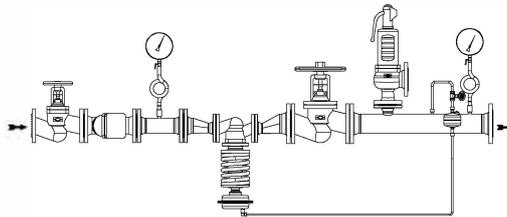


ARI-Pressure reducing station, self-acting or with electro-pneumatic control

**ARI-PREsys®-S**  
Pressure reducing station  
for steam

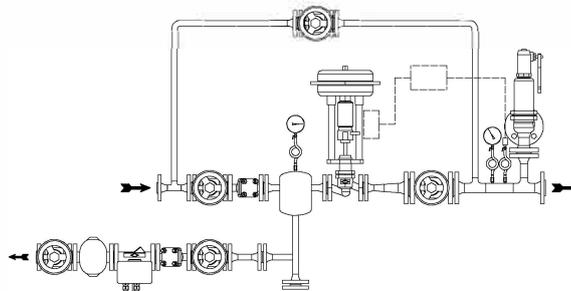
- Pressure reducing station ready for operation
- self-acting or with electro-pneumatic control
- Pipe material: P235GH  
1.4571/1.4541
- Valve materials:  
EN-JL1040  
EN-JS1049  
1.0619+N  
1.4408 (only electro-pneumatic)



ARI-PREsys®-S

**ARI-PREsys®-S Complete**  
Pressure reducing station  
for steam

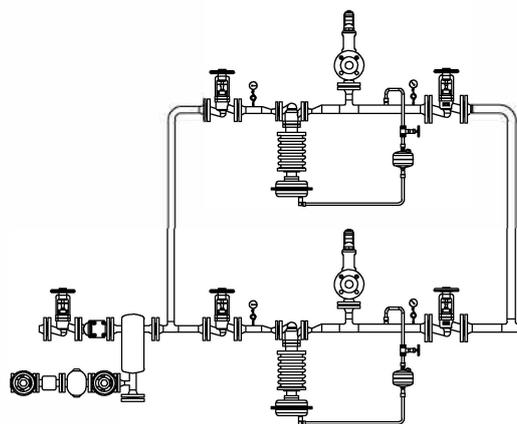
- Pressure reducing station ready for operation
- self-acting or with electro-pneumatic control
- Pipe material: P235GH  
1.4571/1.4541
- Valve materials:  
EN-JL1040  
EN-JS1049  
1.0619+N  
1.4408 (only electro-pneumatic)



ARI-PREsys®-S Complete

**ARI-PREsys® Duplex**  
Pressure reducing station

- Pressure reducing station ready for operation
- self-acting or with electro-pneumatic control
- Pipe material: P235GH  
1.4571/1.4541
- Valve materials:  
EN-JL1040  
EN-JS1049  
1.0619+N  
1.4408 (only electro-pneumatic)

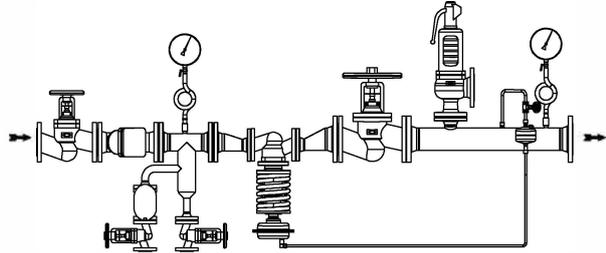
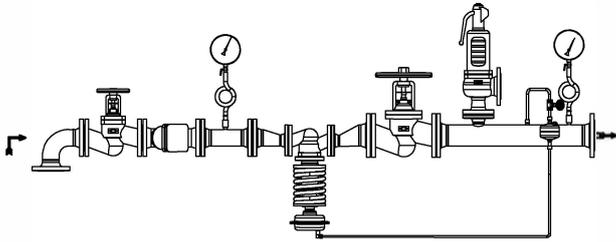


ARI-PREsys® Duplex

**Features:**

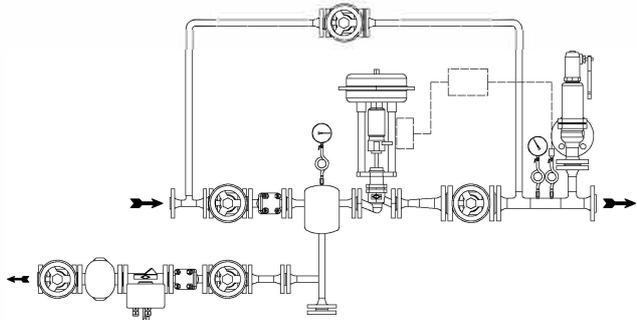
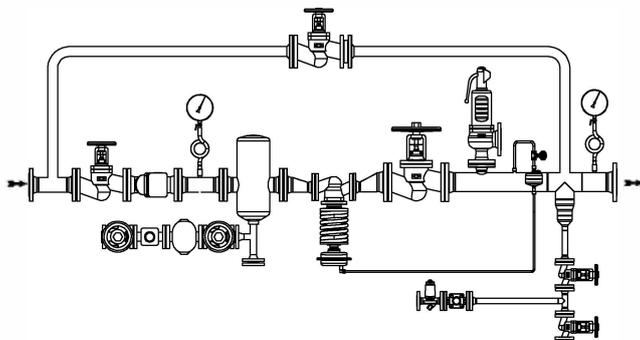
- Compact design
- Exact and easy adjustment
- Maintenance-free design through stainless steel bellows
- Process security through harmonized individual components
- Pressure-secure subassembly
- Dry and clean process steam optionally with separator (steam drier)
- Emergency operation during maintenance through bypass line
- Minimum-pressure side condensate drain possible
- Optionally with wall or floor bracket
- Service through plant documentation

**ARI-PREsys®-S for steam**



**PRS-S**  
Pressure reducing station with connection to ascending pipeline  
(also as Duplex or with electro-pneumatic control)

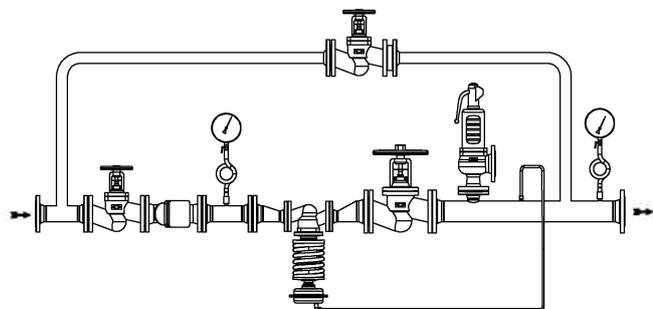
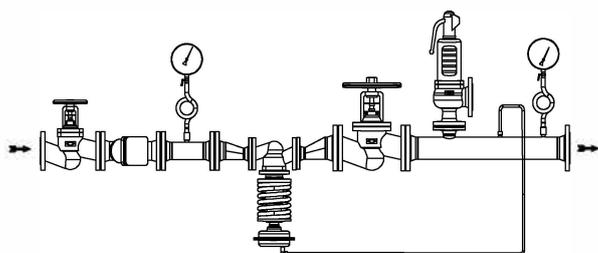
**PRS-S Plus**  
Pressure reducing station with P1-side condensate drain  
(also as Duplex or with electro-pneumatic control)



**PRS-S Complete**  
Pressure reducing station with complete equipment  
(Bypass, steam drier, condensate drain P1- and P2-side)  
(also with electro-pneumatic control)

**Electro-pneumatic control**  
(with transmitter and PID-controller)

**ARI-PREsys®-W for water / ARI-PREsys®-A for air**



**PRS-W / PRS-A**  
Pressure reducing station in standard design  
(also as Duplex or with electro-pneumatic control)

**PRS-W / PRS-A Complete**  
Pressure reducing station with bypass,  
stop valves and safety valves with soft seal  
(also with electro-pneumatic control)

For dimensions and weights refer to specification sheet of the plan.

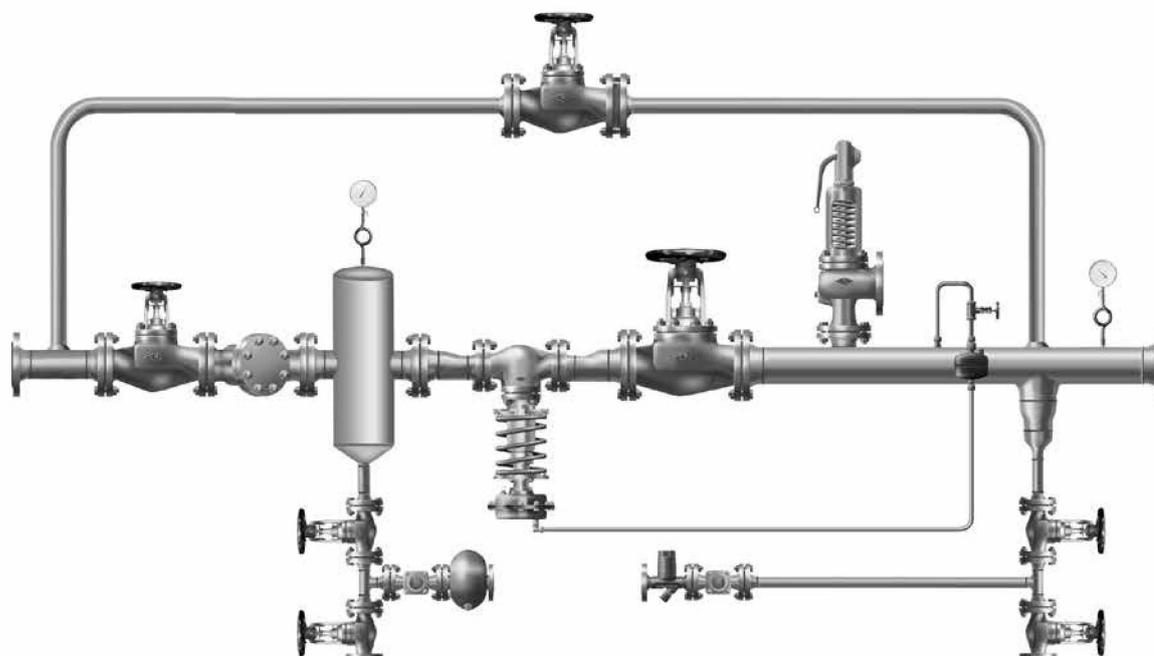
**Application**

The pressure reducing station is a fully-mounted unit. The pressure reducer used here is a directly controlled proportional controller without auxiliary power for reducing a higher input pressure to a lower minimum pressure.

The pressure reducer used here is solely for reducing pressure, which is why stop valves are installed for the connection of the minimum pressure side over a longer period. To guarantee a longer service life for the station a strainer and, optionally, a steam drier, are provided on the input pressure side. The minimum pressure side is fitted with a safety valve adjusted to the station.

The input and minimum pressure are read off directly at the pressure gauge supplied.

A desired bypass pipe guarantees emergency operations even without a pressure reducer.



**Example illustration**  
 (also with electro-pneumatic control)

**Evaluation of the pressure reducing station in accordance with PED 2014/68/EU (Fluid Group 2)**

The evaluation of an installation (assembly of pressure vessels) is aligned to the correspondingly highest category of an installation component Art.10 Paragraph 2. Fittings with a safety function are not taken into account in the evaluation.

If all the individual components of a subassembly fall under Art. 3.3 (sound engineering practice), the installation may not display a CE mark in accordance with the PED.

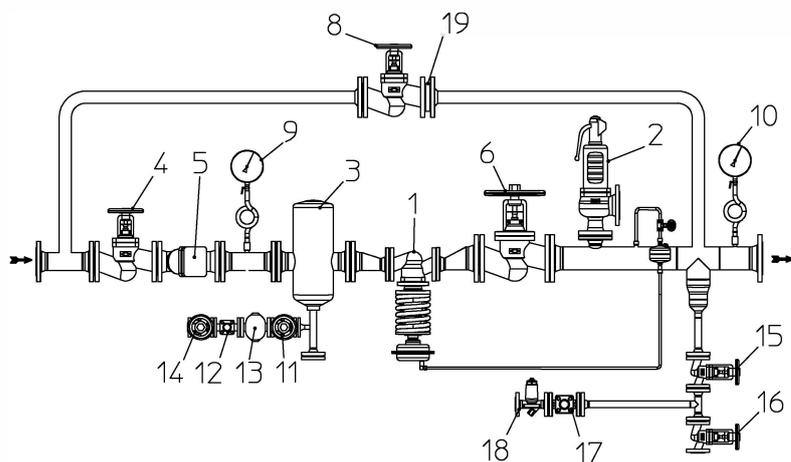
**Declaration of conformity/matrix declaration:** See the last page in the current operating instructions for the above-mentioned EC Directives.

**Operating instructions can be ordered on request by phone (+49 52 07) 994-0 or fax (+49 52 07) 994-158 or 159.**

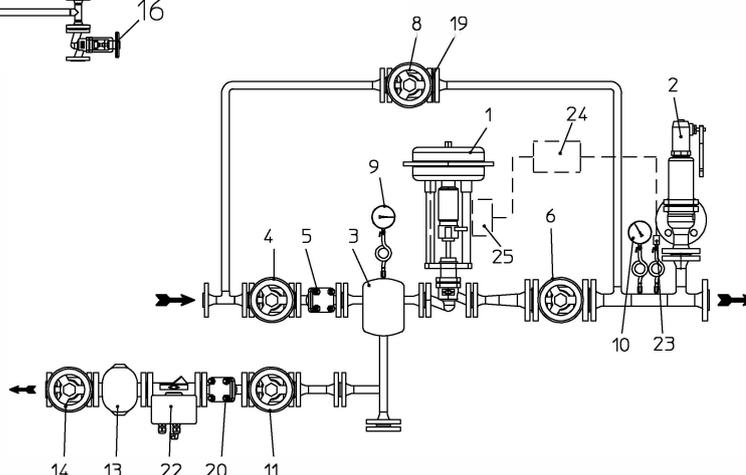
| Pressure-temperature-ratings |                           |    |       | Intermediate values for max. permissible operational pressures can be determined by linear interpolation of the given temperature / pressure chart. |       |       |       |       |       |       |
|------------------------------|---------------------------|----|-------|---|-------|-------|-------|-------|-------|-------|
| acc. to DIN EN 1092-1/-2     |                           |    |       | -10°C up to 50°C  | 100°C | 150°C | 200°C | 250°C | 300°C | 350°C |
| 12.PRS-...                   | EN-JL1040, P235GH         | 16 | (bar) | 16  | 14,9  | 13,9  | 12,4  | 11,2  | 9,6   | -     |
| 22.PRS-...                   | EN-JS1049, P235GH, P250GH | 16 | (bar) | 16  | 14,9  | 13,9  | 12,4  | 11,4  | 10,3  | 9,6   |
| 23.PRS-...                   | EN-JS1049, P235GH, P250GH | 25 | (bar) | 25  | 23,3  | 21,7  | 19,4  | 17,8  | 16,1  | 15    |
| 32.PRS-...                   | 1.0619+N, P235GH, P250GH  | 16 | (bar) | 16  | 14,9  | 13,9  | 12,4  | 11,4  | 10,3  | 9,6   |
| 34.PRS-...                   | 1.0619+N, P235GH, P250GH  | 25 | (bar) | 25  | 23,3  | 21,7  | 19,4  | 17,8  | 16,1  | 15    |
| 35.PRS-...                   | 1.0619+N, P235GH, P250GH  | 40 | (bar) | 40  | 37,3  | 34,7  | 30,2  | 28,4  | 25,8  | 24    |
| 55.PRS-...                   | 1.4408, 1.4571, 1.4541    | 40 | (bar) | 40  | 39,6  | 36,3  | 33,7  | 31,8  | 29,7  | 28,5  |

Observe regulations

Information / restrictions in technical rules must be observed!



ARI-PREsys® self-acting (Example illustration)



ARI-PREsys® with electro-pneumatic control (Example illustration)

| Pos. | Designation   | Material                        |                                |                                |  |
|------|---|---------------------------------|--------------------------------|--------------------------------|--|
|      |   | PN16 - 12.PRS                   | PN16 - 22.PRS<br>PN25 - 23.PRS | PN16 - 32.PRS<br>PN40 - 35.PRS | PN16 - 52.PRS <sup>1)</sup><br>PN40 - 55.PRS <sup>1)</sup> |
| 1    | Pressure reducing valveARI-PREDU, DN15-100            | EN-JL1040, EN-GJL-250           | EN-JS1049, EN-GJS-400-18U-LT   | GP240GH+N, 1.0619+N            | ??   |
| 1    | Control valve ARI-STEVI, DN15-100                     | EN-JL1040, EN-GJL-250           | EN-JS1049, EN-GJS-400-18U-LT   | GP240GH+N, 1.0619+N            | GX5CrNiMo19-11-2, 1.4408                                   |
| 2    | Safety valve ARI-SAFE                                 | EN-JL1040, EN-GJL-250           | EN-JS1049, EN-GJS-400-18U-LT   | GP240GH+N, 1.0619+N            | GX5CrNiMo19-11-2, 1.4408                                   |
| 3    | Steam drier or water pocket                           | P265GH, 1.0425 / P235GH, 1.0345 |                                |                                | X6CrNiMoTi17-12-2, 1.4571                                  |
| 4    | Stop valve ARI-FABA-Plus                              | EN-JL1040, EN-GJL-250           | EN-JS1049, EN-GJS-400-18U-LT   | GP240GH+N, 1.0619+N            | GX5CrNiMo19-11-2, 1.4408                                   |
| 5    | ARI-Y strainer with fine screen                       | EN-JL1040, EN-GJL-250           | EN-JS1049, EN-GJS-400-18U-LT   | GP240GH+N, 1.0619+N            | GX5CrNiMo19-11-2, 1.4408                                   |
| 6    | Stop valve ARI-FABA-Plus                              | EN-JL1040, EN-GJL-250           | EN-JS1049, EN-GJS-400-18U-LT   | GP240GH+N, 1.0619+N            | GX5CrNiMo19-11-2, 1.4408                                   |
| 7    | Water seal pot  | P265GH, 1.0425                  |                                |                                |  |
| 8    | Stop valve ARI-FABA-Plus                              | EN-JL1040, EN-GJL-250           | EN-JS1049, EN-GJS-400-18U-LT   | GP240GH+N, 1.0619+N            | GX5CrNiMo19-11-2, 1.4408                                   |
| 9    | Pressure gauge+valve+siphon<br>(upstream press. P1)   | St                              |                                |                                |  |
| 10   | Pressure gauge+valve+siphon<br>(downstream press. P2) | St                              |                                |                                |  |
| 11   | Stop valve ARI-FABA-Plus                              | EN-JL1040, EN-GJL-250           | EN-JS1049, EN-GJS-400-18U-LT   | GP240GH+N, 1.0619+N            | GX5CrNiMo19-11-2, 1.4408                                   |
| 12   | Double window sight glass                             | EN-JL1040, EN-GJL-250           | EN-JS1049, EN-GJS-400-18U-LT   | GP240GH+N, 1.0619+N            | GX5CrNiMo19-11-2, 1.4408                                   |
| 13   | Ball float steam trap ARI-CONA SC                     | EN-JL1040, EN-GJL-250           | EN-JS1049, EN-GJS-400-18U-LT   | GP240GH+N, 1.0619+N            | X6CrNiTi18-10, 1.4541                                      |
| 14   | Stop valve ARI-FABA-Plus                              | EN-JL1040, EN-GJL-250           | EN-JS1049, EN-GJS-400-18U-LT   | GP240GH+N, 1.0619+N            | GX5CrNiMo19-11-2, 1.4408                                   |
| 15   | Stop valve ARI-FABA-Plus                              | EN-JL1040, EN-GJL-250           | EN-JS1049, EN-GJS-400-18U-LT   | GP240GH+N, 1.0619+N            | GX5CrNiMo19-11-2, 1.4408                                   |
| 16   | Stop valve ARI-FABA-Plus                              | EN-JL1040, EN-GJL-250           | EN-JS1049, EN-GJS-400-18U-LT   | GP240GH+N, 1.0619+N            | GX5CrNiMo19-11-2, 1.4408                                   |
| 17   | Double window sight glass                             | EN-JL1040, EN-GJL-250           | EN-JS1049, EN-GJS-400-18U-LT   | GP240GH+N, 1.0619+N            | GX5CrNiMo19-11-2, 1.4408                                   |
| 18   | Steam trap ARI-CONA B / M                             | EN-JL1040, EN-GJL-250           | EN-JS1049, EN-GJS-400-18U-LT   | GP240GH+N, 1.0619+N            | X6CrNiTi18-10, 1.4541                                      |
| 19   | Orifice disc  | P265GH, 1.0425                  |                                |                                | X6CrNiMoTi17-12-2, 1.4571                                  |
| 20   | Strainer  | EN-JL1040, EN-GJL-250           | EN-JS1049, EN-GJS-400-18U-LT   | GP240GH+N, 1.0619+N            | GX5CrNiMo19-11-2, 1.4408                                   |
| 22   | Monitoring system for steam traps<br>CONA-control     | P250GH, 1.0460                  |                                |                                | X6CrNiTi18-10, 1.4541                                      |
| 23   | Transmitter   |                                 |                                |                                |  |
| 24   | Pressure controller (PID)                             |                                 |                                |                                |  |
| 25   | Electronic positioner                                 |                                 |                                |                                |  |
|      | Pipes / flanges                                       | P235GH, 1.0345 / P250GH, 1.0460 |                                |                                | X6CrNiMoTi17-12-2, 1.4571 /<br>X6CrNiTi18-10, 1.4541       |

**Pressure reducing valve**

|                                   |                     |                  |                  |                  |              |                 |               |           |           |            |
|-----------------------------------|---------------------|------------------|------------------|------------------|--------------|-----------------|---------------|-----------|-----------|------------|
| <b>DN</b>                         |                     | <b>15</b>        | <b>20</b>        | <b>25</b>        | <b>32</b>    | <b>40</b>       | <b>50</b>     | <b>65</b> | <b>80</b> | <b>100</b> |
| <b>Kvs values</b>                 | (m <sup>3</sup> /h) | <b>3,2</b>       | <b>5</b>         | <b>8</b>         | <b>12,5</b>  | <b>20</b>       | <b>32</b>     | <b>50</b> | <b>80</b> | <b>125</b> |
| <b>Downstream pressure ranges</b> | (bar-ü)             | <b>0,2 - 0,6</b> | <b>0,5 - 1,2</b> | <b>0,8 - 2,5</b> | <b>2 - 5</b> | <b>4,5 - 10</b> | <b>8 - 16</b> |           |           |            |
| <b>Actuator DMA</b>               | (cm <sup>2</sup> )  | <b>400</b>       | <b>250</b>       | <b>160</b>       | <b>80</b>    |                 |               |           |           |            |
| <b>max. permissible pressure</b>  | (bar)               | <b>1,6</b>       | <b>2,5</b>       | <b>6</b>         | <b>10</b>    |                 |               |           |           |            |

**Design with control valves: refer to data sheet STEVI440/441 and STEVI470/471.**

**Designs**

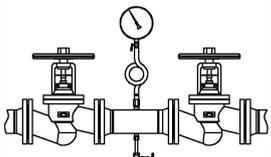
| Code | Design   | Type  |            |                |       |                |       |                |
|------|--|-------|------------|----------------|-------|----------------|-------|----------------|
|      |  | PRS-S | PRS-S Plus | PRS-S complete | PRS-W | PRS-W complete | PRS-A | PRS-A complete |
| B    | Bypass pipe  | O     | O          | X              | O     | X              | O     | X              |
| C    | Condensate drain P2 side                                 | O     | O          | X              |       |                |       |                |
| D    | Steam drier insert                                       | O     |            | X              |       |                |       |                |
| E    | Stop valve and safety valve with soft seal <sup>1)</sup> |       |            |                | O     | X              | O     | X              |
| F    | Inlet pipe bend  | X     | O          | O              | O     | O              | O     | O              |
| G    | Water pocket (simple steam trap)                         | O     | X          |                |       |                |       |                |
| H    | Wall bracket   | O     | O          | O              | O     | O              | O     | O              |
| J    | Floor bracket  | O     | O          | O              | O     | O              | O     | O              |
| K    | Double isolation <sup>2)</sup>                           | O     | O          | O              | O     | O              | O     | O              |
| T    | Duplex (double design)                                   | O     | O          |                | O     |                | O     |                |

X = standard design / O = special design

<sup>1)</sup>

|          |   |   |
|----------|---|---|
| <b>E</b> | <b>Soft seal PRS-W:</b><br>Stop valves PTFE plug<br>Safety valve EPDM plug<br>PREDU actuator EPDM rolling diaphragm | <b>Soft seal PRS-A:</b><br>Stop valves PTFE plug<br>Safety valve EPDM plug<br>PREDU actuator EPDM rolling diaphragm |
|----------|---|---|

<sup>2)</sup> z.B.

|          |   |
|----------|---|
| <b>K</b> | <p><b>Special design for inlet and outlet:</b><br/>Double isolation bleed valve (P1- and P2-side)</p>  |
|----------|---|

**Information on pressure protection**

Possible fluctuations in the input-side steam output and an additional bypass operation make it advantageous to spread the overpressure protection. For this purpose a safety valve for normal operations is provided directly downstream from the pressure reducer with another safety valve directly downstream from the last stop valve (for bypass operations).

In principle, the max. possible mass flow must be included to determine the safety valve. Normal operations are to be regarded as ideal operations and do not govern size of the safety valve.

**The following operating conditions are to be avoided:**

- Maximum mass flow of the total system applied, because, e.g., all the other consumers close.
- The pressure in the inlet area increases until it reaches the set pressure on the safety valve installed in the inlet area. The greater pressure difference this cases (upstream pressure to downstream pressure) leads to different operating conditions and possibly to a greater mass flow.
- Simultaneous opening of the bypass and main pipes.

**Please take this into account for your enquiry or order and let us know which operating conditions can occur!**

**System code:**

|  |  |
|--|--|
| <b>Type</b>                            | PRS-S (steam), PRS-W (water), PRS-A (air)  |
| <b>Standard design</b><br>(see page 2) | PRS-S, PRS-S Plus, ARI-PREsys®-S complete<br>PRS-W, PRS-W complete<br>PRS-A, PRS-A complete  |
| <b>Material (valves)</b>               | <b>12</b> (PN16, EN-JL1040) / <b>22</b> (PN16, EN-JS1049) / <b>23</b> (PN25, EN-JS1049)<br><b>32</b> (PN16, 1.0619+N) / <b>35</b> (PN40, 1.0619+N) / <b>52</b> (PN16, 1.4408) / <b>55</b> (PN40, 1.4408) |
| <b>Material (pipes)</b>                | P235GH (St35.8) / 1.4571 / 1.4541  |
| <b>Special design</b>                  | Code B to T (see page 5)   |
| <b>Flange connection</b>               | PN16, PN25, PN40   |

**Order example::**

|  |                                    |  |
|--|------------------------------------|--|
| <b>Type 22.PRS-S, Code B, C, H saturated steam 6 - 2</b> | Pressure reducing station with ... | <ul style="list-style-type: none"> <li>- Pipe bend for connection to an ascending pipe</li> <li>- Pipe system PN16, accessories material EN-JS1049</li> <li>- Medium saturated steam 2000 kg/h with special design bypass pipe</li> <li>- Supply pressure 6 bar minimum pressure 2 bar</li> <li>- Discharge condensate drain (P2 side)</li> <li>- Additional wall bracket</li> </ul> |
|--|------------------------------------|--|

**Please indicate when ordering:**

1. ARI-PREsys® **Type** \_\_\_\_\_  
e.g. Type 22.PRS-S with Code B, C, JH (pressure reducing station at ascending pipe, PN16, valves made of EN-JS1049, pipe made of P235GH, bypass pipe, steam traps -P2, wall bracket)
  
2. Medium \_\_\_\_\_ (Fluid group 2 in accordance with PED 2014/68/EU)
  
3. Upstream pressure P1 \_\_\_\_\_ (bar ü) Upstream pressure PS1 max. \_\_\_\_\_ (bar ü)  
(e.g. set pressure of the safety valve in the feeder system)
  
4. Downstream pressure P2 \_\_\_\_\_ (bar ü) Downstream pressure PS1 max. \_\_\_\_\_ (bar ü)  
(e.g. for determining the safety valve)
  
5. Temperature \_\_\_\_\_ (°C)
  
6. Required output (see note on page 5) \_\_\_\_\_  (kg/h) max. possible output \_\_\_\_\_  (kg/h)  
 (kW) (e.g. Boiler output)  (kW)
  
7. Dimensions of installation location (if known) \_\_\_\_\_ (m) / \_\_\_\_\_ (m) / \_\_\_\_\_ (m)  
(clearance to wall, ceiling height, room dimensions)
  
8. Design deviating from standard \_\_\_\_\_ (Code B to T, see page 5)
  
9. Materials  
 Pipes:  P235GH (St35.8)  
 1.4571 / 1.4541  
  
 Valves:  EN-JL1040 (GG-25)  
 EN-JS1049 (GGG-40.3)  
 1.0619+N (GS-C25N)  
 1.4408
  
10. Control device  PREDU  STEVI (electro-pneumatic control)  
 Transmitter  
 Pressure controller (PID)
  
11. Desired final inspections or approvals \_\_\_\_\_  
 \_\_\_\_\_

