

3-way Control Valve type Low Leakage (INVERTED)

Nodular Cast Iron, PN16, DN 80 – 300 mm / PN10, DN300/250 mm

0-2.5.14.01-A

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APPLICATIONS

Control valves type Low Leakage are designed for regulating of load dependant cylinder liner (LDCL), cooling water systems. The valve is designed with inverted ports for application with common port on the left side.

DESIGN

The valve components (seats and cone) are made of alubronzel, the spindle of stainless steel. The valve body is made of nodular cast iron and the valve flanges are drilled according to EN 1092-2 (JIS B 2210 option). The valve has two balanced single seats and the port AB-B is designed 100 % tight.

FUNCTION

The valve cone is firmly connected with the actuator spindle. When the valve cone is in the one extreme position by draw on the spindle, connection A-AB is kept fully open and connection B-AB is fully closed.

In the other extreme position connection A-AB is fully closed and connection B-AB is fully open. In the intermediate positions the opening degrees change proportionally.

TECHNICAL DATA

Materials:

| | |
|------------------|------------------------------------|
| - Valve body | Nodular cast iron EN-GJS-400-15 |
| - Seats and cone | Alu Bronze CuAL10Fe5Ni5 |
| - Spindle | Stainless steel (W.no 1.4436) |
| - O-ring | A75H- Gasket Reinz-AFM34 |

Nominal pressure

| | |
|------------------|-------------------|
| - DN 80-200 | PN 16 (max.150°C) |
| - DN 300/250-300 | PN 10 (max.150°C) |
| - DN 80-300 | JIS 10K (option) |

Seats 2 balanced single seats

Flow characteristic Almost linear

Leakage Port AB-B 0.0%

Flanges According to EN 1092-2,
PN 16 & PN 10

- Option: According to JIS B 2210 10K

Regulating capability Kvs/Kvr > 25

Note!

Valve DN 200/175 has outer measures and flanges drilled as valve DN 200. Valve DN 300/250 has outer measures and flanges drilled as valve DN 300

Counter flanges (suggested for EN 1092-2)

| | |
|-------------------|------------------|
| - DN 80-200: | DIN 2633 – PN 16 |
| - DN 300/250-300: | DIN 2632 – PN 10 |

Soft seat with O-ring

Leakage class IV

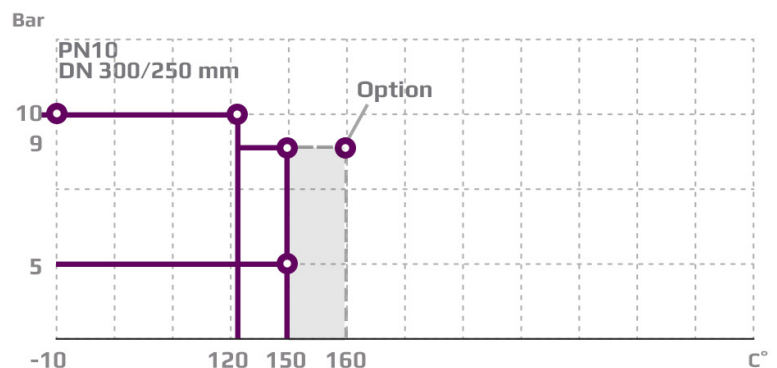
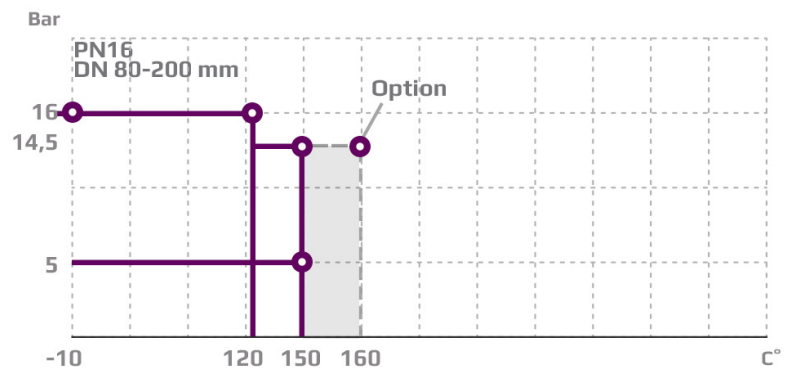
Subject to change without notice.

FEATURES

- Soft-seat makes the valve 99.99% tight between port AB-B for energy savings
- Can be used for both mixing and diverting
- Simple design secures reliable controls and reduces costly downtime.
- Comment port AB on the left side

PRESSURE/TEMPERATURE DIAGRAM

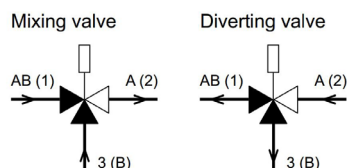
According to DIN 2401



MOUNTING

The valves can be installed vertical as well as horizontal. The valves must be mounted in a way that the valve motor will be exposed to a minimum of moisture and unnecessary vibrations. Free height above / below the valve must be minimum 400 mm for mounting and operation of the AVM/AVF 234 motor, otherwise minimum 745 mm for pneumatic actuators.

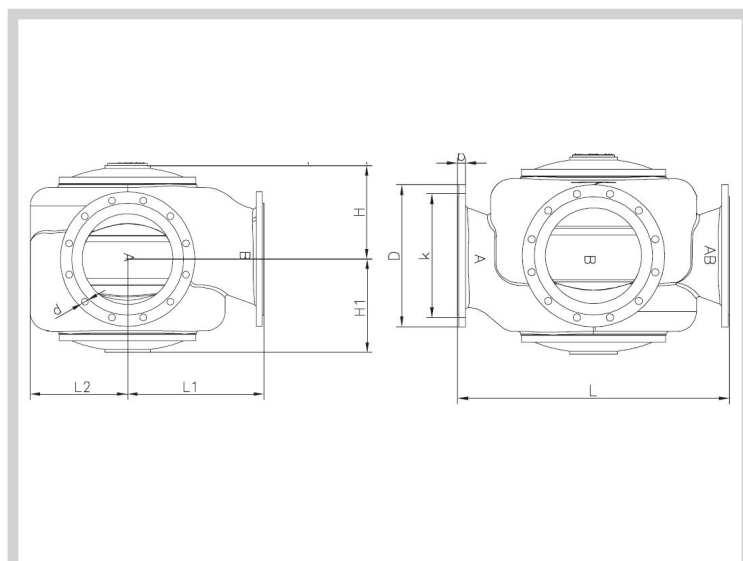
PORT NUMBERING



Port AB(1)
Port A(2)
Port 3(B)

common port always open
closes at load on spindle
opens at load on spindle

DIMENSION SKETCH



SPECIFICATIONS

| DN | Flange connection DN in mm | Opening (mm) | k_{vs} -value m^3/h | Lifting height (mm) | Weight (kg) |
|---------|----------------------------|--------------|-------------------------|---------------------|-------------|
| 80 | 80 | 80 | 80 | 11 | 35 |
| 100 | 100 | 100 | 125 | 13 | 44 |
| 125 | 125 | 125 | 215 | 18 | 72 |
| 150 | 150 | 150 | 310 | 22 | 111 |
| 200/175 | 200 | 200 | 425 | 23 | 165 |
| 200 | 200 | 200 | 555 | 29 | 160 |
| 300/250 | 300 | 300 | 865 | 31 | 306 |
| 300 | 300 | 300 | 1250 | 45 | 306 |

¹⁾The stated k_{vs} values apply for mixing valves. Diverting valves: $0.86 \times (k_{vs}$ -values for mixing valves)

| DN | L (mm) | L1 (mm) | L2 (mm) | H (mm) | H1 (mm) | b (mm) | EN 1092-2 | | | JIS B 2210 10K | | |
|---------|--------|---------|---------|--------|---------|--------|---------------|---------------|--------------------|----------------|---------------|--------------------|
| | | | | | | | D (dia.) (mm) | k (dia.) (mm) | d mm dia. (number) | D (dia.) (mm) | k (dia.) (mm) | d mm dia. (number) |
| 80 | 310 | 155 | 102 | 117 | 127 | 19 | 200 | 160 | 19x(8) | 185 | 150 | 19x(8) |
| 100 | 350 | 175 | 112 | 132 | 141 | 19 | 220 | 180 | 19x(8) | 210 | 175 | 19x(8) |
| 125 | 400 | 240 | 138 | 181 | 171 | 19 | 250 | 210 | 19x(8) | 250 | 210 | 23x(8) |
| 150 | 480 | 270 | 165 | 216 | 189 | 24 | 285 | 240 | 23x(8) | 280 | 240 | 23x(8) |
| 200/175 | 600 | 325 | 230 | 238 | 238 | 20 | 340 | 295 | 23x(12) | 330 | 290 | 23x(12) |
| 200 | 600 | 325 | 230 | 238 | 238 | 20 | 340 | 295 | 23x(12) | 330 | 290 | 23x(12) |
| 300/250 | 850 | 450 | 325 | 305 | 305 | 25 | 445 | 400 | 23x(12) | 445 | 400 | 25x(16) |
| 300 | 850 | 450 | 325 | 305 | 305 | 25 | 445 | 400 | 23x(12) | 445 | 400 | 25x(16) |