PR 500

Flanged automatic control valve

Technical data sheet

watts.eu

Presentation

Reliable and simple, the PR500 is a flanged water pressure reducing valve. It is used for the general supply piping or a secondary circuit when water pressure must be maintained constant.

- Stabilizes automatically the pressure downstream to the set value
- Simple pressure setting by screw nut system on the pilot
- Iron epoxy coated body
- Standard installation in horizontal position (vertical installation with rising fluid: from DN 50 to 150 only)
- Minimum maintenance

PR 500 Automatic control valve

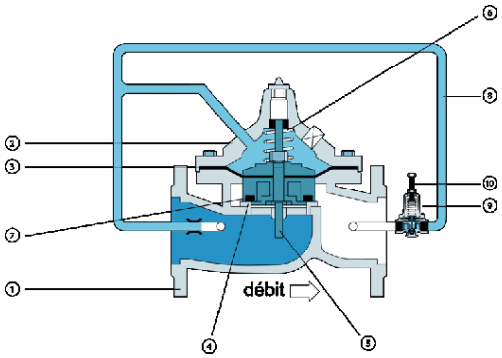
DN "	Setting range	PFA in bar	PN	Réf.	Weight Kg
50	1,4 to 12 bar	16	10/16*	**22500050548**	25
65	1,4 to 12 bar	16	10/16	**22500065548**	25
80	1,4 to 12 bar	16	10/16*	**22500080548**	30
100	1,4 to 12 bar	16	10/16	**22500100548**	40
125	1,4 to 12 bar	16	10/16	**22500125548**	70
150	1,4 to 12 bar	16	10/16	**22500150548**	90
200	1,4 to 12 bar	16	16	**22505200548**	150
250	1,4 to 12 bar	16	16	**22505250548**	400

*For PN25, please consult us

Technical features	
Operating temperature	Maxi. : 70 °C
Permissible operating pressure (PFA)	see table above
Gauge connection	F3/8" from DN50 to DN80 F1/2" from DN100 to DN250
setting range	see table above
Connection	Flanges
Mediums	Water

Nomenclature and materials

N°	Désignation	Matérials
1	Body	Fonte GGG40 interior and exterior epoxy coated
2	Cover	Fonte GGG40 interior and exterior epoxy coated
3	Diaphragm	NBR
4	Seat	Stainless steel 316
5	Stem	Stainless steel 303
6	Spring	Stainless steel 302
7	Seals	NBR
8	Flexible tubing	PA11
9	Pilote	Stainless steel
10	Setting screw	Stainless steel



Application

Flanged control valve Watts PR500 can be fitted in :

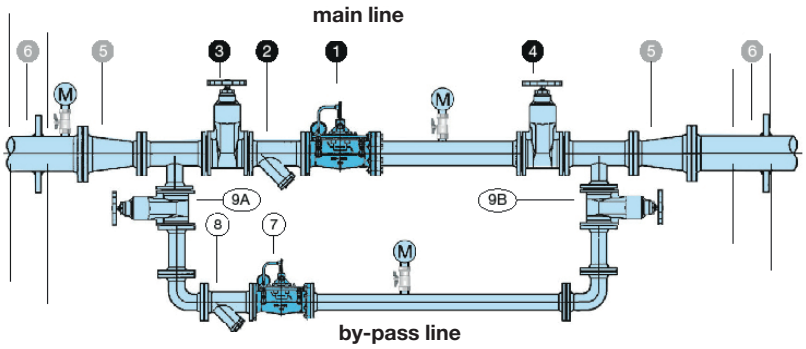
- Buildings
- Commercial
- Irrigation
- Pump outlet system

Functioning

The PR500 pressure reducing valve stabilizes automatically the pressure downstream to the set value. The pressure setting is ultra-simple by screw nut system on the pilot valve. Base valve reproduces the pilot valve movements. They are actuated by hydraulic energy of the fluid, thus ensuring the autonomy of the device.

Mounting

The PR500 must be mounted between two isolation valves, the installation of an upstream filter is highly recommended.
Wherever possible the installation must conform to the schematic drawing below



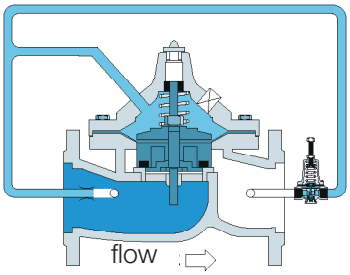
Main line
1. PR500 Reducer
2. Filter with drain valve
3. Isolation valve upstream
4. Isolation valve downstream
5. Flanged cone
6. Anchor
M. Manometer

BY-PASS line
7. PR500 Reducer
8. Filter with drain valve
9A. Isolation valve by-pass
9B. Isolation valve by-pass
M. Manometer

Setting

The pressure setting is ultra simple by screw nut system on the pilot valve.

Turning clockwise = increase the pressure.
Turning anticlockwise = reduce the pressure
Check the value by a pressure gauge.
Then, tighten the adjusting screw retaining nut.



Maintenance

The PR500 conception and the quality of its materials to avoid interventions of maintenance for many years.
It is however recommended for safe operation, perform the following checks :

1. After approximately two to four months of operation, check the cleanliness of the filter installed upstream of the PR500. The clogging level gives an indication on the cleanliness of the water and the frequency of cleaning of the strainer

2. If the water hardness is high (TH greater than 25), each year check if the movement of the guide stem valve is free(stem set/mobile valve).

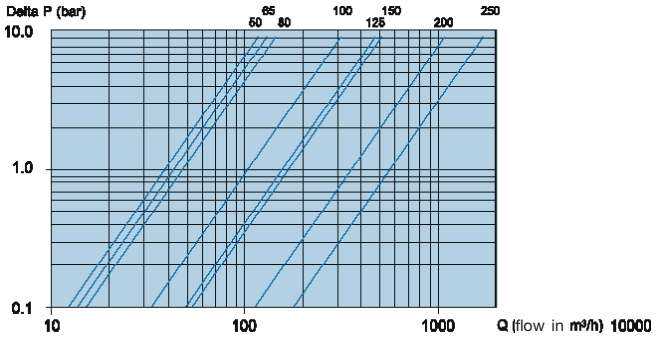
It is recommended to inspect once a year the internal parts of the valve and the control of the pilot circuit.
The parts must be descaled and if necessary replaced.

3. In case of presence of water treatment, make sure that it is not aggressive and that it creates no corrosion phenomena on the valve and its pilot. If necessary, adjust the water treatment and carry out controls, cleaning and/or replacement of damaged parts.

4. After stop or maintenance: check the setting of the pressure reducing valve, and redo it if necessary. Check that water put in operation was not an opportunity to a sudden influx of sand and other waste.

Headloss chart

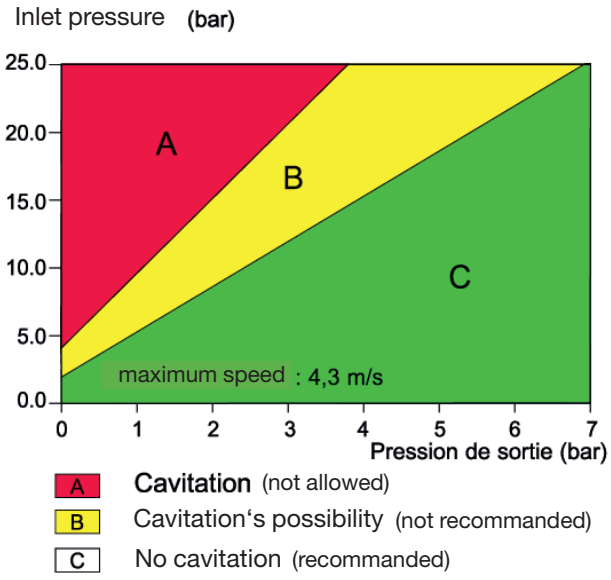
PR 500 - Headloss chart



Cavitation

Checking if the differencial of pressure, between the upstream and the desired downstream pressure, is not too large is necessary to avoid cavitation risk.
By putting in the graph hereafter, the upstream value and the desired downstream pressure, 3 results are possible :

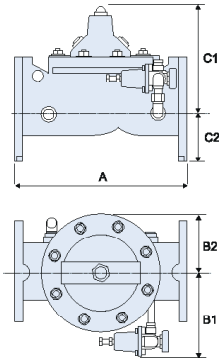
- Zone A : The point is in the cavitation zone : continuous operation in this zone can cause rapid damage of the internal parts. The operation in this zone is unauthorized.
- Zone B : The point is in the risk of cavitation zone, the pressure reducing valve can be damaged in case of continuous operation. If the pressure reducing valve is to operate in this zone, contact us.
- Zone C : The point is in the no-cavitation zone, normal duty.



A **Cavitation** (not allowed)
B **Cavitation's possibility** (not recommanded)
C **No cavitation** (recommanded)

Sizing

DN	A	B1	B2	C1	C2
50	230	170	85	165	95
65	290	170	85	165	95
80	310	175	85	165	100
100	350	190	120	210	110
125	400	200	150	285	125
150	480	210	150	285	145
200	600	235	200	360	170
250	730	280	255	475	200



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