

## PRESSURE CONTROL

**Pressure reducing valve RP 840**

Millibar control valve for medium to very high flow rates

**Technical data**

|                       |                             |
|-----------------------|-----------------------------|
| Connection DN         | 25 - 150                    |
| Nominal pressure PN   | 16                          |
| Inlet pressure        | up to 16 bar                |
| Outlet pressure       | 0.002 - 0.52 bar            |
| K <sub>vs</sub> value | 4 - 160 m³/h                |
| Temperature medium    | 130 °C<br>gases and liquids |

**Description**

The pressure reducing valve RP 840 is a pilot-operated control valve consisting of a main valve for high flow rates combined with a millibar valve serving as pilot valve. Both valves are manufactured from deep-drawn stainless steel featuring excellent corrosion resistance and are arranged as a pre-mounted unit in a rack. The valve cone is soft-sealed.

If the outlet pressure falls below the pre-set nominal value, the pilot valve is kept open by its spring. The control medium flows off towards the valve outlet. Throttle D<sub>1</sub> brings about a pressure drop, so that the control pressure in the main valve control mechanism nearly corresponds to the outlet pressure. The inlet pressure overcomes the outlet pressure and the closing spring force and opens the main valve.

Once the outlet pressure has reached the pre-set nominal value, the pilot valve starts to throttle. In doing so, the control pressure rises and pushes the main valve control mechanism to a regulating position. The throttles D<sub>1</sub> and D<sub>2</sub> serve to optimise the regulating behaviour. The bypass brings about rapid closure.

If the outlet pressure exceeds the nominal value, the pilot valve closes. The control pressure is equivalent to the inlet pressure. The main valve closes because the control mechanism diameter is larger than the valve seat. In addition, the spring also has a closing effect.

These valves are no shut-off elements ensuring a tight closing of the valve. In accordance with DIN EN 60534-4 and/or ANSI FCI 70-2 they may feature a leakage rate in closed position in compliance with the leakage classes V.

**Standard**

- » Pilot valve made of stainless steel
- » Throttle block with integrated strainer and throttle valves completely made of stainless steel

**Optionen**

- » Different materials for diaphragm and seals, suitable for your medium
- » Special connections: Aseptic, ANSI or JIS flanges, welding ends, other connections on request
- » Special versions on request

**Product**

Picture similar

**Technical specification****K<sub>vs</sub> values [m³/h]**

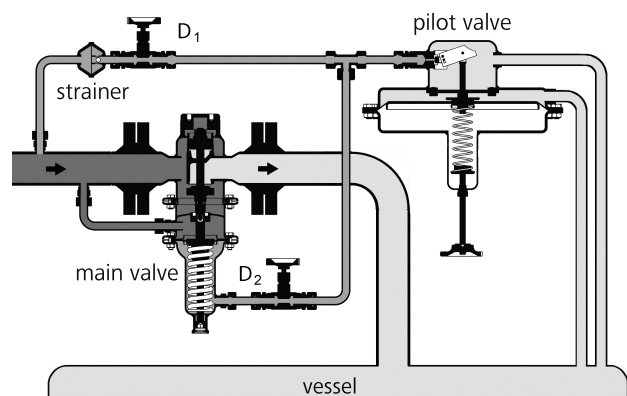
| main valve | nominal diameter DN |    |    |    |    |     |         |
|------------|---------------------|----|----|----|----|-----|---------|
|            | 25                  | 40 | 50 | 65 | 80 | 100 | 125 150 |
| DV 5.1     | 4                   | 22 | 22 | -  | -  | -   | -       |
| DV 4.7     | -                   | -  | 32 | 50 | 80 | 100 |         |
| DV 4.1     | -                   | -  | 32 | 50 | 80 | 100 | 140 160 |

**Setting ranges [bar]**

|               |               |             | Diaphragm [mm] |
|---------------|---------------|-------------|----------------|
| 0.002 - 0.004 | 0.003 - 0.015 |             | ø 500          |
| 0.004 - 0.010 | 0.005 - 0.032 |             | ø 360          |
| 0.008 - 0.016 | 0.015 - 0.065 | 0.05 - 0.28 | ø 270          |
| 0.025 - 0.125 | 0.1 - 0.52    |             | ø 220          |

**Reduction ration (max. p<sub>1</sub>/p<sub>2</sub>)****diaphragm diameter [mm]**

| ø 500 | ø 360 | ø 270 | ø 220 |
|-------|-------|-------|-------|
| 5900  | 3050  | 1530  | 840   |



Please send us your enquiry and allow us to advise you. Special designs on request.  
The pressure has always been indicated as overpressure. Mankenberg reserves the right to alter technical specifications without notice.



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## Materials

### Materials and dimensions main valve

see main valve UV 4.1, UV 4.7 oder UV 5.1

### Materials and dimensions pilot valve

see DM 762

## Dimensions and weights

### Dimensions [mm]

on request

### Weights [kg]

on request

Since the valve is individually designed to your operating data and can vary considerably in design, we cannot provide exact information on dimensions and weights here. Please let us have your enquiry!

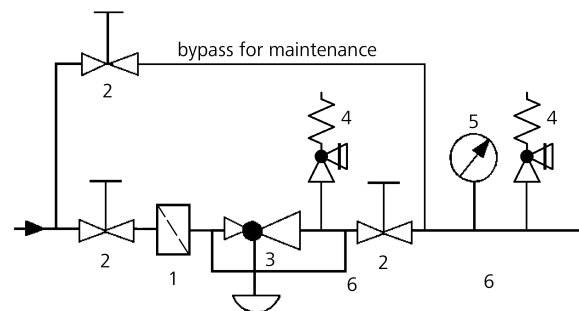
### Customs tariff number

84811019

## Recommended installation

- |   |                  |   |                  |
|---|------------------|---|------------------|
| 1 | Strainer         | 4 | Safety valves    |
| 2 | Shut-off valves  | 5 | Pressure gauge   |
| 3 | Pressure reducer | 6 | Sense line G 1/2 |

Sense line connection 10 x DN before and behind the valve



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