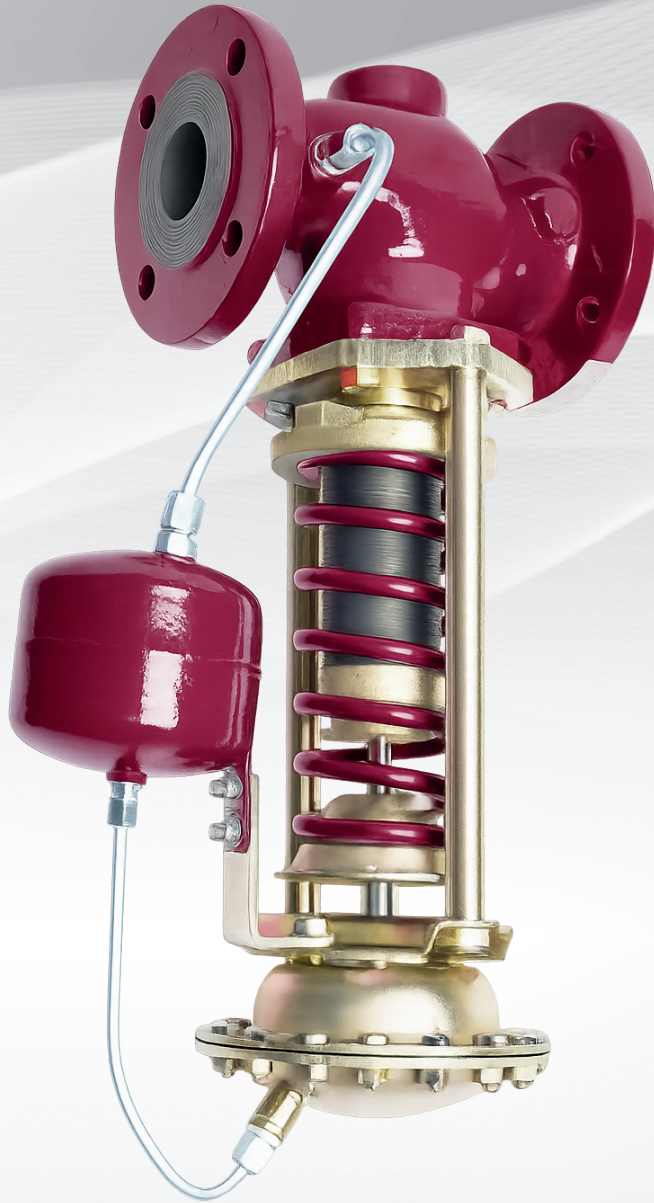


BR-DR26-00EN

# DR-1

S E R I E S

Direct Acting  
Pressure Reducing Valve



FLOWmaxi

# DR-1 SERIES

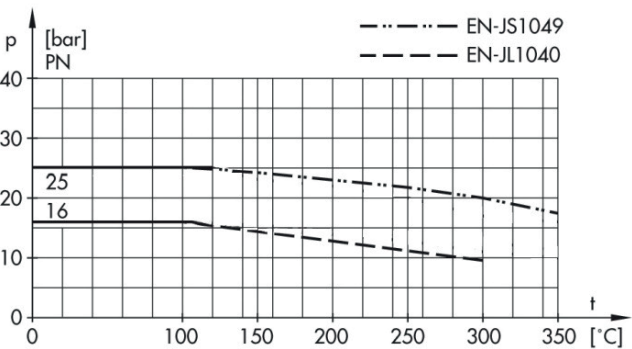
## Direct Acting Pressure Reducing Valve

### Operating Range

A self-operating pressure control valve is a useful device for stabilizing line pressure at a set point. The adjustable pressure range varies between 0.2 and 6 bar, and its size ranges from DN15 to DN100. The nominal pressure is PN16 or PN25, and the maximum temperature is 350°C. This device is manufactured according to DIN standards. The Type 10 valve is suitable for steam lines.

### Function

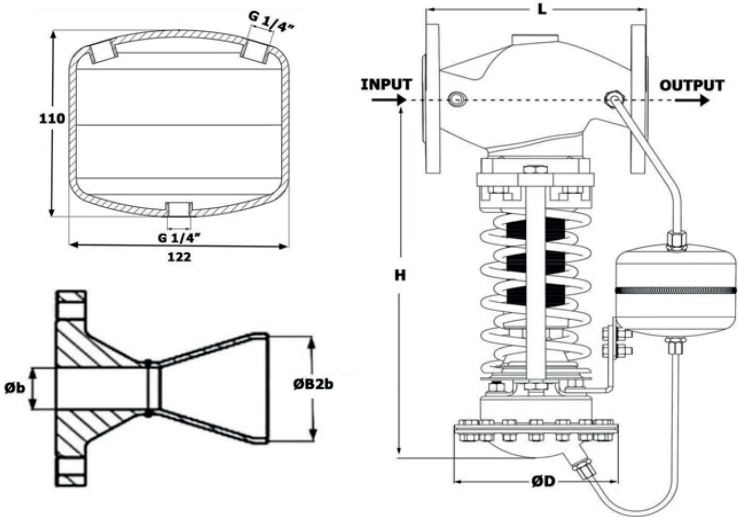
The Type 10 steam pressure reducing valve controls the outlet pressure and automatically keeps it at a specific set point. The valve is normally open and gradually closes as the outlet pressure increases. The correct steam direction in the valve is indicated by an arrow on its body. The outlet pressure is transmitted to the actuator via a balancing tank and connection pipe and is delivered to the diaphragm surface. This force is transferred by the rod to the plug and changes the distance between the seat and the plug. In this way, the pressure is stabilized at the set point. This device has a bellows part that balances the inlet and outlet pressure and also acts as a mechanical seal. This valve is self-operating and does not require any extra power.



### Pressure – Temperature Diagram

These diagrams are drawn according to DIN standards and show different functions and pressure ranges as a result of different temperatures and materials.

| How to Order          |     |
|-----------------------|-----|
| Size                  | DN  |
| Working Pressure      | PN  |
| Output Pressure Range | Bar |
| Input Pressure        | P1  |
| Output Pressure       | P2  |
| Steam Temperature     | °C  |





Condensate (Balancing) Pot:

This equipment is used to protect the diaphragm from extra heat and exposure to steam. This vessel must be filled with water before operating the valve.

Control Line (3/8" pipe):

This line transmits the main process pressure to the actuator, ensuring sensitive and stable control of the valve. Thanks to the integrated design, there is no need to install an external control line.

Conic Reducer:

It is beneficial to enlarge the outlet diameter of the valve to increase the steam volume to the required amount.

Connection Bolt:

To connect the control line to the actuator and the main body of the valve.

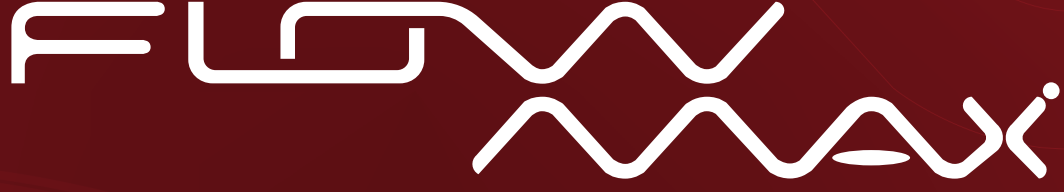
Water Injection Orifice:

It is for filling the condensate pot, control line, and actuator with water.

| Technical Data:             |                                        |                                                           |    |    |      |    |    |    |    |
|-----------------------------|----------------------------------------|-----------------------------------------------------------|----|----|------|----|----|----|----|
| Size                        | DN                                     | 15                                                        | 20 | 25 | 32   | 40 | 50 | 65 | 80 |
| Flow Rate                   | Kvs.                                   | 3.1                                                       | 5  | 8  | 12.5 | 20 | 32 | 50 | 75 |
| Working Press. Difference   | Ap bar                                 | 25                                                        |    |    |      |    |    | 20 |    |
| Working Press.              | PN16/25                                |                                                           |    |    |      |    |    |    |    |
| Leakage Rate                | 0.05% ≤ of Kvs Valve for metal sealing |                                                           |    |    |      |    |    |    |    |
| Working Temp                | See: Press. – Temp. Table              |                                                           |    |    |      |    |    |    |    |
| Adjustable Press. Range     | bar                                    | 0.2 ... 1 , 0.8 ... 2.5 , 2 ... 5 , 4.5 ... 10 , 8 ... 16 |    |    |      |    |    |    |    |
| Ambient Allowed Temperature | °C                                     | -10 ... + 80                                              |    |    |      |    |    |    |    |

| Parts Material        |     |                                   |                     |
|-----------------------|-----|-----------------------------------|---------------------|
| Seat and Plug         |     | Standard                          | Stainless steel 410 |
|                       |     | Special                           | Stainless steel 304 |
| Nominal Pressure      | DIN | PN25                              | PN16                |
| Body Material         |     | Cast iron                         | Cast iron           |
|                       |     | GGG-40.3 EN-JL1049                | GG25 EN-JL1040      |
| Metal Accordion Piece |     | Stainless steel 316L/ (WN 1.4435) |                     |
| Body Washer           |     | Graphite with Metal Core          |                     |
| Actuator              |     | ST                                |                     |
| Diaphragm             |     | (Reinforced with fiber) EPDM      |                     |

| Dimensions and Weights:                                   |                           |                    |     |     |                   |     |     |                    |     |
|-----------------------------------------------------------|---------------------------|--------------------|-----|-----|-------------------|-----|-----|--------------------|-----|
| Size                                                      | DN                        | 15                 | 20  | 25  | 32                | 40  | 50  | 65                 | 80  |
| Orifice Diameter                                          |                           | 22                 |     |     |                   |     |     | 65                 |     |
| Length                                                    | L                         | 130                | 150 | 160 | 180               | 200 | 230 | 290                | 310 |
| 0.2 ... 1                                                 | Weight<br>Approx.<br>PN16 | 19                 | 19  | 20  | 26                | 27  | 29  | 52                 | 57  |
| 0.8 ... 2.5                                               |                           | 15                 | 15  | 16  | 22                | 23  | 25  | 49                 | 54  |
|                                                           |                           | 12                 | 12  | 13  | 19                | 20  | 22  | 45                 | 50  |
| If working pressure is PN25, 10% will be added to weights |                           |                    |     |     |                   |     |     |                    |     |
| 0.2 ... 1                                                 | H                         | 420                |     |     | 450               |     |     | 590                |     |
|                                                           | ØD                        | ØD = 285 . A350cm² |     |     |                   |     |     |                    |     |
|                                                           | Spring Tork               | 4600N              |     |     |                   |     |     |                    |     |
| 0.8... 2.5                                                | H                         | 410                |     |     | 440               |     |     | 570                |     |
|                                                           | ØD                        | ØD = 230 . A160cm² |     |     |                   |     |     |                    |     |
|                                                           | Spring Tork               | 4600N              |     |     |                   |     |     |                    |     |
| 2... 5                                                    | H                         | 390                |     |     | 440               |     |     | 570                |     |
|                                                           | ØD                        | ØD = 175 . A80cm²  |     |     |                   |     |     | ØD = 230 . A160cm² |     |
|                                                           | Spring Tork               | 4600N              |     |     |                   |     |     | 8500N              |     |
| 4.5... 10                                                 | H                         | 390                |     |     | 440               |     |     | 550                |     |
|                                                           | ØD                        | ØD = 175 . A40cm²  |     |     | ØD = 175 . A80cm² |     |     |                    |     |
|                                                           | Spring Tork               | 4600N              |     |     | 8500N             |     |     | 7500N              |     |
| 8... 16                                                   | H                         | 390                |     |     | 440               |     |     | 550                |     |
|                                                           | ØD                        | ØD = 175 . A40cm²  |     |     |                   |     |     | ØD = 175 . A80cm²  |     |
|                                                           | Spring Tork               | 8500N              |     |     |                   |     |     |                    |     |



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