

9755

Cast Iron Pressure Independent Control Valve (PICV)



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Cast iron pressure independent control valve (PICV)
Flanged PN16 according to EN1092-2 (ex DIN2533)
With differential pressure regulator for ΔP up to 400kPa
Tolerance on nominal regulated flow $\pm 15\%$
With 0-10VDC modulating actuator, power supply 50Hz/60Hz 24V AC/DC
(IP54, 3,5W, travel 90° in 150 seconds, ambient temp. -30° to +50°C)

PN16 (Max 16bar up to 90°C, max 13bar at 110°C)
Free of CE marking (cat. according to Art. 4.3 Dir. 2014/68/EU)

Working conditions

- Suitable for: water, -10°C to +110°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)



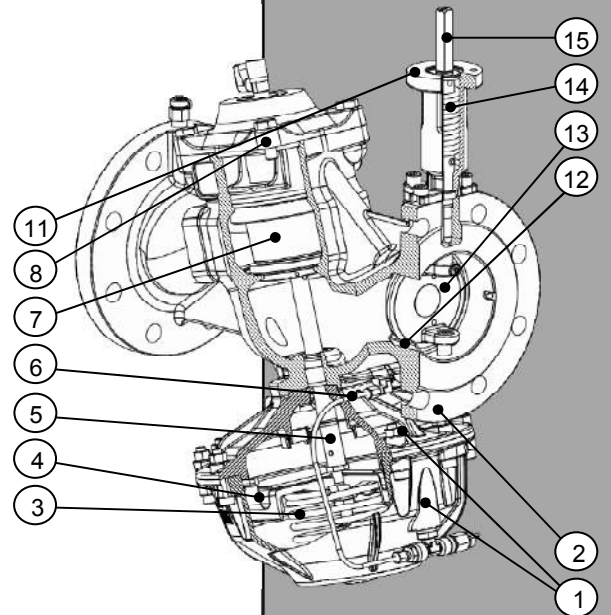
PARTLIST

| N. | Part | Material | Norm |
|----|---------------------|-------------------------------|----------------|
| 1 | Spring housing | Aluminum | - |
| 2 | Body | Cast iron | EN-GJL-250 |
| 3 | Pres. reg. springs | Stainless steel | AISI 302 |
| 4 | Membrane | EPDM | - |
| 5 | Pres. reg. stems | Brass ¹ | EN12164 CW617N |
| 6 | Pipe | Copper | - |
| 7 | Shutter | Aluminum / brass ¹ | - |
| 8 | Bonnet | Cast iron | EN-GJL-250 |
| 9 | O-ring and seals | EPDM | - |
| 10 | Fittings | Brass ² | - |
| 11 | Actuator Stand | Aluminum | - |
| 12 | Shutter seat | Stainless steel | AISI 304 |
| 13 | Shutter | Brass | EN12164 CW617N |
| 14 | Overt. prev. spring | Spring steel | 2FD |
| 15 | Shutter stem | Brass ³ | EN12164 CW617N |
| 16 | Bolts and nuts | Stainless steel | A2 |

¹With R-PTFE bushings, EPDM shutter gasket

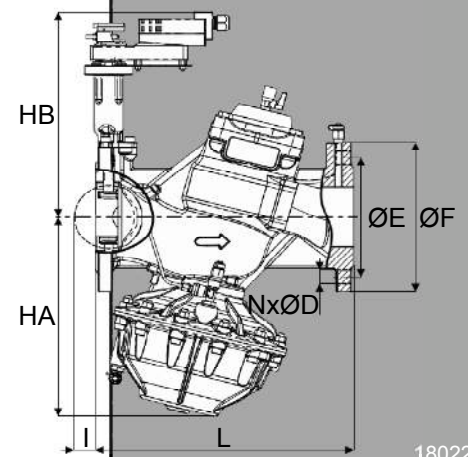
²Test points with EPDM Perox gaskets and polypropylene ties, nickel pl. Fittings

³With PTFE sliding washer and PTFE coated stainless steel bushings



DIMENSIONS

| DN | ØF [mm] | ØE [mm] | NxØD [mm] | HA [mm] | HB [mm] | L [mm] | I [mm] | Flow [l/s] | Weight [kg] |
|-----|---------|---------|-----------|---------|---------|--------|--------|------------|-------------|
| 065 | 185 | 145 | 4x18 | 217 | 289 | 290 | 18 | 2,67-7,22 | 23,3 |
| 080 | 200 | 160 | 8x18 | 281 | 298 | 310 | 23 | 3,52-10,0 | 29,8 |
| 100 | 220 | 180 | 8x18 | 295 | 308 | 350 | 36 | 7,14-22,9 | 35,3 |
| 125 | 250 | 210 | 8x18 | 317 | 356 | 400 | 47 | 9,88-34,7 | 48,1 |
| 150 | 285 | 240 | 8x22 | 341 | 385 | 480 | 68 | 14,2-44,4 | 77,1 |

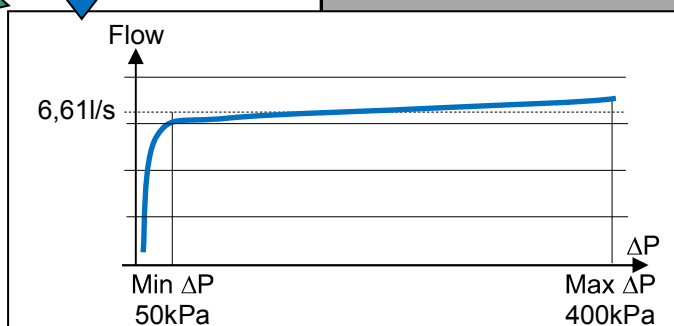
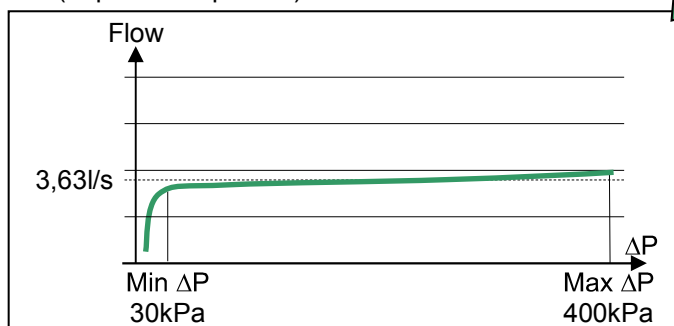
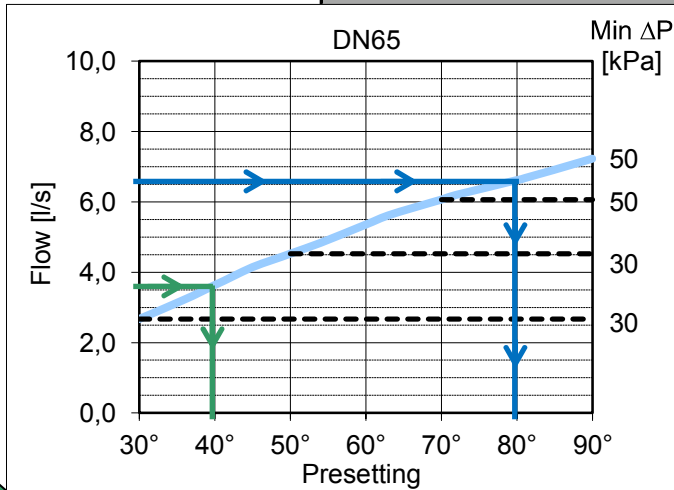
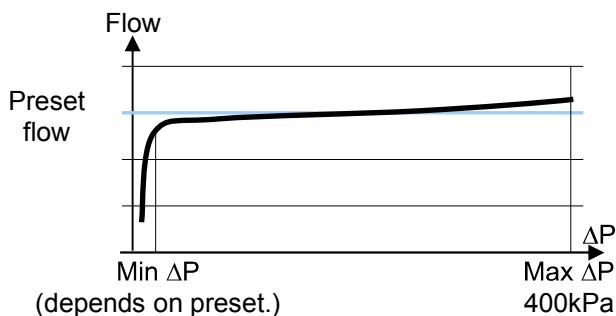


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PRESETTING

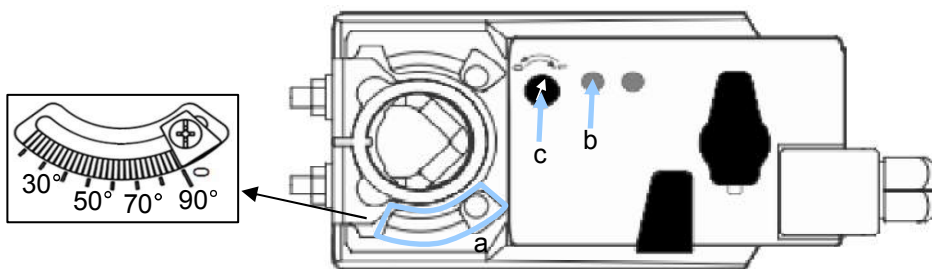
Presetting allows to define the maximum flow that will be kept constant (by means of dynamic balancing) while the valve is used in fully open condition in its working differential pressure range.

Presetting determines also the minimum working differential pressure of the valve.



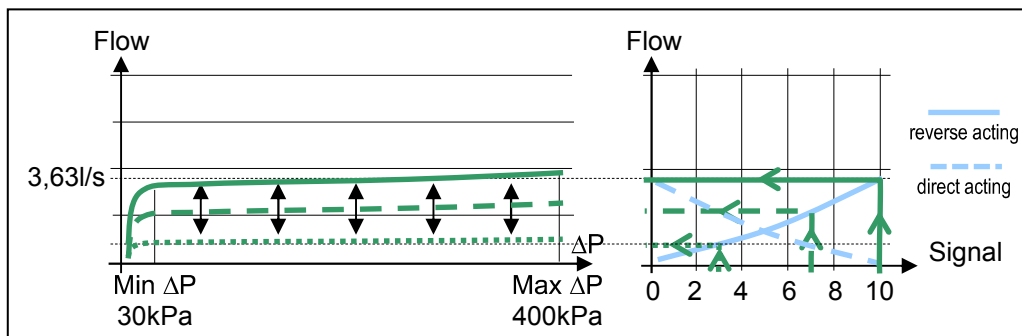
It is possible to preset the valve by acting on the mechanical stop of the actuator:

- with a screwdriver move the mechanical stop using the graduated scale as reference; the graphs in the next page show the correspondence between the presetting position and the regulated flow;
- start the auto stroke detection by pressing the "Adaption" button.

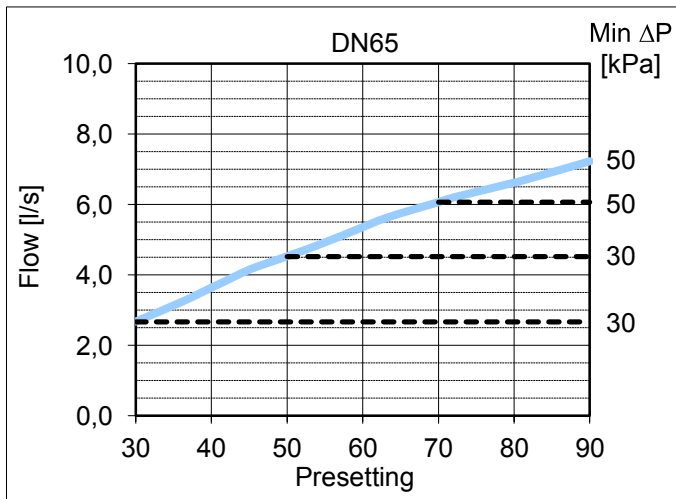


At the end of the auto stroke detection, the new maximum opening position is assigned to the opening signal, and the actuator will then redistribute the correspondence between the 0-10V signal and the opening position of the valve.

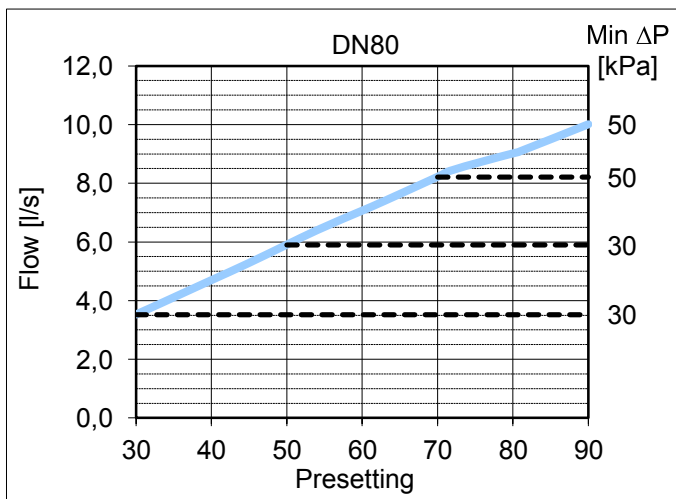
By acting on the indicate switch (c), it's possible to set the actuator on "reverse acting" (arrow on 1 as per factory settings, close with 0V signal) or "direct acting" (arrow on 0, open with 0V signal).



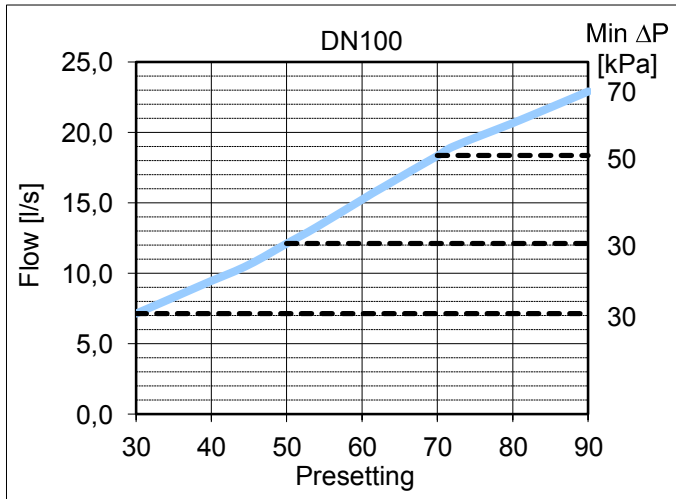
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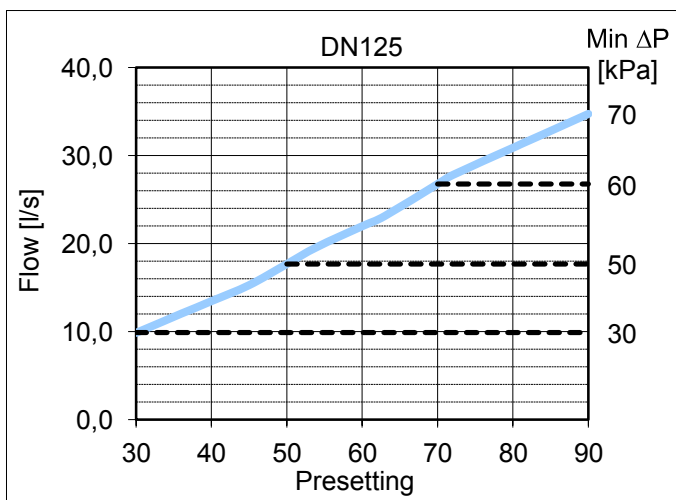
| DN65 Preset. | Flow | | ΔP min. [kPa] |
|-----------------|-------|---------------------|------------------|
| | [l/s] | [m ³ /h] | |
| 30° | 2,67 | 9,60 | 30 |
| 40° | 3,63 | 13,1 | 30 |
| 50° | 4,52 | 16,3 | 30 |
| 60° | 5,35 | 19,3 | 50 |
| 70° | 6,06 | 21,8 | 50 |
| 80° | 6,61 | 23,8 | 50 |
| 90° | 7,22 | 26,0 | 50 |



| DN80 Preset. | Flow | | ΔP min. [kPa] |
|-----------------|-------|---------------------|------------------|
| | [l/s] | [m ³ /h] | |
| 30° | 3,52 | 12,67 | 30 |
| 40° | 4,69 | 16,9 | 30 |
| 50° | 5,90 | 21,2 | 30 |
| 60° | 7,06 | 25,4 | 30 |
| 70° | 8,21 | 29,6 | 50 |
| 80° | 9,01 | 32,4 | 50 |
| 90° | 10,00 | 36,0 | 50 |



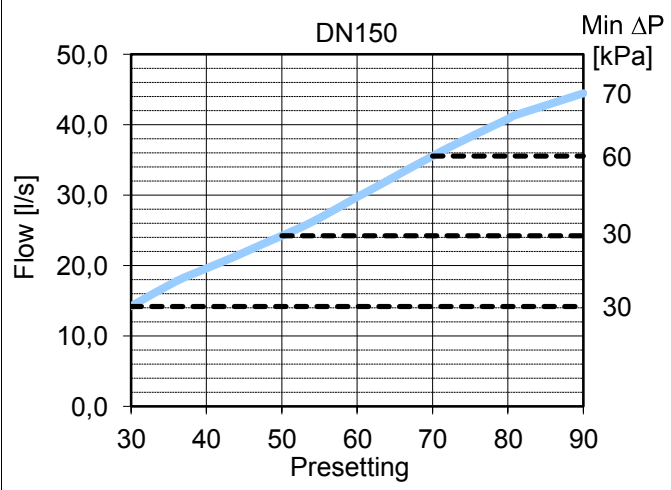
| DN100 Preset. | Flow | | ΔP min. [kPa] |
|------------------|-------|---------------------|------------------|
| | [l/s] | [m ³ /h] | |
| 30° | 7,14 | 25,7 | 30 |
| 40° | 9,45 | 34,0 | 30 |
| 50° | 12,1 | 43,6 | 30 |
| 60° | 15,2 | 54,8 | 50 |
| 70° | 18,4 | 66,1 | 50 |
| 80° | 20,7 | 74,4 | 70 |
| 90° | 22,9 | 82,5 | 70 |



| DN125 Preset. | Flow | | ΔP min. [kPa] |
|------------------|-------|---------------------|------------------|
| | [l/s] | [m ³ /h] | |
| 30° | 9,88 | 35,6 | 30 |
| 40° | 13,5 | 48,5 | 30 |
| 50° | 17,7 | 63,7 | 50 |
| 60° | 22,0 | 79,1 | 50 |
| 70° | 26,7 | 96,3 | 60 |
| 80° | 30,9 | 111 | 70 |
| 90° | 34,7 | 125 | 70 |



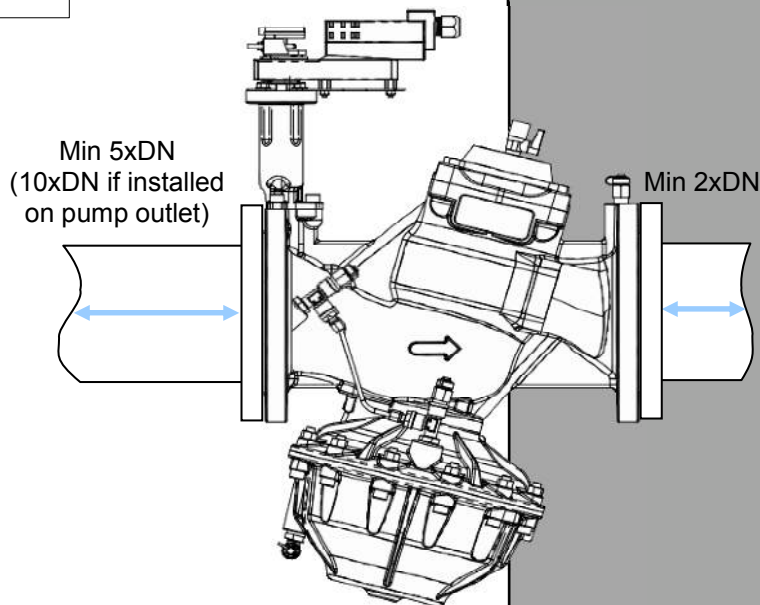
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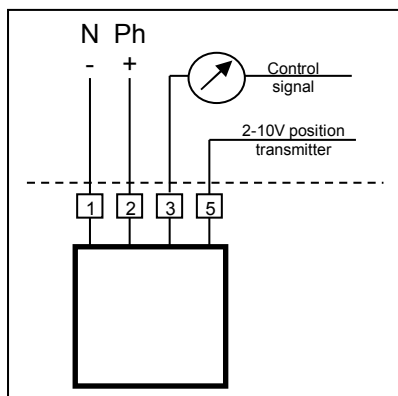
| DN150 Preset. | Flow | | ΔP min. [kPa] |
|------------------|-------|---------------------|------------------|
| | [l/s] | [m ³ /h] | |
| 30° | 14,2 | 51,1 | 30 |
| 40° | 19,6 | 70,4 | 30 |
| 50° | 24,2 | 87,3 | 30 |
| 60° | 29,7 | 107 | 50 |
| 70° | 35,5 | 128 | 60 |
| 80° | 40,8 | 147 | 70 |
| 90° | 44,4 | 160 | 70 |

INSTALLATION

To obtain the best performances valve must be installed on a pipe with its same nominal size preceded and followed by straight pipe lengths as per figure indications.



WIRING DIAGRAM



| Ref. | Designation |
|------|-------------------|
| N | Wiring to neutral |
| Ph | Wiring to phase |
| + | Wiring to + pole |
| - | Wiring to - pole |

WARNING: the actuator can only detect control signals >0,5V.



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