PN 10/16/25 Atm
DN 50/600 mm

Hydraulic Valves

HYDROMAF

226

Controlled by 2W solenoid pressure reducing double valve

Automatically reduces the existing upstream pressure to the demanded downstream, regardless of possible pressure or flow variations.

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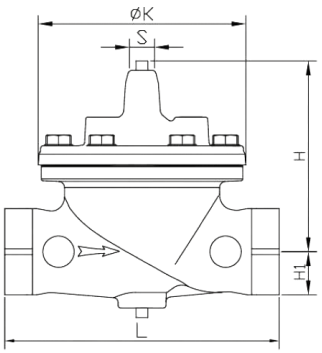
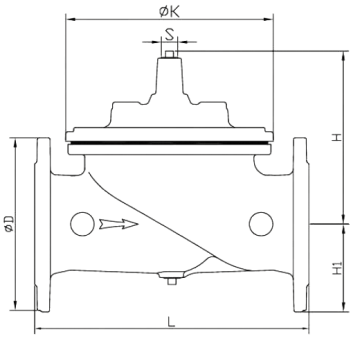
Dimensions

Main Valve - Full Bore Type

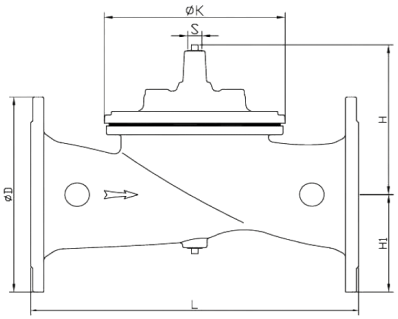
DN	L	H	H1*	K	S	Peso (Kg)
40S-1 ½"	230	139	55	173	3/8"	13
50S-2"	230	139	55	173	3/8"	13
50	230	139	85	173	3/8"	14
65	290	159	95	198	3/8"	19
80	310	179	102	226	3/8"	23
100	350	214	112	265	3/8"	32
150	480	333	145	351	1/2"	68
200	600	407	72	436	3/4"	125
250	730	476	205	524	1"	200
300	850	526	232	606	1"	260
400	1100	624	292	741	1½"	560
500	1250	720	360	1002	2"	880
600	1450	835	425	1308	2"	1300
800	1850	1110	515	1755	2"	1950
1000	2250	1350	630	2231	2"	2456



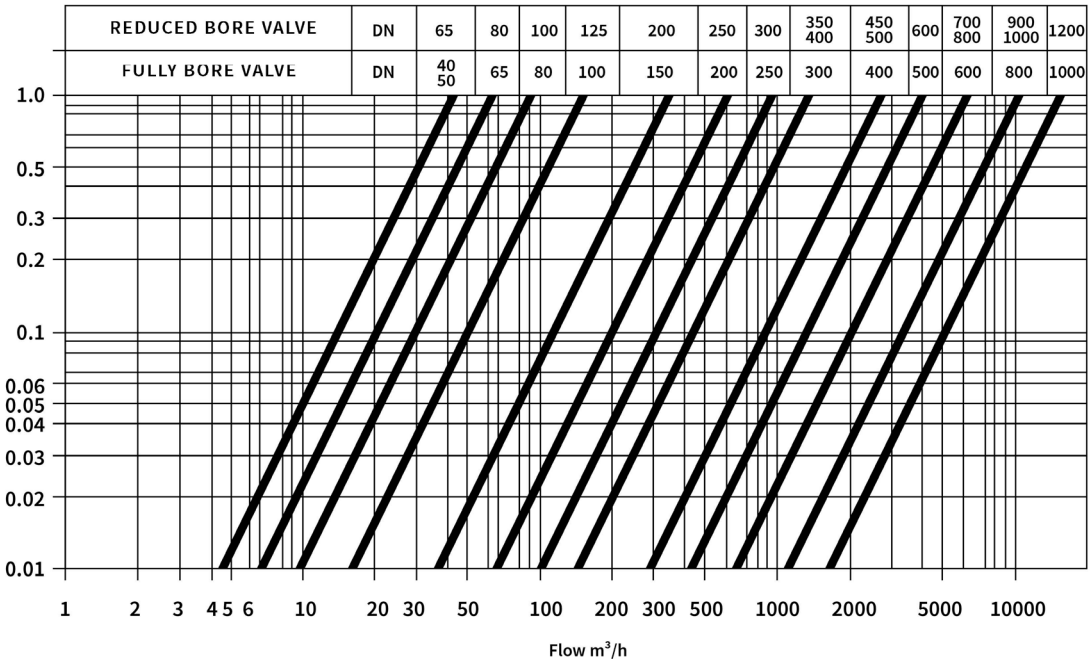


Main Valve - Reduced Bore Type

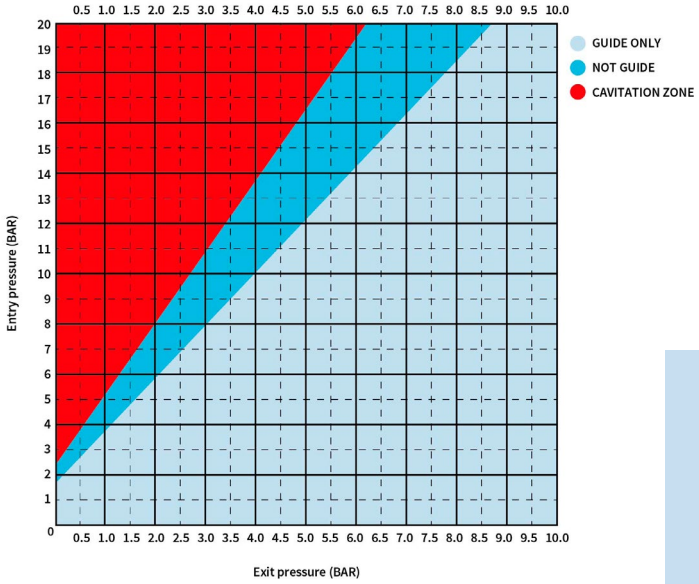
DN	L	H	H1*	K	S	Peso (Kg)
65	230	139	95	173	3/8"	21
80	290	159	102	198	3/8"	28
100	350	179	112	226	3/8"	39
125	350	214	127	265	3/8"	56
150	480	214	145	265	3/8"	96
200	600	333	172	351	1/2"	162
250	730	407	205	436	3/4"	230
300	850	476	232	524	1"	285
350	850	526	262	606	1"	435
400	1100	526	292	606	1"	590
450	1100	624	325	741	1½"	750
500	1100	624	360	741	1½"	1090
600	1250	720	425	1002	2"	1200
700	1450	835	460	1308	2"	1420
800	1450	835	515	1308	2"	1510
900	1850	1110	570	1755	2"	2185
1000	1850	1110	630	1755	2"	2268
1200	2250	1350	750	2231	2"	2855

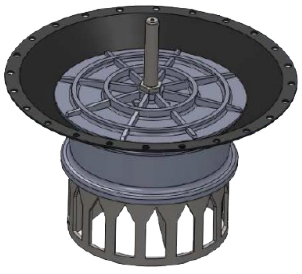


Head losses



Cavitation guide chart





Anti-cavitation Kit

The anti-cavitation mold has been designed for application where there is a high damage potential for damage from cavitation, providing an optimum internal pressure control through a unique anti-cavitation trim design and relieving the damage of cavitation with multi-stage pressure reducing.

Standards and specifications

USE	STANDARD	CONNEXION
Use: Water Temp: -41° - 220 ° C	Standard Designs EN 1074-5 BS EN 1567	Face to face EN 558-1 / ISO 5752 Serie 1
Pressure Range: ISO EN PN10, PN16, PN25 ANSI CL125/150/300 JIS 10K/16K AS Table D, E	Standard Test ISO 5208 / EN 12266-1	Flange Drilling EN 1092-2 ISO 7005-2

Product description

Basic valve, high pressure reducing pilot, 3-way latch solenoid, control circuit and accessories, latch programmer with up to 3 daily programs and battery for an estimate duration of 1 year.

Operation

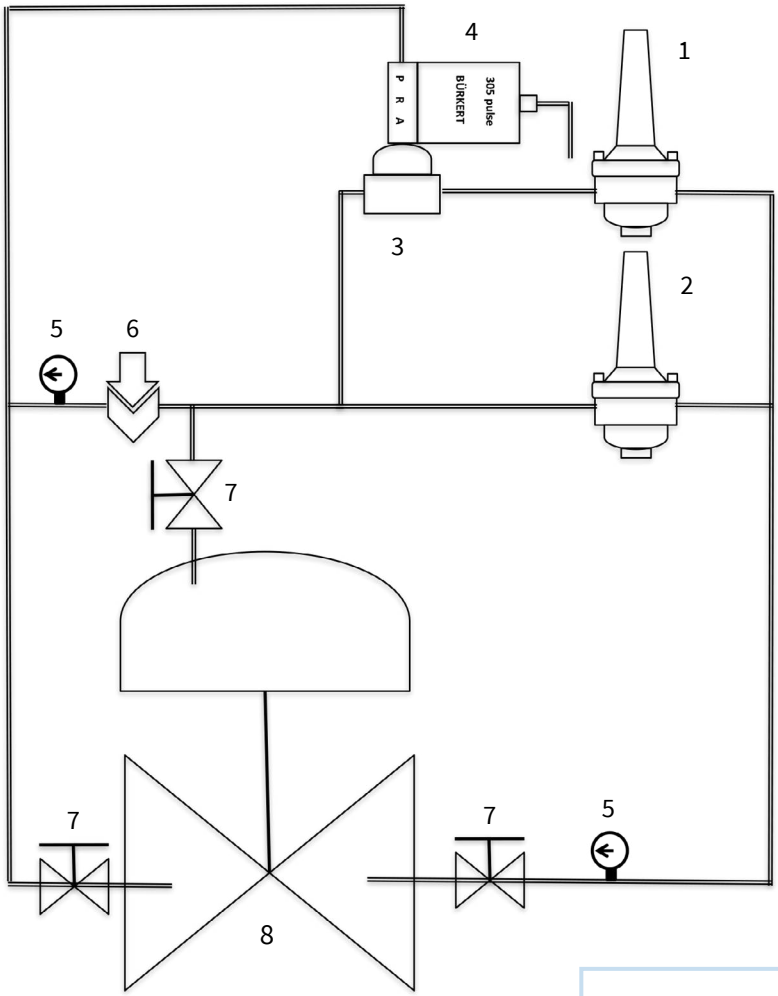
The 226 valve allows the reduction of a higher pressure at the inlet of the valve to a lower and stabilized one at the outlet, with double pressure range due to time discrimination.
For this, the pilots are tared with the desired downstream pressure in both time bands and the valve automatically readjusts to try to maintain the pressure, eventually closing completely the valve and the pilot if the pressure exceeds the limit preset. The operation remains subject to the opening of the solenoid that will close or allow regulation of the high pressure pilot, allowing it to command, or the low pressure one by default.

Setting

1º Start the regulation with the needle valve opened three complete turns and the pilot screw completely loosened.
2º Start tightening the screw in clockwise direction, until notice that the pressure downstream starts to raise and continue until reach the proper pressure, stopping briefly at each turn and allowing the pipe to fill smoothly.
3º Adjust aperture of the needle valve to regulate the maneuver speed, repeating the 2nd step if necessary.
4º Tighten the lock nut to prevent a disarray of the pilot.

Note: In case of losing control of the valve, we can close it manually by closing the ball valve which is located downstream of the pilot.

Control diagram

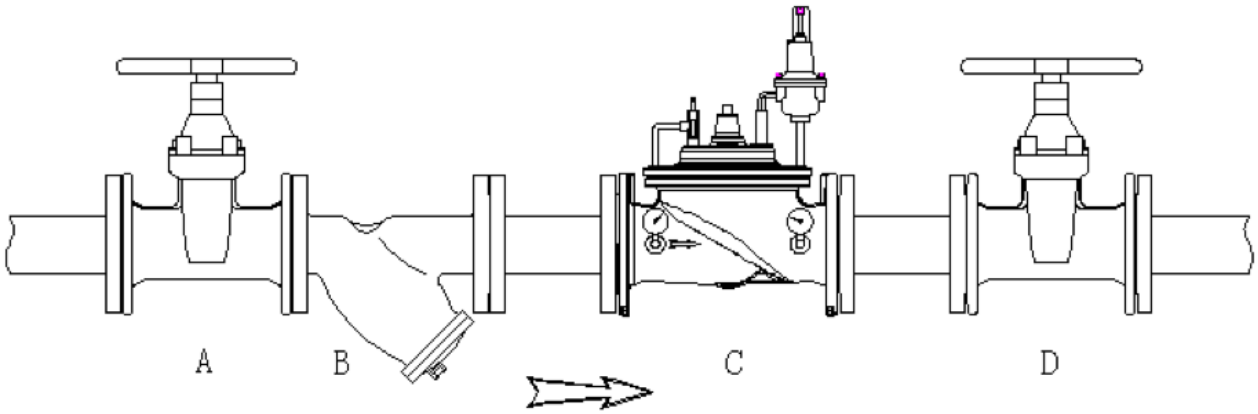


Standard configuration

1. High pilot
2. Low pilot
3. 2W Hydraulic relay
4. 3W Latch solenoid
5. Pressure gauges
6. Needle valve
7. Ball valves
8. Main valve

Valve 226 assumes the incorporation of the day-night mode kit into the conventional 200 valve.

Typical installation



* NOTE.- A suction cup should always be placed after the downstream shutoff valve

In order to carry out the setting and maintenance of a hydraulic valve, it is essential to install the following elements:

1. Make sure there is enough space in the set for a correct installation and later maintenance and adjustments.
2. Before installing the valve, run the water of the pipe to ensure that the water that reaches the valve is free of impurities.
3. Provide enough space in the manholes to carry out installation and maintenance work.
4. Check the direction of the flow of water indicated by an arrow on the valve and try to install it leveled both, horizontally and vertically as well.
5. Check the good condition of all the items.
6. It is very important to install an air valve downstream of the valve that allows air to enter the pipeline when the valve closes, as well as a relief valve at the worst point of the downstream network in foresight of a possible pressure peak.
7. In order to regulate the valve, we must have a downstream intake that guarantees a minimum flow to regulate the valve later. Have it planned in case of need to be able to use it.
8. Check that the solenoid type is the correct and has the proper voltage for the control system, that is, AC, DC or Latch and a voltage of 9, 12 or 24 V.

Components List

A. Inlet isolation valve
B. Strainer
C. Pressure reducing valve
D. Outlet isolation valve

Excluded from the guarantee all those valves that are not installed in accordance with these recommendations.

Start up

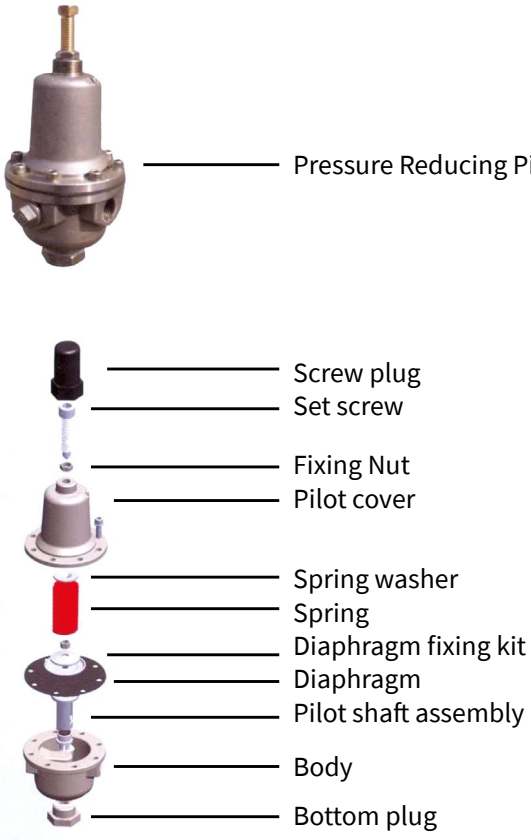
Before opening the gate valves and giving way to water, carry out the following checks:

1. Loose the screw of the valve 2 to 3 turns and the reduction pilot screw until it is practically loosed and then close the ball valve.
2. Open the upstream gate valve to allow the valve to load and check the pressure on the manometers.
3. Fully close the needle valve screw and open it 1/2 turn
4. Open the solenoid 2W nº 4
5. Carefully open the downstream gate valve slowly and start filling the installation smoothly to avoid breakage. Also check that the air valve is throwing at the air expelled by water entering the pipe.
6. Noise between the air that comes out and the strong reduction are caused in the pipe by the reducer valve. We must observe that the filling speed of the pipe is soft, although not excessively slow (because if there is some consumption we would not get to fill it), if this were the case, we could increase the flow by tightening the pilot screw a little, so then, the valve will open a little more.
7. Once the pipeline is filled and the downstream pressure stabilized, we will loose the pilot screw very gently and taking short breaks every 1/2 turn until the desired pressure is reached (always checking the pressure reduction table).
8. Depending on the circulating flow and the pressure differential between the inlet and the outlet, we can obtain fluctuations in pressure both upstream and downstream. If this happens we can slightly adjust the needle valve to slow down valve response and avoid snaps in the maneuver.
9. Relief valves must be calibrated 1 Atm above the setted pressure at that point by the reducing valve.

POSSIBLE PROBLEMS AND SOLUTIONS	
Problem	Solution
The valve is out of control and is unable to stabilize due to the regulating operation.	Close the downstream gate almost completely and open it slowly to allow the valve to react smoothly and to diagnose the problem.
The valve maintains a stable pressure upstream but with oscillations downstream.	The flow is below the valve regulation range. Open a water supply to regulate it, if the problem persist install in parallel a second reducer valve of a smaller diameter that gives an outlet pressure of at least 0.5 Atm higher than the first one.
The valve maintains stable pressure downstream but with oscillations upstream.	The valve acts too quickly, causing abrupt closures that cause transients in the supply line. Close the ball valve and then close slightly the needle valve. Slowly reopen the ball valve and check, repeating the process if necessary.

* NOTE.- At the moment of regulating the hydraulic valves, it's convenient that the movements of these take place smoothly, for which we will have to allow a small stabilization margin where the pressure can rise or fall a few meters until stabilizing and thus avoid these oscillations in the network, which in the event of overlapping waves would cause a summative and destructive effect on the pipeline, so we must be aware of this phenomenon and try to avoid it.

Pressure reducing pilot. 200 series



Preventive Maintenance

To ensure the proper functioning of the valve, it's suitable to check the working conditions periodically. Check the pressures and observe that it regulates correctly and smoothly.

Although the valve is considered "maintenance-free", it's necessary to carry out an inspection and annual check by specialized technicians, in order to clean, lubricate or replace the worn elements, and avoid further damage and valve malfunction.

That is why it is recommended to contract a maintenance plan for those valves which reliability is important.

In those areas where there is a great variation in flow or pressure depending on the time of year, it may be advisable to adjust the regulations for each change of season, and there are also special kits to adapt to each need.

If you notice any leakage, deterioration or malfunction of the valve, please contact the technical service as soon as possible.