

9705B

DZR Brass Pressure Independent Control Valve (PICV)



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DZR brass pressure independent control valve (PICV)
Threaded F/F (ISO 7/1 Rp)
With regulation cartridge for ΔP range 30-400kPa
Tolerance on nominal regulated flow $\pm 7\%$
Integral flow measurement device (with tolerance $\pm 3\%$)
Flow modulation always use the whole valve stroke
(independently from the presetting)
TR CU 010 compliant

PN25 (Max 25bar up to 110°C, max 20bar above)
Free of CE marking (cat. according to Art. 4.3 Dir. 2014/68/EU)

Working conditions

- Suitable for: water, -20°C to $+120^{\circ}\text{C}$
below 0°C only for water with added antifreeze fluids
over 100°C only for water with added anti-boiling fluids
(Ethylene glycol or propylene glycol mixtures up to 50% may be used)
- Not suitable for: gases group 1 & 2, liquids group 1 (Dir. 2014/68/EU)

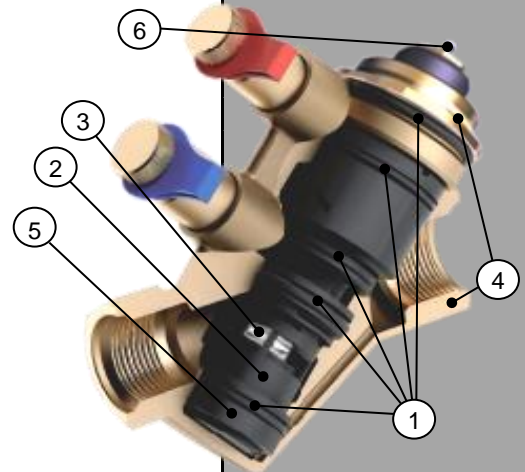


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PARTLIST

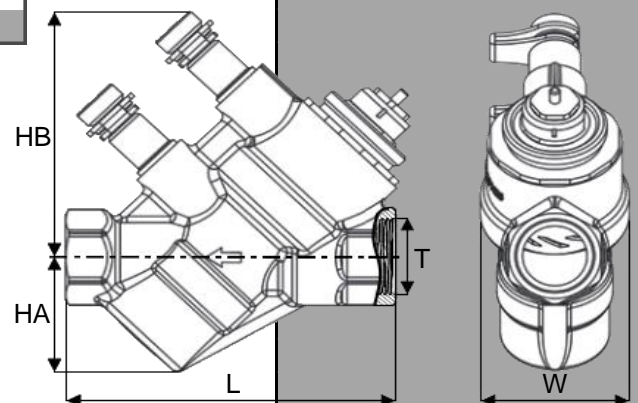
N.	Part	Material	Norm
1	O-rings	EPDM	-
2	Regulating group	PPS	-
3	Spring	Stainless steel	-
4	Body/cap	DZR brass	CW602N
5	Diaphragm	Reinforced EPDM	-
6	Stem	Stainless steel ¹	-

¹Stainless steel and CW602N DZR brass for DN32



DIMENSIONS

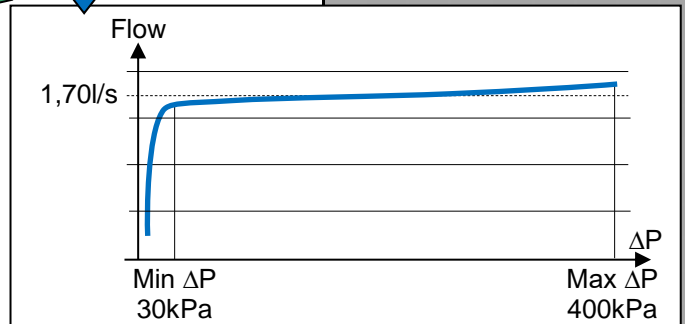
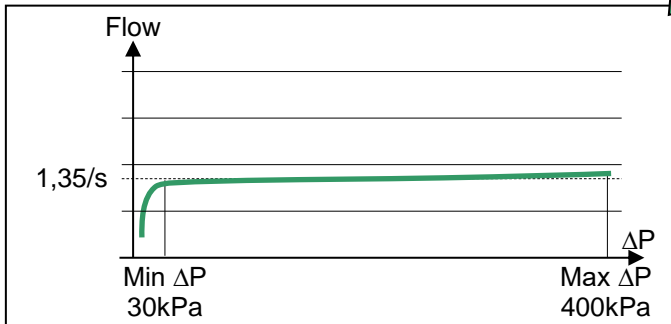
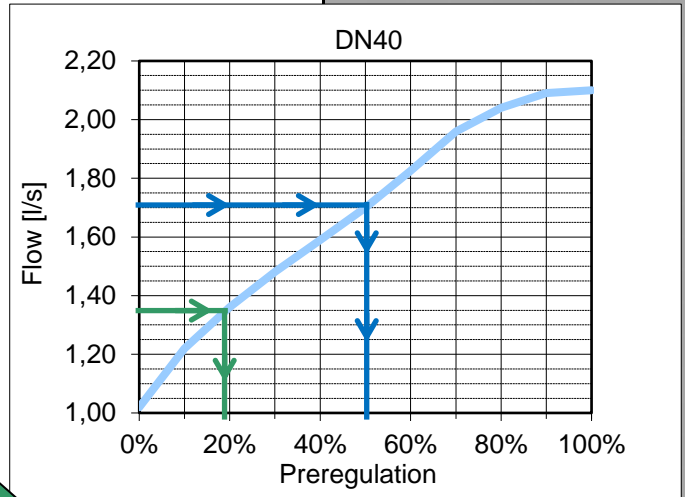
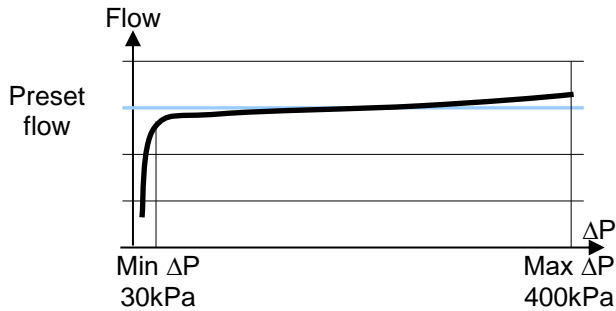
DN	T	L	HA	HB	W	Weight	Flow
		[mm]	[mm]	[mm]	[mm]	[g]	[l/s]
040	1½"	190	85	127	110	3490	1,02-2,10
050	2"	195	85	125	111	4020	1,44-3,50



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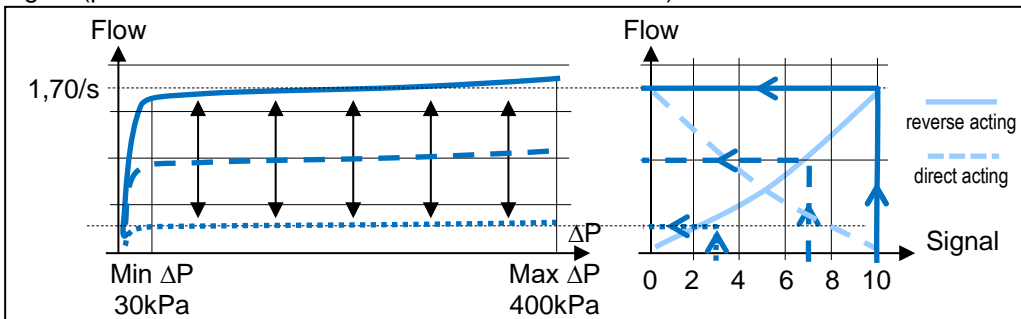
PRESETTING

Presetting allows to define the maximum flow that will be kept constant (by means of dynamic balancing) while the valve is used in fully open condition in its working differential pressure range.



The flow regulating group has the authority on all its full linear stroke (full stroke modulation). By using a modulating actuator, this allows to maintain proportionality between the control signal and the actual output flow.

In the above example, for a maximum flow of 1,70l/s a presetting of 50% is determined on a DN40 valve. This flow is then modulated with a 0-10V VIR modulating actuator set as "reverse acting". It's however possible to set the actuator as "direct acting", therefore inverting the correspondence between the flow and the signal (please refer to the technical sheet of the actuator).



VIR Fig. 9705B valves offer leakage Class IV, if used with an actuator small leakages shall be expected even in close position.



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Valve presetting can be done by using the presetting cap provided with the valve:

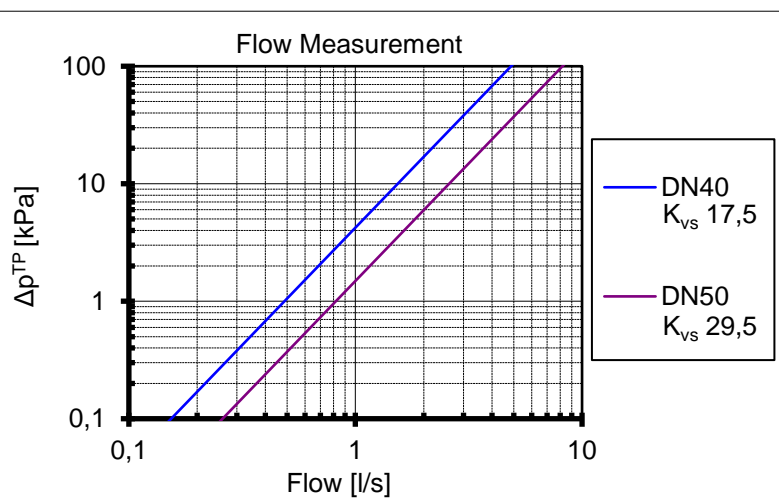
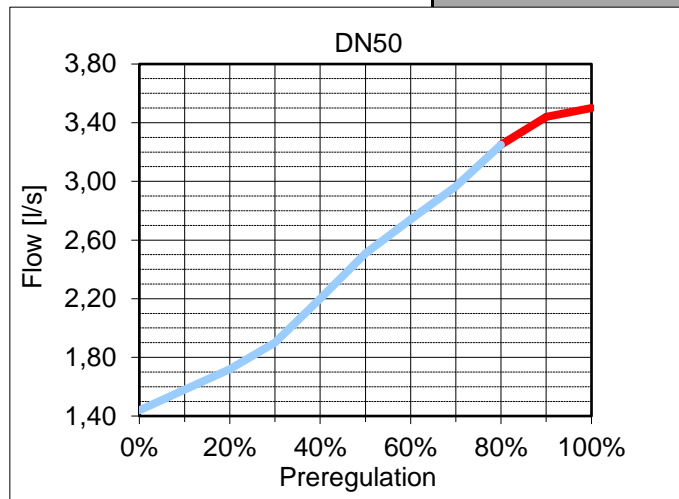
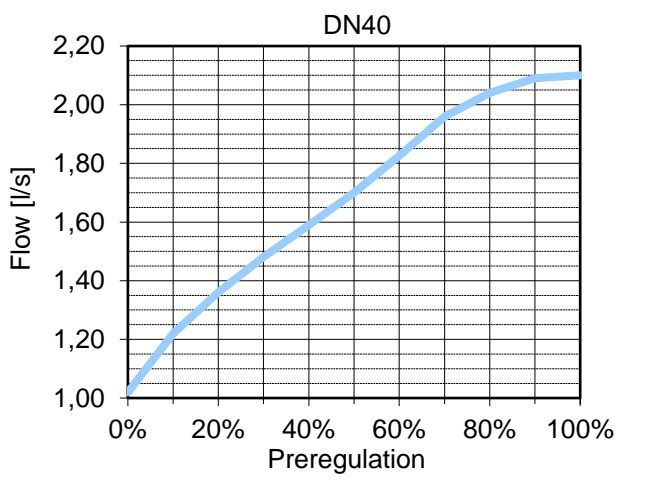
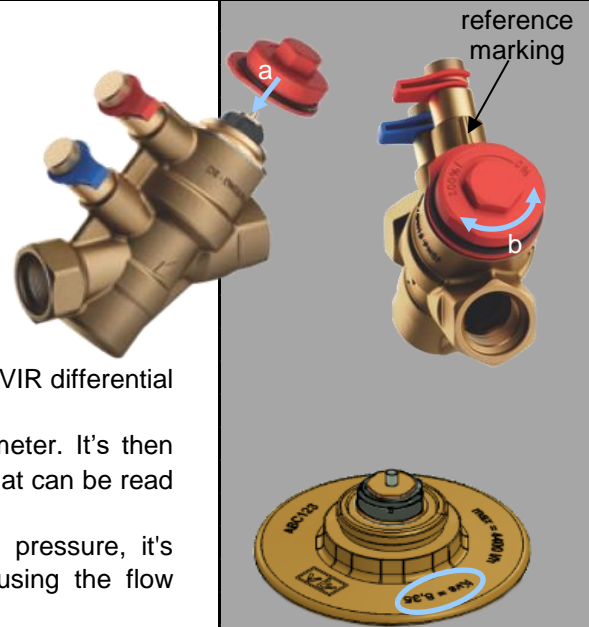
- Rotate the cap to fit it onto the valve stem;
- Then rotate the cap until reaching the desired regulation; each tooth on the cap scale corresponds to a step of 10%, the position is read against the marking on the valve body.

The following graphs show the correspondence between the presetting position and the regulated flow.

It's possible to obtain a more precise regulation of the flow by using a VIR differential pressure manometer.

The K_{vs} indicated on the valve bonnet has to be set on the manometer. It's then possible to rotate the presetting cap until reaching the desired flow (that can be read directly on the manometer).

If using a device that only allows the measure of the differential pressure, it's possible to calculate the flow based on the measured value by using the flow measurement graph also provided below.



Tolerance on flow measurement $\pm 8\%$ for the flows indicated in red



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INSTALLATION

Install the valve so that the flow direction matches the direction of the arrow indicated on the body of the valve. It's recommended to protect both the valves and the terminal units with a strainer and to perform a flushing (Max 16bar up to 25°C) at the end of the plant installation.

During the flushing the regulation cartridge has to be replaced by the presetting cap. At the end of the flushing reposition the cartridge back, carefully tightening it to the body. While repositioning the cartridge please ensure that the notch on the body matches the protruding tooth on the cartridge.



It is possible, at any time and even after the installation of the valve onto the line, to install onto the VIR Fig. 9705B valve a linear Vaurien-B actuator (for more information please refer to its specific technical sheet).

FITTING VIR ACTUATORS

DN	Vaurien-B electric actuators		
	230VAC, 3 points	24VAC, 3 points	24VAC, modulating
040	KA9705B03.800	KA9705B04.800	KA9705B05.800
050	KA9705B03.800	KA9705B04.800	KA9705B05.800



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