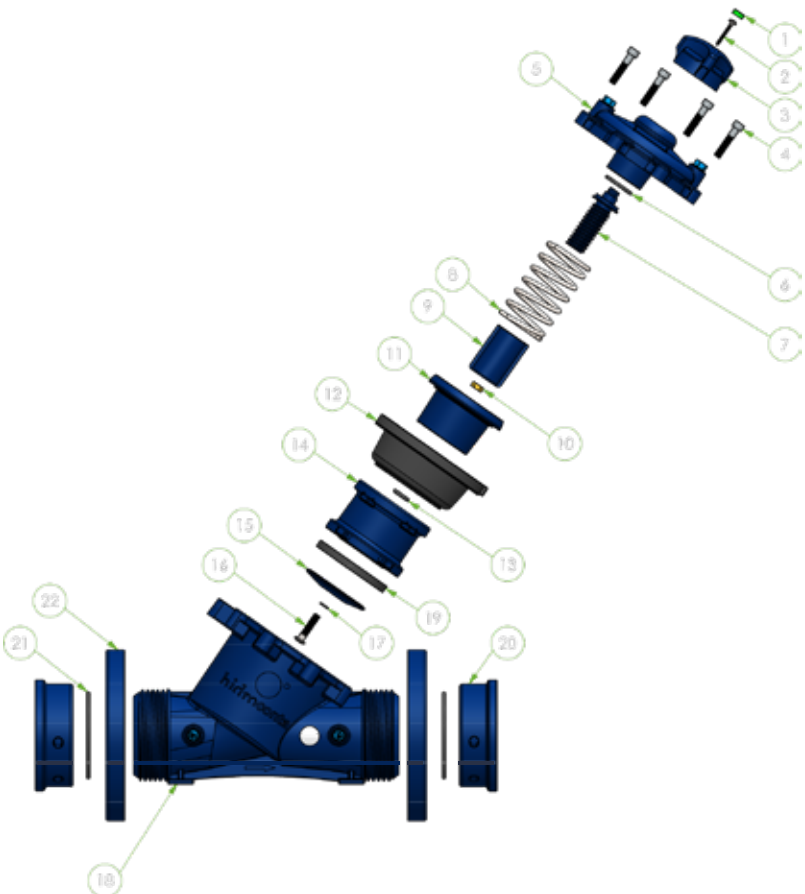


| DN | | L | D | H | DIMENSIONS WITH PVC ADAPTERS (L1) | WEIGHT | CONEXIONS |
|-----|----|-----|-----|-----|---|--------|-----------|
| mm | in | mm | | | | kg | |
| 50 | 2" | 186 | 38 | 100 | 330 | 3,2 | Thread |
| 80 | 3" | 235 | 55 | 113 | 436 | 5,4 | Thread |
| 80 | 3" | 250 | 100 | 201 | -- | 10,8 | Flange |
| 100 | 4" | 311 | 110 | 222 | -- | 16,2 | Flange |



Exploded view

| Nº | DESCRIPTION | MATERIAL |
|----|------------------------|----------|
| 1 | Screw cover | PA-GF |
| 2 | Screw | inox |
| 3 | Valve handwheel | PA-GF |
| 4 | Screw | inox |
| 5 | Valve cover | PA-GF |
| 6 | O-ring | NBR |
| 7 | Plug screw | PA-GF |
| 8 | Spring | Inox |
| 9 | Sealing nut | PA-GF |
| 10 | Hexagonal nut | latón |
| 11 | Upper diaphragm washer | PA-GF |
| 12 | Valve diaphragm | Caucho |
| 13 | O-ring | NBR |
| 14 | Valve inner body | PA-GF |
| 15 | Lower sealing washer | PA-GF |
| 16 | Allen screw | INOX |
| 17 | O-ring | NBR |
| 18 | Valve body | PA-GF |
| 19 | Valve sealing ring | PA-GF |
| 20 | Valve mouth | PA-GF |
| 21 | Seal | NBR |
| 22 | Flange | PA-GF |



Technical specifications

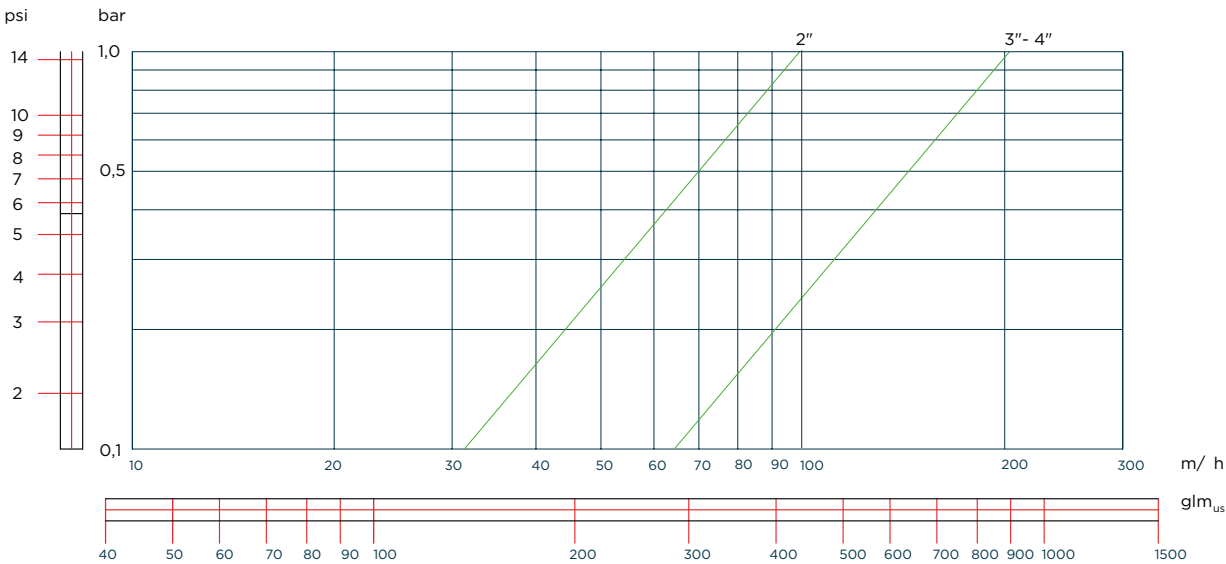
| DN | | MINIMUM WORKING PRESSURE | MAXIMUM PRESSURE | KV | CV |
|-----|----|--------------------------|------------------|-------|----------------|
| mm | in | Bar | | m³/h | US glm and psi |
| 50 | 2" | 0,3 | 16 | 98,9 | 114,3 |
| 80 | 3" | 0,15 | 16 | 203,3 | 235,0 |
| 100 | 4" | 0,15 | 16 | 203,3 | 235,0 |

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

qv = flow rate in m³/h
ρ = density of water in kg/m³
ρ₀ = density of water at 15 °C in kg/m³
Δpv = loss pressure of the valve in bar



Pressure loss curve



PRESSURE REDUCING VALVE

Applications

Recommended for locations where pressure reduction is required for the following reasons:
for the following reasons:

To adjust pressure to consumption.

To protect installations.

In the reducing valve, the pilot acts on the valve the valve in such a way that it has a modulating modulating function, in order to keep the in order to keep the downstream pressure downstream for the control value. control value.

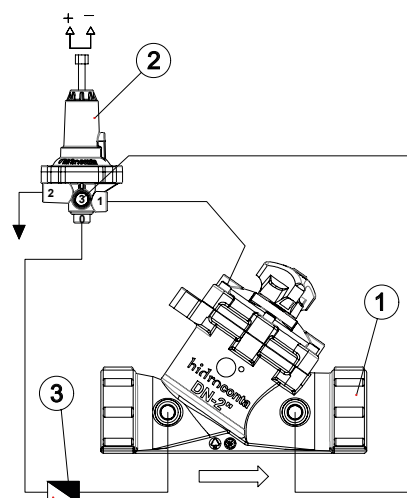
Functioning

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 $\times 1/3$

Precision Ratio: preset pressure ± 0.5 bar

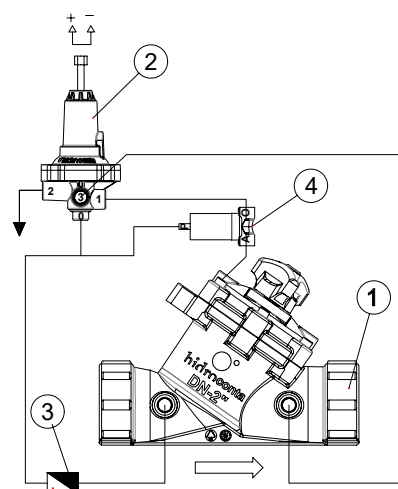


REDUCING PRESSURE 3 WAYS VALVE

1.- Taurus valve

2.- 3-Way Pressure Reducer Pilot.

3.- Filter.



REDUCING PRESSURE 3 WAYS VALVE WITH SOLENOIDE

1.- Taurus Valve

2.- 3-Way Reducer valve Pilot

3.- Filter

4.- Solenoid

SUSTAINING VALVE

Applications

It is used in installations where it is necessary to maintain a minimum hydraulic pressure, for example:

- Pumping groups.
- Pipe branches with different consumptions.
- Filtering equipment.

The installation of this type of valve allows a minimum pressure to be maintained upstream of the valve established by the user.

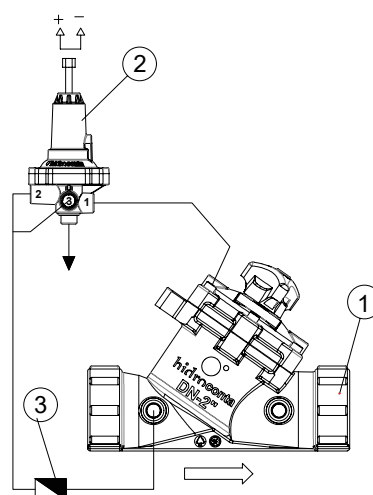
Operation

The pressure sustaining valve is designed to maintain a minimum pressure upstream, if the pressure is higher than the regulation value, the valve opens fully, otherwise the valve will close until the upstream pressure is equal or higher than the set pressure.

Ratios

Standard working ratio: from 1 bar to 6,5 bar.

Precision ratio: set pressure $\pm 0,3$ bar

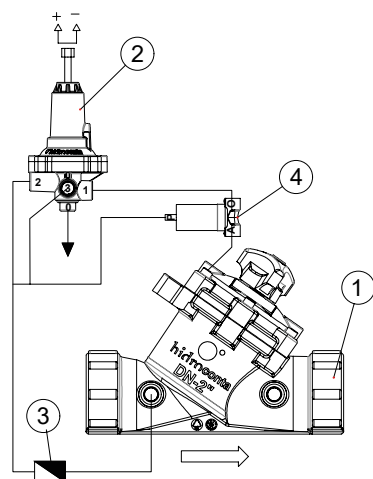


THREE-WAY PRESSURE SUSTAINING VALVE

1.- Taurus valve

2.- Holding pilot

3.- Filter.



THREE-WAY PRESSURE SUSTAINING VALVE WITH SOLENOID

1.- Taurus valve

2.- Sustainer pilot

3.- Filter

4.- Solenoid

Reducing and sustaining valve

Applications

The combined reducing and sustaining valve performs both functions independently of each other. It avoids the generation of:

Pressure drops.

Overpressure.

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

Operation

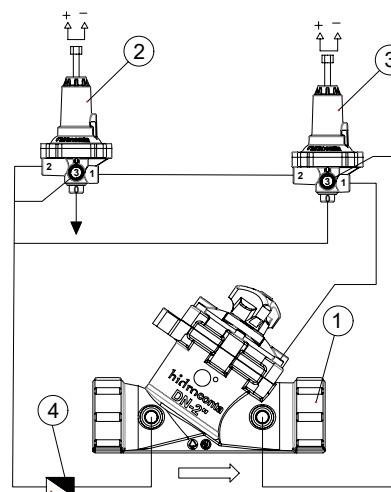
The reducing pilot acts on the valve so that it has a modulating function, in order to keep the downstream pressure constant for the set regulation value, the sustaining pilot acts on the valve so that it has a modulating function, in order to keep the upstream pressure above the minimum regulation value.

Ratios

Max. reduction ratio: inlet pressure $\times 1/3$

Accuracy ratio: set pressure $\pm 0,3$ bar

Standard working ratio holding function: from 1 bar to 6,5 bar.



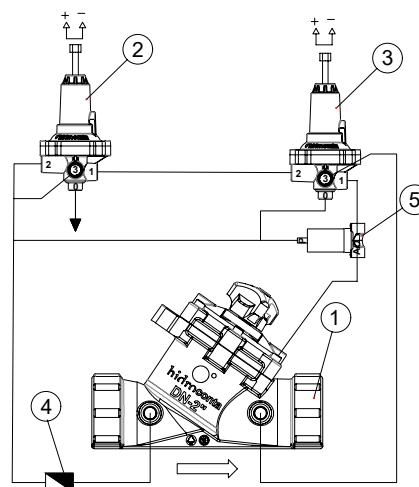
THREE-WAY REDUCING AND PRESSURE SUSTAINING VALVE

1.- Taurus valve

2.- Pressure sustainer pilot

3.- Reducer pilot

4.- Filter.



THREE-WAY REDUCING VALVE AND PRESSURE SUSTAINING VALVE WITH SOLENOID

1.- Taurus valve

2.- Pressure sustainer pilot

3.- Reducer pilot

4.- Filter

5.- Solenoid

Flow-limiting valve

Applications

With the installation of limiting valves it is possible to:

Avoid excessive consumption.

Avoid pressure drops and therefore supply deficiencies at points far from the network.

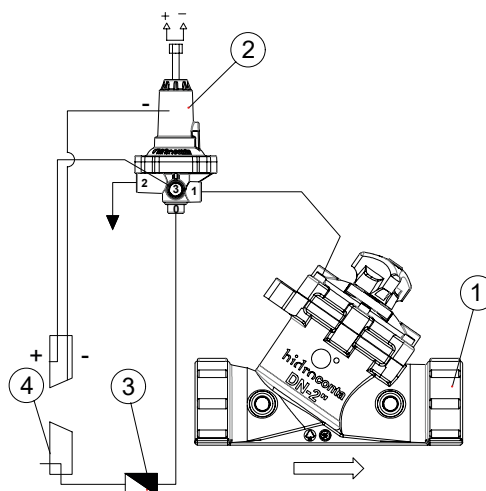
The flow limiting valves limit the flow of circulating water, ensuring that it is equal to or less than the set flow rate.

Operation

The pilot regulates the opening of the valve according to the differential pressure, providing the pre-set flow rate and maintaining a constant flow rate. The flow rate can be varied by operating the tare screw on the pilot. By means of two sensors, installed on both sides of an orifice plate that produces a certain pressure drop, the circulating flow rate is obtained, closing the hydraulic valve partially until only allowing the determined flow rate in the event that an attempt is made to exceed this flow rate.

Ratios

Once the flow rate to be limited has been preselected, the pilot is capable of modifying the set flow rate by $\pm 15\%$.



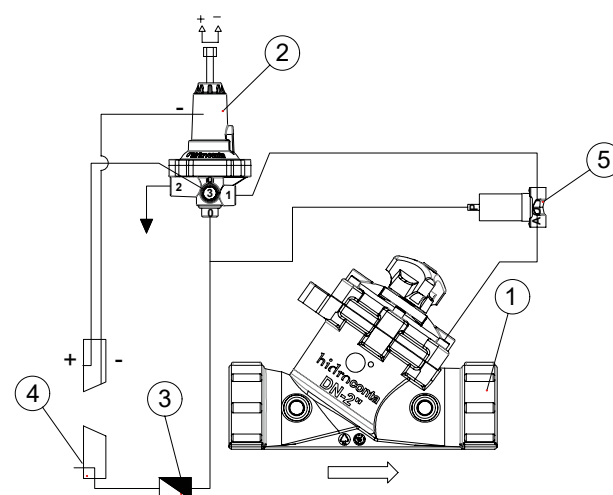
THREE-WAY FLOW LIMITER VALVE

1.- Taurus valve

2.- Limiter pilot

3.- Filter

4.- Orifice disc



THREE-WAY SOLENOID FLOW LIMITER VALVE

1.- Taurus valve

2.- Limiter pilot

3.- Filter

4.- Orifice disc

5.- Solenoid

Limiting and reducing valve

Applications

The combined reducing and limiting valve performs both functions independently of each other. It prevents the following from occurring in installations

- Excessive consumption
- Pressure drops and therefore supply deficiencies at points far from the network.
- Adjusting pressure to consumption.
- Protecting installations.

Operation

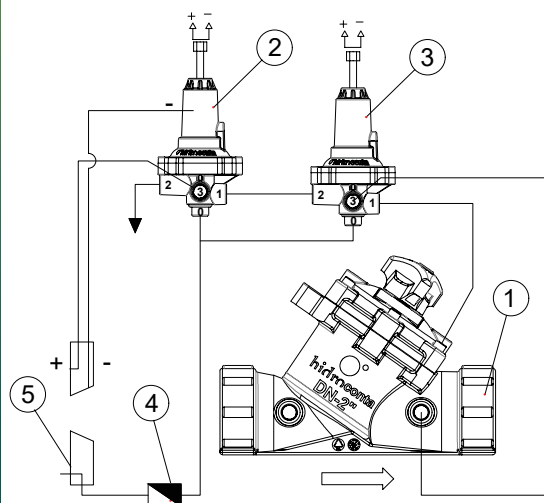
The limiting and reducing valve performs its function with the aid of a calibrated orifice plate installed upstream. It includes a differential pilot that regulates the opening of the valve according to the differential pressure, proportional to the flow rate, keeping the flow rate constant. The reducing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

Ratios

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

Precision ratio: set pressure ± 0.3 bar.

Once the flow rate to be limited has been preselected, the pilot is able to modify the set flow rate by ± 15 %.



THREE-WAY LIMITING AND REDUCING VALVE

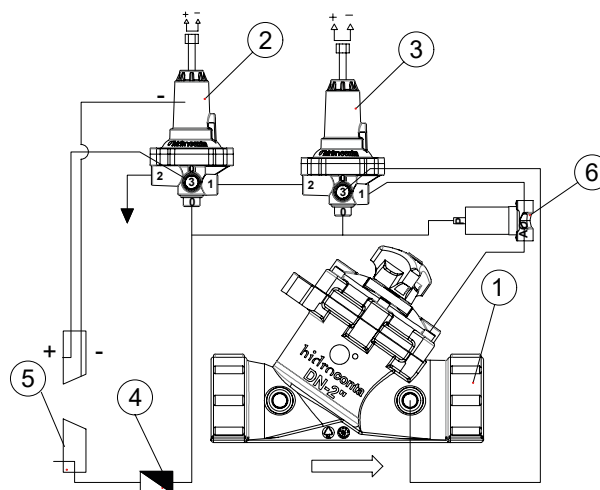
1.- Taurus valve

2.- Limiting pilot

3.- Reducing pilot

4.- Filter

5.- Orifice disc



THREE-WAY LIMITING AND REDUCING VALVE WITH SOLENOID

1.- Taurus valve

2.- Limiting pilot

3.- Reducing pilot

4.- Filter

5.- Orifice disc

6.- Solenoid

Electrovalve

Applications

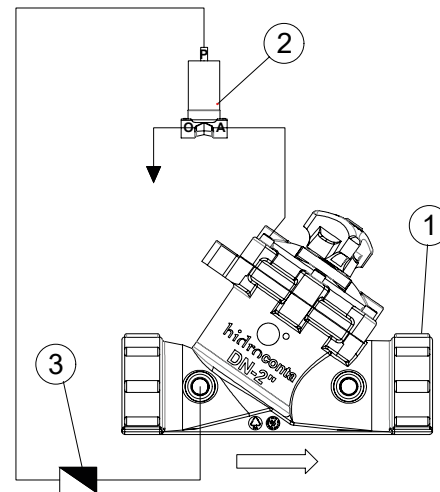
The installation of electrovalves allows us to act on the valve remotely, we can control the opening and closing of the valve automatically.

Operation

The electrovalve or solenoid valve is an on/off valve.

The valve will operate fully open or fully closed when the solenoid is energised.

It uses its own mains pressure for operation. In case of low mains pressure any external source of pressure can be used..

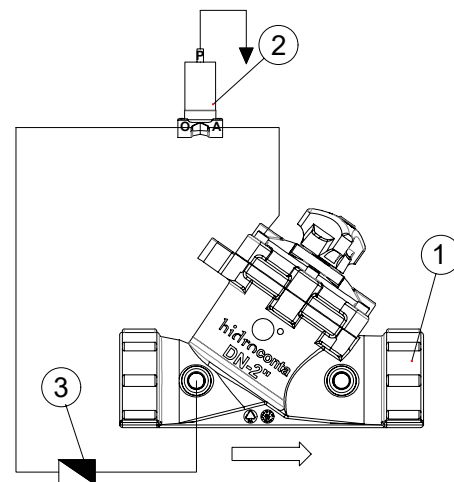


SOLENOID VALVE NC

1.- Taurus valve

2.- Solenoid

3.- Filter



SOLENOID VALVE NA

1.- Taurus valve

2.- Solenoid

3.- Filter

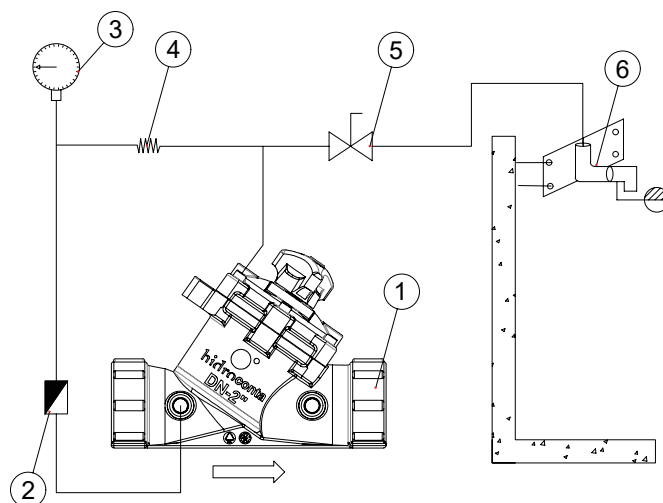
Float valve

Applications

Pilot float valves are used in water reservoirs or regulating manholes. It is designed to open fully when the water level reaches a pre-selected low point and closes tightly when it reaches the selected high level.

Operation

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



1 LEVEL FLOAT VALVE

1.- Taurus valve

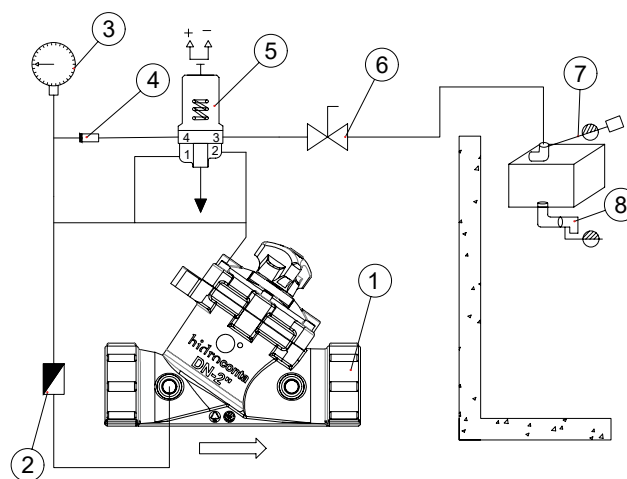
2.- Filter

3.- Inlet pressure gauge

4.- Spiral

5.- Hydraulic shut-off valve

6.- Float with support 1 level



FLOAT VALVE 2 LEVELS

1.- Taurus valve

2.- Filter

3.- Inlet pressure gauge

4.- Spiral

5.- Needle valve pilot

6.- Hydraulic shut-off valve

7.- Float with maximum level support.

8.- Hydraulic change float.

Pressure relief Valve

Applications

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

- Protection of hydraulic installations.

Operation

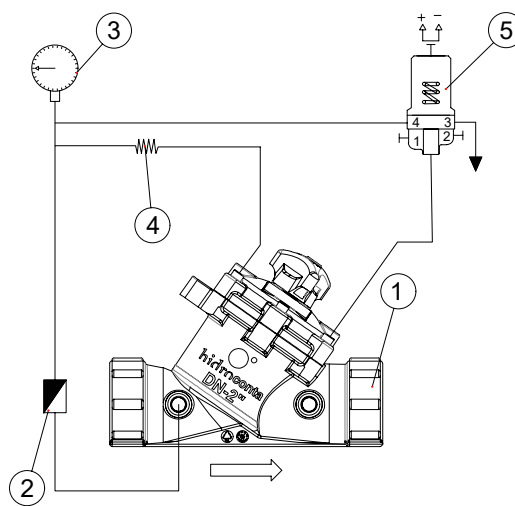
The pressure relief pilot valve sets the maximum tare pressure limit by means of a regulating screw.

If the upstream pressure exceeds the set pressure, the piston moves upwards, bringing the valve chamber into communication with the atmospheric pressure. In this way the valve opens to reduce the excess pressure.

Ratios

Working pressures: From 2-16 bar

Accuracy ratio: $\pm 0,5$ bar



RELIEF VALVE

1.- Taurus valve

2.- Filter

3.- Pressure gauge

4.- Spiral

5.- Quick relief pilot



Ordering information

| General characteristics | |
|-------------------------|--------------------------|
| Valve diameter | DN / mm / inch |
| Valve type | diaphragm / piston |
| Maximum inlet pressure | bar / MPa |
| Fittings | plastic / metallic |
| Accessories | plastic / metallic |
| Pilots | plastic / metallic |
| Solenoid (Y/N) | latch/24VDC/24VAC/220VAC |
| Valve status at rest | open/closed |

| Features reducing/limiting valve | |
|----------------------------------|--------------------|
| Outlet pressure | bar / MPa |
| Maximum flow rate | m ³ / h |
| Minimum flow rate | m ³ / h |

| Features sustaining valve | |
|--------------------------------------|--------------------|
| Holding pressure | bar / MPa |
| Maximum flow rate | m ³ / h |
| Minimum flow rate | m ³ / h |
| Working flow rate m ³ / h | m ³ / h |

| Electrovalve features | |
|-----------------------|---------------|
| Solenoid voltage | V |
| No. of wires | 2 / 3 |
| Valve use | open / closed |

| Float valve features | |
|----------------------|------|
| Filling levels | 1/ 2 |

| Relief valve features | |
|-----------------------|-----------|
| Relief pressure | bar / MPa |



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.

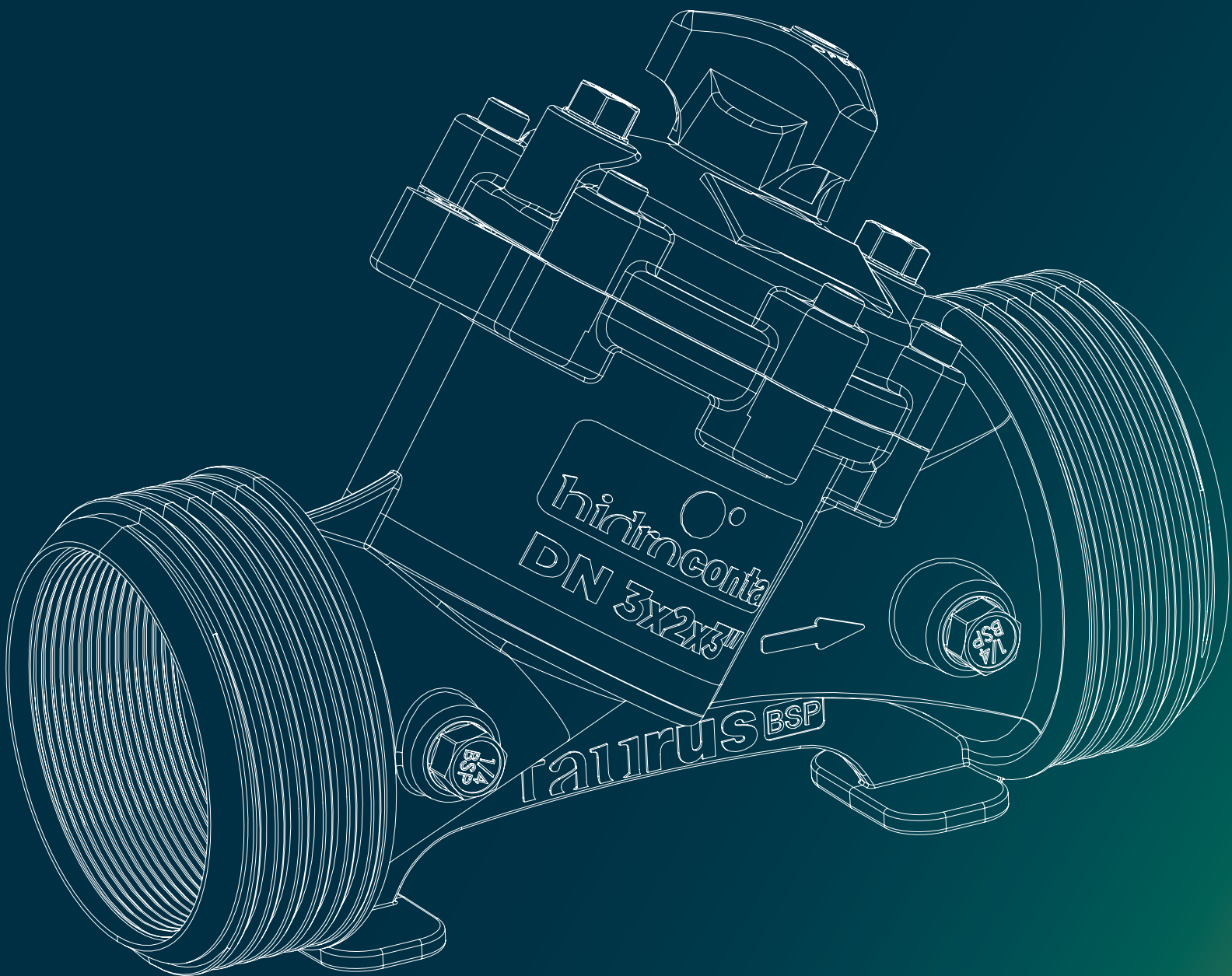
Another reason may be that the solenoid is calcified, clean it and replace parts as necessary.

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.

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WHEN WATER COUNTS



hydraulic valve

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