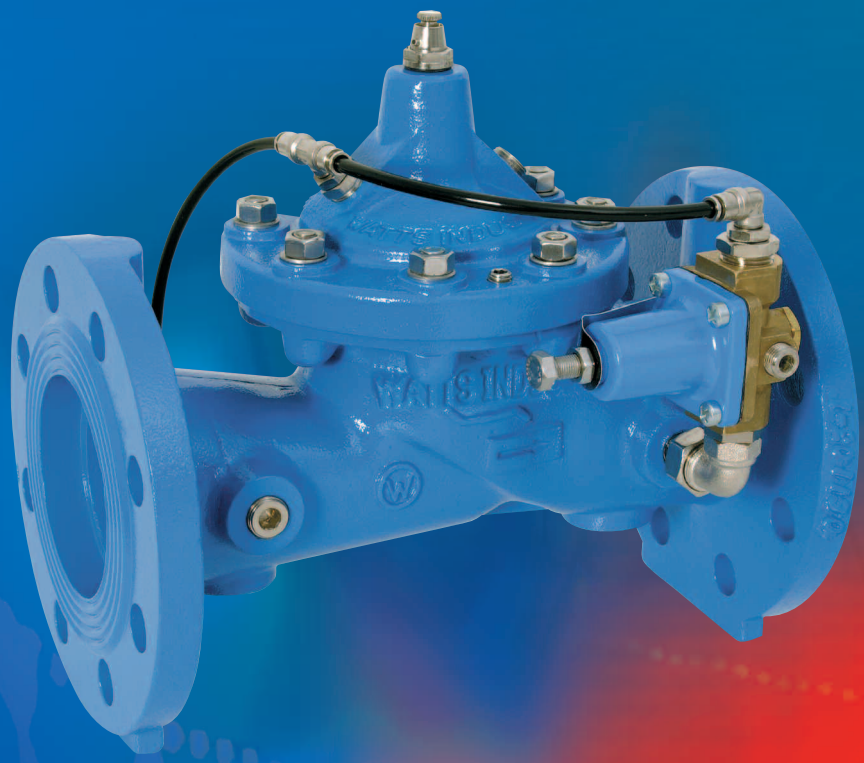
Pressure reducing valve
WATTS PR500



- Flanged water pressure reducing valve for buildings, commercial, water supply ; domestic or industrial.
- Approved: ACS.

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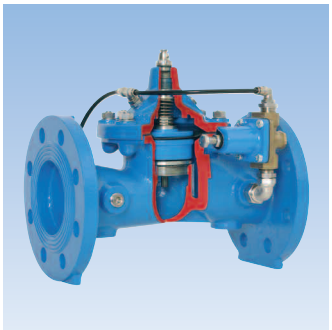
PRESSURE REDUCING VALVE WATTS PR500

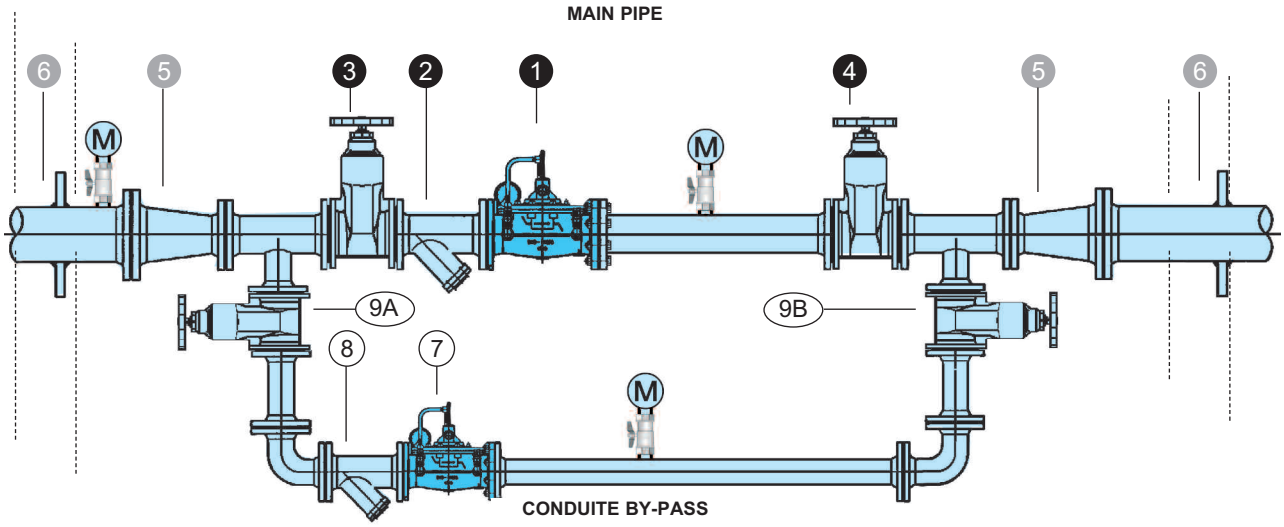


Presentation:
Reliable and simple, the PR500 is a flanged water pressure reducing valve. It is used for the general supply piping or a secondary circuit when water pressure must be maintained constant.

Application domain:
Buildings, commercial, industrial or domestic water supply.

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 a upstream filter is highly recommended.
Wherever possible the installation must conform to the schematic drawing below:



MAIN PIPE *(basic equipment)*

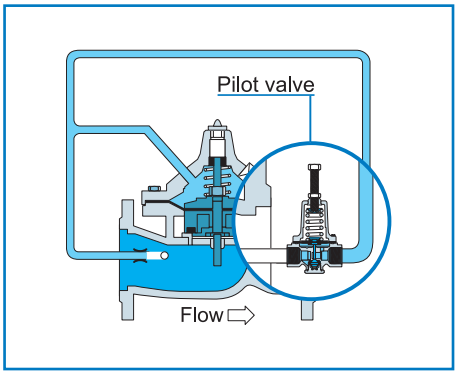
1. Pressure reducing valve PR500
2. Filter with drain valve
3. UPSTREAM isolation valve
4. DOWNSTREAM isolation valve
5. Cone flange (if need)
6. Anchor (cuff, flange)
M. Pressure gauge

BY-PASS PIPE *(in principle in the same horizontal plane as that of the main pipe)*

7. Pressure reducing valve PR500
8. Filter with drain valve
9A. By-pass isolation valve
9B. By-pass isolation valve
M. Pressure gauge

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.

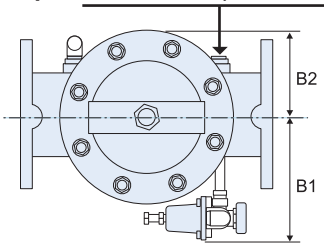
   The parts must be descaled and if necessary replaced.
3. In case of presence of water treatment, make sure that it is not aggressive and that it creates no corrosion phenomena on the valve and its pilot. If necessary, adjust the water treatment and carry out controls, cleaning and/or replacement of damaged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

Part no and dimensions:

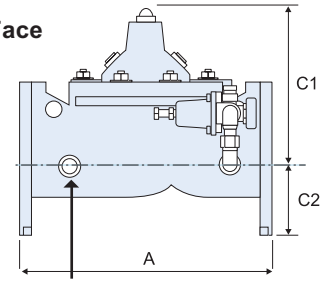
models	DN	PN	A (mm)	B1 (mm)	B2 (mm)	C1 (mm)	C2 (mm)	weight (kg)	pressure gauge plug
PR500-50	50	16	230	170	85	165	95	25	F 3/8”
PR500-65	65	16	290	170	85	165	95	25	F 3/8”
PR500-80	80	16	310	175	85	165	100	30	F 3/8”
PR500-100	100	16	350	190	120	210	110	40	F 1/2”
PR500-125	125	16	400	200	150	285	125	70	F 1/2”
PR500-150	150	16	480	210	150	285	145	90	F 1/2”
PR500-200	200	16	600	235	200	360	170	150	F 1/2”
PR500-250	250	16	730	280	255	475	200	400	F 1/2”

diameter	setting	type	part no
DN 50	1 to 7 bar	PR500 PN16	500 050 548
DN 65	1 to 7 bar	PR500 PN16	500 065 548
DN 80	1 to 7 bar	PR500 PN16	500 080 548
DN 100	1 to 7 bar	PR500 PN16	500 100 548
DN 125	1 to 7 bar	PR500 PN16	500 125 548
DN 150	1 to 7 bar	PR500 PN16	500 150 548
DN 200	1 to 7 bar	PR500 PN16	505 200 548
DN 250	1 to 7 bar	PR500 PN16	505 250 548

Top downstream pressure gauge plug

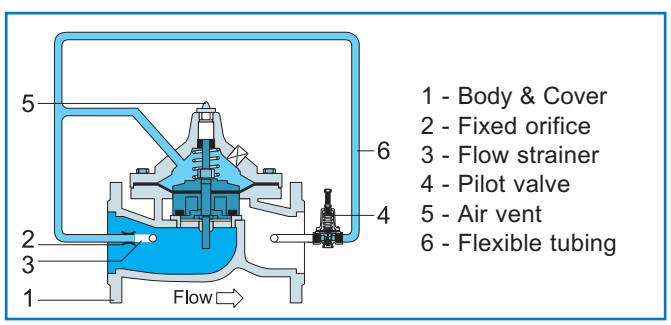


Face



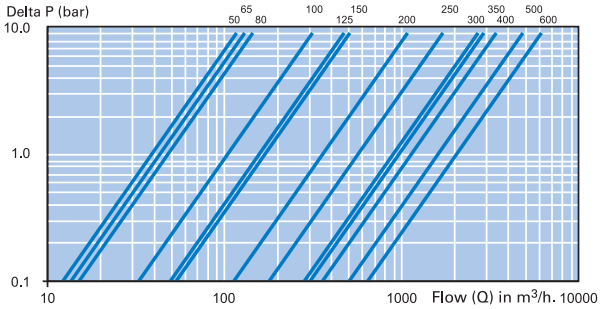
upstream pressure gauge plug

designation	materials
Body & Cover	Iron GGG40 integral interior and exterior epoxy coated
Diaphragm	NBR
Mobile valve set	Iron epoxy coated
Seat	Stainless steel 316 (CF8M)
Stem	Stainless steel 303
Spring	Stainless steel 302
Seals	NBR
Flexible tubing	PA 11
Pilot 263AP	Brass
Setting screw	Brass



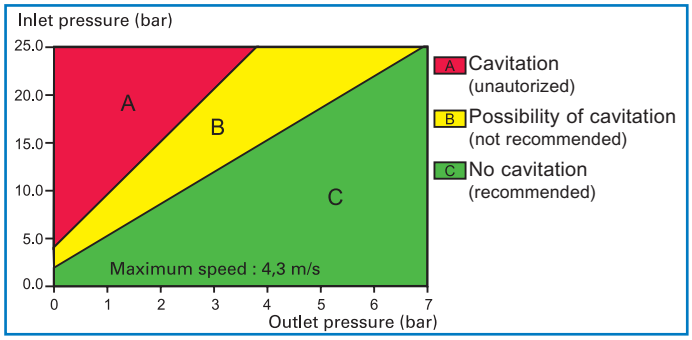
1 - Body & Cover
2 - Fixed orifice
3 - Flow strainer
4 - Pilot valve
5 - Air vent
6 - Flexible tubing

Pressure drop curve / headloss:



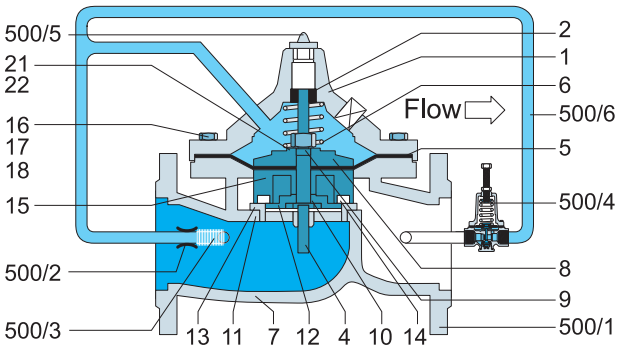
Hydraulic characteristics:

Cavitation: If the differential of pressure between the upstream and the desired downstream is too large, then it will be necessary to reduce the pressure in several stages by the installation of a series of pressure reducing valves.
A high inlet pressure and a low downstream pressure can cause a deterioration of the valve by cavitation.
To avoid this phenomenon, please refer to the curves hereafter.



Example: 15 bar upstream, 1 bar downstream = cavitation, unauthorized
10 bar upstream, 4 bar downstream = no cavitation, authorized

Repair kits:



designation	DN	marks (draw)	part no.
SET 1 - disc and diaphragm assembly (internal NBR parts), including: axis, diaphragm, diaphragm disc, axis nut, brace washer, disc guide, seals and seat disc, disk support			
Internal set 2" (EU100 DN050/065/080)	50 / 65 / 80	4, 5, 8, 9, 10, 11, 12, 14, 15	500050920
Internal set 3" (EU100 DN100)"	100	4, 5, 8, 9, 10, 11, 12, 14, 15	500080920
Internal set 4" (EU100 DN125/150)	125 / 150	4, 5, 8, 9, 10, 11, 12, 14, 15	500100920
Internal set 6" (EU100 DN200)	200	4, 5, 8, 9, 10, 11, 12, 14, 15	500150920
Internal set 8" (EU100 DN250)	250	4, 5, 8, 9, 10, 11, 12, 14, 15	500200920
SET 2 - valve base set (internal NBR parts), including: diaphragm, brace washer, seals and seat disc			
Internal set 2" (EU100 DN050/065/080)	50 / 65 / 80	5, 10, 11, 14	500050900
Internal set 3" (EU100 DN100)	100	5, 10, 11, 14	500080900
Internal set 4" (EU100 DN125/150)	125 / 150	5, 10, 11, 14	500100900
Internal set 6" (EU100 DN200)	200	5, 10, 11, 14	500150900
Internal set 8" (EU100 DN250)	250	5, 10, 11, 14	500200900
SET 3 - seat set (stainless steel), including: stainless steel seat			
Seat set 2" (EU100 DN050/065/080)	50 / 65 / 80	13	500050910
Seat set 3" (EU100 DN100)	100	13	500080910
Seat set 4" (EU100 DN125/150)	125 / 150	13	on request
Seat set 6" (EU100 DN200)	200	13	on request
Seat set 8" (EU100 DN250)	250	13	on request
Pilot 263AP brass body/aluminium cover	50 to 250	500/4	44001
Other replacement parts			
Fixing ring 10 mm plastic	50 to 250	500/2	500000047
Calibration strainer 10 mm stainless steel	50 / 65 / 80	500/3	544010122
Calibration strainer 15 mm stainless steel	100 / 125 / 150 / 200 / 250	500/3	544015122
Air vent 3/8" nickel plated brass	50 / 65 / 80	500/5	900257110
Air vent 1/2" nickel plated brass	100 / 125 / 150 / 200 / 250	500/5	on request
Flexible tubing 10 mm plastic PA	50 to 250	500/6	503000900
Flexible tubing set with fittings	50	500/6 (with fittings)	503050946
Flexible tubing set with fittings	65	500/6 (with fittings)	503065946
Flexible tubing set with fittings	80	500/6 (with fittings)	503080946
Flexible tubing set with fittings	100	500/6 (with fittings)	503100946
Flexible tubing set with fittings	125	500/6 (with fittings)	503125946
Flexible tubing set with fittings	150	500/6 (with fittings)	503150946
Flexible tubing set with fittings	200	500/6 (with fittings)	503200946
Flexible tubing set with fittings	250	500/6 (with fittings)	503250946

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