Type 44-0 B Steam Pressure Reducing Valve
Red brass body with screwed ends

Type 44-1 B Pressure Reducing Valve
Stainless steel body with screwed ends
Note on these mounting and operating instructions

These mounting and operating instructions assist you in mounting and operating the device safely. The instructions are binding for handling SAMSON devices.

→ For the safe and proper use of these instructions, read them carefully and keep them for later reference.

→ If you have any questions about these instructions, contact SAMSON’s After-sales Service Department (aftersalesservice@samson.de).

The mounting and operating instructions for the devices are included in the scope of delivery. The latest documentation is available on our website at www.samson.de > Service & Support > Downloads > Documentation.

Definition of signal words

⚠️ DANGER
Hazardous situations which, if not avoided, will result in death or serious injury

⚠️ WARNING
Hazardous situations which, if not avoided, could result in death or serious injury

⚠️ NOTICE
Property damage message or malfunction

ℹ️ Note
Additional information

☀️ Tip
Recommended action
1 Safety instructions and measures

Intended use
The SAMSON Type 44-0 B Regulator is suitable for pressure control of vapors and the Type 44-1 B Regulator is suitable for pressure control of liquids and gases. The regulators are designed to operate under exactly defined conditions (e.g. operating pressure, process medium, temperature). Therefore, operators must ensure that the regulators are only used in operating conditions that meet the specifications used for sizing the devices at the ordering stage. In case operators intend to use the regulators in other applications or conditions than specified, contact SAMSON.

SAMSON does not assume any liability for damage resulting from the failure to use the device for its intended purpose or for damage caused by external forces or any other external factors.

→ Refer to the technical data and nameplate for limits and fields of application as well as possible uses.

Reasonably foreseeable misuse
The regulators are not suitable for the following applications:
- Use outside the limits defined during sizing and by the technical data
- Use outside the limits defined by the accessories mounted on the regulator

Furthermore, the following activities do not comply with the intended use:
- Use of non-original spare parts
- Performing service and repair work not described in these instructions

Qualifications of operating personnel
The regulator must be mounted, started up, serviced and repaired by fully trained and qualified personnel only; the accepted industry codes and practices are to be observed. According to these mounting and operating instructions, trained personnel refers to individuals who are able to judge the work they are assigned to and recognize possible hazards due to their specialized training, their knowledge and experience as well as their knowledge of the applicable standards.
Safety instructions and measures

Personal protective equipment
We recommend checking the hazards posed by the process medium being used (e.g. GESTIS (CLP) hazardous substance database).

- Provide protective equipment (e.g. safety gloves, eye protection) appropriate for the process medium used.
- Wear hearing protection when working near the valve.
- Check with the plant operator for details on further protective equipment.

Revisions and other modifications
Revisions, conversions or other modifications of the product are not authorized by SAMSON. They are performed at the user's own risk and may lead to safety hazards, for example. Furthermore, the product may no longer meet the requirements for its intended use.

Warning against residual hazards
To avoid personal injury or property damage, plant operators and operating personnel must prevent hazards that could be caused in the control valve by the process medium, the operating pressure, the signal pressure or by moving parts by taking appropriate precautions. They must observe all hazard statements, warning and caution notes in these mounting and operating instructions, especially for installation, start-up and service work.

We also recommend checking the hazards posed by the process medium being used (e.g. GESTIS (CLP) hazardous substance database).

- Observe safety measures for handling the device as well as fire prevention and explosion protection measures.

Responsibilities of the operator
The operator is responsible for proper operation and compliance with the safety regulations. Operators are obliged to provide these mounting and operating instructions as well as the referenced documents to the operating personnel and to instruct them in proper operation. Furthermore, the operator must ensure that operating personnel or third persons are not exposed to any danger.
Safety instructions and measures

Responsibilities of operating personnel

Operating personnel must read and understand these mounting and operating instructions as well as the referenced documents and observe the specified hazard statements, warnings and caution notes. Furthermore, the operating personnel must be familiar with the applicable health, safety and accident prevention regulations and comply with them.

Referenced standards and regulations

The regulators comply with the requirements of the European Pressure Equipment Directive 2014/68/EU. Valves with a CE marking have an EU declaration of conformity, which includes information about the applied conformity assessment procedure. This EU declaration of conformity is included in the Appendix of these instructions (see section 10.3).

According to the ignition risk assessment performed in accordance with EN 13463-1:2009, section 5.2, the non-electrical regulators do not have their own potential ignition source even in the rare incident of an operating fault. As a result, they do not fall within the scope of Directive 2014/34/EU.

⇒ For connection to the equipotential bonding system, observe the requirements specified in section 6.4 of EN 60079-14 (VDE 0165 Part 1).

1.1 Notes on possible severe personal injury

⚠️ DANGER

Risk of bursting in pressure equipment.

Regulators and pipelines are pressure equipment. Improper opening can lead to regulator components bursting.

⇒ If necessary, a suitable overpressure protection must be installed on site in the plant section.

⇒ Before starting any work on the regulator, depressurize all plant sections concerned.

⇒ Drain the process medium from all the plant sections concerned as well as the regulator.

⇒ Wear personal protective equipment.
1.2 Notes on possible personal injury

**WARNING**

**Risk of personal injury due to preloaded springs.**
Regulators in combination with preloaded set point springs are under tension. These regulators can be identified by the long spring housing of the actuator.

- Before starting any work on the spring housing, relieve the compression from the preloaded springs.

**Risk of personal injury due to residual process medium in the valve.**
While working on the regulator, residual process medium can escape and, depending on its properties, may lead to personal injury, e.g. (chemical) burns.

- If possible, drain the process medium from all the plant sections concerned and the regulator.
- Wear protective clothing, safety gloves, and eyewear.

**Risk of burn injuries due to hot or cold components and pipelines.**
Depending on the process medium, regulator components and pipelines may get very hot or cold and cause burn injuries.

- Allow components and pipelines to cool down or heat up.
- Wear protective clothing and safety gloves.

**Damage to health relating to the REACH regulation.**
If a SAMSON device contains a substance which is listed as being a substance of very high concern on the candidate list of the REACH regulation, this circumstance is indicated on the SAMSON delivery note.

- Information on safe use of the part affected, see [www.samson.de/reach-de.html](http://www.samson.de/reach-de.html).
1.3 Notes on possible property damage

⚠️ 📝 **NOTICE**

Risk of regulator damage due to contamination (e.g. solid particles) in the pipeline.
The plant operator is responsible for cleaning the pipelines in the plant.
- Flush the pipelines before start-up.
- Observe the maximum permissible pressure for valve and plant.

Risk of regulator damage due to unsuitable medium properties.
The valve is designed for a process medium with defined properties.
- Only use the process medium specified for sizing.

Risk of regulator damage due to the use of unsuitable lubricants.
The lubricants to be used depend on the regulator material. Unsuitable lubricants may corrode and damage the surface.
- Only use lubricants approved by SAMSON.

Risk of leakage and regulator damage due to excessively high or low tightening torques.
Observe the specified torques on tightening regulator components. Excessively tightened torques lead to parts wearing out quicker. Parts that are too loose may cause leakage.
- Observe the specified tightening torques.

Risk of regulator damage due to the use of unsuitable tools.
Certain tools are required to work on the regulator.
- Only use tools approved by SAMSON.

ℹ️ **Note**

SAMSON’s After-sales Service department can support you concerning lubricant, tightening torques and tools approved by SAMSON.
2 Markings on the device

2.1 Regulator nameplate

Red brass body

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>5</td>
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<tr>
<td>6</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>9</td>
<td></td>
</tr>
</tbody>
</table>

Body made of stainless steel or spheroidal graphite iron

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>4</td>
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<tr>
<td>5</td>
<td>6</td>
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<tr>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>

Fig. 1: Nameplate
Design and principle of operation

The nameplate of all sizes is affixed to the body (see Fig. 2).

3 Design and principle of operation

Refer to Fig. 3

The Type 44-0 B and Type 44-1 B Pressure Reducing Valves consist of a single-seated globe valve with integrated actuator unit.

The regulators mainly consist of the valve (1) with seat (3), plug (2) and balancing bellows (6) as well as a spring housing with operating bellows (5), set point spring (7) and set point adjuster (8/9).

The pressure reducing valves are used to maintain the pressure downstream of the valve to an adjusted set point.

The regulator is open when relieved of pressure. It closes when the downstream pressure rises above the adjusted set point. The process medium flows through the valve between seat and plug in the direction indicated by the arrow on the body. The position of the valve plug determines the flow rate and, as a result, the downstream pressure.

The downstream pressure $p_2$ to be controlled is transmitted through a borehole (4) in the valve body to the operating bellows (5) where it is converted into a positioning force. This force is used to move the valve plug according to the force of the set point spring (7). The spring force is adjustable at the set point adjuster (8/9).

2.2 Material number

Specifying the configuration ID, you can contact us to find out which material is used. The configuration ID is specified on the nameplate (1 (configuration ID and device index). For more details on the nameplate, see section 2.1.
Design and principle of operation

Fig. 3: Functional diagram of Type 44-0 B and Type 44-1 B Pressure Reducing Valves

1. Valve body
1.1 Body gasket
1.2 Seal
2 Plug
3 Seat
4 Borehole in body for downstream pressure $p_2$
5 Operating bellows
6 Balancing bellows
7 Set point spring
8 Set point adjuster
9 Set point screw with stainless steel/spheroidal graphite iron version (DN 40/50) as well as 8 to 20 bar set point range
10 Screws
11 Stopper
12 Spring housing

Special version
Connecting thread G $\frac{1}{8}$ A for a pressure gauge or external control line
- Dimensions in mm

Stainless steel version
Leakage line connection (standard)

Set point screw
All stainless steel and spheroidal graphite iron versions (DN 40/50) as well as 8 to 20 bar set point range: hexagon socket screw with SW 3 or SW 5 (spheroidal graphite iron)
3.1 Technical data

The regulator’s nameplate contains information on the regulator version (see section 2.1).

Process medium and scope of application

Type 44-0 B Pressure Reducing Valve suitable for steam as well as Type 44-1 B suitable for liquids and gases.

- Max. permissible temperatures for gases up to 80 °C/175 °F
- Air up to 150 °C/300 °F ¹)
- Liquids up to 150 °C/300 °F
- Nitrogen up to 200 °C/390 °F ¹)
- Steam up to 200 °C/390 °F

The regulator is open when relieved of pressure. It closes when the downstream pressure rises above the adjusted set point.

¹) With seals made of FKM

Temperature range

The Type 44-1 B Regulator is designed for a temperature range from −10 to +150 °C (14 to 300 °F). Type 44-0 B is designed for the temperature range from −10 to +200 °C (14 to 390 °F).

Leakage class

All regulators have the leakage class I according to IEC 60534-4.

Noise emission

SAMSON is unable to make general statements about noise emission as it depends on the valve version, plant facilities and process medium.

Risk of hearing loss or deafness due to loud noise.
Wear hearing protection when working near the valve.

Dimensions and weights

Table 4 and Table 5 provide an overview on the dimensions and weights of Type 44-0 B and Type 44-1 B Regulators. The lengths and heights are shown in the dimensional drawings on page 17 onwards.
**Design and principle of operation**

<table>
<thead>
<tr>
<th>Table 1: Technical data · All pressures in bar (gauge)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Regulator</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Connection</td>
</tr>
<tr>
<td>Stainless steel/red brass body</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Stainless steel body</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Spheroidal graphite iron body ¹</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Pressure rating</strong></td>
</tr>
<tr>
<td>Liquids</td>
</tr>
<tr>
<td>Non-flammable gases, air</td>
</tr>
<tr>
<td>Nitrogen</td>
</tr>
<tr>
<td>Steam</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Max. permissible differential pressure Δp</th>
</tr>
</thead>
<tbody>
<tr>
<td>G ½, G ¾, G 1</td>
</tr>
<tr>
<td>DN 15 and 25</td>
</tr>
<tr>
<td>DN 40 and 50</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Set point range (continuously adjustable)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIN</td>
</tr>
<tr>
<td>0.2 to 2 bar ⁷ · 1 to 4 bar · 2 to 6 bar</td>
</tr>
<tr>
<td>4 to 10 bar · 8 to 20 bar ⁵</td>
</tr>
<tr>
<td>ANSI</td>
</tr>
<tr>
<td>3 to 30 psi ⁷ · 15 to 60 psi · 30 to 90 psi</td>
</tr>
<tr>
<td>60 to 145 psi · 120 to 290 psi</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Leakage class according to IEC 60534-4</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤0.05 % of Kᵥᵢ coefficient</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EU declaration of conformity</th>
</tr>
</thead>
<tbody>
<tr>
<td>CE</td>
</tr>
<tr>
<td>EAC</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Max. perm. ambient temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>60 °C · 140 °F</td>
</tr>
</tbody>
</table>

¹) DIN body only
²) Flanged valve body made of stainless steel A351 CF8M
³) Body with screwed ends made of stainless steel A351 CF8M
⁴) With Kᵥᵢ 0.4, 1.0 and 2.5 · Cᵥ 0.5, 1.2 and 3.0
⁵) Set point range not for DN 40 and 50
⁶) The maximum permissible temperature is limited to 60 °C with FDA compliance
⁷) Without balancing bellows
Design and principle of operation

Table 2: Materials · Material numbers according to DIN EN

<table>
<thead>
<tr>
<th>Body</th>
<th>Red brass CC499K 4)</th>
<th>Spheroidal graphite iron EN-GJS-400-18-LT 4)</th>
<th>Stainless steel 1.4408 · A351 CF8M</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Seat</strong></td>
<td>1.4305</td>
<td>1.4404</td>
<td></td>
</tr>
<tr>
<td><strong>Plug</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type 44-1 B</td>
<td>Brass (free of dezincification), soft seal 1)</td>
<td>1.4404 metal or soft seal 2)</td>
<td></td>
</tr>
<tr>
<td>Type 44-0 B</td>
<td>Brass (resistant to dezincification) with PTFE soft seal or metal seal 1)</td>
<td>1.4404 with PTFE soft seal or metal seal</td>
<td></td>
</tr>
<tr>
<td><strong>Balancing bellows</strong></td>
<td>1.4571</td>
<td>1.4571</td>
<td></td>
</tr>
<tr>
<td><strong>Plug springs</strong></td>
<td>1.4310</td>
<td>1.4310</td>
<td></td>
</tr>
<tr>
<td><strong>Set point spring</strong></td>
<td>1.7104 (55SiCr6)</td>
<td>1.4310</td>
<td></td>
</tr>
<tr>
<td><strong>Operating bellows</strong></td>
<td>1.4571</td>
<td>1.4571</td>
<td></td>
</tr>
<tr>
<td><strong>Spring housing</strong></td>
<td>EN AC-44300-DF (die-cast aluminum)</td>
<td>1.4408</td>
<td></td>
</tr>
<tr>
<td><strong>Set point adjuster</strong></td>
<td>Manual adjuster made of PTFE with 30 % glass fiber 3)</td>
<td>Hexagonal socket head screw made of 1.4571</td>
<td></td>
</tr>
</tbody>
</table>

1) For spheroidal graphite iron body with internal parts free of non-ferrous metal: plug made of 1.4404, metal or soft seal
2) EPDM, FKM, FFKM or PTFE
3) 8 to 20 bar set point range in stainless steel 1.4571: hexagonal socket head screw made of 1.4571
4) Only selectable for DIN and JIS versions

Table 3: $K_VS/C_V$ coefficients

<table>
<thead>
<tr>
<th>Body with screwed ends</th>
<th>G $\frac{1}{2} \cdot \frac{1}{2}$ NPT</th>
<th>G $\frac{3}{4} \cdot \frac{3}{4}$ NPT</th>
<th>G $1 \cdot 1$ NPT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>$K_{VS}$ coefficients</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type 44-1 B</td>
<td>Standard version</td>
<td>3.2 $^1)$</td>
<td>4.0 $^1)$</td>
</tr>
<tr>
<td></td>
<td>Special version $^3)$</td>
<td></td>
<td>0.25 $\cdot$ 1.0 $^1)$ $\cdot$ 2.5</td>
</tr>
<tr>
<td>Type 44-0 B</td>
<td>Standard version</td>
<td>1.6 $^3)$ $\cdot$ 3.2</td>
<td>2.0 $^3)$ $\cdot$ 4.0</td>
</tr>
<tr>
<td></td>
<td>Special version $^3)$</td>
<td></td>
<td>0.25 $^2)$ $\cdot$ 0.4 $^2)$ $\cdot$ 1.0 $^2)$</td>
</tr>
<tr>
<td><strong>$C_V$ coefficients</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type 44-1 B</td>
<td>Standard version</td>
<td>4.0 $^1)$</td>
<td>5.0 $^1)$</td>
</tr>
<tr>
<td></td>
<td>Special version $^3)$</td>
<td></td>
<td>0.3 $\cdot$ 1.2 $^1)$ $\cdot$ 3.0</td>
</tr>
<tr>
<td>Type 44-0 B</td>
<td>Standard version</td>
<td>1.9 $^3)$ $\cdot$ 4.0</td>
<td>2.4 $^3)$ $\cdot$ 5.0</td>
</tr>
<tr>
<td></td>
<td>Special version $^3)$</td>
<td></td>
<td>0.3 $^2)$ $\cdot$ 0.5 $^2)$ $\cdot$ 1.2 $^2)$</td>
</tr>
</tbody>
</table>

$\chi_{FZ}$ values

|                          | 0.60                          | 0.55                          |                  |

EB 2626-1 EN
## Design and principle of operation

**Flanged body**

<table>
<thead>
<tr>
<th>Valve size</th>
<th>DN 15 - NPS ½</th>
<th>DN 25 - NPS 1</th>
<th>DN 40</th>
<th>DN 50</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>K&lt;sub&gt;VS&lt;/sub&gt; coefficients</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type 44-1 B</td>
<td>Standard version</td>
<td>3.2&lt;sup&gt;1)&lt;/sup&gt;</td>
<td>5.0&lt;sup&gt;1)&lt;/sup&gt;</td>
<td>16.0</td>
</tr>
<tr>
<td></td>
<td>Special version&lt;sup&gt;3)&lt;/sup&gt;</td>
<td>0.25 · 1.0&lt;sup&gt;1&lt;/sup&gt; · 2.5</td>
<td></td>
<td>8.0&lt;sup&gt;2)&lt;/sup&gt;</td>
</tr>
<tr>
<td>Type 44-0 B</td>
<td>Standard version</td>
<td>1.6&lt;sup&gt;3)&lt;/sup&gt; · 3.2</td>
<td>2.5&lt;sup&gt;3)&lt;/sup&gt; · 5.0</td>
<td>16.0</td>
</tr>
<tr>
<td></td>
<td>Special version&lt;sup&gt;3)&lt;/sup&gt;</td>
<td>0.25&lt;sup&gt;2)&lt;/sup&gt; · 0.4&lt;sup&gt;2)&lt;/sup&gt; · 1.0&lt;sup&gt;2)&lt;/sup&gt;</td>
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<td>8.0&lt;sup&gt;2)&lt;/sup&gt;</td>
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<tr>
<td><strong>C&lt;sub&gt;V&lt;/sub&gt; coefficients</strong></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Type 44-1 B</td>
<td>Standard version</td>
<td>4.0&lt;sup&gt;1)&lt;/sup&gt;</td>
<td>6.0&lt;sup&gt;1)&lt;/sup&gt;</td>
<td>–</td>
</tr>
<tr>
<td></td>
<td>Special version&lt;sup&gt;3)&lt;/sup&gt;</td>
<td>0.3 · 1.2&lt;sup&gt;1)&lt;/sup&gt; · 3.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type 44-0 B</td>
<td>Standard version</td>
<td>1.9&lt;sup&gt;3)&lt;/sup&gt; · 4.0</td>
<td>2.9&lt;sup&gt;3)&lt;/sup&gt; · 6.0</td>
<td>–</td>
</tr>
<tr>
<td></td>
<td>Special version&lt;sup&gt;3)&lt;/sup&gt;</td>
<td>0.3&lt;sup&gt;2)&lt;/sup&gt; · 0.5&lt;sup&gt;2)&lt;/sup&gt; · 1.2&lt;sup&gt;2)&lt;/sup&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>x&lt;sub&gt;Fz&lt;/sub&gt; values</strong></td>
<td>0.60</td>
<td>0.55</td>
<td>0.4</td>
<td></td>
</tr>
</tbody>
</table>

<sup>1)</sup> Also available as special version for regulators with stainless steel body and FFKM soft seal

<sup>2)</sup> Metal seal

<sup>3)</sup> Unbalanced

### Table 4: Weights

<table>
<thead>
<tr>
<th>Regulator</th>
<th>DN</th>
<th>15</th>
<th>–</th>
<th>25</th>
<th>40</th>
<th>50</th>
</tr>
</thead>
<tbody>
<tr>
<td>G/NPT</td>
<td></td>
<td>½</td>
<td>¾</td>
<td>1</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>NPS</td>
<td></td>
<td>½</td>
<td>–</td>
<td>1</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Weight, approx.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Body with screwed ends</td>
<td>kg</td>
<td>1.0</td>
<td>1.1</td>
<td>1.5</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td></td>
<td>lb</td>
<td>2.2</td>
<td>2.4</td>
<td>3.3</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Flanged body</td>
<td>kg</td>
<td>2.6</td>
<td>–</td>
<td>4.2</td>
<td>7.0</td>
<td>8.0</td>
</tr>
<tr>
<td></td>
<td>lb</td>
<td>5.7</td>
<td>–</td>
<td>9.3</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>
### Design and principle of operation

#### Table 5: Dimensions

<table>
<thead>
<tr>
<th>Regulator</th>
<th>DN</th>
<th>15</th>
<th>–</th>
<th>25</th>
<th>40</th>
<th>50</th>
</tr>
</thead>
<tbody>
<tr>
<td>G · NPT</td>
<td>½</td>
<td>¾</td>
<td>1</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>NPS</td>
<td>½</td>
<td>–</td>
<td>1</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

| Length L  | G · NPT | mm | 65 | 75 | 90 | –  | –  |
|           |         | in | 2.6| 3.0| 3.5| –  | –  |
| DN        | mm      | 130| –  | 160| 200| 230|
| NPS ¹ ²     | mm      | 184| –  | 184| –  | –  |
|           | in      | 7.2| –  | 7.2| –  | –  |

| Width across flats SW | G       | mm | 34 | 34 | 46 | –  | –  |
|                       | NPT     | in | 1.3| 1.3| 1.8| –  | –  |

| Height H1 ⁴   | G ⁵      | mm | 130| (170)| –  | –  | –  |
|               | G ⁶ · NPT| mm | 155| (205)| –  | –  | –  |
|               |         | in | 6.1| (8.1)| –  | –  | –  |
| DN ⁶ ⁷     | mm      | 155| (205)| –  | 155| (205)| 245| (290)| 245| (290)|
| NPS ³ ⁶     | mm      | 155| (205)| –  | 155| (205)| –  | –  | –  |
|           | in      | 6.1| (8.1)| –  | 6.1| (8.1)| –  | –  | –  |

| Height H2   | G · DN   | mm | 46 | 46 | 46 | 95 | 95 |
|             | NPT ²    | in | 1.8| 1.8| 1.8| –  | –  |

| Ø spring housing | G · DN   | mm | 90 |
|                 | NPT · NPS | in |    |

¹) Face-to-face dimensions according to ANSI/ISA 75.08.01
²) NPT in Class 300 (A351 CF8M)
³) NPS in Class 150 (A351 CF8M)
⁴) Dimensions in parentheses apply to values with 8 to 20 bar/120 to 290 psi set point range
⁵) Red brass CC499K
⁶) Stainless steel 1.4408/A351 CF8M
⁷) Spheroidal graphite iron EN-GJS-400-18-LT
Design and principle of operation

Dimensional drawings

Body: red brass (DIN version only)

Body: stainless steel

Body: spheroidal graphite iron 1)
(DIN version only)

Fig. 4: Dimensions

1) DN 15 and 25 with manual adjuster, DN 40 and 50 as well as 8 to 20 bar set point range with set point screw.
Measures for preparation

4 Measures for preparation

After receiving the shipment, proceed as follows:

1. Check the scope of delivery. Compare the shipment received with the delivery note.
2. Check the shipment for transportation damage. Report any damage to SAMSON and the forwarding agent (refer to delivery note).

4.1 Unpacking

Do not remove the packaging until immediately before installing the valve into the pipeline.

4.2 Transporting and lifting

Due to the low service weight, lifting equipment is not required to lift and transport the regulator (e.g. to install it into the pipeline).

Transport instructions
- Protect the device against external influences (e.g. impact).
- Do not damage the corrosion protection (paint, surface coatings). Repair any damage immediately.
- Protect the device against moisture and dirt.
- Observe the permissible ambient temperatures (see section 3.1).

4.3 Storage

NOTICE
Risk of regulator damage due to improper storage.
- Observe storage instructions.
- Avoid long storage times.
- Contact SAMSON in case of different storage conditions or long storage periods.

Note
We recommend regularly checking the device and the prevailing storage conditions during long storage periods.

Storage instructions
- Protect the device against external influences (e.g. impact).
- Do not damage the corrosion protection (paint, surface coatings). Repair any damage immediately.
- Protect the device against moisture and dirt. Store it at a relative humidity of less than 75 %. In damp spaces, prevent condensation. If necessary, use a drying agent or heating.
- Make sure that the ambient air is free of acids or other corrosive media.
- Observe the permissible ambient temperatures (see section 3.1).
- Do not place any objects on the device.

Special storage instructions for elastomers
Elastomer, e.g. actuator diaphragm
To keep elastomers in shape and to prevent cracking, do not bend them or hang them up.

We recommend a storage temperature of 15 °C for elastomers.

Store elastomers away from lubricants, chemicals, solutions and fuels.

**Tip**

SAMSON’s After-sales Service department can provide more detailed storage instructions on request.

### 4.4 Preparation for installation

Proceed as follows:

- Flush the pipelines.
- Check the valve to make sure it is clean.
- Check the valve for damage.
- Check to make sure that the type designation, valve size, material, pressure rating and temperature range of the valve match the plant conditions (size and pressure rating of the pipeline, medium temperature etc.).
- Check any mounted pressure gauges to make sure they function.

**Note**

The plant operator is responsible for cleaning the pipelines in the plant.
5 Mounting and start-up

**NOTICE**
Risk of overheating due to excessive ambient temperatures or insufficient heat dissipation when components are insulated.
- Do not include the regulator in the insulation of the pipeline.

---

Risk of impaired functioning of the regulator and leakage at the joint due to installation under tension.
- Bolt the regulator to the pipeline free of stress.
- If necessary, support the pipelines near to the connections.
- Do not attach supports directly to the valve or actuator.

---

**Fig. 5:** Steam control with Type 44-0 B (installation example)

1. Shut-off valve
2. Upstream pressure gauge
3. Strainer
4. Downstream pressure gauge
5. Safety valve
6. Vent plug
7. Steam trap
5.1 Mounting positions

Standard mounting position

Install Type 44-0 B with the actuator housing suspended downward in horizontal pipelines.

Install Type 44-1 B at medium temperatures below 60 °C in any position. At medium temperatures above 60 °C, install it with the actuator housing suspended downward in horizontal pipelines.

Installation conditions

- Make sure that the regulator remains freely accessible after the plant has been completed.
- Install a strainer upstream of the regulator (see section 5.2).
- Make sure the direction of flow matches the direction indicated by the arrow on the body.
- Install the regulator free of stress.

![NOTICE]

Possible malfunction and damage due to adverse effects of weather conditions (temperature, humidity).

- Do not install the device outdoors or in rooms prone to frost.
- Protect the regulator against frost if it is used to control freezing media.
- Either heat the regulator or remove it from the plant and completely drain the residual medium after a plant shutdown.

5.2 Additional fittings

Strainer

A strainer installed upstream in the flow pipe holds back any dirt or other foreign particles carried along by the medium. For example, the SAMSON Type 1 NI Strainer is suitable (T 1010).

The following points must be observed during installation of the strainer:

- Install the strainer upstream of the regulator.
- Allow sufficient space to remove the filter.
- Observe the flow direction.
- In horizontal pipelines with gases or liquids, the filter element faces downward. The filter element faces sideways in applications with steam.
- Install strainers in vertical pipelines with the medium flowing upward with the drain plug facing upward.

![Note]

Check the strainer at regular intervals and clean it, if necessary.

Shut-off valve

Install a hand-operated shut-off valve both upstream of the strainer and downstream of
Mounting and start-up

the regulator (see Fig. 5). This allows the plant to be shut down for cleaning and maintenance, and when the plant is not used for longer periods of time.

Pressure gauges
Install a pressure gauge both upstream and downstream of the regulator to monitor the pressures prevailing in the plant (see Fig. 5).

5.3 Start-up

**DANGER**
*Risk of personal injury due to process medium escaping under pressure.*
- First start up the regulator after mounting all parts.

**NOTICE**
*Risk of the actuator bellows bursting due to excessive pressure during pressure testing.*
- Open the regulator.
- The pressure must not exceed the maximum permissible pressure by 1.5 times the pressure rating.

**NOTICE**
*Risk of the valve being destroyed by steam hammering.*
- Drain off any condensate in the pipeline.
- Vent the plant.

Once installed in the pipeline, the regulator can be put into operation.

5.4.1 Gases and liquids
- Open the shut-off valves slowly preferably starting from the upstream pressure side.
- Avoid pressure surges.

5.4.2 Vapors
- Completely drain and dry steam lines to prevent water hammering.
- Slowly allow the steam to enter the plant to ensure that the pipes and valves warm up evenly and to avoid excessive flow velocities.
- Before the full capacity is reached, drain off the start-up condensate.
- Make sure that the air contained in the plant escapes as quickly as possible.
- Open the shut-off valves slowly preferably starting from the upstream pressure side.
- Avoid pressure surges.
6 Operation

6.1 Adjusting the set point

➔ Refer to Fig. 3

Adjust the required set point by turning the set point adjuster (8) by hand or the set point screw (9) using an Allen key  1) (3 or 5 mm width across flats.

Set point adjuster

➔ Turn the set point adjuster clockwise (↺) to increase the pressure set point.
➔ Turn the set point adjuster counterclockwise (↻) to reduce the pressure set point.

Set point screw

➔ Undo the lock nut.
➔ Turn the set point screw clockwise (↺) to increase the pressure set point.
➔ Turn the set point screw counterclockwise (↻) to reduce the pressure set point.
➔ Tighten the lock nut.

The pressure gauge (Fig. 5) installed on the downstream side on site allows the adjusted set point to be monitored.

The set point range can be changed by exchanging the set point spring (7) (see section 7.3).

1) Versions with bodies made of spheroidal graphite iron (DN 40 and 50), stainless steel bodies and all regulators with 8 to 20 bar set point range.

7 Maintenance

The regulator does not require any maintenance. Nevertheless, it is subject to natural wear, particularly at the seat, plug and operating bellows. Depending on the operating conditions, check the regulator at regular intervals to avoid possible malfunctions.

⚠️ DANGER

Risk of bursting in pressure equipment. Regulators and pipelines are pressure equipment. Improper opening can lead to bursting of the regulator.

➔ Before starting any work on the regulator, depressurize all plant sections concerned as well as the valve.
➔ Drain the process medium from all the plant sections concerned as well as the valve.
➔ Wear personal protective equipment.

⚠️ WARNING

Risk of personal injury due to residual process medium in the valve.

While working on the valve, residual process medium can escape and, depending on its properties, may lead to personal injury, e.g. (chemical) burns.

Wear protective clothing, safety gloves and eyewear.
Maintenance

⚠️ WARNING
Risk of burn injuries due to hot or cold components and pipeline. Valve components and the pipeline may become very hot or cold. Risk of burn injuries.
- Allow components and pipelines to cool down or heat up.
- Wear protective clothing and safety gloves.

⚠️ NOTICE
Risk of valve damage due to incorrect servicing or repair. Service and repair work must only be performed by trained staff.

⚠️ NOTICE
Risk of regulator damage due to excessively high or low tightening torques. Observe the specified torques on tightening regulator components. Excessively tightened torques lead to parts wearing out quicker. Parts that are too loose may cause leakage. Observe the specified tightening torques.

⚠️ NOTICE
Risk of regulator damage due to the use of unsuitable tools. Only use tools approved by SAMSON.

⚠️ NOTICE
Risk of regulator damage due to the use of unsuitable lubricants. Only use lubricants approved by SAMSON.

ℹ️ Note
SAMSON's After-sales Service department can support you concerning lubricant, tightening torques and tools approved by SAMSON.

ℹ️ Note
The regulator was checked by SAMSON before it left the factory.
- Certain test results (seat leakage and leak test) certified by SAMSON lose their validity when the valve body or actuator housing is opened.
- The product warranty becomes void if service or repair work not described in these instructions is performed without prior agreement by SAMSON's After-sales Service department.
- Only use original spare parts by SAMSON, which comply with the original specifications.

🌟 Tip
SAMSON's After-sales Service department can support you in drawing up an inspection and test plan for your plant.
7.1 Cleaning and replacing the seat and plug

**DANGER**
**Risk of personal injury due to preloaded springs.**
Regulators in combination with preloaded set point springs are under tension. These regulators can be identified by the long spring housing of the actuator.
- Before starting any work on the spring housing, relieve the compression from the preloaded springs.

**NOTICE**
**Risk of regulator damage due to excessively high or low tightening torques.**
Observe the specified torques on tightening regulator components. Excessively tightened torques lead to parts wearing out quicker. Parts that are too loose may cause leakage. Observe the specified tightening torques.

**NOTICE**
**Risk of damage to the facing of the seat and plug due to incorrect service or repair.**
Always replace both the seat and plug.

---

**Note**
SAMSON’s After-sales Service department can support you concerning lubricant, tightening torques and tools approved by SAMSON.

Refer to Fig. 3

**Disassembly**

1. Completely relieve the tension from the set point spring (7) by turning the set point adjuster/set point screw (8/9) counterclockwise (\(\Theta\)).
2. Unscrew the stopper (11) (socket wrench SW 13).
3. Remove the seal (1.2).
4. Pull out the plug (2) together with the balancing bellows (6).
5. Thoroughly clean the seat and plug. If the plug or balancing bellows is damaged, replace the entire unit with a new one.
6. Unscrew the seat using a seat wrench when the seat facing is damaged.
Assembly

1. Screw in the seat using a seat wrench. Observe the tightening torques specified in section 7.4.
2. Insert the plug (2) together with the balancing bellows (6).
3. Renew the seal (1.2) and insert it into the body.
4. Screw in the stopper (11) (socket wrench SW 13). Observe the tightening torques specified in section 7.4.

7.2 Replacing the operating bellows

⚠️ DANGER

Risk of personal injury due to preloaded springs.
Regulators in combination with preloaded set point springs are under tension. These regulators can be identified by the long spring housing of the actuator.
– Before starting any work on the spring housing, relieve the compression from the preloaded springs.

⚠️ NOTICE

Risk of regulator damage due to excessively high or low tightening torques.
Observe the specified torques on tightening regulator components. Excessively tightened torques lead to parts wearing out quicker. Parts that are too loose may cause leakage. Observe the specified tightening torques.

SAMSON’s After-sales Service department can support you concerning lubricant, tightening torques and tools approved by SAMSON.

→ Refer to Fig. 3

Disassembly

1. Completely relieve the tension from the set point spring (7) by turning the set point adjuster/set point screw (8/9) counterclockwise (α) as far as it will go.
2. Undo the screws (10).
3. Remove the spring housing with set point spring (7) and operating bellows (5).
4. Remove the operating bellows and replace with a new one.

Assembly

1. Replace the body gasket (1.1) with a new one.
2. Place the spring housing with spring (7) and operating bellows (5) onto the valve body.
3. Screw in the screws (10). Observe the tightening torques specified in section 7.4.
7.3 Replacing the set point springs

⚠️ DANGER
Risk of personal injury due to preloaded springs.
Regulators in combination with preloaded set point springs are under tension. These regulators can be identified by the long spring housing of the actuator.
– Before starting any work on the spring housing, relieve the compression from the preloaded springs.

⚠️ NOTICE
Risk of regulator damage due to excessively high or low tightening torques.
Observe the specified torques on tightening regulator components. Excessively tightened torques lead to parts wearing out quicker. Parts that are too loose may cause leakage. Observe the specified tightening torques.

💡 Note
SAMSON's After-sales Service department can support you concerning lubricant, tightening torques and tools approved by SAMSON.

⇒ Refer to Fig. 3

Disassembly
1. Completely relieve the tension from the set point spring (7) by turning the set point adjuster/set point screw (8/9) counterclockwise (↺) as far as it will go.
2. Undo the screws (10).
3. Remove the spring housing with set point spring (7) and operating bellows (5).
4. Remove the set point spring and replace with a new one.

Assembly
1. Replace the body gasket (1.1) with a new one.
2. Place the spring housing with spring (7) and operating bellows (5) onto the valve body.
3. Screw in the screws (10). Observe the tightening torques specified in section 7.4.

💡 Note
Change the nameplate and configuration ID after changing the set point range.
7.4 Tightening torques

<table>
<thead>
<tr>
<th>Component</th>
<th>Valve size</th>
<th>Tightening torque in Nm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seat (3)</td>
<td>G ½ to G 1 DN 15 to 25</td>
<td>45</td>
</tr>
<tr>
<td></td>
<td>G 1½ to G 2 DN 40 to 50</td>
<td>110</td>
</tr>
<tr>
<td>Screws (10)</td>
<td>All</td>
<td>10</td>
</tr>
<tr>
<td>Stopper (11)</td>
<td>All</td>
<td>40</td>
</tr>
</tbody>
</table>

7.5 Preparation for return shipment

Defective devices can be returned to SAMSON for repair. Proceed as follows to return devices to SAMSON:

1. Put the regulator out of operation (see section 9.1).
2. Decontaminate the valve. Remove any residual process medium.
3. Fill in the Declaration on Contamination, which can be downloaded from our website at www.samson.de > SERVICE & SUPPORT > After-sales Service.
4. Send the device together with the filled-in form to your nearest SAMSON subsidiary. SAMSON subsidiaries are listed on our website at www.samson.de > Contact.

7.6 Ordering spare parts and operating supplies

Contact your nearest SAMSON subsidiary or the SAMSON After-sales Service department for information on spare parts, lubricants and tools.

Spare parts

See section 10.2 for details on spare parts.

Lubricants

Contact the After-sales Service department for more information on suitable lubricants.

Tools

Contact the After-sales Service department for more information on suitable tools.

8 Malfunctions

The malfunctions listed in Table 6 are caused by mechanical faults and incorrect regulator sizing. In the simplest case, the functioning can be restored following the recommended action. Special tools may be required for repair work.

Exceptional operating and installation conditions may lead to changed situations that may affect the control response and lead to malfunctions. For troubleshooting, the conditions, such as installation, process medium, temperature and pressure conditions, must be taken into account.

SAMSON's After-sales Service department can help during troubleshooting. Further information is available in section 10.1.
### Table 6: Troubleshooting

<table>
<thead>
<tr>
<th>Malfunction</th>
<th>Possible reasons</th>
<th>Recommended action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pressure exceeds the adjusted set point.</td>
<td>Insufficient pressure pulses on the operating bellows.</td>
<td>Connect the control line on site for regulators with external control line.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Clean the control line and screw fittings.</td>
</tr>
<tr>
<td></td>
<td>Pressure tapped at the wrong place (regulator with</td>
<td>Reconnect the control line at another point.</td>
</tr>
<tr>
<td></td>
<td>external control line).</td>
<td>Do not connect the control line at pipe bends or necks.</td>
</tr>
<tr>
<td></td>
<td>Seat and plug worn down by deposits or foreign</td>
<td>Replace damaged parts.</td>
</tr>
<tr>
<td></td>
<td>particles.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Foreign particles blocking the plug</td>
<td>Remove foreign particles.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Replace damaged parts.</td>
</tr>
<tr>
<td>Pressure drops below the adjusted set</td>
<td>Valve installed against the flow.</td>
<td>Install the valve so that the direction of flow matches the direction indicated by</td>
</tr>
<tr>
<td>point.</td>
<td></td>
<td>the arrow on the body.</td>
</tr>
<tr>
<td></td>
<td>Foreign particles blocking the plug</td>
<td>Replace damaged parts.</td>
</tr>
<tr>
<td></td>
<td>Pressure tapped at the wrong place (regulator with</td>
<td>Reconnect the control line at another point.</td>
</tr>
<tr>
<td></td>
<td>external control line).</td>
<td>Do not connect the control line at pipe bends or necks.</td>
</tr>
<tr>
<td></td>
<td>Valve or $K_{VS}/C_V$ coefficient too small</td>
<td>Check the sizing.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Change $K_{VS}/C_V$ coefficient, if necessary or install a different sized regulator.</td>
</tr>
<tr>
<td>Jerky control response</td>
<td>Increased friction, e.g. due to foreign particles</td>
<td>Remove foreign particles.</td>
</tr>
<tr>
<td></td>
<td>between seat and plug.</td>
<td>Replace damaged parts.</td>
</tr>
<tr>
<td>Slow control response</td>
<td>Control line blocked by dirt causing the flow</td>
<td>Clean the control line.</td>
</tr>
<tr>
<td></td>
<td>through it to be restricted.</td>
<td></td>
</tr>
<tr>
<td>Downstream pressure hunts</td>
<td>Valve too large</td>
<td>Check the sizing.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Change $K_{VS}/C_V$ coefficient, if necessary or install a different sized regulator.</td>
</tr>
<tr>
<td></td>
<td>Pressure tapped at the wrong place (regulator with</td>
<td>Reconnect the control line at another point.</td>
</tr>
<tr>
<td></td>
<td>external control line).</td>
<td>Do not connect the control line at pipe bends or necks.</td>
</tr>
<tr>
<td>Loud noises</td>
<td>High flow velocity, cavitation.</td>
<td>Check the sizing.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Install larger regulator, if necessary.</td>
</tr>
<tr>
<td>Leakage at the regulator.</td>
<td>Operating bellows defective.</td>
<td>Replace damaged parts.</td>
</tr>
</tbody>
</table>
Decommissioning and disassembly

We recommend removing the valve from the pipeline before repairing it.

**Tip**
SAMSON’s After-sales Service department can support you in drawing up an inspection and test plan for your plant.

**Note**
Contact SAMSON’s After-sales Service department for malfunctions not listed in the table.

### 9 Decommissioning and disassembly

**DANGER**
Risk of bursting in pressure equipment. Regulators and pipelines are pressure equipment. Improper opening can lead to bursting of the regulator.
- Before starting any work on the regulator, depressurize all plant sections concerned as well as the valve.
- Drain the process medium from all the plant sections concerned as well as the valve.
- Wear personal protective equipment.

**WARNING**
Risk of personal injury due to residual process medium in the valve.
While working on the valve, residual process medium can escape and, depending on its properties, may lead to personal injury, e.g. (chemical) burns.
Wear protective clothing, safety gloves, and eyewear.

**WARNING**
Risk of burn injuries due to hot or cold components and pipeline.
Valve components and the pipeline may become very hot or cold. Risk of burn injuries.
- Allow components and pipelines to cool down or heat up.
- Wear protective clothing and safety gloves.
9.1 Decommissioning

To decommission the regulator for service and repair work or disassembly, proceed as follows:

1. Close the shut-off valve on the upstream side of the valve.
2. Close the shut-off valve on the downstream side of the valve.
3. Completely drain the pipelines and valve.
4. Depressurize the plant. Shut off or disconnect the control line, if installed.
5. If necessary, allow the pipeline and device to cool down or heat up.
6. Remove the valve from the pipeline.

9.2 Disposal

- Observe local, national and international refuse regulations.
- Do not dispose of components, lubricants and hazardous substances together with your household waste.

10 Appendix

10.1 After-sales service

Contact SAMSON’s After-sales Service department for support concerning service or repair work or when malfunctions or defects arise.

E-mail

You can reach the After-sales Service Department at aftersalesservice@samson.de.

Addresses of SAMSON AG and its subsidiaries

The addresses of SAMSON AG, its subsidiaries, representatives and service facilities worldwide can be found on the SAMSON website (www.samson.de) or in all SAMSON product catalogs.

To assist diagnosis and in case of an unclear mounting situation, specify the following details (so far as possible). See section 2:

- Device type and nominal size
- Model number and configuration ID
- Upstream and downstream pressure
- Temperature and process medium
- Min. and max. flow rate
- Is a strainer installed?
- Installation drawing showing the exact location of the regulator and all the additionally installed components (shut-off valves, pressure gauge, etc.)
10.2 Spare parts

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>301</td>
<td>Plug assembly</td>
</tr>
<tr>
<td>302</td>
<td>Bellows assembly</td>
</tr>
<tr>
<td>305</td>
<td>Handwheel</td>
</tr>
<tr>
<td>306</td>
<td>Stopper</td>
</tr>
<tr>
<td>308</td>
<td>Body</td>
</tr>
<tr>
<td>309</td>
<td>Seal</td>
</tr>
<tr>
<td>310</td>
<td>Threaded seat</td>
</tr>
<tr>
<td>311</td>
<td>Seat</td>
</tr>
<tr>
<td>315</td>
<td>Spring housing</td>
</tr>
<tr>
<td>316</td>
<td>Pin</td>
</tr>
<tr>
<td>317</td>
<td>Nipple</td>
</tr>
<tr>
<td>320</td>
<td>Compression spring</td>
</tr>
<tr>
<td>321-324</td>
<td>Set point spring</td>
</tr>
<tr>
<td>326</td>
<td>Spindle</td>
</tr>
<tr>
<td>327</td>
<td>Spring plate</td>
</tr>
<tr>
<td>328</td>
<td>Pipe</td>
</tr>
<tr>
<td>340-342</td>
<td>O-ring</td>
</tr>
<tr>
<td>344/345</td>
<td>O-ring</td>
</tr>
<tr>
<td>347</td>
<td>Gasket</td>
</tr>
<tr>
<td>350</td>
<td>Retaining washer</td>
</tr>
<tr>
<td>351</td>
<td>Shim</td>
</tr>
<tr>
<td>352</td>
<td>Spring washer</td>
</tr>
<tr>
<td>354</td>
<td>Dry bearing</td>
</tr>
<tr>
<td>356</td>
<td>Washer</td>
</tr>
<tr>
<td>357</td>
<td>Cap screw</td>
</tr>
<tr>
<td>358</td>
<td>Hex screw</td>
</tr>
<tr>
<td>360</td>
<td>Plug</td>
</tr>
<tr>
<td>362</td>
<td>Reinforcement plate</td>
</tr>
</tbody>
</table>

10.3 Certificates

The EU declarations of conformity are included on the next pages.
**EU-KONFORMITÄTSERKLÄRUNG**

**EU DECLARATION OF CONFORMITY**

Modul H / Module H, Nr./No. / N° CE-0062-PED-H-SAM 001-16-DEU-rev-A

SAMSON erklärt in alleiniger Verantwortung für folgende Produkt(en): For the following products, SAMSON hereby declares under its sole responsibility:

**Ventile für Druck- Differenzdruck-, Volumenstrom- und Temperaturregler/Valves for pressure, differential pressure, flow and temperature regulators**

2333 (Exx.-Nr./Model-No. 2333), 2334, (2335), 2335 (2355), 2336, 2373, 2375, 44-08, 44-10, 44-2, 44-3, 44-4, 44-7, 44-8, 45-1, 45-2, 45-3, 45-4, 45-5, 45-6, 2408, 2470 (2720), 45-6, 45-8, 45-10, 47-1, 47-4, 47-5, 47-8, 2487, 2489, 2491, 2464, 2455 (2730), 2405, 2406, 2421 (2811), 2392, 2412 (2812), 2114 (2814), 2117 (2817), 2242 (2814), 2243 (2823)

Die Konformität mit nachfolgender Anforderung/this conformity with the following requirement:


Angenommene Konformitätsbewertungsverfahren für Flüssigkeiten nach Art. 4(1)(c) i. d. B. und (c) zweiter Gesetzesbereich; Conformity assessment procedure applied for fluids according to Article 4(1)(c) i. d. B. and (c), second indent

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(1) Das auf dem Stempel aufgebrachte CE-Zeichen hat keine Gültigkeit im Sinne der Drußgerätordnung.

The CE marking affixed to the control valve is not valid in the sense of the Pressure Equipment Directive.

(2) Das auf dem Stempel aufgebrachte CE-Zeichen gilt ohne Bezeichnung der benannten Stelle (Kenn-Nr. 0062).

The CE marking affixed to the control valve is valid without specifying the notified body (ID number 0062).

(3) Die Identifikationsnummer 0062 von Bureau Veritas S.A. gilt nicht für Modul A.

The identification number 0062 of Bureau Veritas S.A. is not valid for Module A.


Devices whose conformity has been assessed based on Module H refer to the certificate of approval for the quality management system issued by the notified body.

Durch die Herstellerzuwendung außerhalb der folgenden Person ist der Entwurf in den Genuss der Verfahrenserlaubnis im folgenden Beispiel:

**Bureau Veritas S.A./ NP No. 0062, Newtine, 58 Boulevard du Parc, Ile de la Jatte, 92290 Neuilly sur Seine, France**

**Hersteller/Manufacturer:** SAMSON AG, Welscherstraße 5, 60314 Frankfurt am Main, Germany

Frankfurt am Main, 38. Februar 2017

Klaus Hirschler
Zentralabteilungsleiter/Head of Central Department

Dr. Michael Heis
Zentralabteilungsleiter/Head of Central Department

SAMSON AKTIENGESELLSCHAFT
Welscherstraße 3 60314 Frankfurt am Main

Revision 03

EB 2626-1 EN 33
EU-KONFORMITÄTSERKLÄRUNG
EU DECLARATION OF CONFORMITY

Modul H/Module H, Nr./No. / N° CE-PED-H-SAM 001-13-DEU-rev-A

SAMSON erklärte in alleiniger Verantwortung für folgende Produkte: For the following products, SAMSON hereby declares under its sole responsibility:

Ventile für Druck-, Differenzdruck-, Temperatur- und Volumenstromregler/Valves for pressure, temperature, flow regulators and differential pressure regulators

Typ 2338, 2373, 2375, 44-1B, 44.2, 44.3, 44.4, 44.6B, 44.9, 45.1, 45.2, 45.3, 45.4, 45.6, (Erz. Nr. 2729), 45.6, 47.4, 2488, 2489, (2733), 2493, 2496, 2491 (2811), 2412 (2812), 2417 (2817), 2422 (2814), 2423 (2823), 2426C (2853)

die Konformität mit nachfolgender Anforderung/the conformity with the following requirement:

Richtlinie des Europäischen Parlaments und des Rates zur Harmonisierung der Rechtsvorschriften der Mitgliedstaaten über die Bereitstellung von Druckgeräten auf dem Markt.

Directive of the European Parliament and of the Council on the harmonization of the laws of the Member States relating to the making available on the market of pressure equipment (see also Articles 41 and 48).

Angewandtes Konformitätsbewertungsverfahren für Fluide nach Art. 4(1)(c.i) erster Gliederstufe.

Conformity assessment procedure applied for fluids according to Article 4(1)(c.i) of first indent

| Modul siehe Tabelle (see table for module) | durch certificiert by Bureau Veritas S. A. (00622) |

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(1) Das auf dem Stellplatz aufgebogene CE-Zeichen hat keine Gültigkeit im Sinne der Druckgeräte-Richtlinie. The CE marking affixed to the control valve is not valid in the sense of the Pressure Equipment Directive.

(2) Das auf dem Stellplatz aufgebogene CE-Zeichen gilt ohne Bezeichnung der benannten Stelle (Kleins-Nr. 00622). The CE marking affixed to the control valve is valid without specifying the notified body (ID number 00622).

(3) Die Identifikationsnummer 0062 von Bureau Veritas S.A. gilt nicht für Modul A. The identification number 0062 of Bureau Veritas S.A. is not valid for Module A.

Geräte, denen laut Tabelle das Konformitätsbewertungsverfahren Modul H zugewiesen liegt, bezeichnen sich auf die Zulassungsbescheinigung eines Qualitätsicherungssystems ausgestellt durch die benannte Stelle. Devices whose conformity has been assessed based on Module H refer to the certificate of approval for the quality management system issued by the notified body.

Derm Entwurf zu Grunde gelegt sind Verfahren aus./The design is based on the methods of:

The quality assurance system of the Hersteller wird von folgender benannter Stelle überwacht:

Durch den folgenden notifizierten Stelle:

Bureau Veritas S. A. Nr./No. 00622. Newtowne, 52 Boulevard du Parc, île de la Jatte, 92200 Neuilly sur Seine, France

Hersteller/Manufacturer: SAMSON AG, Weimüllersstraße 3, 69314 Frankfurt am Main, Germany

Klaus Horschahn / Head of Central Department
Entwicklung Ventile und Antriebe / R&D Valves and Actuators

Dr. Michael Hess / Head of Central Department
Product Management & Technical Sales

Tel: 060-6100-9. Tel: 060-6100-1507
E-Mail: samson@samson.de

Revision 03
EU-KONFORMITÄTserklärung
EU DECLARATION OF CONFORMITY

Modul H / Module H, Nr./No. / N° CE-0062-PED-H-SAM 001-16-DEU-rev-A

SAMSON erklärt in alleiniger Verantwortung für folgende Produkte:

For the following products, SAMSON hereby declares

Ventile für Druck- Differenzdruck- Volumenstrom- und Temperaturregler / Valves for pressure, differential pressure, volume flow and temperature regulators

2333 (Exz.-Nr./Model No. 2333), 2334 (2334), 2335 (2335), 2336, 2337, 2338, 2339, 44-08, 44-10, 44-2, 44-3, 44-4, 44-7, 44-8, 45-1, 45-2, 45-3, 45-4, 45-5, 45-6, 2480, 2481 (2720), 45-6, 45-6, 45-7, 47-1, 47-2, 47-6, 2487, 2488, 2489, 2491, 2464, 2455 (2730), 2405, 2406, 2421 (2811), 2392, 2412 (2812), 2114 (2014), 2117 (2017), 2242 (2814), 2423 (2823)

die Konformität mit nachfolgender Anforderung und der Konformität mit den folgenden Anforderungen:

Die Anforderungen des Europäischen Parlaments und des Rates zur Harmonisierung der Rechtsvorschriften der Mitgliedstaaten über die Bereitstellung von Druckgeräten auf dem Markt.


Angewandtes Konformitätsbewertungsverfahren für Fluide nach Art. 4(1)(c)ii) und (c)ii) zweiter Gesamtdirektive.

Conformity assessment procedure applied for fluids according to Article 4(1)(c)ii) and (c)ii) second Directive.

Tabelle 2014/68/EU vom 15.05.2014

see table for module
durch
certified by
Bureau Veritas S. A. (0062)

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(1) Das auf dem Stempel aufgebrachte CE-Zeichen hat keine Gültigkeit im Sinne der Druckgeräte-Richtlinie.

(2) Das auf dem Stempel aufgebrachte CE-Zeichen gilt ohne Bezeichnung der benannten Stelle (Kenn- Nr. 0062).

The CE marking affixed to the control valves is not valid in the sense of the Pressure Equipment Directive.

The CE marking affixed to the control valve is valid without specifying the notified body (ID number 0062).

(3) Die Identifikationsnummer 0062 von Bureau Veritas S.A. gilt nicht für Modul A.

The identification number 0062 of Bureau Veritas S.A. is not valid for Module A.

Geräte, denen laut Tabelle das Konformitätsbewertungsverfahren Modul H zugrunde liegt, beziehen sich auf die Zumalzungsbezeichnung eines Qualitätsicherungssystems ausgestellt durch die benannte Stelle.

Devices whose conformity has been assessed based on Module H refer to the certificate of approval for the quality management system issued by the notified body.

Der Entwurf zu: Grande gélatine verte Pariser, Place de la Jatte, 52200 Neuilly sur Seine, France

Frankfurt am Main, 08. Februar 2017

Klaus Henschel
Zentralabteilungsleiter / Head of Central Department
Samson Aktiengesellschaft
Weissenhäuser Straße 3, 60314 Frankfurt am Main

Dr. Michael Heis
Zentralabteilungsleiter / Head of Central Department
Product Management & Technical Sales

SAMSON Aktiengesellschaft
Weissenhäuser Straße 3, 60314 Frankfurt am Main

Tel.: 069 4009-0, Telefax: 069 4009-1507
E-Mail: samson@samson.de

Revision 03