

MOUNTING AND OPERATING INSTRUCTIONS



EB 2540 EN

Translation of original instructions



Type 2404-2 Excess Pressure Valve with Pilot Valve
Self-operated regulator for small set point ranges

Edition May 2023



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. The images shown in these instructions are for illustration purposes only. The actual product may vary.

- 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 (aftersaleservice@samsongroup.com).



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.samsongroup.com > **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

Note

Additional information

Tip

Recommended action

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1 Safety instructions and measures

Intended use

The SAMSON Type 2404-2 Regulator is an excess pressure valve with pilot valve for small set point ranges. It consists of a Type 2406 Valve (DN 65 to 150) or Type 2422 Valve as the main valve with a Type 2420 Diaphragm Actuator (DN 200 to 400), Type 2406 Pilot Valve and the Type 2441 Input Pressure Regulator. The assembled unit is tested before delivery.

The self-operated regulator is used to control the pressure in storage tanks. Gases in processing and industrial plants can be controlled by the regulator.

The regulator is designed to operate under exactly defined conditions (e.g. operating pressure, process medium, temperature). Therefore, operators must ensure that the regulator is only used in operating conditions that meet the specifications used for sizing the regulator at the ordering stage. In case operators intend to use the controllers in applications or conditions other than those 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 regulator is 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 additional fittings 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

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 must 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 substances database). Depending on the process medium and/or the activity, the protective equipment required includes:

- Protective clothing, safety gloves and eye protection in applications with hot, cold and/or corrosive media
 - Wear hearing protection when working near the valve
 - Hard hat
 - Safety harness, e.g. when working at height
 - Safety footwear, if applicable ESD (electrostatic discharge) footwear
- ➔ 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 regulator by the process medium, the operating pressure or by moving parts by taking appropriate precautions. Plant operators and operating personnel must observe all hazard statements, warnings and caution notes in these mounting and operating instructions.

Hazards resulting from the special working conditions at the installation site of the regulator must be identified in a risk assessment and prevented through the corresponding safety instructions drawn up by the operator.

We also recommend checking the hazards posed by the process medium being used (e.g.

▶ GESTIS (CLP) hazardous substances database).

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

These mounting and operating instructions deals with the standard version of the device. Components of the device that differ to those used for the standard version described in this document can be exchanged with other certain SAMSON components. The residual hazards of these components are described in the associated mounting and operating instructions (see documents listed under 'Referenced documentation').

Safety features

The Type 2404-2 Regulator does not have any special safety features. When relieved of pressure, the regulator is closed by the force of the set point springs.

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, operating personnel must be familiar with the applicable health, safety and accident prevention regulations and comply with them.

Responsibilities of the operator

Operators are responsible for proper use 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, operators must ensure that operating personnel or third parties are not exposed to any danger.

Operators are additionally responsible for ensuring that the limits for the product defined in the technical data are observed. This also applies to the start-up and shutdown procedures. Start-up and shutdown procedures fall within the scope of the operator's duties and, as such, are not part of these mounting and operating instructions. SAMSON is unable to make any statements about these procedures since the operative details (e.g. differential pressures and temperatures) vary in each individual case and are only known to the operator.

Referenced standards, directives and regulations

The regulators comply with the requirements of the European Pressure Equipment Directive 2014/68/EU and the Machinery Directive 2006/42/EC. Regulators with a CE marking have a EU declaration of conformity which includes information about the applied conformity assessment procedure. This EU declaration of conformity is included in the 'Certificates' section.

According to the ignition hazard assessment performed in accordance with Clause 5.2 of ISO 80079-36, 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 Clause 6.4 of EN 60079-14 (VDE 0165-1).

Referenced documentation

The following documents apply in addition to these mounting and operating instructions:

- Mounting and operating instructions for
 - e.g. **Type 2 N or 2 NI Strainer** ▶ EB 1015
 - e.g. **Type 2406 Excess Pressure Valve** ▶ EB 2522
 - e.g. **Type 2441 Pressure Reducing Valve** ▶ EB 2626-1
- Mounting and operating instructions as well as data sheets for additional fittings (e.g. shut-off valves, pressure gauges etc.).

1.1 Notes on possible severe personal injury

DANGER

Risk of bursting in pressure equipment.

Regulators and pipelines are pressure equipment. Impermissible pressure or improper opening can lead to regulator components bursting.

- Observe the maximum permissible pressure for regulator and plant.
- 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 affected as well as the regulator.
- Drain the process medium from all the plant sections affected as well as the regulator.
- Wear personal protective equipment.

1.2 Notes on possible personal injury

WARNING

Risk of personal injury through incorrect operation, use or installation as a result of information on the regulator being illegible.

Over time, markings, labels and nameplates on the regulator may become covered with dirt or become illegible in some other way. As a result, hazards may go unnoticed and the necessary instructions not followed. There is a risk of personal injury.

- Keep all relevant markings and inscriptions on the device in a constantly legible state.
- Immediately renew damaged, missing or incorrect nameplates or labels.

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 warm up to the ambient temperature.
- Wear protective clothing and safety gloves.

Risk of hearing loss or deafness due to loud noise.

The noise emissions depend on the valve version, plant facilities and process medium.

- Wear hearing protection when working near the valve.

Risk of personal injury due to pressurized components and process medium being discharged.

Incorrect opening of pressure equipment or mounting parts may lead to the process medium escaping to the atmosphere.

- Do not loosen the control line while the valve is pressurized.

⚠ WARNING

Damage to health relating to the REACH regulation.

If a SAMSON device contains a substance listed as a substance of very high concern on the candidate list of the REACH regulation, this is indicated on the SAMSON delivery note.

- Information on safe use of the part affected ► www.samsongroup.com/en/about-samson/material-compliance/reach-regulation/.

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.

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 surfaces.

- Only use lubricants approved by SAMSON.
When in doubt, consult SAMSON.

Risk of regulator damage due to incorrectly attached slings.

- Do not attach load-bearing slings to the actuator housing.

Risk of regulator damage due to unsuitable medium properties.

The regulator is designed for a process medium with defined properties.

- Only use the process medium specified for sizing the equipment.

! NOTICE

Risk of leakage and regulator damage due to excessively high or low tightening torques.

Observe the specified torques when tightening regulator components. Excessive tightening torques lead to parts wearing out more quickly. Parts that are too loose may cause leakage.

→ Observe the specified tightening torques (see 'Tightening torques' in Annex).

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.
When in doubt, consult SAMSON.

Risk of the process medium being contaminated through the use of unsuitable lubricants and/or contaminated tools and components.

→ Keep the regulator and the tools used free from solvents and grease.

→ Make sure that only suitable lubricants are used.

Risk of excess pressure damaging plant sections due to construction-related seat leakage through the regulator.

→ Always install a safety device (e.g. safety excess pressure valve or safety relief valve) in the plant.

i Note

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

2 Markings on the device

Several nameplates are affixed to the device. The nameplates are used to identify the separate regulator components.

2.1 Nameplates

2.1.1 Nameplate of main valve

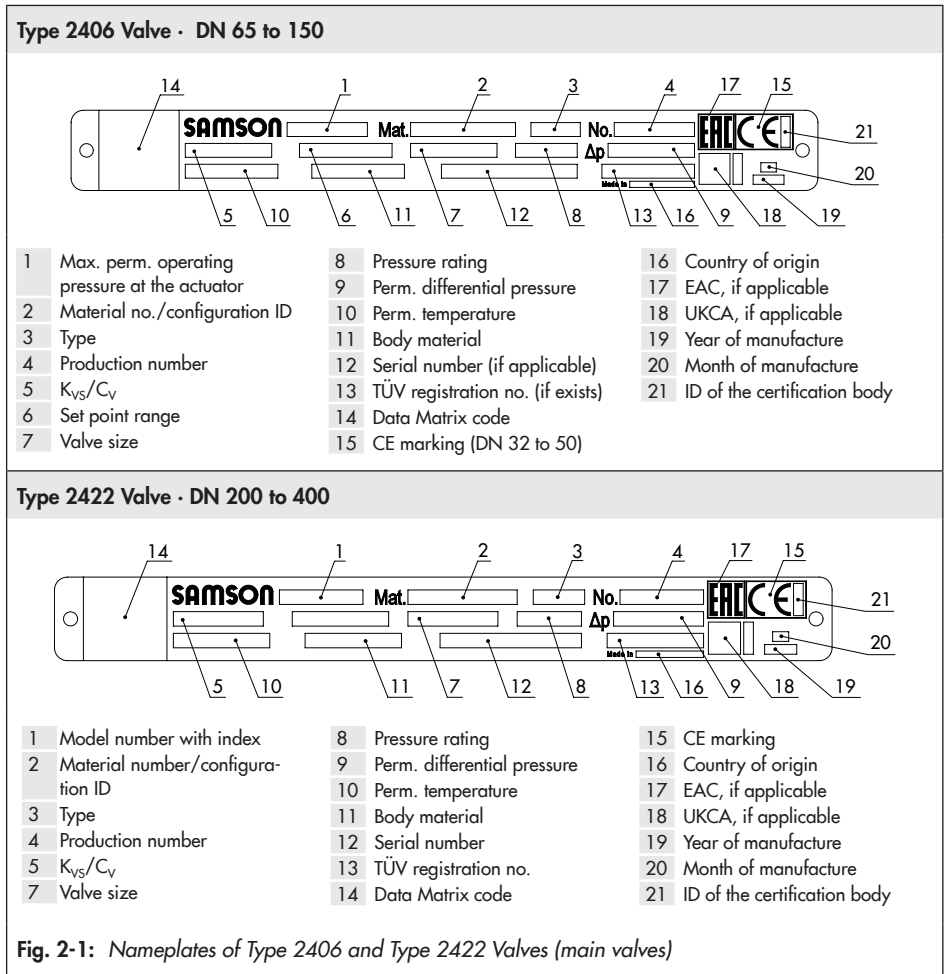


Fig. 2-1: Nameplates of Type 2406 and Type 2422 Valves (main valves)

Markings on the device

2.1.2 Actuator nameplate

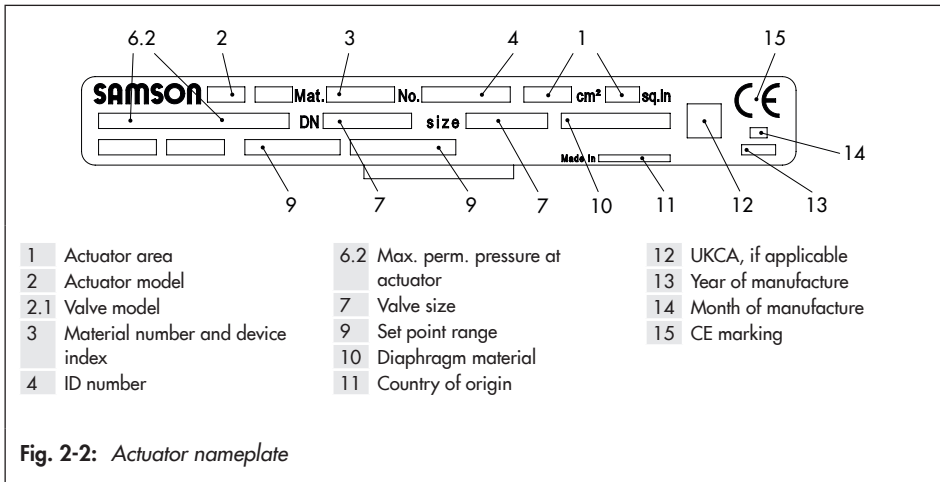


Fig. 2-2: Actuator nameplate

2.1.3 Nameplate of pilot valve

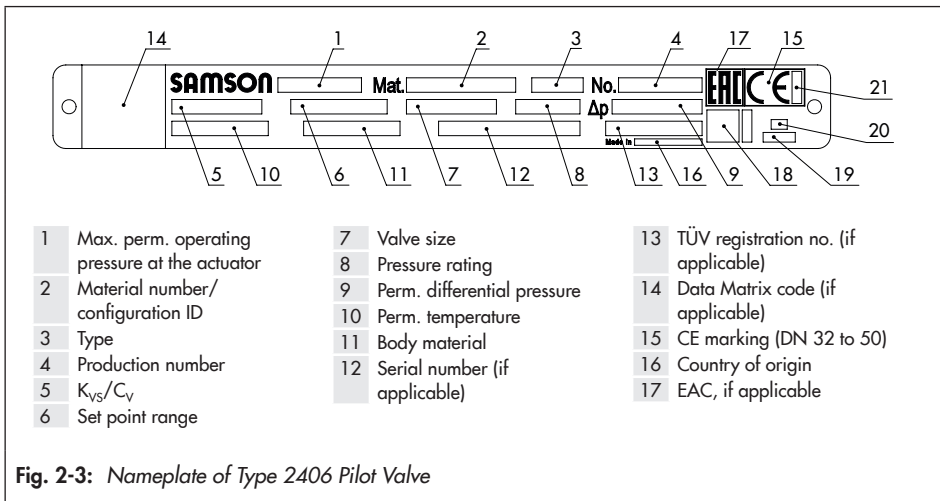
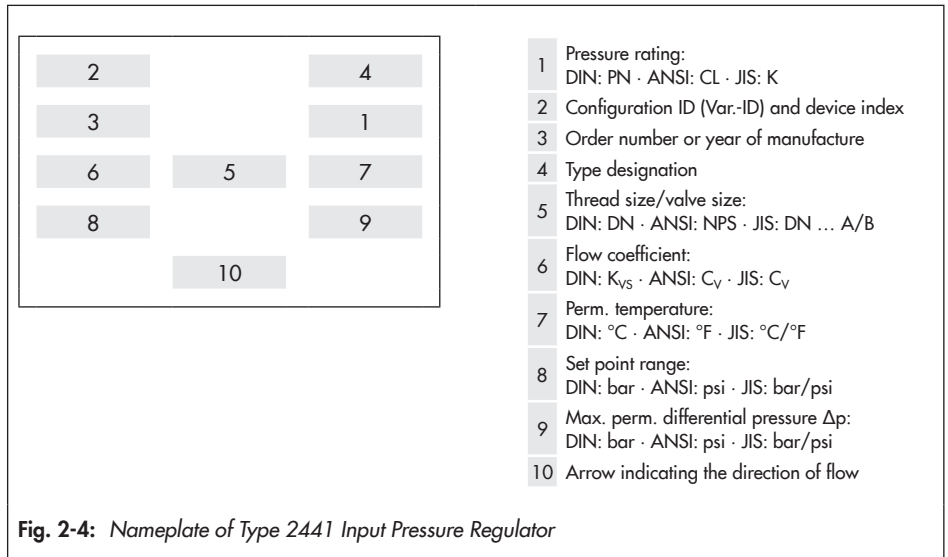
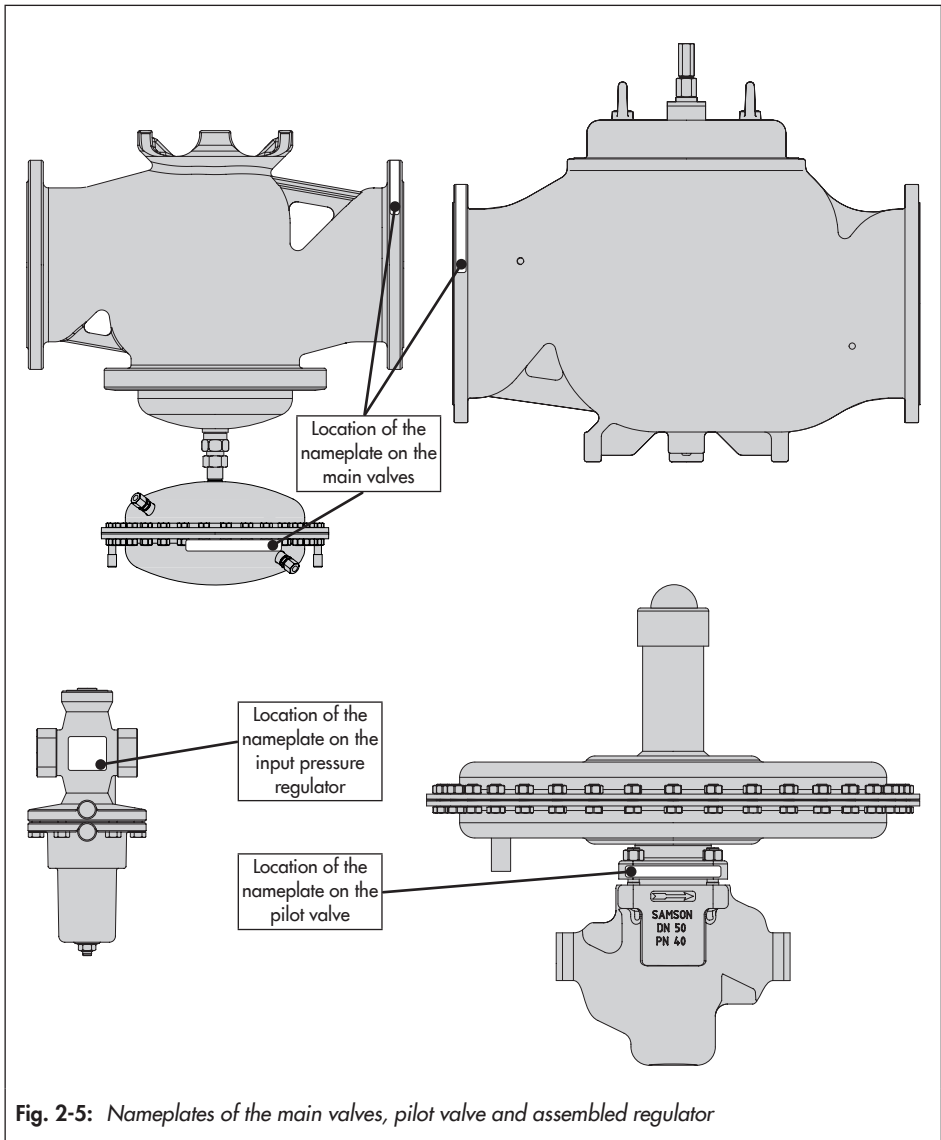


Fig. 2-3: Nameplate of Type 2406 Pilot Valve

2.1.4 Nameplate of input pressure regulator



2.2 Location of the nameplates



2.3 Material identification number

2.3.1 Type 2406 as main valve

See the nameplate (11 for DIN/ANSI version, body material) for the material used. Specifying the material number, you can contact us to find out more details. For more details on the nameplate, see section 2.1.

2.3.2 Type 2422 as main valve

See the nameplate (11 for DIN/ANSI version, body material) for the material used. Specifying the material number, you can contact us to find out more details. For more details on the nameplate, see section 2.1.

2.3.3 Type 2420 Actuator

Specifying the material number, you can contact us to find out which material is used. It is specified on the nameplate in the 'MNo.' field (3). For more details on the nameplate, see section 2.1.2.

2.3.4 Type 2406 Pilot Valve

See the nameplate (11 for DIN/ANSI version, body material) for the material used. Specifying the material number, you can contact us to find out more details. For more details on the nameplate, see section 2.1.3.

2.3.5 Type 2441 Input Pressure Regulator

The material is indicated on the cast body. Specifying the material number, you can contact us to find out more details. For more details on the nameplate, see section 2.1.4.

Markings on the device

3 Design and principle of operation

→ See Fig. 3-1

The following components interact to regulate the pressure of the inert gas.

The input pressure regulator (3) is delivered ready-adjusted. It reduces the supply pressure p (medium: inert gas or compressed air) to the input pressure p_e for the pilot valve (2) to approx. 1 bar/15 psi (positive pressure), ensuring precise pressure control even at varying upstream pressures.

The pilot valve (2) compares the actual pressure with the set point pressure. In the idle state, the pilot valve is closed by the force of the set point spring (2.1).

The upstream pressure p_1 to be controlled is routed to the pilot valve over the control line (2.4). The force created by the upstream pressure p_1 at the operating diaphragm (2.2) is compared with the adjusted spring force of the set point spring. The pilot valve opens when the blanketing gas pressure in the tank rises above the adjusted set point. This causes the control pressure p_s to increase as well. The main valve also starts to open when the force of the control pressure p_s acting on the actuator diaphragm (1.2) in the main valve (1) is greater than the force of the closing spring (1.1). As a result, the blanketing gas is vented to the atmosphere or recovered for processing until the tank blanketing is re-stabilized or the pressure falls below adjusted set point.

The needle valve (4) is delivered ready-adjusted and lead-sealed.

i Note

Optionally, the outlet (1/8 NPT) of the needle valve (4) can be routed to the downstream pressure (p_2) side of the main valve.

Design and principle of operation

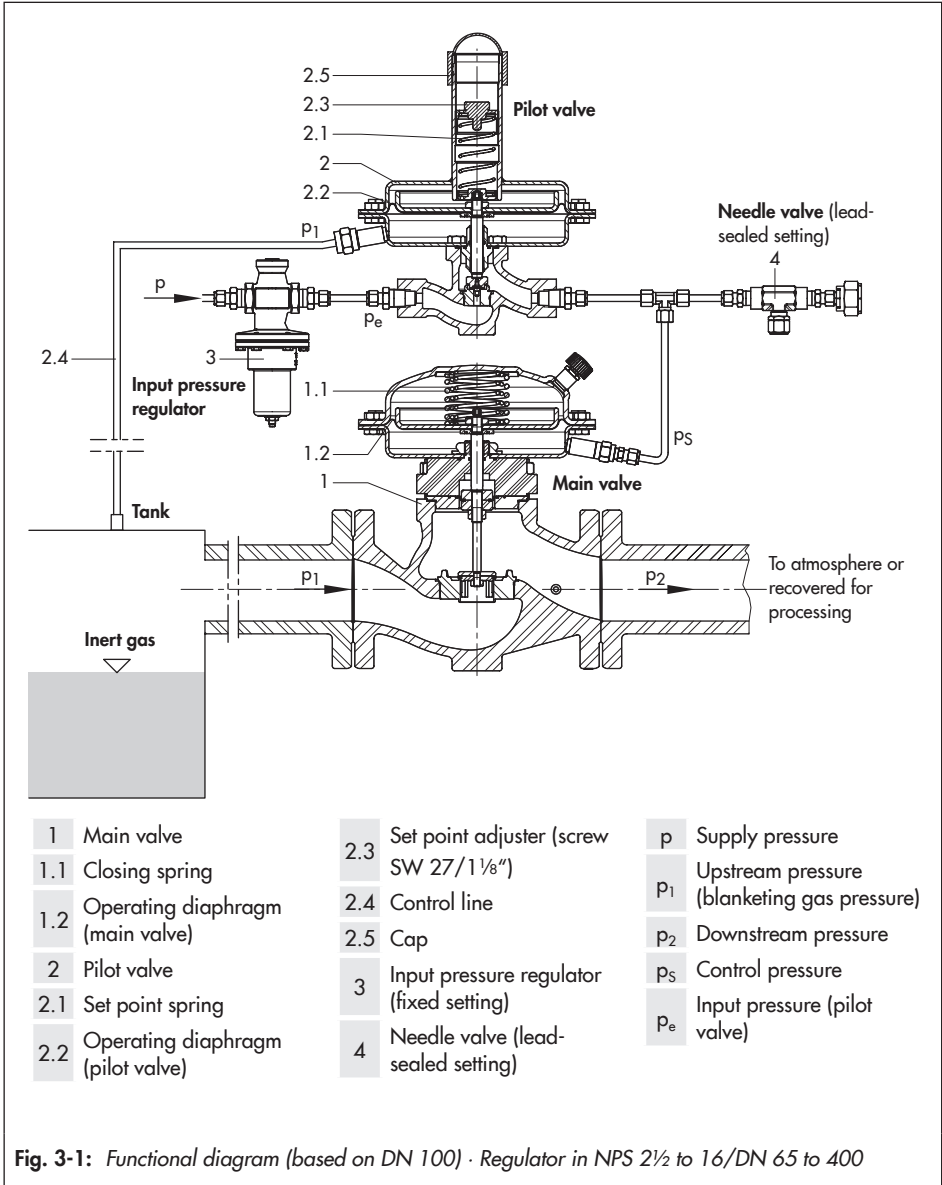


Fig. 3-1: Functional diagram (based on DN 100) · Regulator in NPS 2½ to 16/DN 65 to 400

3.1 Additional fittings

→ See Fig. 3-2

Pressure gauges

Install a pressure gauge (3) at suitable points to monitor the pressures prevailing in the storage tank.

Shut-off valves

We recommend installing a shut-off valve (1) both upstream of the strainer.

Strainers

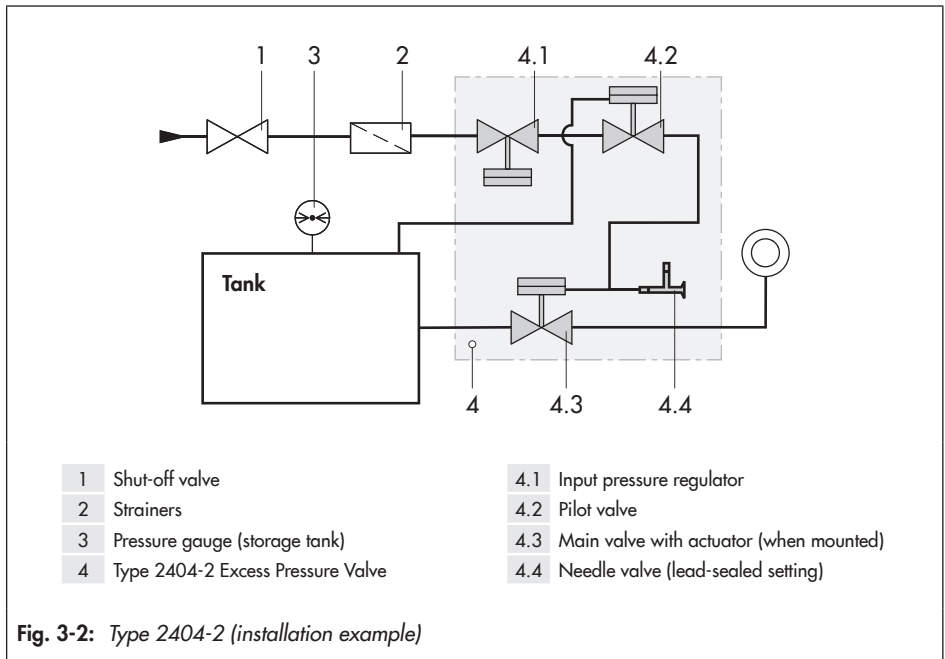
We recommend installing a SAMSON strainer (2) upstream of the input pressure

regulator. It prevents solid particles in the process medium from damaging the regulator.

- Do not use the strainer to permanently filter the process medium.
- Select a strainer (mesh size) suitable for the process medium.

i Information

Any impurities carried along by the process medium may impair the proper functioning of the regulator. We recommend installing a strainer (e.g. SAMSON Type 2 NI) upstream of the input pressure regulator (► EB 1015).



3.2 Technical data

The nameplates for the components used provide information on the component versions (see the 'Markings on the device' section).

i Note

More information is available in Data Sheet
▶ T 2540.

Conformity

The Type 2404-2 Regulator bears both the CE and EAC marks of conformity.



Process medium and scope of application

The Type 2404-2 Excess Pressure Valve with pilot valve for small set point ranges is used to maintain the tank pressure to an adjusted set point.

- For **gases**
- Medium temperature range
-5 to +195 °F/-20 to +90 °C
- Set points
0.075 to 3 psi/5 to 200 mbar
- Valve sizes
NPS 2½ to 16/DN 65 to 400
- Pressure rating
Class 125, 150, 300/PN 16, 40

Leakage class

The soft-seated regulator has the leakage class IV according to IEC 60534-4.

Noise emissions

SAMSON is unable to make general statements about noise emissions. The noise emissions depend on the regulator version, plant facilities, process medium and operating conditions.

Dimensions and weights

Table 3-8 and Table 3-9 provide an overview of the dimensions and weights. The lengths and heights in the dimensional drawings are shown on page 3-9 onwards.

Table 3-1: Technical data for main valve · All pressures in bar (gauge)

Type 2406 as main valve, balanced by a diaphragm					
Valve size	NPS 2½ DN 65	NPS 3 DN 80	NPS 4 DN 100	– DN 125	NPS 6 DN 150
Pressure rating	Class 125, 150, 300 · PN 16, 40				
C _V coefficients	60	94	145	–	450
K _{VS} coefficients	50	80	125	250	380
Actuator area	50 in ² · 320 cm ²				
Leakage class according to ANSI/ FCI 70-2 or IEC 60534-4	Soft-seated, minimum Class IV				
Permissible differential pressure Δp	175 psi · 12 bar				
Perm. temperature	–5 to +195 °F · –20 to +90 °C ¹⁾				
Conformity	CE · EAC				
Type 2422 as main valve, balanced by a diaphragm, with Type 2420 Actuator					
Valve size	NPS 8 DN 200	NPS 10 DN 250	NPS 12 DN 300	NPS 16 DN 400	
Pressure rating	Class 125, 150, 300 ²⁾ · PN 16, 40				
C _V coefficients	760	930	1440	2400	
K _{VS} coefficients	650	800	1250	2000	
Actuator area of Type 2420	320 cm ²		640 cm ²		
Leakage class according to ANSI/ FCI 70-2 or IEC 60534-4	Soft-seated, minimum Class IV				
Permissible differential pressure Δp	145 psi · 10 bar			90 psi · 6 bar	
Perm. temperature	–5 to +195 °F · –20 to +90 °C ¹⁾				
Conformity	CE · EAC				

¹⁾ Max. 175 °F (80 °C) for EPDM and NBR versions

²⁾ NPS 12 and 16: Class 150/PN 16 only

Design and principle of operation

Table 3-2: *Technical data for pilot valve · All pressures in bar (gauge)*

Type 2406 Pilot Valve				
Connection	½ NPT			
Pressure rating	Class 300			
C _V coefficient K _{VS} coefficient	1.2 1			
Set point ranges	0.075 to 0.2 psi/ 5 to 15 mbar	0.15 to 0.45 psi/ 10 to 30 mbar	0.35 to 0.9 psi/ 25 to 60 mbar	0.75 to 3 psi/ 50 to 200 mbar
Actuator area	100 in ² /640 cm ²	50 in ² /320 cm ²	50 in ² /320 cm ²	50 in ² /320 cm ²
Input pressure p _e	Fixed setting by input pressure regulator, min. 15 psi/1 bar			
Perm. temperature	-5 to +195 °F/-20 to +90 °C ¹⁾			

¹⁾ Max. 175 °F (80 °C) for EPDM and NBR versions

Table 3-3: *Technical data for input pressure regulator · All pressures in bar (gauge)*

Type 2441 Input Pressure Regulator	
Connection	½ NPT
Pressure rating	Class 300
C _V coefficient K _{VS} coefficient	1.2 1
Set point range	15 to 60 psi 1 to 4 bar

Table 3-4: *Materials for main valve · Material numbers according to ASTM and DIN EN*

Type 2406 as main valve	
Body	A126B, A216 WCC, A351 CF8M · EN-GJL-250, 1.0619, 1.4408
Valve seat	1.4404/316L
Plug	1.4404/316L
Plug seal	EPDM · NBR · FKM
Operating diaphragm, balancing diaphragm	EPDM · NBR ⁴⁾ · FKM
Internal parts, guiding parts	1.4404/316L
Diaphragm cases	1.0332 (1.4301/stainless steel body)
Actuator springs	1.4310 ³⁾
Type 2422 Valve (main valve) with Type 2420 Actuator	
Body	A126B, A216 WCC, A351 CF8M · EN-GJL-250, 1.0619, 1.4408
Valve seat and plug	NPS 8 to 10 (DN 200 to 250): CF3M (1.4409) NPS 12 and 16 (DN 300 and 400): 304 or 410 (1.4301) ¹⁾
Plug seal	EPDM · NBR · FKM
Operating diaphragm, balancing diaphragm	EPDM · NBR · FKM ²⁾
Internal parts, guiding parts	1.4404/316L
Diaphragm cases	1.0332 (1.4301/stainless steel body)
Actuator springs	1.4310 ³⁾

- 1) NPS 12 and 16: optionally 1.4404/316L
- 2) NPS 8, 10 and 12 (DN 200, 250 and 300) only
- 3) Versions for sour gas service (NACE): Hastelloy[®]
- 4) Not for NPS 2½, 3 and 4/DN 65, 80 and 100

Design and principle of operation

Table 3-5: *Materials for pilot valve · Material numbers according to ASTM and DIN EN*

Pilot valve	Type 2406 ¹⁾
Body	A216 WCC · A351 CF8M
Valve seat	1.4404/316L
Plug	1.4404/316L
Plug seal	EPDM · NBR · FKM
Operating diaphragm	EPDM · FKM
Internal parts, guiding parts	1.4404/316L
Set point spring	1.4310

¹⁾ Versions for sour gas service (NACE) possible

Table 3-6: *Materials for input pressure regulator · Material numbers according to ASTM and DIN EN*

Input pressure regulator	Type 2441
Body	1.4408/A351 CF8M
Valve seat	1.4404/316L
Plug	1.4404/316L
Plug seal	EPDM · NBR · FKM
Balancing bellows	1.4571
Operating bellows	1.4571
Set point spring, plug spring	1.4310

Table 3-7: *Materials used for mounting kit · Material numbers according to ASTM and DIN EN*

Mounting kit	
Piping	Stainless steel
NPT screw fittings	1.4404/316L
Needle valve, input pressure regulator	1.4404/316L

Dimensions · NPS 2½ to 6 / DN 65 to 150

Table 3-8: Dimensions · NPS 2½ to 6 (DN 65 to 150) (see Fig. 3-3)

Type 2404-2	NPS 2½ DN 65	NPS 3 DN 80	NPS 4 DN 100	– DN 125	NPS 6 DN 150	
L1	Class 125 and 150	10.9"/ 276 mm	11.7"/ 298 mm	13.9"/ 352 mm	–	17.75"/ 451 mm
	Class 300	11.5"/ 292 mm	12.5"/ 318 mm	14.5"/ 368 mm	–	18.6"/ 473 mm
L1	PN 16 and 40	11.4"/ 290 mm	12.2"/ 310 mm	13.8"/ 350 mm	15.75"/ 400 mm	18.9"/ 480 mm
L2 (approx.)	14.2"/360 mm					12.5"/317 mm
L3 (approx.)	9.4"/240 mm					8.3"/212 mm
ØD	5 to 15 mbar/ 0.075 to 0.2 psi	Ø15"/380 mm, A = 100 in ² /640 cm ²				
	10 to 30 mbar 0.15 to 0.45 psi	Ø11.2"/285 mm, A = 50 in ² /320 cm ²				
	25 to 60 mbar 0.35 to 1.5 psi	Ø11.2"/285 mm, A = 50 in ² /320 cm ²				
	50 to 200 mbar 0.75 to 3 psi	11.2"/285 mm				
H 1) 2)	EPDM · NBR	25.4"/ 645 mm	25.8"/ 655 mm	26.8"/ 680 mm	29"/735 mm	29.9"/760 mm
	FKM				30.9"/784 mm	31.9"/810 mm
H3	3.8"/ 98 mm	3.9"/ 100 mm	4.7"/ 120 mm	5.7"/145 mm	6.9"/175 mm	
b (approx.)	9.9"/250 mm					
Weight, approx.	123 lb/56 kg	135 lb/61 kg	154 lb/70 kg	280 lb/127 kg	291 lb/132 kg	

1) For 640 cm² actuator: height H +8 mm

2) Overall height increases by 20 mm for stainless steel version with actuator ØD = 320 cm².

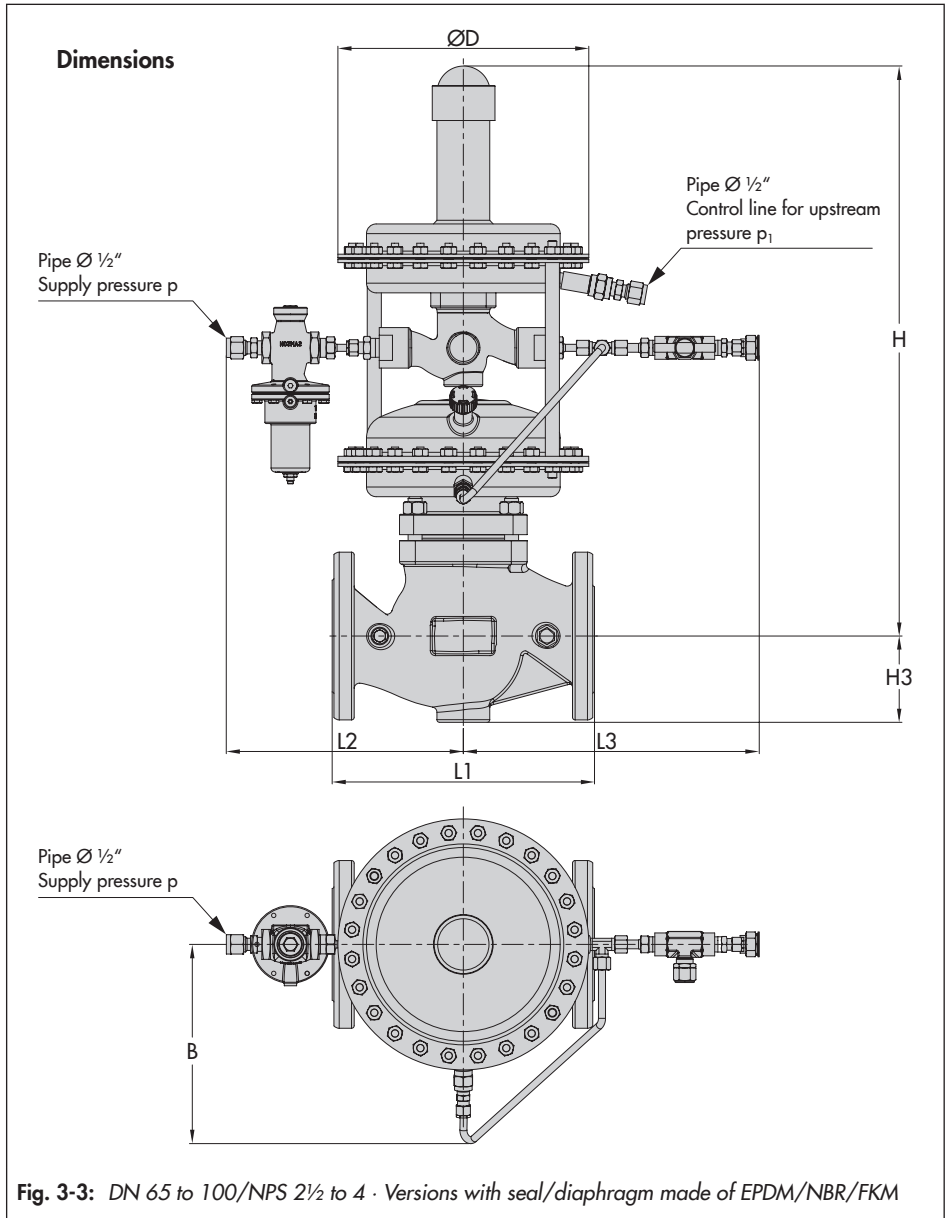
Design and principle of operation

Dimensions · DN 200 to 400 · NPS 8 to 16

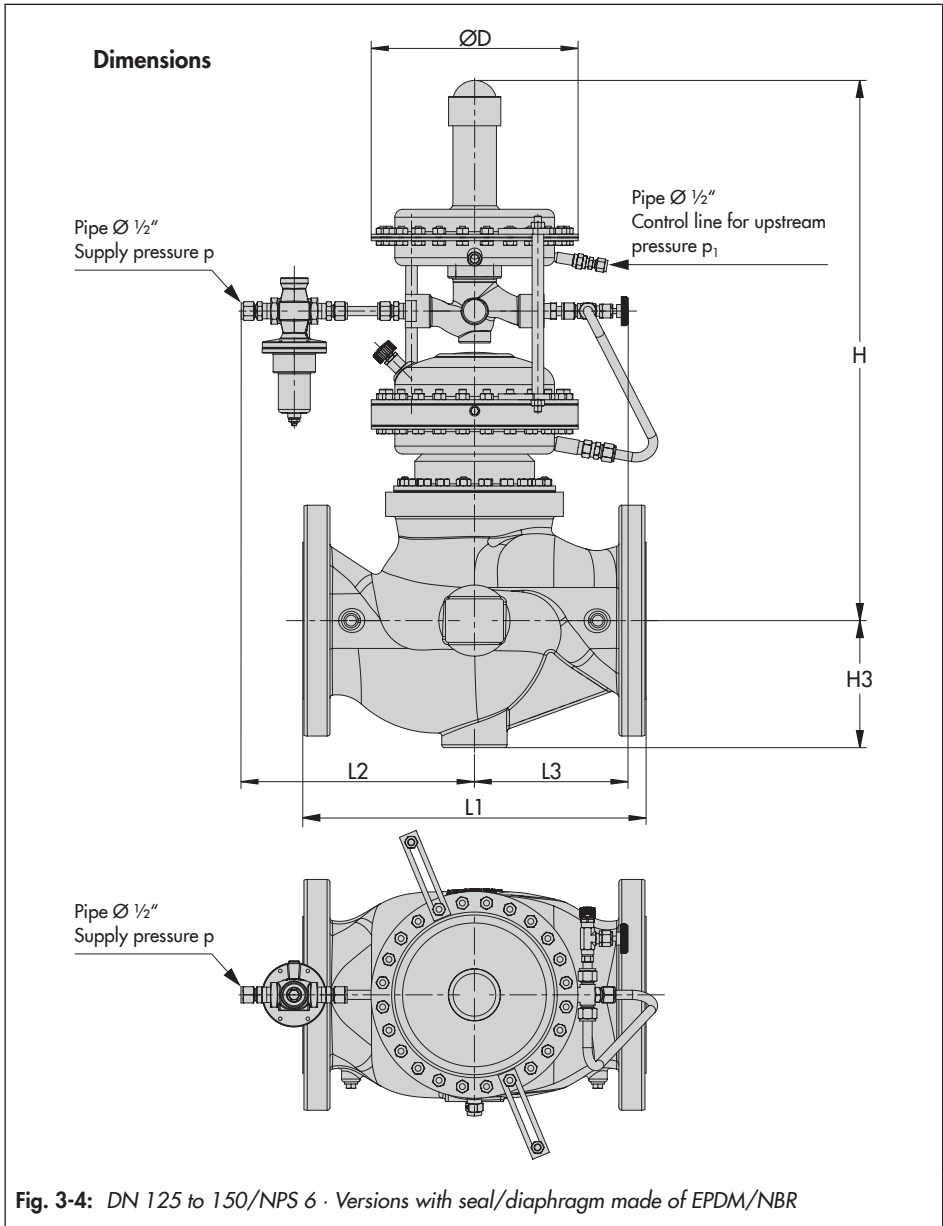
Table 3-9: Dimensions · DN 200 to 400 · NPS 8 to 16 (see Fig. 3-6 and Fig. 3-7)

Type 2404-2		NPS 8 DN 200	NPS 10 DN 250	NPS 12 DN 300	NPS 16 DN 400
L1	Class 125 and 150	21.4"/543 mm	26.5"/673 mm	28.9"/736 mm	40"/1016 mm
	Class 300	22.4"/568 mm	27.9"/708 mm	–	–
L1	PN 16 and 40	18.9"/480 mm	23.6"/600 mm	28.7"/730 mm	33.5"/850 mm
L2 (approx.)		14.9"/378 mm		19.7"/500 mm	
L3 (approx.)		8.2"/208 mm		12.3"/313 mm	13.5"/343 mm
ØD	0.075 to 0.2 psi/ 5 to 15 mbar	Ø15"/380 mm, A = 100 in ² /640 cm ²			
	0.15 to 0.45 psi/ 10 to 30 mbar	Ø11.2"/285 mm, A = 50 in ² /320 cm ²			
	0.35 to 1.5 psi/25 to 60 mbar	Ø11.2"/285 mm, A = 50 in ² /320 cm ²			
	0.75 to 3 psi/ 50 to 200 mbar	Ø11.2"/285 mm, A = 50 in ² /320 cm ²			
H ¹⁾	EPDM · NBR	28.3"/720 mm	29.1"/738 mm	29.9"/758 mm	30.6"/778 mm
	FKM	30.9"/783 mm	31.7"/803 mm	32.5"/823 mm	–
H3		9.3"/235 mm	10.2"/260 mm	11.2"/285 mm	14.6"/370 mm
b (ap- prox.)	50 in ² /320 cm ²	19.5"/495 mm	20.7"/525 mm	22.3"/567 mm	25.2"/641 mm
	100 in ² /640 cm ²	21.3"/542 mm	22.6"/573 mm	23.8"/605 mm	25.9"/658 mm
Weight, approx.		529 lb/240 kg	573 lb/260 kg	772 lb/350 kg	1477 lb/670 kg

¹⁾ For 640 cm² actuator: height H +8 mm



Design and principle of operation



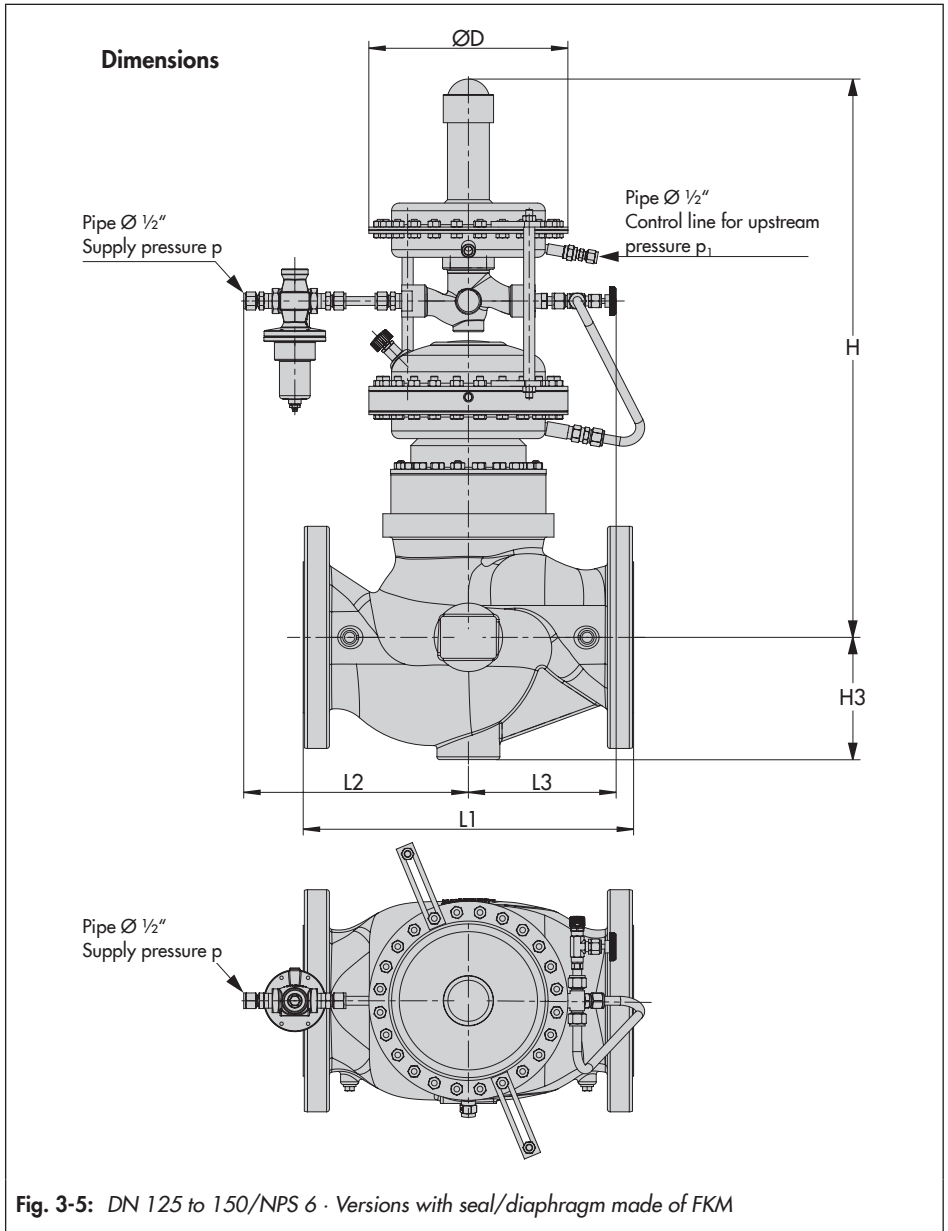
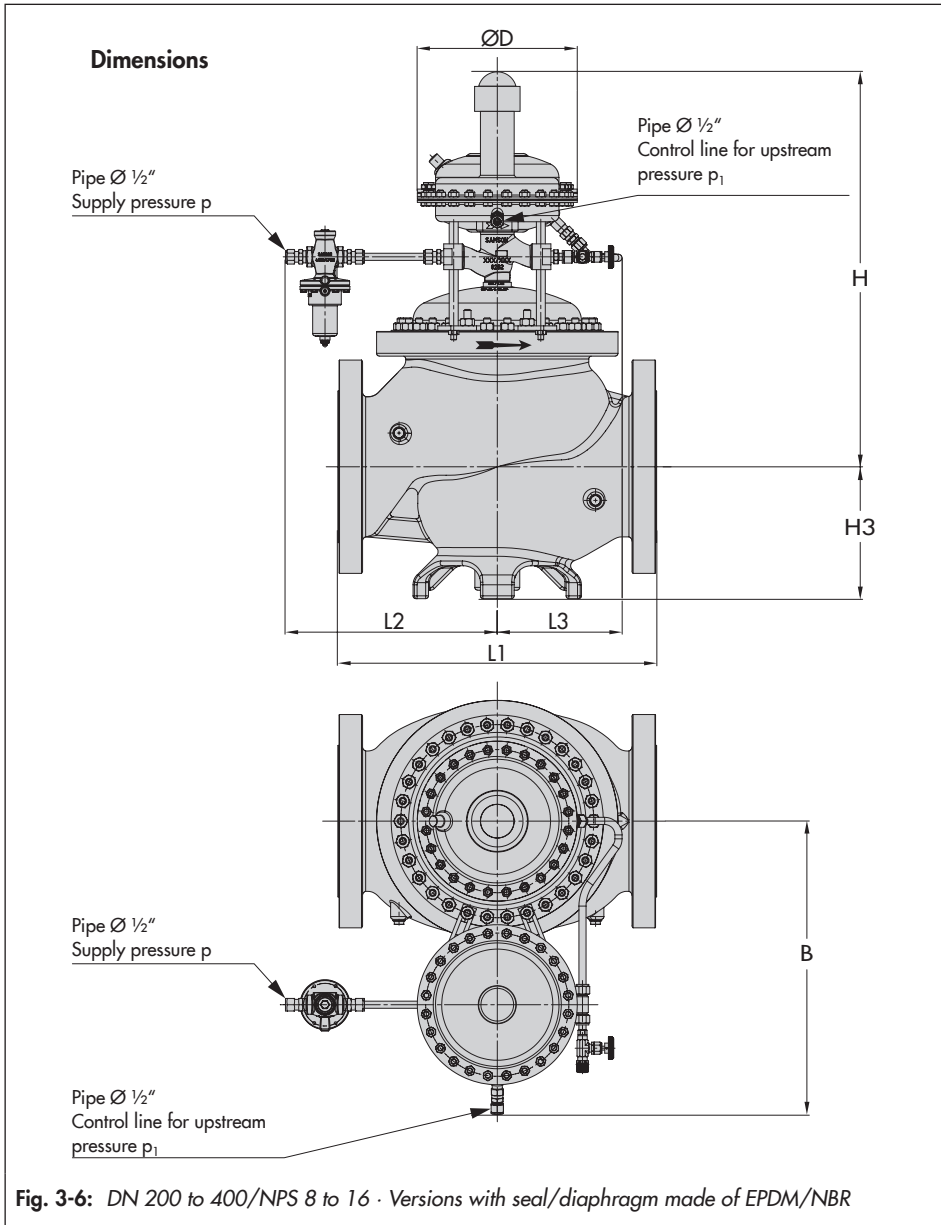
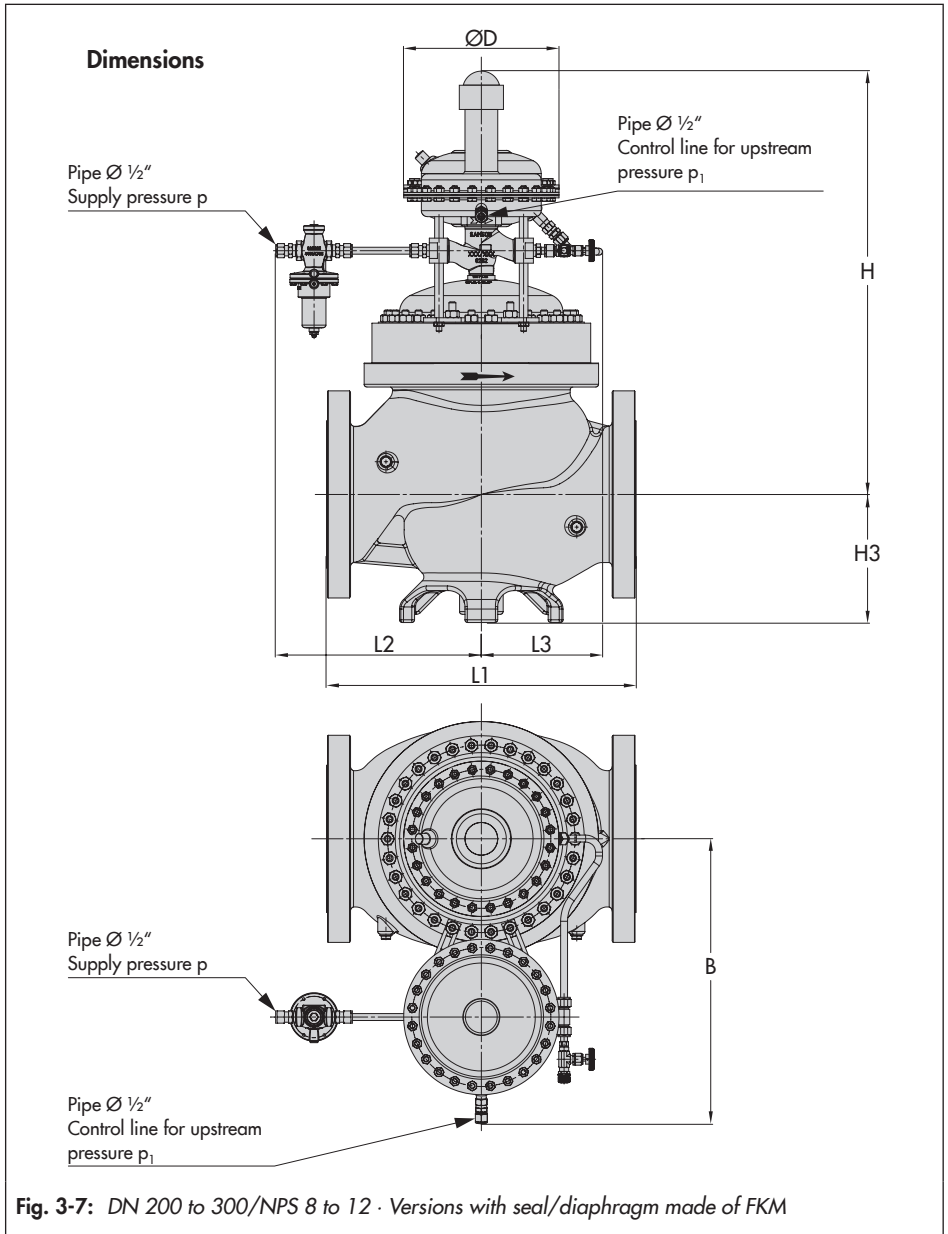


Fig. 3-5: DN 125 to 150/NPS 6 · Versions with seal/diaphragm made of FKM

Design and principle of operation





4 Shipment and on-site transport

The work described in this section is only to be performed by personnel appropriately qualified to carry out such tasks.

4.1 Accepting the delivered goods

After receiving the shipment, proceed as follows:

1. Check the scope of delivery. Check that the specifications on the nameplates on the valves and actuator (if it exists) match the specifications in the delivery note. See the 'Markings on the device' section for nameplate details.
2. Check the shipment for transportation damage. Report any damage to SAMSON and the forwarding agent (refer to delivery note).
3. Determine the weight and dimensions of the units to be lifted and transported in order to select the appropriate lifting equipment and lifting accessories. Refer to the transport documents and the 'Design and principle of operation' section.

4.2 Removing the packaging from the regulator

The tested regulator is delivered as an assembled unit.

Proceed as follows to lift and install the valve:

- ➔ Do not open or remove the packaging until immediately before lifting to install the regulator into the pipeline.
- ➔ Leave the regulator components in its transport container or on the pallet to transport it on site.
- ➔ Do not remove the protective caps from the inlet and outlet until immediately before installing the valve into the pipeline. They prevent foreign particles from entering the valve.
- ➔ Dispose and recycle the packaging in accordance with the local regulations.

4.3 Transporting and lifting the regulator

⚠ DANGER

Danger due to suspended loads falling.

- Stay clear of suspended or moving loads.
- Close off and secure the transport paths.

⚠ WARNING

Risk of lifting equipment tipping over and risk of damage to lifting accessories due to exceeding the rated lifting capacity.

- Only use approved lifting equipment and accessories whose minimum lifting capacity is higher than the weight of the regulator (including any packaging).
- Refer to the 'Design and principle of operation' section for the weights.

⚠ WARNING

Risk of injury due to incorrect lifting without the use of lifting equipment.

Lifting the regulator without the use of lifting equipment may lead to injuries (back injury in particular) depending on the weight of the regulator.

- Observe the guideline weight for manual handling: 15 to max. 55 kg taking into account age, gender and physical fitness
- Observe the occupational health and safety regulations valid in the country of use.

⚠ WARNING

Risk of personal injury due to the regulator tipping.

- Observe the regulator's center of gravity.
- Secure the regulator against tipping over or turning.

💡 Tip

Our after-sales service can provide more detailed transport and lifting instructions on request.

4.3.1 Transporting the regulator

The regulator can be transported using lifting equipment (e.g. crane or forklift).

- Leave the regulator in its transport container or on the pallet to transport it.
- Observe the transport instructions.

Transport instructions

- Protect the regulator against external influences (e.g. impact).
- Do not damage the corrosion protection (paint, surface coatings). Repair any damage immediately.
- Protect the piping and any mounted valve accessories against damage.
- Protect the regulator against moisture and dirt.
- The permissible ambient temperature of standard regulators is -20 to +80 °C.

4.3.2 Lifting the regulator

To install a large regulator into the pipeline, use lifting equipment (e.g. crane or forklift) to lift it.

Lifting instructions

- Use a hook with safety latch to secure the slings from slipping off the hook during lifting and transporting (see Fig. 4-1).
- Secure slings against slipping.
- Make sure the slings can be removed after installation.
- Prevent the regulator from tilting or tipping.
- Do not leave loads suspended when interrupting work for longer periods of time.
- Make sure that the axis of the pipeline is always horizontal during lifting and the axis of the plug stem is always vertical.

Lifting

1. Attach one sling to the flange of the body and to the rigging equipment (e.g. hook) of the crane or forklift (see Fig. 4-1).
2. Carefully lift the regulator. Check whether the lifting equipment and accessories can bear the weight.
3. Move the regulator at an even pace to the site of installation.
4. Install the regulator into the pipeline (see the 'Installation' section).

5. After installation in the pipeline, check whether the regulator flanges are bolted tight.
6. Remove slings.

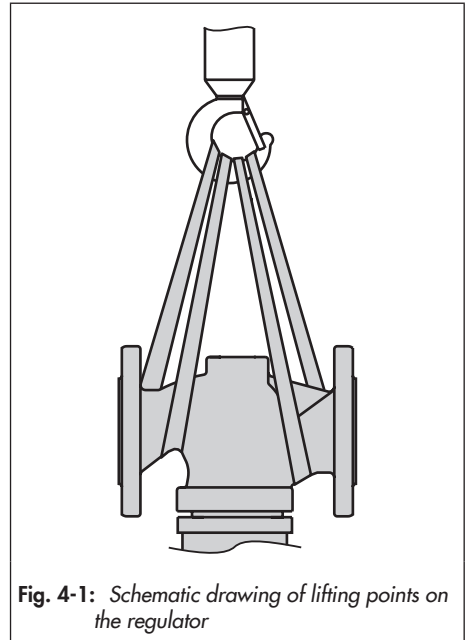


Fig. 4-1: Schematic drawing of lifting points on the regulator

4.4 Storing the regulator

NOTICE

Risk of regulator damage due to improper storage.

- Observe the storage instructions.
- Avoid long storage times.
- Contact SAMSON in case of different storage conditions or longer storage times.

Note

We recommend to regularly check the regulator and the prevailing storage conditions during long storage periods.

Storage instructions

- Protect the regulator against external influences (e.g. impact).
- Secure the regulator in the stored position against slipping or tipping over.
- Do not damage the corrosion protection (paint, surface coatings). Repair any damage immediately.
- Protect the regulator 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.
- The permissible storage temperature of standard regulators is -20 to $+65$ °C.

- Do not place any objects on the regulator.

Special storage instructions for elastomers

Elastomer, e.g. operating diaphragm

- To keep elastomers in shape and to prevent cracking, do not bend them or hang them up.
- Store elastomers away from lubricants, chemicals, solutions and fuels.
- We recommend a storage temperature of 15 °C for elastomers.

Tip

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

5 Installation

The work described in this section is only to be performed by personnel appropriately qualified to carry out such tasks.

5.1 Installation conditions

Work position

The work position for the regulator is the front view onto all operating controls on the regulator (including any additional fittings) seen from the position of operating personnel.

Plant operators must ensure that, after installation of the device, the operating personnel can perform all necessary work safely and easily access the device from the work position.

Pipeline routing

The inlet and outlet lengths vary depending on several variables and process conditions and are intended as recommendations. Contact SAMSON if the lengths are significantly shorter than the recommended lengths.

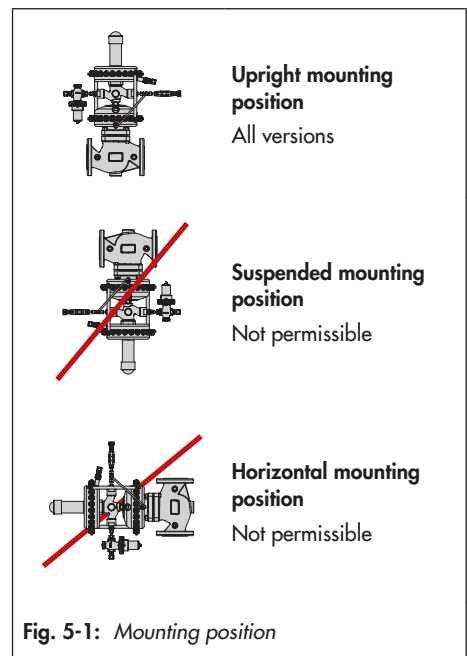
To ensure that the regulator functions properly, proceed as follows:

- Install the regulator allowing sufficient space to remove the actuator and valve or to perform service work on them.
- Install the regulator free of stress and with the least amount of vibrations as possible. Read information under "Mounting position" and "Support or suspension" in this section.

Mounting position

To ensure that the regulator functions properly, proceed as follows:

- Mounting position: install the actuator housing suspended upward in horizontal pipelines (see Fig. 5-1).
- Leave sufficient space for set point adjustment at the pilot valve.
- Make sure the direction of flow matches the direction indicated by the arrow on the body.
- Contact SAMSON if the mounting position is not as specified above.



Support or suspension

i Note

The plant engineering company is responsible for selecting and implementing a suitable support or suspension of the installed regulator and the pipeline.

! NOTICE

Do not attach supports directly to the valve, actuator or control line.

Depending on the regulator version and mounting position, the valve, actuator and pipeline must be supported or suspended.

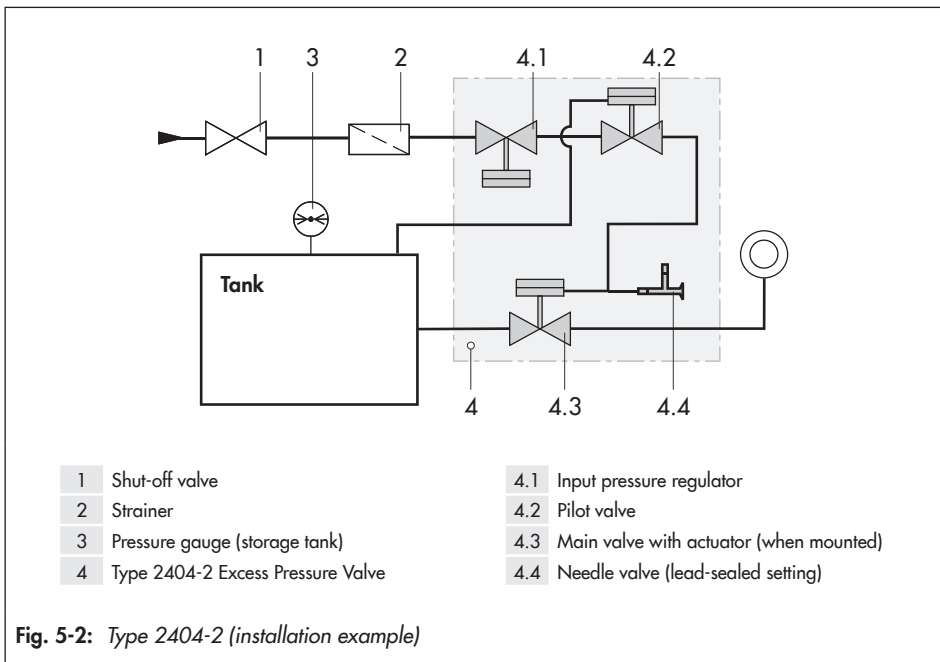


Fig. 5-2: Type 2404-2 (installation example)

5.2 Preparation for installation

Before installation, make sure the following conditions are met:

- All the components of the regulator are clean.
- All the components of the regulator and piping are not damaged.
- Install a strainer upstream of the input pressure regulator.
- The data on the nameplates (type designation, valve size, material, pressure rating and temperature range) match the plant conditions (size and pressure rating of the pipeline, medium temperature etc.). See the 'Markings on the device' section for nameplate details.
- The requested or required additional fittings (see the 'Design and principle of operation' section) have been installed or prepared as necessary before installing the valve.

Proceed as follows:

- ➔ Lay out the necessary material and tools to have them ready during installation work.
- ➔ Flush the pipeline **before** installing the regulator.
The plant operator is responsible for cleaning the pipelines in the plant.
- ➔ Check any mounted pressure gauges to make sure they function properly.

5.3 Mounting

➔ See Fig. 5-2.

Tested SAMSON regulators are delivered as assembled units. The activities listed below are necessary for installation and before start-up of the regulator.

⚠ NOTICE

Risk of regulator damage due to excessively high or low tightening torques.

Observe the specified torques when tightening regulator components. Excessive tightening torques lead to parts wearing out more quickly. Parts that are too loose may cause leakage.

➔ Observe the specified tightening torques (see 'Tightening torques' in Annex).

⚠ NOTICE

Risk of regulator damage due to the use of unsuitable tools.

➔ Only use tools approved by SAMSON (see 'Tools' in Annex).

⚠ NOTICE

Risk of regulator damage due to the use of unsuitable lubricants.

➔ Only use lubricants approved by SAMSON (see 'Lubricants' in Annex).

5.3.1 Installing the regulator

Install the regulator in such a way that it is still easily accessible after the plant is completed to facilitate maintenance or revision work.

Allow enough space (min. 150 mm) for set point adjustment (2.3) at the pilot valve (2) using a socket wrench.

1. While installing the regulator, close the shut-off valve (1) in the supply line upstream of the input pressure regulator (see Fig. 5-2).
2. Depressurize the plant.
3. Remove the protective caps from the valve ports before installing the valve.
4. Lift the valve using suitable lifting equipment to the site of installation. Observe the flow direction through the valve. The arrow on the valve indicates the direction of flow.
5. Make sure that the correct flange gaskets are used.
6. Bolt the pipe to the valve free of stress.
7. Fasten the supply line (pipe \varnothing 1/2") to the input pressure regulator (4.1) free of stress (see Fig. 5-2).
8. Fasten the control line (pipe \varnothing 1/2") to the pilot valve (4.2) free of stress (see Fig. 5-2).
9. Slowly open the shut-off valve in the supply pipeline after the regulator has been installed.

5.3.2 Cleaning the pipeline

We recommend additionally flushing the pipeline without the installed regulator before start-up.

In this case, install a suitable length of pipe into the pipeline in place of the regulator.

- Observe the mesh size of the upstream strainer for the maximum particle size. Use strainers to suit the process medium.
- Check the strainer for dirt each time the pipeline is flushed and clean it, if necessary.

5.4 Testing the regulator

⚠ DANGER

Risk of bursting due to incorrect opening of pressurized equipment or components.

Regulators and pipelines are pressure equipment that may burst when handled incorrectly. Flying projectile fragments or the release of process medium under pressure can cause serious injury or even death.

Before working on the regulator:

- ➔ Depressurize all plant sections concerned and the regulator.
- ➔ Disconnect the control line.
- ➔ Drain the process medium from all the plant sections concerned as well as the valve.

⚠ DANGER

Risk of personal injury due to process medium escaping.

- ➔ Do not start up the regulator until all parts have been mounted.

⚠ WARNING

Risk of hearing loss or deafness due to loud noise.

Noise emission (e.g. cavitation or flashing) may occur during operation caused by the process medium and the operating conditions.

- ➔ Wear hearing protection when working near the regulator.

⚠ WARNING

Risk of burn injuries due to hot or very cold components and pipelines.

Depending on the process medium, valve components and pipelines may get very hot or cold and cause burn injuries.

- ➔ Wear protective clothing and safety gloves.

SAMSON regulators are delivered ready for use. To test the regulator functioning before start-up or putting back the regulator into operation, perform the following tests:

5.4.1 Leakage

The plant operator is responsible for performing the leak test and selecting the test method. The leak test must comply with the requirements of the national and international standards that apply at the site of installation.

💡 Tip

SAMSON's After-sales Service can support you to plan and perform a leak test for your plant.

1. Slowly open the shut-off valve (1) installed upstream of the regulator (see Fig. 5-2).
2. Apply the required test pressure.
3. Check the regulator for leakage to the atmosphere.
4. Depressurize the pipeline section and valve.

5. Rework any parts that leak and repeat the leak test.

5.4.2 Pressure test

i Note

The plant operator is responsible for performing the pressure test. SAMSON's After-sales Service can support you to plan and perform a pressure test for your plant.

! NOTICE

Risk of valve damage due to a sudden pressure increase and resulting high flow velocities.

– Slowly open the shut-off valves.

During the pressure test, make sure the following conditions are met:

- Observe the maximum pressure rating of the plant.
- Do not allow the pressure to exceed the 1.5 times the pressure rating of the valve body.
- Do not apply a pressure above the maximum specified pressure rating to the regulator components (see nameplates of the regulator components).
If necessary, shut off the control lines on performing a pressure test on the main valve.
- Make sure that the pressure rises simultaneously upstream and downstream of the regulator to avoid damaging it.

5.5 Insulation

To insulate cold systems, we recommend first filling the plant and carefully rinsing it. The regulator must not yet be insulated at this stage.

1. Start up the plant and adjust the set point (see the 'Start-up' section).
2. Shut down the plant again and let it heat up until the condensation water has dried off.
3. Insulate the regulator and pipes conveying the process medium using insulation material with a water vapor barrier. If a control line is to be routed through the insulation, special care must be taken with the sealing since slight changes in shape may occur. The insulation thickness depends on the medium temperature and the ambient conditions. 50 mm is a typical thickness.

6 Start-up

The work described in this section is only to be performed by personnel appropriately qualified to carry out such tasks.

⚠ WARNING

Risk of burn injuries due to hot or cold components and pipeline.

Regulator components and the pipeline may become very hot or cold. Risk of burn injuries.

- Allow components and pipelines to cool down or warm up to the ambient temperature.
- Wear protective clothing and safety gloves.

⚠ WARNING

Risk of personal injury due to pressurized components and process medium being discharged.

- Do not loosen the control line while the valve is pressurized.

⚠ WARNING

Risk of hearing loss or deafness due to loud noise.

Noise emission (e.g. cavitation or flashing) may occur during operation caused by the process medium and the operating conditions.

- Wear hearing protection when working near the valve.

⚠ DANGER

Risk of personal injury due to process medium escaping.

- Do not start up the regulator until all parts have been mounted.

Before start-up or putting the valve back into service, make sure the following conditions are met:

- The regulator is properly installed into the pipeline (see the 'Installation' section).
- The leak and function tests have been completed successfully (see the 'Testing the regulator' section).
- The prevailing conditions in the plant section concerned meet the regulator sizing requirements (see information under 'Intended use' in the 'Safety instructions and measures' section).

ⓘ NOTICE

Damage to the regulator/plant due to the use of the incorrect supply medium.

- Only use compressed air or inert gas as the supply pressure.

6.1 Start-up and putting the device back into operation

1. Depending on the field of application, allow the regulator to cool down or warm up to reach ambient temperature before start up.
2. Slowly open the shut-off valve in the supply pipeline. Slowly opening these valves prevents a sudden surge in pressure and high flow velocities which can damage the regulator.
3. Apply the upstream pressure p_1 to the control line (2.4) for the pilot valve (2).
4. Check the regulator to ensure it functions properly.

7 Operation

Immediately after completing start-up or placing the regulator back into service (see the 'Start-up' section), the regulator is ready for use.

⚠ WARNING

Risk of burn injuries due to hot or cold components and pipeline.

Regulator components and the pipeline may become very hot or cold. Risk of burn injuries.

- Allow components and pipelines to cool down or warm up to the ambient temperature.
- Wear protective clothing and safety gloves.

⚠ WARNING

Risk of personal injury due to pressurized components and process medium being discharged.

- Do not loosen the control line while the valve is pressurized.

⚠ WARNING

Risk of hearing loss or deafness due to loud noise.

Noise emission (e.g. cavitation or flashing) may occur during operation caused by the process medium and the operating conditions.

- Wear hearing protection when working near the valve.

7.1 Adjusting the set point

Adjust the set point by tensioning the set point springs (2.1) at the set point adjuster (2.3) (adjusting screw) on the pilot valve (2).

The pilot valve governs internally the control pressure p_s for the main valve and regulates the pressure to the adjusted set point pressure.

i Note

While the set point is being adjusted, at least 5 to 10 % of the maximum flow rate expected in the operating state must flow through the regulator.

If the regulator has not been delivered with a ready-adjusted set point, proceed as follows:

How to proceed:

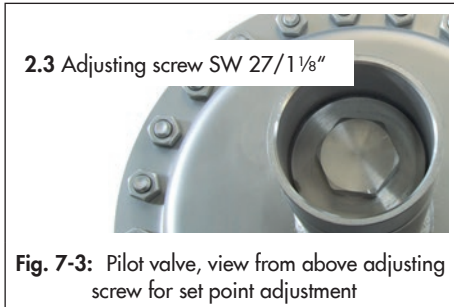
1. Remove the cap (2.5) from the pilot valve.
2. Adjust the required upstream pressure set point while the plant (consumer) is open by turning the adjusting screw (2.3). See Fig. 7-3.
 - Turn clockwise (↻) to increase the pressure set point (the pressure rises).
 - Turn counterclockwise (↺) to reduce the pressure set point (the pressure drops).

Operation

i Note

Do not unscrew the adjusting screw completely on turning it counterclockwise (∩). Do not screw the adjusting screw as far as it will go on turning it clockwise (∪). Otherwise the travel will be restricted or the valve will even remain stuck in the closed position.

3. Monitor the set point pressure to be adjusted at the pressure gauge on the upstream pressure side. When the upstream pressure reaches the set point pressure, the pilot valve (2) opens, causing the main valve (1) to open as well.
4. Remount the cap after adjusting the set point.



8 Malfunctions

8.1 Troubleshooting

Malfunction	Possible reasons	Recommended action	Note
Malfunction only occurs when the consumer is closed or during low load:			
Upstream pressure does not reach the adjusted set point	Pilot valve Leak between seat and plug	→ Remove valve from the pipeline and clean seat and plug. Renew plug, if necessary. If this is not possible, return regulator for repair.	Install a shut-off valve instead of the pilot valve. If the main valve closes when the shut-off valve is closed, the pilot valve has caused the malfunction.
	Main valve Leakage between seat and plug	→ Remove valve from the pipeline and clean seat and plug. Renew plug, if necessary. If this is not possible, return regulator for repair.	–
	Balancing diaphragm of the main valve defective.	→ Replace the balancing diaphragm with a new one.	Install a shut-off valve instead of the pilot valve. If the main valve does not open when the shut-off valve is opened, the main valve has caused the malfunction.
Malfunction occurs when the consumer is open or at maximum load:			
Upstream pressure rises far above the adjusted set point.	The pilot valve does not function. Balancing diaphragm defective. Medium leaks from the actuator.	→ Replace the defective component.	Install a shut-off valve instead of the pilot valve. If the main valve closes when the shut-off valve is closed, the pilot valve has caused the malfunction.
	The pilot valve is blocked.	→ Clean the pilot valve. Apply grease to plug stem guides, if necessary. Replace defective parts.	–
	Main valve seized up	→ Clean main valve.	Install a shut-off valve instead of the pilot valve. If the main valve does not close when the shut-off valve is closed, the main valve has caused the malfunction.

Malfunctions

Malfunction	Possible reasons	Recommended action	Note
Upstream pressure rises far above the adjusted set point.	Balancing diaphragm of the main valve defective.	→ Replace the balancing diaphragm with a new one.	Install a shut-off valve instead of the pilot valve. If the main valve does not close when the shut-off valve is closed, the main valve has caused the malfunction.
The required set point pressure is not reached.	Strainer in the line in which the pilot valve is installed is clogged up.	→ Clean the strainer.	–
	The required minimum differential pressure to operate the regulator is not available.	→ Raise upstream pressure or reduce downstream pressure.	–
	Set point range of the pilot valve is too low.	→ Convert or replace pilot valve.	–
	Main valve seized up	→ Clean main valve.	Install a shut-off valve instead of the pilot valve and open it. If the main valve does not open when the shut-off valve is opened, the main valve has caused the malfunction.
	The pilot valve is blocked.	→ Clean the pilot valve. Clean internal control line used to tap the downstream pressure.	
Main valve is sized to be too small (K_{VS}/C_V)	→ Resize the valve. Replace main valve.	–	
Regulator's reaction is sluggish	Strainer in the line in which the pilot valve is installed is clogged up.	→ Clean the strainer.	–
	Inside the pilot valve is clogged up, impairing the flow through the valve.	→ Clean the inside of the pilot valve.	–
	Control line blocked	→ Clean the control line.	–

Malfunction	Possible reasons	Recommended action	Note
Control loop hunts	K_{VS}/C_V of pilot valve too large (after valve has been replaced).	→ Install pilot valve with suitable K_{VS}/C_V coefficient.	–
	The flow conditions in the plant at the location where the regulator is installed are not suitable for the regulator.	→ Pipe reducers, instruments and diversions can change the flow conditions which may lead to an instable control process. Refer to the SAMSON document TV-SK 17041 for minimum distances.	If this is the case, send a sketch of the plant to SAMSON for a thorough analysis.
	K_{VS}/C_V of main valve too large	→ Resize the valve. Replace main valve or reduced the flow rate (smaller K_{VS}/C_V coefficient).	–
	Periodic excitation to vibrate originating from the plant	→ Contact SAMSON.	Possibly change the natural frequency, e.g. over a needle valve when there is resonance in the plant.

i Note

Contact SAMSON's After-sales Service for malfunctions not listed in the table.

The malfunctions listed in section 8.1 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 to rectify the fault.

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.

 **Tip**

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

8.2 Emergency action

Plant operators are responsible for emergency action to be taken in the plant.

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

In the event of a regulator malfunction:

1. Close the shut-off valves to stop the process medium from flowing through the regulator.
2. Perform troubleshooting (see section 8.1).
3. Rectify those malfunctions that can be remedied based on the instructions provided here. Contact SAMSON's After-sales Service in all other cases.

Putting the device back into operation after a malfunction

See the 'Start-up' section.

9 Servicing

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

Plant operators are responsible for drawing up an inspection and test plan. Details on faults and how to remedy them can be found in the 'Malfunctions' section.

The work described in this section is only to be performed by personnel appropriately qualified to carry out such tasks.

We recommend removing the regulator from the pipeline before performing any maintenance or service work.

⚠ WARNING

Risk of burn injuries due to hot or cold components and pipeline.

Regulator components and the pipeline may become very hot or cold. Risk of burn injuries.

- ➔ *Allow components and pipelines to cool down or warm up to the ambient temperature.*
- ➔ *Wear protective clothing and safety gloves.*

⚠ WARNING

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

While working on the regulator, 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 eye protection.*

⚠ NOTICE

Risk of regulator damage due to excessively high or low tightening torques.

Observe the specified torques when tightening regulator components. Excessive tightening torques lead to parts wearing out more quickly. Parts that are too loose may cause leakage.

- ➔ *Observe the specified tightening torques (see 'Tightening torques' in Annex).*

⚠ NOTICE

Risk of regulator damage due to the use of unsuitable tools.

- ➔ *Only use tools approved by SAMSON (see 'Tools' in Annex).*

⚠ NOTICE

Risk of regulator damage due to the use of unsuitable lubricants.

- ➔ *Only use lubricants approved by SAMSON (see 'Lubricants' in Annex).*

Note

The regulator was checked by SAMSON before it left the factory.

- Certain test results certified by SAMSON lose their validity when the regulator is opened. Such testing includes seat leakage and leak tests.
 - 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.
 - Only use original spare parts by SAMSON, which comply with the original specifications.
-

Tip

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

9.1 Preparing the valve for service work

1. Lay out the necessary material and tools to have them ready for the service work.
 2. Put the regulator out of operation (see the 'Decommissioning' section).
-

Tip

We recommend removing the regulator from the pipeline before performing any service work (see the 'Removing the regulator from the pipeline' section).

Contact SAMSON's After-sales Service to have service work performed.

9.2 Installing the regulator after service work

- Put the regulator back into operation (see the 'Start-up' section). Make sure the requirements and conditions for start-up or putting the valve back into operation are met.

9.3 Service work

- Before performing any service work, preparations must be made to the regulator (see section 9.1).
- After all service work is completed, check the regulator before putting it back into operation (see the 'Testing the regulator' section).

9.4 Ordering spare parts and operating supplies

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

Spare parts

Contact SAMSON's After-sales Service for more information on spare parts.

Lubricants

Contact SAMSON's After-sales Service for more information on lubricants.

Tools

Contact SAMSON's After-sales Service for more information on tools.

10 Decommissioning

The work described in this section is only to be performed by personnel appropriately qualified to carry out such tasks.

⚠ DANGER

Risk of bursting due to incorrect opening of pressurized equipment or components.

Regulators and pipelines are pressure equipment that may burst when handled incorrectly. Flying projectile fragments or the release of process medium under pressure can cause serious injury or even death.

Before working on the regulator:

- Depressurize all plant sections concerned and the regulator.
- Drain the process medium from all the plant sections concerned as well as the valve.

⚠ WARNING

Risk of burn injuries due to hot or cold components and pipeline.

Regulator components and the pipeline may become very hot or cold. Risk of burn injuries.

- Allow components and pipelines to cool down or warm up to the ambient temperature.
- Wear protective clothing and safety gloves.

⚠ WARNING

Risk of personal injury due to pressurized components and process medium being discharged.

- Do not loosen the control line while the valve is pressurized.

⚠ WARNING

Risk of hearing loss or deafness due to loud noise.

Noise emission (e.g. cavitation or flashing) may occur during operation caused by the process medium and the operating conditions.

- Wear hearing protection when working near the regulator.

⚠ WARNING

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

While working on the regulator, 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 eye protection.

Decommissioning

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

1. Close the shut-off valve (1).
2. Depressurize the plant.
3. Completely drain the pipelines and valve.
4. If necessary, allow the pipeline and regulator components to cool down or warm up to the ambient temperature.

11 Removal

The work described in this section is only to be performed by personnel appropriately qualified to carry out such tasks.

⚠ WARNING

Risk of burn injuries due to hot or cold components and pipeline.

Regulator components and the pipeline may become very hot or cold. Risk of burn injuries.

- *Allow components and pipelines to cool down or warm up to the ambient temperature.*
- *Wear protective clothing and safety gloves.*

⚠ WARNING

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

While working on the regulator, 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 eye protection.*

Before removing the valve, make sure the following conditions are met:

- The regulator is put out of operation (see the 'Decommissioning' section).

11.1 Removing the regulator from the pipeline

1. Support the regulator to hold it in place when separated from the pipeline (see the 'Shipment and on-site transport' section).
2. Undo the pipe joint connecting the input pressure regulator.
3. Unbolt the flanged joint of the main valve.
4. Remove the regulator from the pipeline (see the 'Shipment and on-site transport' section).

11.2 Removing the actuator from the valve

See the 'Servicing' section.

12 Repairs

If the regulator does not function properly according to how it was originally sized or does not function at all, it is defective and must be repaired or exchanged.

! NOTICE

Risk of regulator damage due to incorrect service or repair work.

- Do not perform any repair work on your own.
- Contact SAMSON's After-sales Service for service and repair work.

12.1 Returning devices to SAMSON

Defective devices can be returned to SAMSON for repair.

Proceed as follows to return devices:

1. Put the regulator out of operation (see the 'Decommissioning' section).
2. Decontaminate the valve. Remove any residual process medium.
3. Fill in the Declaration on Contamination. The declaration form can be downloaded from our website at
▶ www.samsongroup.com > SERVICE & SUPPORT > After-sales Service.
4. Continue as described on our website at
▶ www.samsongroup.com > SERVICE & SUPPORT > After Sales Service > Returning goods.

i Note

Further information on returned devices and how they are handled can be found at

- ▶ www.samsongroup.com > SERVICE & SUPPORT > After-sales Service.

13 Disposal



SAMSON is a producer registered at the following European institution
▶ <https://www.ewrn.org/national-registers/national-registers>.
WEEE reg. no.:
DE 62194439/FR 025665

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

i Note

We can provide you with a recycling passport according to PAS 1049 on request. Simply e-mail us at aftersaleservice@samsongroup.com giving details of your company address.

Tip

On request, we can appoint a service provider to dismantle and recycle the product as part of a distributor take-back scheme.

14 Certificates

The EU declarations of conformity are included on the next pages:

- EU declaration of conformity in compliance with Pressure Equipment Directive 2014/68/EU on page 14-2.

EU DECLARATION OF CONFORMITY
TRANSLATION



Module A

For the following products, SAMSON hereby declares under its sole responsibility:

Devices	Series	Type	Version							
Self-operated Regulators	43	2432	DIN EN, body, CC499K and EN-GJS-400-18-LT, DN 50, PN 25, fluids G2, L2, L1 ¹⁾							
	43	2436	DIN EN, body, CC499K and EN-GJS-400-18-LT, DN 50, PN 25, fluids G2, L2, L1 ¹⁾							
	43	2437	DIN EN, body, CC499K and EN-GJS-400-18-LT, DN 50, PN 25, fluids G2, L2, L1 ¹⁾							
Self-operated Regulators	---	2111	DIN EN, body, EN-GJS-400-18-LT, DN 50, PN 25, fluids G2, L2, L1 ¹⁾ DIN EN, body, 1.0619 and 1.4408, DN 40-50, PN 40, fluids G2, L2, L1 ¹⁾ ANSI, body, A216 WCC and A351 CF8M, NPS 1½-2, Class 300, fluids G2, L2, L1 ¹⁾							
	Three-way valve	---	2119	DIN EN, body, EN-GJL-250 and 1.0619, DN 65-125, PN 16, fluids G2, L2, L1 ¹⁾ DIN EN, body, 1.0619, DN 50-80, PN 25, fluids G2, L2, L1 ¹⁾ DIN EN, body, 1.0619 and 1.4408, DN 40-50, PN 40, fluids G2, L2, L1 ¹⁾ ANSI, body, A216 WCC and A351 CF8M, NPS 2½-4, Class 150, fluids G2, L2, L1 ¹⁾ ANSI, body, A216 WCC and A351 CF8M, NPS 1½, Class 300, fluids G2, L2, L1 ¹⁾						
				Control valve	---	3222	DIN EN, body, EN-GJS-400-18-LT, DN 50, PN 25, fluids G2, L2, L1 ¹⁾ DIN EN, body, CC499K, DN 32-40, PN 25, all fluids			
Three-way valve							---	3226	DIN EN, body, CC499K, DN 50, PN 25, fluids G2, L2 ²⁾	
Three-way valve	---	3260	DIN EN, body, EN-GJL-250, DN 65-200, PN 16, fluids G2, L2 ²⁾							
Globe valve Three-way valve	V2001	3531	DIN EN, body, EN-GJS-400-18-LT, DN 50-80, PN 25, fluids G2, L2, L1 ¹⁾							
		3535	DIN EN, body, 1.0619 and 1.4408, DN 32-40, PN 25, all fluids ANSI, body, A216 WCC and A351 CF8M, NPS 1½-2, Class 150, all fluids							
Control valve	---	3214	DIN EN, body, EN-GJL-250, DN 65-125, PN 16, fluids G2, L2, L1 ¹⁾ DIN EN, body, EN-GJS-400-18-LT, DN 50-80, PN 25, fluids G2, L2, L1 ¹⁾ ANSI, body, A126 B, NPS 3-4, Class 125, fluids G2, L2, L1 ¹⁾ ANSI, body, A216 WCC and A351 CF8M, NPS 1½-2, Class 150, all fluids							
			Self-operated Regulators	42	2423	DIN EN, body, EN-GJL-250 and EN-GJS-400-18-LT, DN 65-125, PN 16, fluids G2, L2, L1 ¹⁾ DIN EN, body, EN-GJS-418-LT, DN 50-80, PN 25, fluids G2, L2, L1 ¹⁾ DIN EN, body, 1.0619 and 1.4408, DN 32-50, PN 16, all fluids DIN EN, body, 1.0619 and 1.4408, DN 32-40, PN 25, all fluids ANSI, body, A126 B, NPS 3-4, Class 125, fluids G2, L2, L1 ¹⁾ ANSI, body, A216 WCC and A351 CF8M, NPS 1½-2, Class 150, all fluids				
42	2422	DIN EN, body, EN-GJL-250 and EN-GJS-400-18-LT, DN 65-125, PN 16, fluids G2, L2, L1 ¹⁾ DIN EN, body, EN-GJS-400-18-LT, DN 50-80, PN 25, fluids G2, L2, L1 ¹⁾ DIN EN, body, 1.0619, 1.4408 and 1.6220+QT, DN 32-50, PN 16, all fluids ANSI, body, A126 B, NPS 3-4, Class 125, fluids G2, L2, L1 ¹⁾								
		Strainers				1N/1NI	2601	ANSI, body, A216 WCC, A351 CF8M and A352 LCC, NPS 1½-2, Class 150, all fluids DIN EN, body, CB752S, G 2 (DN50), PN25, fluids G2, L2 ³⁾		
Strainers	2N/2NI	2602				DIN EN, body, EN-GJL-250, DN 200-250, PN 10, fluids G2, L2, L1 ¹⁾ DIN EN, body, EN-GJL-250, DN 65-125, PN 16, fluids G2, L2, L1 ¹⁾ DIN EN, body, EN-GJS-400-18-LT, DN 100-125, PN 16, fluids G2, L2, L1 ¹⁾ DIN EN, body, EN-GJS-400-18-LT, DN 50-80, PN 25, fluids G2, L2, L1 ¹⁾ DIN EN, body, 1.4408, DN 32-50, PN 16, all fluids				
						Self-operated Regulators	44	---	2373/2375	ANSI, body, A995 4A and A995 5A, NPS 1½-2, Class 150, all fluids
								2440 (44-0B) 2441 (44-1B) 2446 (44-6B)	DIN EN, body, EN-GJS-400-18-LT, DN 50, PN 25, fluids G2, L2, L1 ¹⁾	
Self-operated Regulators	44	2442 (44-2) 2443 (44-3) 2444 (44-4) 2447 (44-7) 2448 (44-8) 2449 (44-9)	DIN EN, body, EN-GJS-400-18-LT and CC499K, DN 50, PN 25, fluids G2, L2, L1 ¹⁾							

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Devices	Series	Type	Version	
Self-operated Regulators	45	2451 (45-1)	DIN EN, body, EN-GJS-400-18-LT and CC499K, DN 50, PN 25, fluids G2, L2, L1 ¹⁾	
		2452 (45-2)		
		2453 (45-3)		
		2454 (45-4)		
		2456 (45-6)		
	46	2465 (46-5)	DIN EN, body, EN-GJS-400-18-LT and CC499K, DN 50, PN 25, fluids G2, L2, L1 ¹⁾	
		2466 (46-6)		
		2467 (46-7)		
	47	2471 (47-1)	DIN EN, body, EN-GJS-400-18-LT and CC499K, DN 50, PN 25, fluids G2, L2, L1 ¹⁾	
		2474 (47-4)		
	48	2488	DIN EN, body, EN-GJS-400-18-LT and CC499K, DN 50, PN 25, fluids G2, L2, L1 ¹⁾	
		2489		
	40	2405	DIN EN, body, EN-GJS-400-18-LT, DN 50, PN 25, fluids G2, L2, L1 ¹⁾	
			ANSI, body, A216 WCC and A351 CF8M, NPS 1½-2, Class 150, all fluids	
		2406	DIN EN, body, EN-GJL-250, DN 65-125, PN 16, fluids G2, L2, L1 ¹⁾	
			DIN EN, body, EN-GJS-400-18-LT, DN 50, PN 25, fluids G2, L2, L1 ¹⁾	
	41	2412	ANSI, body, A126 B, NPS 3-4, Class 125, fluids G2, L2, L1 ¹⁾	
			ANSI, body, A216 WCC and A351 CF8M, NPS 1½-2, Class 150, all fluids	
		2417	DIN EN, body, EN-GJL-250, DN 65-100, PN 16, fluids G2, L2, L1 ¹⁾	
			DIN EN, body, EN-GJS-400-18-LT, DN 50-80, PN 25, fluids G2, L2, L1 ¹⁾	
		42	2421 RS	ANSI, body, A126 B, NPS 3-4, Class 125, fluids G2, L2, L1 ¹⁾
				ANSI, body, A216 WCC and A351 CF8M, NPS 1½-2, Class 150, all fluids
	---	2331	DIN EN, body, EN-GJL-250, DN 65-200, PN 16, fluids G2, L2 ²⁾	
			DIN EN, body, EN-GJS-400-18-LT, DN 65-150, PN 16, fluids G2, L2 ²⁾	
			DIN EN, body, EN-GJS-400-18-LT, DN 65-125, PN 25, fluids G2, L2 ²⁾	
			DIN EN, body, 1.0619, DN 65-200, PN 16, fluids G2, L2 ²⁾	
			DIN EN, body, 1.0619, DN 65-100, PN 40, fluids G2, L2 ²⁾	
	---	2333	DIN EN, body, EN-GJL-250, DN 65-125, PN 16, fluids G2, L2, L1 ¹⁾	
			DIN EN, body, EN-GJS-400-18-LT, DN 65-80, PN 25, fluids G2, L2, L1 ¹⁾	
			ANSI, body, A126 B, NPS 3-4, Class 125, fluids G2, L2, L1 ¹⁾	
---	2334	DIN EN, body, EN-GJL-250, DN 65-125, PN 16, fluids G2, L2, L1 ¹⁾		
		DIN EN, body, EN-GJS-400-18-LT, DN 65-125, PN 16, fluids G2, L2, L1 ¹⁾		
		DIN EN, body, EN-GJS-400-18-LT, DN 65-80, PN 25, fluids G2, L2, L1 ¹⁾		
		ANSI, body, A126 B, NPS 3-4, Class 125, fluids G2, L2, L1 ¹⁾		
---	2404-1	DIN EN, body, EN-GJL-250, DN 65-125, PN 16, fluids G2, L2, L1 ¹⁾		
		ANSI, body, A126 B, NPS 3-4, Class 125, fluids G2, L2, L1 ¹⁾		
		ANSI, body, A216 WCC und A351 CF8M, NPS 1½-2, Class 150, all fluids		
---	2404-2	DIN EN, body, EN-GJL-250, DN 65-125, PN 16, fluids G2, L2, L1 ¹⁾		
		ANSI, body, A126 B, NPS 3-4, Class 125, fluids G2, L2, L1 ¹⁾		

¹⁾ Gases according to Article 4(1)(c.i), second indent
Liquids according to Article 4(1)(c.ii)

²⁾ Gases according to Article 4(1)(c.i), second indent
Liquids according to Article 4(1)(c.ii), second indent

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That the products mentioned above comply with the requirements of the following standards:

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	2014/68/EU	of 15. May 2014
Applied conformity assessment procedure for fluids according to Article 4(1)	Module A	

Technical standards applied: DIN EN 12516-2, DIN EN 12516-3, ASME B16.34

Manufacturer: SAMSON AG, Weismüllerstraße 3, 60314 Frankfurt am Main, Germany

Frankfurt am Main, 26. August 2022

ppa. Norbert Tollas
Senior Vice President
Global Operations

i.V. Peter Scheermesser
Director
Product Maintenance & Engineered Products

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Module H / N° CE-0062-PED-H-SAM 001-22-DEU

For the following products, SAMSON hereby declares under its sole responsibility:

Devices	Series	Type	Version
Three-way valve	---	2119	DIN EN, body, EN-GJL-250 and 1.0619, DN 150, PN 16, fluids G2, L2, L1 ¹⁾
			DIN EN, body, 1.0619, DN 100-150, PN 25, fluids G2, L2, L1 ¹⁾
			DIN EN, body, 1.0619 and 1.4408, DN 65-150, PN 40, fluids G2, L2, L1 ¹⁾
			ANSI, body, A216 WCC and A351 CF8M, NPS 6, Class 150, fluids G2, L2, L1 ¹⁾
			ANSI, body, A216 WCC and A351 CF8M, NPS 2-6, Class 300, fluids G2, L2, L1 ¹⁾
Self-operated Regulators	---	3222	DIN EN, body, CC499K, DN 50, PN 25, all fluids
Three-way valve	---	3260	DIN EN, body, EN-GJL-250, DN 250-300, PN 16, fluids G2, L2 ¹⁾
Globe valve Three-way valve	V2001	3531	DIN EN, body, 1.0619 and 1.4408, DN 50-80, PN 25, all fluids
		3535	ANSI, body, A216 WCC and A351 CF8M, NPS 2½-3, Class 150, all fluids
Control valve	---	3214	DIN EN, body, EN-GJL-250, DN 150-400, PN 16, fluids G2, L2, L1 ¹⁾
			DIN EN, body, EN-GJS-400-18-LT, DN 100-150, PN 25, fluids G2, L2, L1 ¹⁾
			DIN EN, body, 1.0619, DN 32-400, PN 40, all fluids
			ANSI, body, A126 B, NPS 6-10, Class 125, fluids G2, L2, L1 ¹⁾
			ANSI, body, A216 WCC, NPS 2½-10, Class 150, all fluids
			ANSI, body, A216 WCC, NPS 1½-10, Class 300, all fluids
			DIN EN, body, EN-GJL-250, DN 150-250, PN 16, fluids G2, L2, L1 ¹⁾
			DIN EN, body, EN-GJS-400-18-LT, DN 150, PN 16, fluids G2, L2, L1 ¹⁾
			DIN EN, body, EN-GJS-400-18-LT, DN 100-150, PN 25, fluids G2, L2, L1 ¹⁾
			DIN EN, body, 1.0619 and 1.4408, DN 65-250, PN 16, all fluids
Self-operated Regulators	42	2423	DIN EN, body, 1.0619 and 1.4408, DN 32-250, PN 40, all fluids
			DIN EN, body, 1.0619 and 1.4408, DN 32-250, PN 40, all fluids
			ANSI, body, A126 B, NPS 6-10, Class 125, fluids G2, L2, L1 ¹⁾
			ANSI, body, A216 WCC and A351 CF8M, NPS 2½-10, Class 150, all fluids
			ANSI, body, A216 WCC and A351 CF8M, NPS 1½-10, Class 300, all fluids
			DIN EN, body, EN-GJL-250, DN 150-400, PN 16, fluids G2, L2, L1 ¹⁾
			DIN EN, body, EN-GJS-400-18-LT, DN 100-150, PN 25, fluids G2, L2, L1 ¹⁾
			DIN EN, body, 1.0619 and 1.4408, DN 65-400, PN 16, all fluids
			DIN EN, body, 1.0619 and 1.4408, DN 200-400, PN 25, all fluids
			DIN EN, body, 1.0619 and 1.4408, DN 32-400, PN 40, all fluids
	DIN EN, body, 1.0460, DN 40-50, PN 40, all Fluids		
	42	2422	DIN EN, body, 1.6220+QT, DN 65-250, PN 16, all fluids
			DIN EN, body, 1.6220+QT, DN 200-250, PN 25, all fluids
			DIN EN, body, 1.6220+QT, DN 32-250, PN 40, all fluids
			ANSI, body, A126 B, NPS 6-16, Class 125, fluids G2, L2, L1 ¹⁾
			ANSI, body, A216 WCC and A351CF8M, NPS 2½-16, Class 150, all fluids
			ANSI, body, A216 WCC and A351CF8M, NPS 1½-16, Class 300, all fluids
			ANSI, body, A105, NPS 1½-2, Class 300, all fluids
			ANSI, body, A352 LCC, NPS 2½-10, Class 150, all fluids
			ANSI, body, A352 LCC, NPS 1½-10, Class 300, all fluids
42			2421RS
	DIN EN, body, 1.0619 and 1.4408, DN 50-150, PN 25, all fluids		
	DIN EN, body, 1.0619 and 1.4408, DN 32-150, PN 40, all fluids		
	DIN EN, body, 1.4571 and 1.4401/1.4404, DN 50, PN 25, all fluids		
	DIN EN, body, 1.4571 and 1.4401/1.4404, DN 32-50, PN 40, all fluids		
	ANSI, body, A216 WCC and A351 CF8M, NPS 2½-6, Class 150, all fluids		
ANSI, body, A216 WCC and A351 CF8M, NPS 1½-6, Class 300, all fluids			

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Classification: Public · SAMSON AKTIENGESELLSCHAFT · Weismuellerstrasse 3 · 60314 Frankfurt am Main, Germany

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Devices	Series	Type	Version
Self-operated Regulators	40	2405	DIN EN, body, 1.0619, 1.4571, 1.4404, 1.4408, 1.0460, DN 32-50, PN40, all fluids
			ANSI, body, A105, A182 F316L, A351 CF8M, A216 WCC, NPS 1½-2, Class 300, all fluids
			DIN EN, body, EN-GJL-250, DN 150, PN 16, fluids G2, L2, L1 ¹⁾
			DIN EN, body, 1.0619 and 1.4408, DN 32-150, PN 40, all fluids
			DIN EN, body, 1.0460 and 1.4404, DN 32-50, PN 40, all fluids
			ANSI, body, A126 B, NPS 6, Class 125, fluids G2, L2, L1 ¹⁾
		2406	ANSI, body, A216 WCC and A351 CF8M, NPS 2½-6, Class 150, all fluids
			ANSI, body, A216 WCC and A351 CF8M, NPS 1½-6, Class 300, all fluids
			ANSI, body, A105 and A182 F316L, NPS 1½-2, Class 300, all fluids
			DIN EN, body, EN-GJS-400-18-LT, DN 100, PN25, fluids G2, L2, L1 ¹⁾
			DIN EN, body, 1.0619 and 1.4408, DN 32-100, PN 40, all fluids
			DIN EN, body, 1.0460, 1.4571 and 1.4404, DN 32-80, PN 40, all fluids
	41	2412 2417	ANSI, body, A216 WCC and A351 CF8M, NPS 2½-4, Class 150, all fluids
			ANSI, body, A216 WCC and A351 CF8M, NPS 1½-4, Class 300, all fluids
			ANSI, body, A105 and A182 F316L, NPS 1½-3, Class 300, all fluids
			DIN EN, body, EN-GJL-250, DN 150, PN16, fluids G2, L2, L1 ¹⁾
			DIN EN, body, 1.0619 und 1.4408, DN 32-150, PN 40, all fluids
			ANSI, body, A126 B, NPS 6, Class 125, fluids G2, L2, L1 ¹⁾
	---	2404-1	ANSI, body, A216 WCC und A351 CF8M, NPS 2½-6, Class 150, all fluids
			ANSI, body, A216 WCC und A351 CF8M, NPS 1½-6, Class 300, all fluids
			DIN EN, body, EN-GJL-250, DN 150-400, PN 16, fluids G2, L2, L1 ¹⁾
			DIN EN, body, 1.0619 und 1.4408, DN 65-400, PN 16, all fluids
			DIN EN, body, 1.0619 und 1.4408, DN 65-400, PN 40, all fluids
			ANSI, body, A126 B, NPS 6-16, Class 125, fluids G2, L2, L1 ¹⁾
	---	2404-2	ANSI, body, A216 WCC und A351 CF8M, NPS 2½-10, Class 150, all fluids
			ANSI, body, A216 WCC und A351 CF8M, NPS 2½-10, Class 300, all fluids
			DIN EN, body, EN-GJL-250, DN 250, PN 16, fluids G2, L2 ¹⁾
			DIN EN, body, 1.0619, DN 250, PN 16, fluids G2, L2 ¹⁾
			DIN EN, body, 1.0619, DN 200-250, PN 25, fluids G2, L2 ¹⁾
			DIN EN, body, 1.0619, DN 125-250, PN 40, fluids G2, L2 ¹⁾
	---	2331 2337	DIN EN, body, EN-GJL-250, DN 150-400, PN 16, fluids G2, L2, L1 ¹⁾
			DIN EN, body, EN-GJS-400-18-LT, DN 100-150, PN 25, fluids G2, L2, L1 ¹⁾
			DIN EN, body, 1.0619 und 1.4408, DN 65-400, PN 16, all fluids
			DIN EN, body, 1.0619 and 1.4408, DN 200-400, PN 25, all fluids
			DIN EN, body, 1.0619 und 1.4408, DN 65-400, PN 40, all fluids
			ANSI, body, A126 B, NPS 6-16, Class 125, fluids G2, L2, L1 ¹⁾
	---	2333 2335	ANSI, body, A216 WCC and A351 CF8M, NPS 2½-16, Class 150, all fluids
			ANSI, body, A216 WCC and A351 CF8M, NPS 2½-16, Class 300, all fluids
			DIN EN, body, EN-GJL-250, DN 150-400, PN 16, fluids G2, L2, L1 ¹⁾
			DIN EN, body, EN-GJS-400-18-LT, DN 100-150, PN 25, fluids G2, L2, L1 ¹⁾
			DIN EN, body, 1.0619 und 1.4408, DN 65-400, PN 16, all fluids
			DIN EN, body, 1.0619 and 1.4408, DN 200-400, PN 25, all fluids
---	2334	ANSI, body, A216 WCC and A351 CF8M, NPS 2½-16, Class 150, all fluids	
		ANSI, body, A216 WCC and A351 CF8M, NPS 2½-16, Class 300, all fluids	
		DIN EN, body, EN-GJL-250, DN 150-400, PN 16, fluids G2, L2, L1 ¹⁾	
		DIN EN, body, EN-GJS-400-18-LT, DN 100-150, PN 25, fluids G2, L2, L1 ¹⁾	
		DIN EN, body, 1.0619 und 1.4408, DN 65-400, PN 16, all fluids	
		DIN EN, body, 1.0619 und 1.4408, DN 200-400, PN 25, all fluids	
---	2373 2375	DIN EN, body, 1.0619 und 1.4408, DN 65-400, PN 40, all fluids	
		ANSI, body, A126 B, NPS 6-16, Class 125, fluids G2, L2, L1 ¹⁾	
		ANSI, body, A216 WCC and A351 CF8M, NPS 2½-16, Class 150, all fluids	
		ANSI, body, A216 WCC and A351 CF8M, NPS 2½-16, Class 300, all fluids	
		DIN EN, body, 1.4469 and 1.4470, DN 32-50, PN 40, all fluids	
		ANSI, body, A985 5A and A985 4A, NPS 1½-2, Class 300, all fluids	
Strainers	2N/2NI	2602	DIN EN, body, EN-GJL-250, DN 150-250, PN 16, fluids G2, L2, L1 ¹⁾
			DIN EN, body, EN-GJS-400-18-LT, DN 150, PN 16, fluids G2, L2, L1 ¹⁾
			DIN EN, body, EN-GJS-400-18-LT, DN 100-150, PN 25, fluids G2, L2, L1 ¹⁾
			DIN EN, body, 1.0619, DN 100-250, PN 16, all fluids

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EU DECLARATION OF CONFORMITY
TRANSLATION



Devices	Series	Type	Version
Strainers	2N/2NI	2602	DIN EN, body, 1.0619, DN 200-250, PN 25, all fluids
			DIN EN, body, 1.0619, DN 32-250, PN 40, all fluids
			DIN EN, body, 1.4408, DN 65-100, PN 16, all fluids
			DIN EN, body, 1.4408, DN 32-100, PN 40, all fluids

¹⁾ Gases according to Article 4(1)(c.i), second indent
Liquids according to Article 4(1)(c.ii)


That the products mentioned above comply with the requirements of the following standards:

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	2014/68/EU	of 15. May 2014
Applied conformity assessment procedure for fluids according to Article 4(1)	Module H	by Bureau Veritas 0062

The manufacturer's quality management system is monitored by the following notified body:
Bureau Veritas Services SAS, 8 Cours du Triangle, 92800 PUTEAUX – LA DEFENSE, FRANCE
Technical standards applied: DIN EN 12516-2, DIN EN 12516-3, ASME B16.34

Manufacturer: SAMSON AG, Weismuellerstrasse 3, 60314 Frankfurt am Main, Germany

Frankfurt am Main, 14. October 2022



ppa. Norbert Tollas
Senior Vice President
Global Operations



i.V. Peter Scheermesser
Director
Product Maintenance & Engineered Products

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15 Annex

15.1 Tightening torques

Table 15-1: *Tightening torque*

Part	Width across flats	Tightening torque in Nm
Adjusting screw (2.3)	SW 27	–
Control line connection	–	22

15.2 Lubricants

SAMSON's After-sales Service can support you concerning lubricants and sealants approved by SAMSON.

15.3 Tools

SAMSON's After-sales Service can support you concerning tools approved by SAMSON.

15.4 Accessories

SAMSON's After-sales Service can support you concerning accessories approved by SAMSON.

15.5 Spare parts

SAMSON's After-sales Service can support you concerning spare parts approved by SAMSON.

15.6 After-sales service

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

E-mail address

You can reach our after-sales service at aftersaleservice@samsongroup.com.

Addresses of SAMSON AG and its subsidiaries

The addresses of SAMSON, its subsidiaries, representatives and service facilities worldwide can be found on our website (▶ www.samsongroup.com) or in all SAMSON product catalogs.

Required specifications

Please submit the following details:

- Device type
- Type and nominal size of the main valve, pilot valve and input pressure regulator (see nameplates).
- Model number or material number
- Supply pressure p , upstream pressure (inert gas pressure) p_1 and downstream pressure p_2
- Temperature and process medium
- Min. and max. flow rate in m^3/h
- 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.)

EB 2540 EN



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