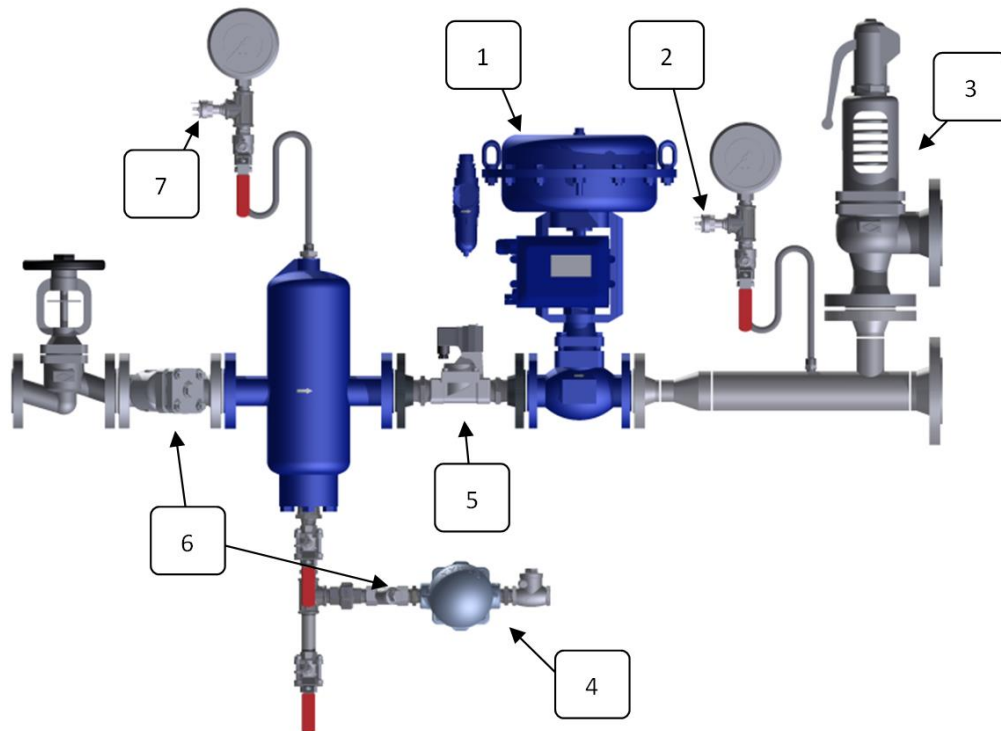


## Pressure reduction station with auxiliary power

Jumag steam boilers operate at an adjustable steam pressure range 6-11 barg.

Pressure reducing valve is used For working pressures between 0.3 to 8 barg or constant working pressures. They are installed in the steam pipe between the steam boiler and the consumer.

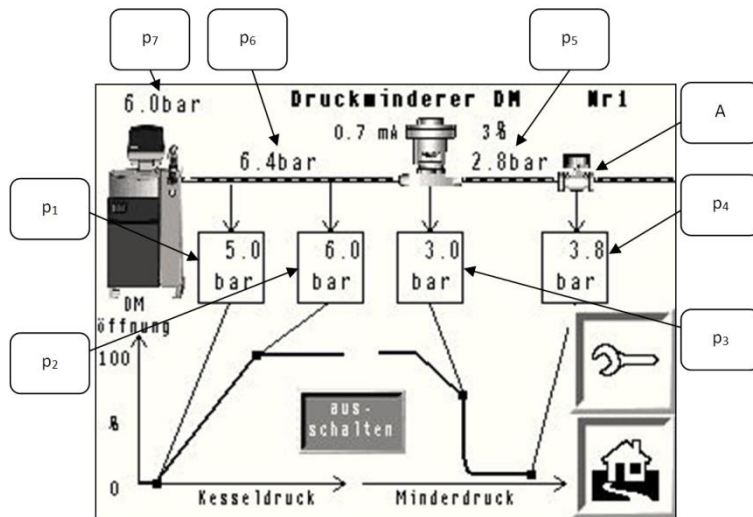
The pressure reduction station with auxiliary power similar to large and quick pressure changes with quick response. By a pneumatically controlled main valve, the position of the valve can be continuously adjusted according to need.



The pressure relief valve [1] begins to open as soon as the boiler pressure reaches the initial pressure ( $p_1$ ). With increasing boiler pressure, the valve opens further, until the maximum opening pressure ( $p_2$ ) is reached. If the max. Opening pressure ( $p_2$ ) is reached, the pressure reducing valve has to open the full release. Between these two terms, opens and closes the linear Pressure reducing valve. This form may take a higher pressure than  $p_2$ . Through this form of control pressures  $p_1$  and  $p_2$  on a tear of the boiler with strongly fluctuating is prevented.

The Pressure reducing valve controls the downstream pressure to a target pressure ( $p_3$ ). Low pressure is detected by a pressure sensor [2] behind the Pressure reducing valve. Taking for example. Downstream pressures against the target pressure off, opens the pressure reducer. The downstream pressure approaches again the target pressure closes the pressure reducer. If no steam is required, the pressure reducing valve closes completely.

To protect consumers, a safety valve [3] after the pressure reducer can be installed.



- $p_1$ : Starting pressure (open)  $p_5$ : Downstream pressure  
 $p_2$ : Max. Opening pressure  $p_6$ : Primary pressure:  
 $p_3$ : Set target pressure  $p_7$ : boiler pressure  
 $p_4$ : Max. Pressure (valve closing pressure) A: Valve

**OPTION 1:**

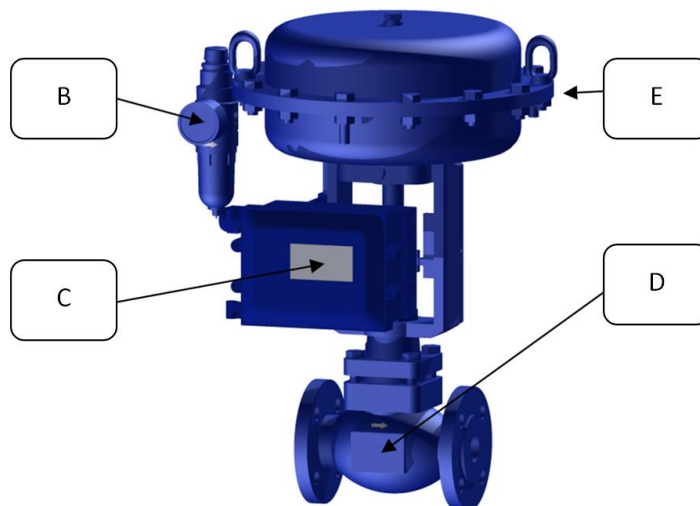
If the pressure reducing valve is closed, it can occur due to leakage, the pressure on the minority side rises. If a max. Reached-pressure (P4), the duct may be fully closed by a valve [5]. If the downstream pressure is below  $p_3$ , the valve and the pressure regulator regulates the pressure opens again.

**OPTION 2:**

Check limit switches completely open or close the valve. A defective valve, an alarm is triggered on the boiler.

**OPTION 3:**

The form can be passed either by the boiler pressure, or by a PI converter [7] in the steam pipe (eg for multiple installations) to the controller.



- B: Pressure Regulator  
 C: Positioner  
 D: Control valve  
 E: Servo drive