

# Pressure Control Valves

## Burst Pipe Isolating Valves RS 659

Burst Pipe Isolating Valve for Hazardous Media



### Technical Data

|                     |                                     |
|---------------------|-------------------------------------|
| Connection DN       | 15 - 50                             |
| Connection G        | 1/2 - 2                             |
| Nominal Pressure PN | 16                                  |
| Cut Off Flow Rate   | min. 15 % above operating flow rate |
| $K_{vs}$ -Value     | 5 - 22 m <sup>3</sup> /h            |
| Temperature         | 130 °C                              |
| Medium              | liquids and gases                   |

### Description

Leaking or broken pipes or hoses may only result in flooding but can, if the escaping fluids are flammable, water-polluting or toxic, have catastrophic consequences. For this reason pipe break isolating valves are fitted on the inlet side of such systems. These valves are set to a certain flow volume and shut off reliably and without delay as soon as this flow volume is exceeded.

RS 659 is a piston-controlled spring-loaded pipe break isolating valve. The valve cone is fitted with a soft seal.

When the pipeline is depressurised the valve is open. Under operating conditions the small pressure drop caused by the pipe break isolating valve acts on the piston/spring system. If the flow volume increases beyond the set value, an imbalance is introduced between the pressure acting on the piston and the force of the spring causing the cone to close. The resulting increase in the flow resistance reinforces the closing force of the piston and causes the complete shutoff of the pipe section. The closing or shutoff speed may be adjustable. Once the fault has been removed the valve can be re-opened and re-activated by pushing the button on the pilot valve. Rotating the adjusting screw clockwise increases the shutoff trigger volume. In special cases an adjustable shutoff delay may be fitted.

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 optional IV:

Leakage class IV (PTFE seal cone) = 0.01 %  $K_{vs}$  value

Leakage class V (soft seal cone) =  $1.8 \times 10^{-5} \times \Delta p \times D^*$  [l/h]

\*D=seat diameter

Operating instructions, know how and safety instructions must be observed. All the pressure has always been indicated as overpressure. We reserve the right to alter technical specifications without notice.



### $K_{vs}$ -Values [m<sup>3</sup>/h]

|                 |                   |     |     |    |       |       |    |
|-----------------|-------------------|-----|-----|----|-------|-------|----|
| nom. diam.      | G                 | 1/2 | 3/4 | 1  | 1 1/4 | 1 1/2 | 2  |
|                 | DN                | 15  | 20  | 25 | 32    | 40    | 50 |
| $K_{vs}$ -value | m <sup>3</sup> /h | 5   | 7   | 8  | 22    | 22    | 22 |

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| Materials       |                                 |
|-----------------|---------------------------------|
| Body            | CrNiMo-steel                    |
| Spring Cap      | CrNiMo-steel                    |
| Internals       | CrNiMo-steel                    |
| Spring          | CrNi-steel                      |
| Adjusting Screw | CrNiMo-steel                    |
| Pipework        | CrNiMo-steel                    |
| Valve Seal      | FEPM optional EPDM, FPM or PTFE |
| O-Ring          | EPDM optional FPM, FEPM or PTFE |

| Dimensions [mm] |                  |                |              |                  |                  |              |
|-----------------|------------------|----------------|--------------|------------------|------------------|--------------|
| size            | nominal diameter |                |              |                  |                  |              |
|                 | G 1/2<br>DN 15   | G 3/4<br>DN 20 | G 1<br>DN 25 | G 1 1/4<br>DN 32 | G 1 1/2<br>DN 40 | G 2<br>DN 50 |
| A               | 125              | 125            | 125          | 180              | 190              | 230          |
| A <sub>1</sub>  | 130              | 150            | 160          | 180              | 200              | 230          |
| B               | 76               | 76             | 76           | 88               | 88               | 88           |
| C               | ~ 400            | ~ 400          | ~ 400        | ~ 400            | ~ 400            | ~ 400        |
| D               | 135              | 135            | 135          | 135              | 135              | 135          |

Weights on request.

| Customs Tariff Number |
|-----------------------|
| 84811019              |

Special designs on request.  
 The pressure has always been indicated as overpressure.  
 Mankenberg reserves the right to alter or improve the designs or specifications of the products described herein without notice.

### Dimensional Drawing

