

# Edelstahl-Druckminderventil Stainless Steel Pressure-Reducing-Valve

Typ 70 - Baureihe / Series SKM, SKK, SKS, SKG, Typ 70 und 71  
Kolbenausführung / piston design



## Installation and operating instructions for Pressure-Reducing-Valve

### 1. Installation

The preferred location of pressure reducing valves in pipework systems is where operating conditions are stable, that is not immediately upstream or downstream from bends, branches, pressure devices, stop valve fittings or similar restricting elements, and not adjacent to consumer points. They should be fitted to horizontal sections of the pipe. Where not specified to the contrary, the unit can be fitted with the spring cap up or down. With steam the spring cap must point downwards.

Figures 1 and 2 show the most common position for installing a pressure reducing valve into a pipe. On operationally sensitive installations, i.e. where a fault in the pressure reducing valve could result in an unacceptable breakdown of downstream consumer units, a by-pass with a shut-off device (fig. 3) must be provided.

In the event of a fault, emergency operation can then be maintained via the by-pass. The by-pass must be kept closed during normal operation.

Before installing a pressure reducing valve, the pipework must be carefully cleaned and flushed out. If fouling during operation is unavoidable, a strainer (4) must be fitted. After removing it from its packaging and taking off the plastic caps, the pressure reducing valve is to be fitted to the pipe, taking care to observe the direction of flow (arrow).

Pressure reducing valves are regulating devices, not shut-off elements providing leak-proof seating. According to VDI/VDE Guidelines 2174, a leakage rate of 0.05% of the Kvs-value is permitted. We therefore recommend that a shut-off valve (1) be fitted upstream of the pressure reducing valve.

### 2. Safety Devices

The Accident Prevention Regulations VBG 17, which stipulates the provision of a safety device, e.g. a safety valve (7), to prevent the maximum permissible pressure from being exceeded in the downstream section of the pipe, must be complied with. The safety valve must be adequately rated.

If a shut-off valve (3) is interposed between the pressure reducing valve (5) and the safety valve (7), for example when a by-pass is fitted as in (fig. 3), it may become necessary to fit a further safety valve (6) to protect the pressure reducing valve. This is the case when the input pressure is greater than the maximum permitted pressure in the output section of the pressure reducing valve. The minimum response pressure of this safety valve should be at least 10% greater than the minimum response pressure of the system safety valve (7). It must not, however, be greater than the nominal pressure on the output side of the pressure reducing valve.

In addition, it is incumbent upon the system operator to ensure that any medium escaping from the spring cap, as a result of the control piston seal or the diaphragm becoming defective, cause no damage. If necessary, a drainage tube must be fitted to the spring cap to conduct any leakage away.

### 3. Operation

Before leaving the factory, the pressure reducing valve has been checked for leaks and proper functioning and fitted with lightly tightened springs. With steam, it will be necessary to tighten the screws and the ground cap once the pressure reducing valve has thoroughly heated up. Before putting the valve into operation, the regulating spring should be released (by turning the toggle spindle anticlockwise).

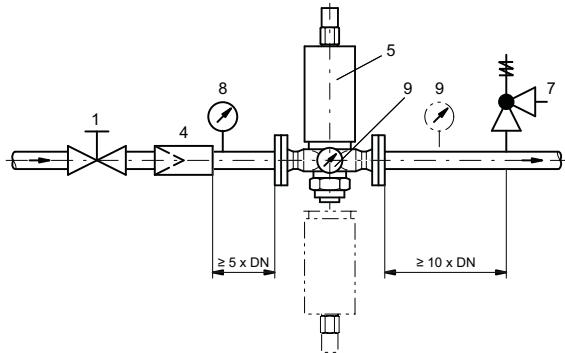
The upstream shut-off element (1) must be opened slowly until the input pressure [pressure gauge (8)] reaches its limit. The output pressure should then be set to required pressure (preset level) whereby there must be some medium consumption on the outlet side. To achieve this, the toggle spindle is turned clockwise, observing the output side pressure gauge (9), until the reduced pressure is reached. Once the adjustment is complete, the toggle spindle should be secured with the locknut. A sharply fluctuating flow or shock pressure loading are to be avoided.

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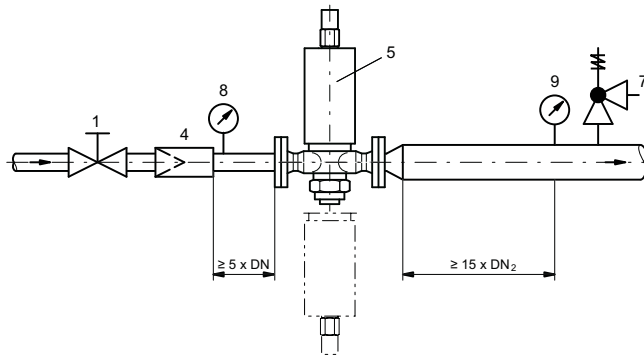


## Mounting figure of the Pressure-Reducing-Valve



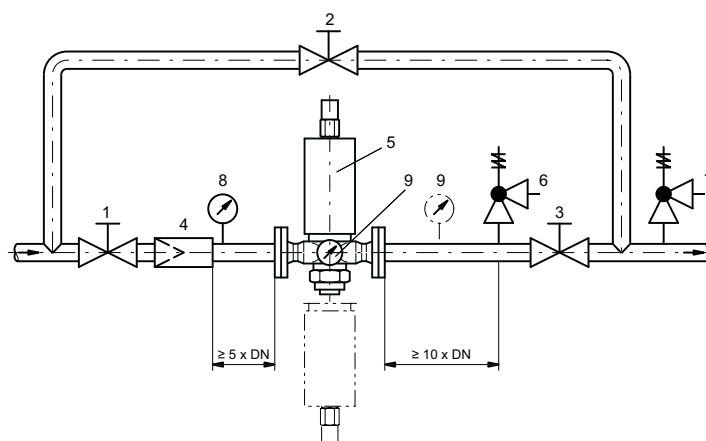
- 1 Shut-off valve
- 4 Strainer
- 5 Pressure reducing valve
- 7 Safety valve
- 8, 9 Pressure gauge

**Figure 1** : Pressure reducing valve without bypass



- 1 Shut-off valve
- 4 Strainer
- 5 Pressure reducing valve
- 7 Safety valve
- 8, 9 Pressure gauge

**Figure 2** : Pressure reducing valve with outlet larger than inlet



- 1, 2, 3 Shut-off valve
- 4 Strainer
- 5 Pressure reducing valve
- 6, 7 Safety valve
- 8, 9 Pressure gauge

**Figure 3** : Pressure reducing valve with bypass

Unless specified differently the spring cap can face either upwards or downwards.  
When the pressure reducer is used for steam, it has to be fitted with the spring cap facing downwards.