

MOUNTING AND OPERATING INSTRUCTIONS



EB 8097 EN

Translation of original instructions



Type 3347/3277 Pneumatic Control Valve (cast body) with Type 3725 Positioner



Type 3347/3379 Control Valve (cast body) with welding ends and Type 3724 Positioner

Type 3347 Hygienic Angle Valve

In combination with an actuator, e.g. SAMSON Type 3271, Type 3277, Type 3372 or Type 3379 Pneumatic Actuator

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 (aftersalesservice@samsongroup.com).



Documents relating to the device, such as the mounting and operating instructions, are available on our website at www.samsongroup.com > **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 Type 3347 Hygienic Angle Valve in combination with an actuator (e.g. Type 3271, Type 3277, Type 3372 or Type 3379 Pneumatic Actuator) is designed to regulate the flow rate, pressure or temperature of liquids, gases or vapors. The angle valve is suitable for use in hygienic applications (e.g. in the pharmaceutical and biotechnology sectors as well as the food and beverage industry) to meet strict hygienic requirements. The valve with its actuator is designed to operate under exactly defined conditions (e.g. operating pressure, process medium, temperature). Therefore, operators must ensure that the control valve is only used in operating conditions that meet the specifications used for sizing the valve at the ordering stage. In case operators intend to use the control valve 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 control valve 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 valve accessories connected to the control valve

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 control valve 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

Welding operations are to be performed only by personnel who has the necessary qualification to perform the applied welding procedure and handle the materials used.

Personal protective equipment

SAMSON recommends 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, gloves, eye protection and respiratory 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.

Safety features

The fail-safe position of the control valve upon air supply or control signal failure depends on the actuator used (see associated actuator documentation). When the valve is combined with a SAMSON Type 3271 or Type 3277 Pneumatic Actuator, the control valve moves to a certain fail-safe position (see the 'Design and principle of operation' chapter) upon supply air or control signal failure. The fail-safe action of the actuator is the same as its direction of action and is specified on the nameplate of SAMSON actuators.

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. Plant operators and operating personnel must ob-

serve 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 valve must be identified in a risk assessment and prevented through the corresponding standard operating procedures drawn up by the operator.

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.

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.

Referenced standards, directives and regulations

The control valves comply with the requirements of the European Pressure Equipment Directive 2014/68/EU and the Machinery Directive 2006/42/EC. Valves with a CE marking have a declaration of conformity which includes information about the applied conformity assessment procedure. The 'Certificates' chapter contains this declaration of conformity.

According to the ignition hazard assessment performed in accordance with Clause 5.2 of ISO 80079-36, the non-electrical control valves 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.

Safety instructions and measures

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

Referenced documents

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

- Mounting and operating instructions for mounted actuator, e.g. ▶ EB 8310-X for SAMSON Type 3271 and Type 3277 Actuators, ▶ EB 8313-X for SAMSON Type 3372 Actuator or ▶ EB 8315 for SAMSON Type 3379 Actuator
- Mounting and operating instructions for mounted valve accessories (positioner, solenoid valve etc.)
- Manual ▶ H 02: Appropriate Machinery Components for SAMSON Pneumatic Control Valves with a Declaration of Conformity of Final Machinery
- If a device contains a substance listed as a substance of very high concern (SVHC) on the candidate list of the REACH regulation, the document "Additional Information on Your Inquiry/Order" is added to the SAMSON order documents. This document includes the SCIP number assigned to the devices concerned. This number can be entered into the database on the European Chemicals Agency (ECHA) website (▶ <https://www.echa.europa.eu/scip-database>) to find out more information on the SVHC contained in the device.

Further information on material compliance at SAMSON is available at ▶ www.samsongroup.com > About SAMSON > Environment, Social & Governance > Material Compliance.

1.1 Notes on possible severe personal injury

DANGER

Risk of bursting in pressure equipment.

Control valves and pipelines are pressure equipment. Excessive pressurization or improper opening can lead to valve components bursting.

- Observe the maximum permissible pressure for valve and plant.
- Before starting any work on the control valve, depressurize all plant sections affected as well as the valve.
- Drain the process medium from the plant sections affected as well as from the valve.

1.2 Notes on possible personal injury

WARNING

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

Depending on the process medium, valve 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.

WARNING

Risk of personal injury due to exhaust air being vented.

While the valve is operating, air is vented from the actuator, e.g. to change the valve's position or to open or close the valve.

- Install the control valve in such a way that vent openings are not located at eye level and the actuator does not vent at eye level in the work position.
- Use suitable mufflers and vent plugs.
- Wear eye protection when working in close proximity to the control valve.

Crush hazard arising from moving parts.

The control valve contains moving parts (actuator and plug stem), which can injure hands or fingers if inserted into the valve.

- Do not insert hands or finger into the yoke while the air supply is connected to the actuator.
- Before working on the control valve, disconnect and lock the pneumatic air supply as well as the control signal.
- Do not impede the movement of the actuator and plug stem by inserting objects into the yoke.
- Before unblocking the actuator and plug stem after they have become blocked (e.g. due to seizing up after remaining in the same position for a long time), release any stored energy in the actuator (e.g. spring compression). See associated actuator documentation.

Risk of personal injury due to preloaded springs.

Valves in combination with pneumatic actuators with preloaded springs are under tension. These control valves with SAMSON pneumatic actuators can be identified by the long bolts protruding from the bottom of the actuator.

- Before starting any work on the actuator, relieve the compression from the preloaded springs (see associated actuator documentation).

WARNING

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

While working on the valve, residual medium can flow out of the valve and, depending on its properties, cause personal injury, e.g. (chemical) burns.

- If possible, drain the process medium from the plant sections affected and from the valve.
- Wear protective clothing, safety gloves, respiratory protection and eye protection.

Exposure to hazardous substances poses a serious risk to health.

Certain lubricants and cleaning agents are classified as hazardous substances. These substances have a special label and a material safety data sheet (MSDS) issued by the manufacturer.

- Make sure that an MSDS is available for any hazardous substance used. If necessary, contact the manufacturer to obtain an MSDS.
- Inform yourself about the hazardous substances and their correct handling.

Risk of personal injury due to incorrect operation, use or installation as a result of information on the control valve being illegible.

Over time, markings, labels and nameplates on the control valve 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.

1.3 Notes on possible property damage

! NOTICE

Risk of valve 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 valve 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 the equipment.

Risk of leakage and valve damage due to over- or under-torquing.

Observe the specified torques when tightening control valve 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 the 'Tightening torques, lubricants and tools' chapter in the Appendix).

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

Certain tools are required to work on the valve.

→ Only use tools approved by SAMSON (see the 'Tightening torques, lubricants and tools' chapter in the Appendix).

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

The lubricants to be used depend on the valve material. Unsuitable lubricants may corrode and damage surfaces.

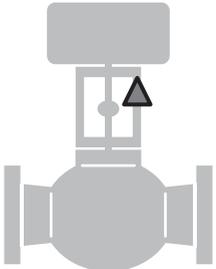
→ Only use lubricants approved by SAMSON (see the 'Tightening torques, lubricants and tools' chapter in the Appendix).

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

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

→ Make sure that only suitable lubricants are used.

1.4 Warnings on the device

Warning symbols	Meaning of the warning	Location on the device
	<p>Warning against moving parts There is a risk of injury to hands or fingers due to the stroking movement of the actuator and plug stem if they are inserted into the yoke while the air supply is connected to the actuator.</p>	

2 Markings on the device

The nameplate shown was up to date at the time of publication of this document. The nameplate on the device may differ from the one shown.

2.1 Valve nameplate

The details on the valve version can be found on the front and back of the valve body (see Fig. 2-1).

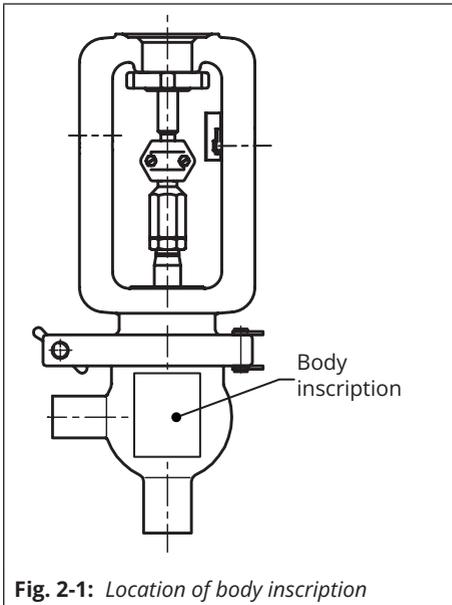


Fig. 2-1: Location of body inscription

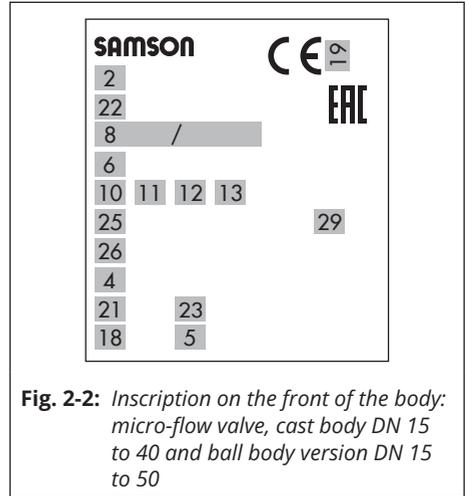


Fig. 2-2: Inscription on the front of the body: micro-flow valve, cast body DN 15 to 40 and ball body version DN 15 to 50

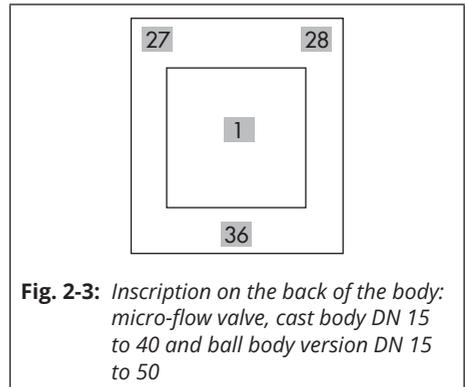
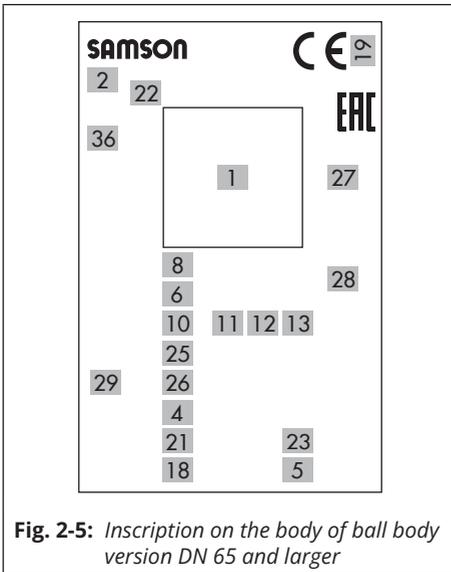
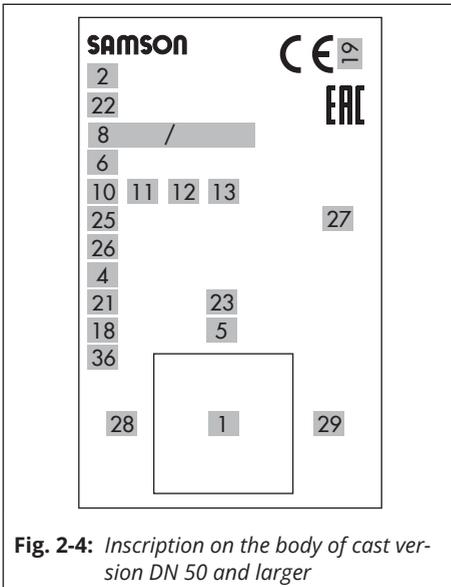


Fig. 2-3: Inscription on the back of the body: micro-flow valve, cast body DN 15 to 40 and ball body version DN 15 to 50

Markings on the device



Item	Inscription meaning (see Fig. 2-2 to Fig. 2-5)
1	Data Matrix code
2	Type designation
4	Material
5	Month and year of manufacture
6	Nominal size: DIN: DN or OD · ANSI: NPS · JIS: DN
8	Order number/item
10	Flow coefficient: DIN: KVS · ANSI: CV
11	Characteristic: % : Equal percentage · LIN : Linear
12	Seat-plug seal: ME : Metal seal · ST : Metal base material with Stellite® facing · PK : PEEK soft seal
13	Seat code (trim material): On request
18	Country of origin
19	ID of the notified body (EU), for example: – 0062 for Bureau Veritas Services SAS, 8 Cours du Triangle, 92800 PUTEAUX – LA DEFENSE
21	PED : Pressure Equipment Directive G1/G2 : Gases and vapors Fluid group 1 = Hazardous Fluid group 2 = Other L1/L2 : liquids Fluid group 1 = Hazardous Fluid group 2 = Other I/II/III : Category 1 to 3
22	Serial number
23	Hardware version (NE 53)
25	Max. permissible pressure at 20 °C temperature

Item	Inscription meaning (see Fig. 2-2 to Fig. 2-5)
26	Maximum permissible temperature in °C
27	3-A conformity (symbol) (if applicable) 
28	Crush hazard warning (pictogram) (if applicable) 
29	Arrow indicating the direction of flow (graphic) 
36	Marking for casting

2.2 Actuator nameplate

See associated actuator documentation.

2.3 Material identification number

The valve plug has an item number written on it. The material number of the valve body is used to identify the seat. You can contact us stating these numbers to find out which materials are used.

3 Design and principle of operation

See Fig. 3-1 to Fig. 3-4

The Type 3347 Angle Valve is preferably combined with a SAMSON Type 3271 or Type 3277 Pneumatic Actuator. It can also be combined with other actuators (e.g. Type 3372 Electropneumatic Actuator). We recommend using a Type 3379 Pneumatic Actuator for high cleanability requirements.

The standard valve body is designed for welding into pipelines. Other versions can be equipped with threaded or flanged ends or clamp connections.

The control valve is fitted with an easily detachable clamp connection between valve body and yoke. The body free of dead cavities is suitable for CIP (Cleaning-In-Place).

The control valves are mainly designed for use as control or on/off valves in the food industry.

The medium flows through the valve in the direction indicated by the arrow. The plug (2) is moved by changing the signal pressure acting on the diaphragm of the actuator.

The plug stem with plug (2) and actuator stem (8.1) are connected by the stem connector (7 or 8.4) and sealed by seals.

In the special version with steam barrier, an additional spring-loaded PTFE ring packing is used. In this case, the plug stem can be cleaned by using a steam barrier.

3.1 Fail-safe position

The fail-safe position of the control valve upon air supply or control signal failure depends on the actuator used (see associated actuator documentation).

Depending on how the compression springs are arranged in the SAMSON pneumatic actuators, the control valve has two different fail-safe positions:

- **Actuator stem extends:** when the signal pressure is reduced or the air supply fails, the springs move the actuator stem downward and close the valve.
The valve opens when the signal pressure is increased enough to overcome the force exerted by the springs.
- **Actuator stem retracts:** when the signal pressure is reduced or the air supply fails, the springs move the actuator stem upward and open the valve.
The valve closes when the signal pressure is increased enough to overcome the force exerted by the springs.

Design and principle of operation



Tip

The actuator's direction of action can be reversed, if required. Refer to the mounting and operating instructions of the pneumatic actuator:

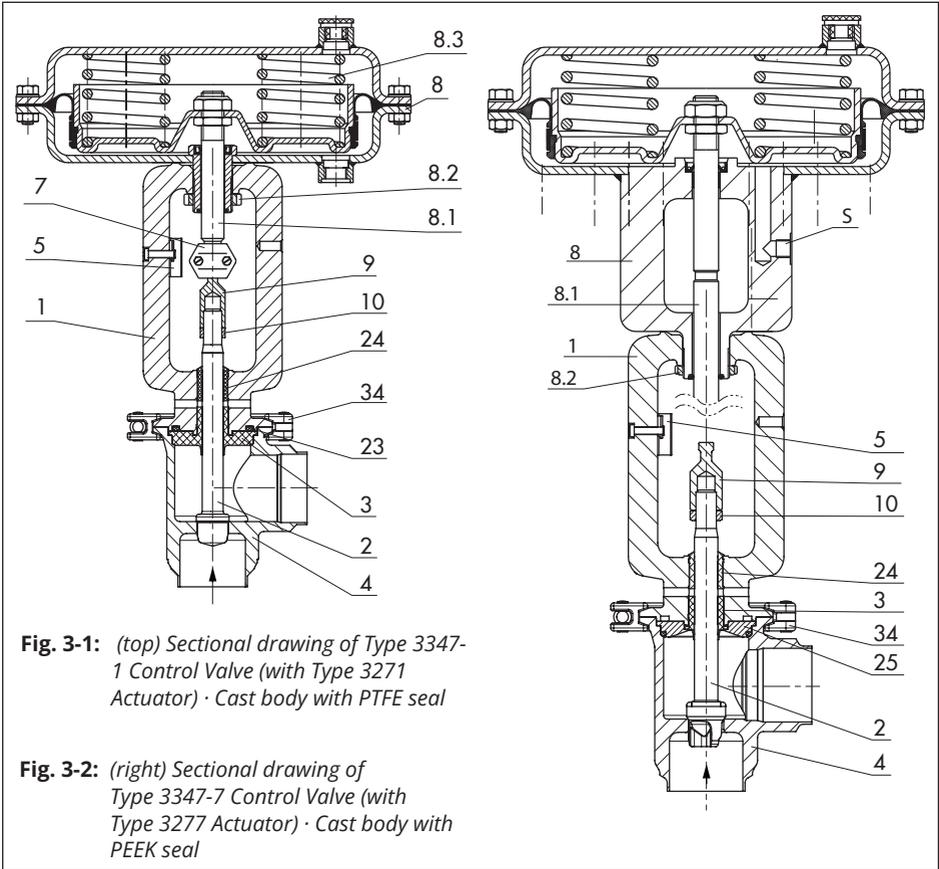


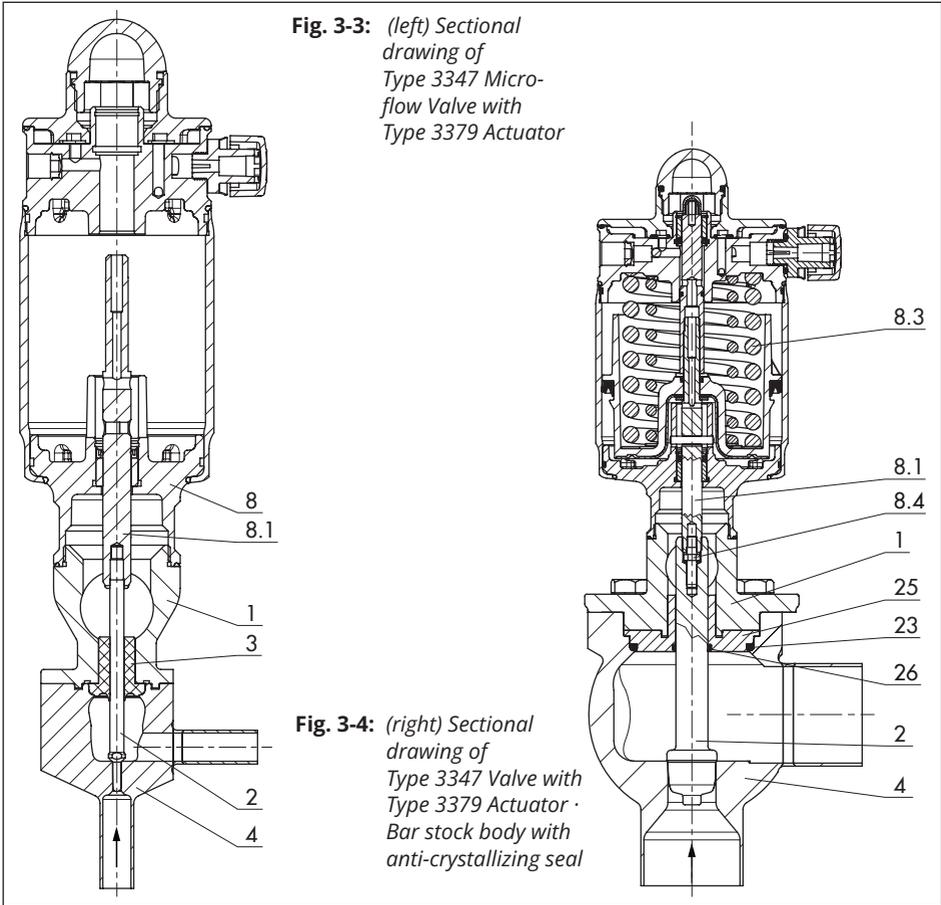
Fig. 3-1: (top) Sectional drawing of Type 3347-1 Control Valve (with Type 3271 Actuator) · Cast body with PTFE seal

Fig. 3-2: (right) Sectional drawing of Type 3347-7 Control Valve (with Type 3277 Actuator) · Cast body with PEEK seal

Legend for Fig. 3-1 to Fig. 3-4

- | | | |
|--------------------------|-------------------------|-------------------------------|
| 1 Yoke | 8.1 Actuator stem | 24 Bearing bushing/wiper seal |
| 2 Plug | 8.2 Ring nut | 25 Centering ring |
| 3 Stem seal | 8.3 Compression springs | 26 O-ring seal |
| 4 Body | 8.4 Stem connector | 34 Clamp |
| 5 Travel indicator scale | 9 Stem connector nut | S Signal pressure connection |
| 7 Stem connector clamps | 10 Lock nut | |
| 8 Actuator | 23 Seal | |

Design and principle of operation



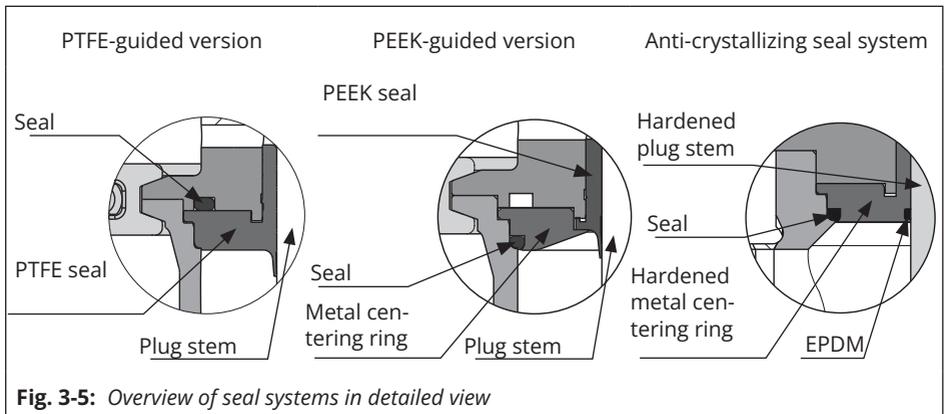


Fig. 3-5: Overview of seal systems in detailed view

3.2 Versions

Steam barrier

A steam barrier can be fitted to sterilize the plug stem with either steam or a sterile fluid.

Heating jacket

Details on request

Anti-crystallizing seal

The bonnet can be fitted with an anti-crystallizing seal.

Connections

The valve is available with various end connections (e.g. welding ends, threaded couplings, clamp connections or flanges) depending on the valve version.

High-pressure versions

A high-pressure version with bolted bonnet is available for pressure rating PN 40 (higher pressure ratings on request).

Micro-flow valve version

A micro-flow valve version is available for nominal sizes DN 6 to 15 (NPS ¼ to ½) up to max. 40 bar (580 psi).

Actuators

In these instructions, the preferable combination with a SAMSON Type 3271 or Type 3277 Pneumatic Actuator is described.

Other actuators (e.g. Type 3372 Electro-pneumatic Actuator or Type 3379 Pneumatic Actuator) can also be used.

The pneumatic actuator (with or without handwheel) can be replaced by another pneumatic actuator in a different size, but with the same travel.

➔ Observe the maximum permissible actuator force.

Design and principle of operation

i Note

If the travel range of the actuator is larger than the travel range of the valve, the spring assembly in the actuator must be preloaded so that the travel ranges match (see associated actuator documentation).

3.3 Additional fittings

Strainers

SAMSON recommends installing a SAMSON strainer upstream of the valve. It prevents solid particles in the process medium from damaging the control valve.

Bypass and shut-off valves

SAMSON recommends installing a shut-off valve both upstream of the strainer and downstream of the control valve and installing a bypass line. The bypass ensures that the plant does not need to be shut down for service and repair work on the valve.

Safety guard

For operating conditions that require increased safety (e.g. in cases where the control valve is freely accessible to untrained staff), a safety guard must be installed to rule out a crush hazard arising from moving parts (actuator and plug stem). Plant operators are responsible for deciding whether a guard is to be used. The decision is based on the risk

posed by the plant and its operating conditions.

3.4 Valve accessories

Information Sheet ► T 8350

i Note

Any devices mounted on 3-A-compliant valves must also comply with 3-A regulations.

3.5 Technical data

The nameplates on the valve and actuator provide information on the control valve version. See the 'Markings on the device' chapter.

i Note

More information is available in the following data sheets:

- T 8097 for Type 3347 Hygienic Angle Valve with Type 3271/3277 or Type 3379
 - T 8097-1 for Type 3347/3372 Pneumatic Control Valve
-

Noise emissions

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

Conformity

See Table 3-1

The Type 3347 Valve bears the CE, UKCA and EAC marks of conformity.

Other compliance:

- EHEDG ¹⁾

The available end connections and body clamps meet the EHEDG guidelines (▶ <https://www.ehedg.org/guidelines-working-groups/guidelines/guidelines/detail/ehedg-position-paper>).

- 3-A ¹⁾

More information

▶ <http://www.3-a.org>

¹⁾ Certification not available for all versions. Contact SAMSON for more information.

Design and principle of operation

Table 3-1: *Technical data for Type 3347 Valve*

Body version ¹⁾	Micro-flow valve	Cast	Bar stock	
Nominal size	DN 6 to 25 (NPS ¼ to 1)	DN 15 to 100 (NPS ½ to 4)	DN 15 to 150 (NPS ½ to 6)	
Body/bonnet connection	Bolted bonnet	Clamp connection	Clamp connection	Bolted bonnet
Maximum pressure (see Data Sheet ► T 8097 for restrictions)	16 bar (230 psi)	16 bar (230 psi)	16 bar (230 psi)	63 bar (914 psi) ³⁾
Seat-plug seal	Metal seal · Soft seal			
Characteristic	Equal percentage or linear			
Rangeability	Data Sheet ► T 8097			
Permissible medium temperature	-10 to 150 °C (14 to 300 °F) (see Data Sheet ► T 8097 for restrictions)			
Leakage class according to IEC 60534-4 or ANSI/FCI 70-2	Metal seal	IV		
	Soft seal	-	VI	
Surface quality	External	Glass bead blasted		
		Ra ≤ 0.6 µm · Polished		
	Internal	Ra ≤ 0.8 µm · Fine machine finish		
		Ra ≤ 0.6 µm · Polished		
		Ra ≤ 0.4 µm · Satin finish		
Ra ≤ 0.4 µm · Mirror finish				

Body version ¹⁾	Micro-flow valve	Cast	Bar stock	
Nominal size	DN 6 to 25 (NPS ¼ to 1)	DN 15 to 100 (NPS ½ to 4)	DN 15 to 150 (NPS ½ to 6)	
Body/bonnet connection	Bolted bonnet	Clamp connection	Clamp connection	Bolted bonnet
Maximum pressure (see Data Sheet ► T 8097 for restrictions)	16 bar (230 psi)	16 bar (230 psi)	16 bar (230 psi)	63 bar (914 psi) ³⁾
Versions with 3-A certification	Nominal size DN/NPS	25 to 100 /1 to 4	15 to 125/½ to 4	
	K _{V5} /C _V	0.4 to 200/0.5 to 190	0.4 to 200/0.5 to 190	
	Connection	Data Sheet ► T 8097		
	Body material	1.4409/CF3M	1.4404/316L · 1.4435/316L Generally AISI 300 (except for 301, 302, 303)	
	Internal surface finish	Ra ≤ 0.8 µm		
	Seat-plug seal	Metal seal · Soft seal		
	Plug stem guide	PTFE, PEEK and anti-crystallizing seal system		
	Other	Actuator and valve accessories mounted to meet 3-A regulation requirements.		
	Comments	Seals compliant with 3-A regulations must be used on site by the end user.		
Version with EHEDG certification (Type EL Class I)	On request, depending on the version			
Other compliance	CFR Title 21 FDA Regulation (EC) No. 1935/2004 Regulation (EU) No. 10/2011 Regulation (EC) No. 2023/2006 USP-VI 121 °C ADI free			
Conformity ²⁾				

- 1) Suitable for Group 2 fluids according to European Pressure Equipment Directive 2014/68/ EU
- 2) CE compliance only for versions in DN 32 with 40 bar (NPS 1¼ with 580 psi) and higher; Article 3, Paragraph 3 of PED applies to all other versions
- 3) Maximum pressure depends on the valve end connections

Design and principle of operation

Table 3-2: Materials

Table 3-2.1: Type 3347 Valve

Component	Version	Material		
		DIN	ANSI	AFNOR
Body version with lathed seat	Cast	1.4409	CF3M	Z2 CND 17-12
	Bar stock	1.4404/1.4435 ¹⁾	316L ¹⁾	Z2 CND 17-12
	Micro-flow valve (bar stock)	1.4435	316L	Z2 CND 17-12
Bonnet		1.4404/1.4409	316L	Z2 CND 17-12
Plug		1.4404 ¹⁾ · Stellite® facing	316L ¹⁾ · Stellite® facing	Z2 CND 17-12 · Stellite® facing

¹⁾ Other materials available on request

Table 3-2.2: Type 3379 Pneumatic Actuator

Component	Material
Housing and cover	Stainless steel 1.4404/1.4409
Actuator stem	1.4404
Piston	Polyamide, glass fiber reinforced
Dome (visual indicator)	Polycarbonate
Bearing	Polymer
Spring	Spring steel, powder coated
Seals	NBR

Refer to the following data sheets for dimensions and weights:

- ▶ T 8097 for Type 3347 Hygienic Angle Valve
- ▶ T 8097-1 for Type 3347/3372 Pneumatic Control Valve

i Note

Refer to the following data sheets as well as mounting and operating instructions for dimensions and weights of the SAMSON pneumatic actuators:

- ▶ *T 8310-1 for Type 3271 or Type 3277 Pneumatic Actuators up to 750 cm² actuator area*
 - ▶ *T 8313 for Type 3372 Actuator*
 - ▶ *EB 8315 for Type 3379 Actuator*
-

4 Shipment and on-site transport

The work described in this chapter is to be performed only 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 valve nameplate match the specifications in the delivery note. See the 'Markings on the device' chapter 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 'Technical data' chapter.

4.2 Removing the packaging from the valve

Observe the following sequence:

- Do not open or remove the packaging until immediately before lifting

the control valve to install it into the pipeline.

- Leave the control valve 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 valve

⚠ 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 valve (including actuator and packaging, if applicable).*
-

Shipment and on-site transport

⚠ WARNING

Risk of personal injury due to the control valve tipping over.

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

⚠ WARNING

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

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

- Observe the occupational health and safety regulations valid in the country of use.
-

ⓘ NOTICE

Risk of control valve damage due to incorrectly attached slings.

The lifting eyelet/eyebolt on SAMSON actuators is only intended for mounting and removing the actuator as well as lifting the actuator without valve. Do not use this lashing point to lift the entire control valve assembly.

- When lifting the control valve, make sure that the slings attached to the valve body bear the entire load.
 - Do not attach load-bearing slings to the actuator, handwheel or any other parts.
-

- Observe lifting instructions (see Chapter 4.3.2).
-

💡 Tip

A swivel hoist can be screwed into SAMSON actuators with a female thread on the top diaphragm case in place of the eyebolt (see associated actuator documentation).

In contrast to the lifting eyelet/eyebolt, the swivel hoist is designed for setting a control valve assembly upright.

The sling between the swivel hoist and rigging equipment (hook, shackle etc.) must not bear any load when lifting a control valve assembly. The sling only protects the control valve from tilting while being lifted.

💡 Tip

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

4.3.1 Transporting the valve

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

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

Transport instructions

- Protect the control valve 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 control valve against moisture and dirt.
- The permissible transportation temperature of standard control valves is -20 to +65 °C.

i Note

Contact our after-sales service for the transportation temperatures of other valve versions.

4.3.2 Lifting the valve

To install a large control valve 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.
- Secure slings against slipping.
- Make sure the slings can be removed from the device once it has been installed into the pipeline.
- Prevent the control valve from tilting or tipping over.

- Do not leave loads suspended when interrupting work for longer periods of time.
- Make sure that the axis of the plug stem remains in the vertical position during lifting.

Lifting the control valve

1. With Type 3271/3277 or Type 3372: carefully guide two slings around the flange and attach them to the rigging equipment of the crane or forklift (see Fig. 4-1, Fig. 4-2 and Fig. 4-3). Make sure that the actuator stem and valve accessories are not damaged.

For actuator versions with lifting eyelet, attach an additional sling to the lifting eyelet of the actuator and to the rigging equipment of the crane or forklift (see Fig. 4-2).

With Type 3379 Actuator: carefully guide two slings around the actuator. Secure the slings against slipping by using a connector (see Fig. 4-4).

2. Carefully lift the control valve. Check whether the lifting equipment and accessories can bear the weight.
3. Move the control valve at an even pace to the site of installation.
4. Install the control valve into the pipeline (see the 'Installation' chapter).
5. After installation into the pipeline: depending on the type of connection (e.g. welding joint, flanged joint etc.)

Shipment and on-site transport

check whether the valve in the pipeline holds.

6. Remove slings.

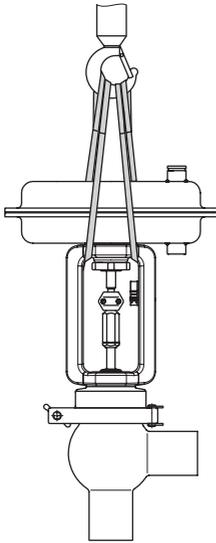


Fig. 4-1: Type 3347 with Type 3271 without lifting eyelet

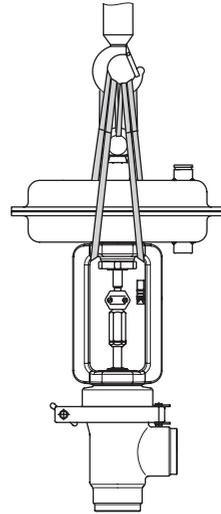


Fig. 4-2: Type 3347 with Type 3271 with lifting eyelet

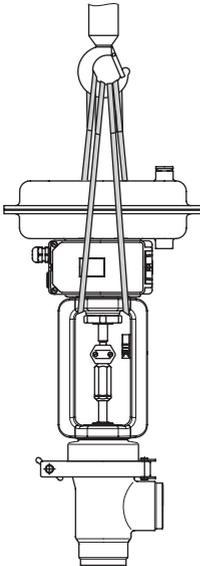


Fig. 4-3: Type 3347 with Type 3277 without lifting eyelet

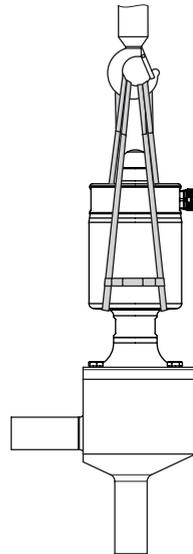


Fig. 4-4: Type 3347/3379

4.4 Storing the valve

NOTICE

Risk of valve damage due to improper storage.

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

Note

SAMSON recommends to regularly check the control valve and the prevailing storage conditions during long storage periods.

Storage instructions

- Protect the control valve against external influences (e.g. impact).
- Do not damage the corrosion protection (paint, surface coatings). Repair any damage immediately.
- Protect the control valve 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 control valves is -20 to

+65 °C. Contact our after-sales service for the storage temperatures of other valve versions.

- Do not place any objects on the control valve.

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.
 - SAMSON recommends a storage temperature of 15 °C for elastomers.
 - Store elastomers away from lubricants, chemicals, solutions and fuels.
-

Tip

Our after-sales service can provide more detailed storage instructions on request.

5 Installation

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

5.1 Installation conditions

Work position

The work position for the control valve is the front view looking onto the operating controls (including valve accessories).

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

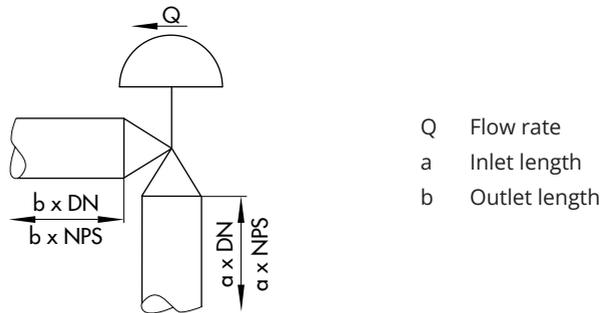
The inlet and outlet lengths (see Table 5-1) vary depending on several variables and process conditions and are intended as recommendations. Contact SAMSON if the lengths are significantly shorter than the recommended lengths.

To ensure that the control valve functions properly, proceed as follows:

Table 5-1: *Inlet and outlet lengths*

State of process medium	Valve conditions	Inlet length a	Outlet length b
Gas	$Ma \leq 0.3$	2	4
Vapor	$Ma \leq 0.3$ ¹⁾	2	4
Liquid	Free of cavitation/ $w < 10$ m/s	2	4
	Cavitation producing noise/ $w \leq 3$ m/s	2	4
	Cavitation producing noise/ $3 < w < 5$ m/s	2	10

¹⁾ No wet steam



Installation

- Observe the inlet and outlet lengths (see Table 5-1). Contact SAMSON if the valve conditions or state of the process medium are different from those specified.
- Install the valve free of stress and with the least amount of vibrations as possible. Read sections “Mounting position” and “Support or suspension” in this chapter.
- Install the valve allowing sufficient space to remove the actuator and valve or to perform service work on them.

Mounting position

To ensure that the valve can be drained and cleaned properly, SAMSON recommends installing the valve with the actuator upright and on top of the valve.

- 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 control valve and the pipeline.

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

Valves, which are not installed in the pipeline in the upright position with the

actuator on top, must be supported or suspended.

Valve accessories

- During connection of valve accessories, make sure that they are easily accessible and can be operated safely from the work position.

Vent plugs

Vent plugs are screwed into the exhaust air ports of pneumatic and electropneumatic devices. They ensure that any exhaust air that forms can be vented to the atmosphere (to avoid excess pressure in the device). Furthermore, the vent plugs allow air intake to prevent a vacuum from forming in the device.

- Locate the vent plug on the opposite side to the work position of operating personnel.

5.2 Preparation for installation

Before installation, make sure that the following conditions are met:

- The valve is clean.
- The valve and all valve accessories (including piping) are not damaged.
- The valve data on the nameplate (type designation, nominal size, material, pressure rating and temperature range) match the plant conditions (nominal size and pressure rating of the pipeline, medium temperature etc.). See the 'Markings on the device' chapter for nameplate details.
- The requested or required additional pipe fittings (see the 'Additional fittings' chapter) 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 pipelines.

i Note

The plant operator is responsible for cleaning the pipelines in the plant.

- For steam applications, dry the pipelines. Moisture will damage the inside of the valve.

- Check any mounted pressure gauges to make sure they function properly.
- When the valve and actuator are already assembled, check the connections to ensure they are seated correctly. Components may loosen during transport.

5.3 Mounting the device

The activities listed below are necessary to install the valve and before it can be started up.

⚠ NOTICE

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

- ➔ Keep the valve and the tools used free from solvents and grease.
- ➔ Make sure that only suitable lubricants are used (see the 'Tightening torques, lubricants and tools' chapter in the Appendix).

⚠ NOTICE

Risk of control valve damage due to over- or under-torquing.

Observe the specified torques when tightening control valve 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 the 'Tightening torques, lubricants and tools' chapter in the Appendix).

⚠ NOTICE

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

- ➔ Only use tools approved by SAMSON (see the 'Tightening torques, lubricants and tools' chapter in the Appendix).

⚠ NOTICE

Risk of control valve damage due to incorrect handling.

- Make sure that the stem seal is not damaged.
- ➔ The plug must not be moved beyond the valve travel.

5.3.1 Mounting the actuator onto the valve

⚠ WARNING

Risk of personal injury due to preloaded springs.

Actuators with preloaded springs are under tension. They can be identified by the long bolts protruding from the bottom of the actuator.

- ➔ Before starting any work on the actuator, relieve the compression from the preloaded springs (see associated actuator documentation).

Depending on the version, SAMSON control valves are either delivered with the actuator already mounted on the valve or the valve and actuator are delivered separately. When delivered sepa-

rately, the valve and actuator must be assembled together on site.

A valve assembly fitted with a SAMSON Type 3379 Pneumatic Actuator is always delivered with the actuator ready mounted.

Versions with V-port plug and Type 3271/3277 or Type 3372 Actuator

To achieve the best flow conditions inside the valve, the V-port plug must always be installed with the port that releases the flow first when the valve opens facing toward the valve outlet. This is the largest of the three V-shaped ports (see Fig. 5-1).

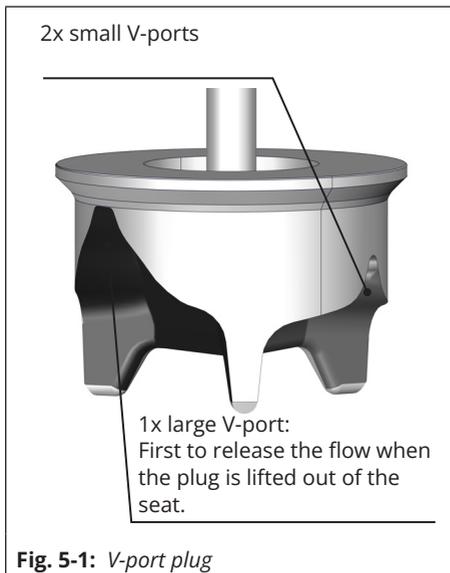


Fig. 5-1: V-port plug

→ Before mounting the actuator, determine which V-shaped port is uncov-

ered first when the plug is lifted out of the seat.

→ On mounting the actuator, make sure that the V-shaped port uncovered first faces toward the valve outlet:

→ To mount the actuator, proceed as described in the associated actuator documentation, e.g.:

- ▶ EB 8310-1 for Type 3271 and Type 3277 Pneumatic Actuators with 120 cm² actuator area
- ▶ EB 8310-4 for Type 3271 and Type 3277 Pneumatic Actuators with 355v2 cm² actuator area
- ▶ EB 8310-5 for Type 3271 and Type 3277 Pneumatic Actuators with 175v2, 350v2 and 750v2 cm² actuator areas
- ▶ EB 8310-6 for Type 3271 and Type 3277 Pneumatic Actuators with 240, 350 and 700 cm² actuator areas
- ▶ EB 8313-1 for Type 3372 Electropneumatic Actuator with integrated i/p converter
- ▶ EB 8313-3 for Type 3372 Electropneumatic Actuator with 120 and 350 cm² actuator areas and Type 3725 Positioner
- ▶ EB 8315 for Type 3379 Pneumatic Actuator

→ After the control valve has been installed in the pipeline, attach the re-

Installation

quired connections to the actuator mounted on the valve.

5.3.2 Installing the valve into the pipeline

NOTICE

Risk of valve damage due to work being carried out by personnel not qualified for such tasks.

The plant operator or specialist company performing the welding is responsible for the selection of the welding procedure and the actual welding operations on the valve. This also applies to any required heat treatment to be performed on the valve.

➔ *Only allow qualified welding personnel to carry out welding operations.*

a) Version with welding ends

1. Close the shut-off valves in the pipeline at the inlet and outlet of the plant section while the valve is being installed.
2. Prepare the relevant section of the pipeline for installing the valve.
3. Remove the protective caps from the valve ports before installing the valve.
4. Lift the valve to the site of installation (see the 'Lifting the valve' chapter). Observe the flow direction

through the valve. The arrow on the valve indicates the direction of flow.

5. Undo the clamp connection and remove the entire valve-actuator extension from the valve body.
6. Weld the valve body free of stress into the pipeline.
7. Mount the valve-actuator extension back onto the valve body and fasten the clamp connection.
8. Attach a support or suspension on the valve, if necessary.
9. **Version with steam barrier:** connect the compression-type fittings to the steam supply line.

b) Valve with flanges, threaded ends or clamp connections:

Note

To meet 3-A conformity requirements, a gasket recommended by 3-A Sanitary Standards Inc. (see website

▶ *<http://www.3-a.org>) must be used for a Type 3347 Valve with threaded ends according to DIN 11851/DIN 11887.*

1. Proceed as described for "Version with welding ends" (steps 1 to 4).
2. Make sure that the correct flange gaskets are used.

3. Bolt the valve to the pipe free of stress or fasten the clamp connections to the pipe.
4. Proceed as described for "Version with welding ends" (steps 8 to 9).

5.4 Testing the installed valve

⚠ DANGER

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

Control valves 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 control valve:

- Depressurize all plant sections affected and the valve (including the actuator). Release any stored energy.
- Drain the process medium from the plant sections affected as well as from the valve.

⚠ 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. Additionally, a loud noise may briefly occur through the sudden venting

of the pneumatic actuator or pneumatic valve accessories not fitted with noise-reducing elements. Both can damage hearing.

- Wear hearing protection when working near the valve.

⚠ WARNING

Crush hazard arising from actuator and plug stem moving.

- Do not insert hands or finger into the yoke while the air supply is connected to the actuator.
- Before working on the control valve, disconnect and lock the pneumatic air supply as well as the control signal.
- Do not impede the movement of the actuator and plug stem by inserting objects into the yoke.
- Before unblocking the actuator and plug stem after they have become blocked (e.g. due to seizing up after remaining in the same position for a long time), release any stored energy in the actuator (e.g. spring compression). See associated actuator documentation.

⚠ WARNING

Risk of personal injury due to exhaust air being vented.

While the valve is operating, air is vented from the actuator, e.g. to change the valve's position or to open or close the valve.

- Wear eye protection when working in close proximity to the control valve.

WARNING

Risk of personal injury due to preloaded springs.

Actuators with preloaded springs are under tension. They can be identified by the long bolts protruding from the bottom of the actuator.

→ Before starting any work on the actuator, relieve the compression from the preloaded springs (see associated actuator documentation).

To test the valve functioning before start-up or putting back the valve into operation, perform the following tests:

5.4.1 Leak test

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

Our after-sales service can support you to plan and perform a leak test for your plant.

1. Close the valve.
2. Slowly apply the test medium to the inlet space upstream of the valve. A sudden surge in pressure and resulting high flow velocities can damage the valve.
3. Open the valve.

4. Apply the required test pressure.
5. Check the valve for leakage to the atmosphere.
6. Depressurize the pipeline section and valve.
7. Rework any parts that leak and repeat the leak test.

5.4.2 Travel motion

The movement of the actuator stem must be linear and smooth.

- Apply the maximum and minimum control signals to check the end positions of the valve while observing the movement of the actuator stem.
- Check the travel reading at the travel indicator scale.

5.4.3 Fail-safe position

- Shut off the signal pressure line.
- Check whether the valve moves to the fail-safe position (see the 'Design and principle of operation' chapter).

5.4.4 Pressure test

The plant operator is responsible for performing the pressure test.

Tip

Our after-sales service can support you to plan and perform a pressure test for your plant.

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

- Retract the plug stem to open the valve.
- Observe the maximum permissible pressure for both the valve and plant.

6 Start-up

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

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

⚠ 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. Additionally, a brief loud noise may occur through the sudden venting of the pneumatic actuator (see the 'Fail-safe position' chapter) or pneumatic valve accessories not fitted with noise-reducing fittings. Both can damage hearing.

- ➔ Wear hearing protection when working near the valve.

⚠ WARNING

Crush hazard arising from actuator and plug stem moving.

- ➔ Do not insert hands or finger into the yoke while the air supply is connected to the actuator.
- ➔ Before working on the control valve, disconnect and lock the pneumatic air supply as well as the control signal.
- ➔ Do not impede the movement of the actuator and plug stem by inserting objects into the yoke.
- ➔ Before unblocking the actuator and plug stem after they have become blocked (e.g. due to seizing up after remaining in the same position for a long time), release any stored energy in the actuator (e.g. spring compression). See associated actuator documentation.

⚠ WARNING

Risk of personal injury due to exhaust air being vented.

While the valve is operating, air is vented from the actuator, e.g. to change the valve's position or to open or close the valve.

- ➔ Wear eye protection when working in close proximity to the control valve.

Start-up

⚠ NOTICE

Risk of contamination of the process medium through high pressure in the steam barrier.

A pressure in the steam barrier (steam or sterile fluid) that is higher than the pressure in the valve itself may affect the process medium inside the valve due to it be mixed with the steam (or sterile fluid).

➔ *Observe the relevant hygiene regulations.*

2. Slowly open the shut-off valves in the pipeline. Slowly opening these valves prevents a sudden surge in pressure and high flow velocities which may damage the valve.
3. Check the valve to ensure it functions properly.

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

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

Start-up/putting the device back into operation

1. Allow the valve to cool down or warm up to reach ambient temperature before start-up when the ambient temperature and process medium temperature differ greatly or the medium properties require such a measure.

7 Operation

Immediately after completing start-up or putting the valve back into operation, the valve is ready for use.

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

⚠ WARNING

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

- ➔ Do not loosen the screw on the test connection 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. Additionally, a loud noise may briefly occur through the sudden venting of the pneumatic actuator or pneumatic valve accessories not fitted with noise-re-

ducing elements. Both can damage hearing.

- ➔ Wear hearing protection when working near the valve.

⚠ WARNING

Crush hazard arising from actuator and plug stem moving.

- ➔ Do not insert hands or finger into the yoke while the air supply is connected to the actuator.
- ➔ Before working on the control valve, disconnect and lock the pneumatic air supply as well as the control signal.
- ➔ Do not impede the movement of the actuator and plug stem by inserting objects into the yoke.
- ➔ Before unblocking the actuator and plug stem after they have become blocked (e.g. due to seizing up after remaining in the same position for a long time), release any stored energy in the actuator (e.g. spring compression). See associated actuator documentation.

⚠ WARNING

Risk of personal injury due to exhaust air being vented.

While the valve is operating, air is vented from the actuator, e.g. to change the valve's position or to open or close the valve.

- ➔ Wear eye protection when working in close proximity to the control valve.

Operation

7.1 Normal operation

The handwheel of valves with actuators fitted with a handwheel must be in the neutral position during normal operation.

7.2 Manual operation

Valves with actuators fitted with a handwheel can be manually closed or opened in the event of failure of the auxiliary energy supply.

7.3 CIP (cleaning-in-place)

CIP can be performed with commonly used cleaning fluids.

→ Observe the applicable hygiene regulations.

7.4 SIP (sterilization-in-place)

SIP can be performed using steam briefly at a temperature up to 180 °C.

→ Observe the applicable hygiene regulations.

8 Malfunctions

Read hazard statements, warnings and caution notes in the 'Safety instructions and measures' chapter.

8.1 Troubleshooting

Malfunction	Possible reasons	Recommended action
Actuator and plug stem does not move on demand.	Actuator is blocked.	Put the control valve out of operation (see the 'Decommissioning' chapter) and remove the blockage. WARNING! A blocked actuator or plug stem (e.g. due to seizing up after remaining in the same position for a long time) can suddenly start to move uncontrollably. Injury to hands or fingers is possible if they are inserted into the actuator or valve. Before trying to unblock the actuator or plug stem, disconnect and lock the pneumatic air supply as well as the control signal. Before unblocking the actuator, release any stored energy in the actuator (e.g. spring compression). See associated actuator documentation.
	Diaphragm in the actuator defective	See associated actuator documentation.
	Signal pressure too low	Check the signal pressure. Check the signal pressure line for leakage.
Jolting movement of the actuator and plug stem	Lubricant missing	Replace sealing parts (see the 'Servicing' chapter).
Actuator and plug stem does not stroke through the full range.	Signal pressure too low	Check the signal pressure. Check the signal pressure line for leakage.
	Travel stop active	See associated actuator documentation.
	Incorrect setting of valve accessories	Check the settings of the valve accessories.

Malfunctions

Malfunction	Possible reasons	Recommended action
Increased flow through closed valve (seat leakage)	Dirt or other foreign particles deposited between the seat and plug.	Shut off the section of the pipeline and flush the valve.
	The plug is worn.	Replace plug (see the 'Servicing' chapter) or contact our after-sales service.
The valve leaks to the atmosphere (fugitive emissions).	Seals defective	Replace sealing parts (see the 'Servicing' chapter).
	Connections loosened	Check connections.

i Note

Contact our after-sales service for malfunctions not listed in the table.

Putting the device back into operation after a malfunction

See the 'Start-up' chapter.

8.2 Emergency action

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

In the event of a valve malfunction:

1. Close the shut-off valves upstream and downstream of the control valve to stop the process medium from flowing through the valve.
2. Perform troubleshooting (see Chapter 8.1).
3. Rectify those malfunctions that can be remedied following the information given in this document. Contact our after-sales service in all other cases.

9 Servicing

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

The following documents are also required for servicing the control valve:

- Mounting and operating instructions for the mounted actuator, for example:
 - ► EB 8310-1 for Type 3271 and Type 3277 Pneumatic Actuators with 120 cm² actuator area
 - ► EB 8310-4 for Type 3271 and Type 3277 Pneumatic Actuators with 355v2 cm² actuator area
 - ► EB 8310-5 for Type 3271 and Type 3277 Pneumatic Actuators with 175v2, 350v2 and 750v2 cm² actuator areas
 - ► EB 8310-6 for Type 3271 and Type 3277 Pneumatic Actuators with 240, 350 and 700 cm² actuator areas
 - ► EB 8313-1 for Type 3372 Electropneumatic Actuator with integrated i/p converter
 - ► EB 8313-3 for Type 3372 Electropneumatic Actuator with 120 and 350 cm² actuator areas and Type 3725 Positioner
 - ► EB 8315 for Type 3379 Pneumatic Actuator

⚠ DANGER

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

Control valves 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 control valve:

- ➔ *Depressurize all plant sections affected and the valve (including the actuator). Release any stored energy.*
 - ➔ *Drain the process medium from the plant sections affected as well as from the valve.*
-

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

⚠ 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

Servicing

process medium and the operating conditions. Additionally, a loud noise may briefly occur through the sudden venting of the pneumatic actuator or pneumatic valve accessories not fitted with noise-reducing elements. Both can damage hearing.

→ Wear hearing protection when working near the valve.

⚠ WARNING

Crush hazard arising from actuator and plug stem moving.

- Do not insert hands or finger into the yoke while the air supply is connected to the actuator.
 - Before working on the control valve, disconnect and lock the pneumatic air supply as well as the control signal.
 - Do not impede the movement of the actuator and plug stem by inserting objects into the yoke.
 - Before unblocking the actuator and plug stem after they have become blocked (e.g. due to seizing up after remaining in the same position for a long time), release any stored energy in the actuator (e.g. spring compression). See associated actuator documentation.
-

⚠ WARNING

Risk of personal injury due to exhaust air being vented.

While the valve is operating, air is vented from the actuator, e.g. to change the

valve's position or to open or close the valve.

→ Wear eye protection when working in close proximity to the control valve.

⚠ WARNING

Risk of personal injury due to preloaded springs.

Actuators with preloaded springs are under tension. They can be identified by the long bolts protruding from the bottom of the actuator.

→ Before starting any work on the actuator, relieve the compression from the preloaded springs (see associated actuator documentation).

⚠ WARNING

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

While working on the valve, residual medium can flow out of the valve and, depending on its properties, cause personal injury, e.g. (chemical) burns.

→ Wear protective clothing, safety gloves, respiratory protection and eye protection.

⚠ NOTICE

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

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

→ Make sure that only suitable lubricants are used (see the 'Tightening torques, lubricants and tools' chapter in the Appendix).

NOTICE

Risk of control valve damage due to over- or under-torquing.

Observe the specified torques when tightening control valve 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 the 'Tightening torques, lubricants and tools' chapter in the Appendix).

NOTICE

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

→ Only use tools approved by SAMSON (see the 'Tightening torques, lubricants and tools' chapter in the Appendix).

NOTICE

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

→ Only use lubricants approved by SAMSON (see the 'Tightening torques, lubricants and tools' chapter in the Appendix).

Note

The control valve was checked by SAMSON before delivery.

- Certain test results certified by SAMSON lose their validity when the valve 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.

9.1 Periodic testing

Depending on the operating conditions, check the control valve at certain intervals to prevent possible failure before it can occur. Plant operators are responsible for drawing up an inspection and test plan.

Tip

Our after-sales service can support you in drawing up an inspection and test plan for your plant.

9.2 Service work preparations

1. Lay out the necessary material and tools to have them ready for the service work.

Servicing

2. Put the control valve out of operation (see the 'Decommissioning' chapter).
3. Remove the actuator from the valve (see associated actuator documentation).

Note

To remove an actuator with "stem extends" fail-safe action and/or with pre-loaded springs, a certain signal pressure must be applied to the actuator (see associated actuator documentation). Once the work is completed, the signal pressure must be removed and the air supply disconnected again and locked.

Tip

SAMSON recommends removing the valve from the pipeline before performing any service work (see the 'Removing the valve from the pipeline' chapter).

The following service work can be performed after preparation is completed:

- Replacing the sealing parts and plug (see Chapter 9.4.1)

9.3 Installing the valve after service work

1. Mount actuator. See associated actuator documentation.
2. Adjust lower or upper signal bench range (see associated actuator documentation).

3. If the valve has been removed, re-install the valve into the pipeline (see the 'Installation' chapter).
4. Put the control valve back into operation (see the 'Start-up' chapter). Observe the requirements and conditions for start-up or putting the device back into operation.

9.4 Service work

NOTICE

Risk of control valve damage due to incorrect servicing.

Do not perform any service work on versions with a heating jacket.

→ Contact our after-sales service to have service work performed on versions with a heating jacket.

- Before performing any service work, preparations must be made to the control valve (see Chapter 9.2).
- After all service work is completed, check the control valve before putting it back into operation (see section 'Testing the installed valve' in the 'Installation' chapter).

9.4.1 Replacing the sealing parts and plug

See „Arrangement of the sealing parts in the various versions“ on page 9-6 in this chapter.

NOTICE

Risk of control valve damage due to incorrect handling.

Make sure that the stem seal is not damaged.

➔ *The plug must not be moved beyond the valve travel.*

1. Unscrew the nuts (9 and 10) from the plug stem (2).
2. Depending on the version, unscrew and remove the clamp (34) or bolts (32). Remove the yoke (1) together with plug (2) and, if installed, centering ring (25) including sealing parts.

Possible sealing parts:

- PTFE seal: stem seal (3)
- PEEK seal: stem seal (3), centering ring (25) and O-ring seal (26)
- Anti-crystallizing seal: metal centering ring (25) with seal (23) and O-ring seal (26)

3. Pull the plug (2) out of the yoke (1). Make sure that the stem seal (3) is not damaged.
4. Use a suitable tool to force out damaged parts, e.g. bearing bushing/wiper seal (24) and stem seal (3).
In version with steam barrier, also remove packing (21), washer (17), spring (13) and, if installed, spacer (18 or 41). Clean the packing chamber.
5. Check the surface of the plug stem (2) to ensure it is free of score marks

and still has a mirror finish. If the surface has flaws, polish it again to ensure the stem seal (3) cannot get damaged.

6. Apply a suitable lubricant to the new parts and plug stem (2).
7. Place the stem seal (3) initially in the opposite direction with the lip facing toward the thread end over the plug stem (2) to stretch the lip of the stem seal slightly.
8. Carefully pull the stem seal (3) off again.
9. Push the new centering ring (25) with sealing parts (depending on version) over the plug stem (2).
10. Carefully slide the stem seal (3), centering it, over the thread end of the plug stem (2). The stem seal must fit tightly, but slide easily over the plug stem.
11. Insert the plug stem (2) with stem seal (3) and centering ring (25) into the yoke (1).
12. Push the bearing bushing/wiper seal (24) over the plug stem (2) into the yoke (1).
13. Carefully place the yoke (1) onto the valve body (4).
14. Apply a suitable lubricant to the clamp (34) and the flanges of the yoke (1) and valve body (4).
15. Depending on the version, position clamp (34) and tighten the clamp screws or insert bolts (32) on the

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yoke (1) and tighten in a crisscross pattern. Observe tightening torques.

16. **Version with clamp:** hit the clamp (34) lightly with a plastic hammer and tighten the clamp screw again.

Repeat this procedure several times until all parts fit properly to achieve a leak-tight body.

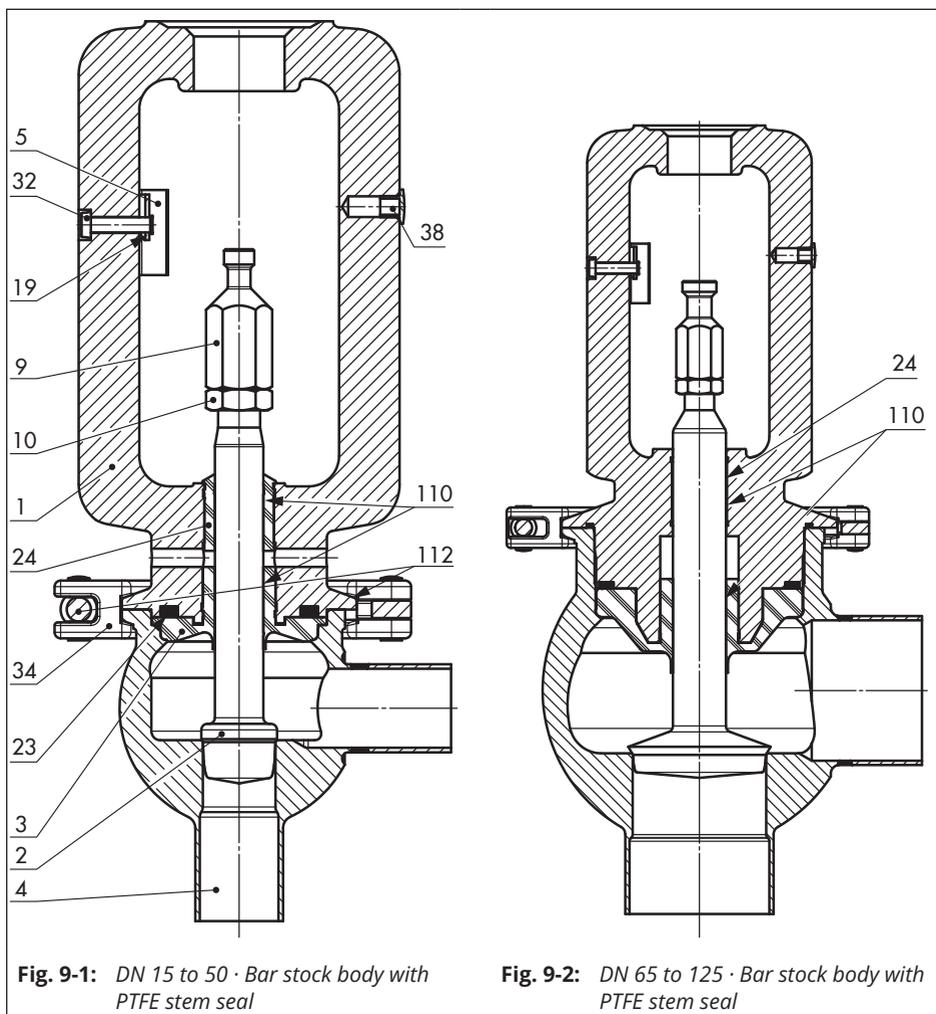
If the weight of the bonnet (1) in the version with steam barrier is too light to put the clamp back on, slightly compress the packing springs (13) over the bonnet (1) beforehand.

17. Screw the lock nut (10) and stem connector nut (9) onto the plug stem (2).

Arrangement of the sealing parts in the various versions

Legend for Fig. 9-1 to Fig. 9-10

1	Yoke	23	Seal
2	Plug	24	Bearing bushing/wiper seal
3	Stem seal	25	Centering ring
4	Body	26	O-ring seal
5	Travel indicator scale	29	Nipple/stopper
9	Stem connector nut	32	Screw
10	Lock nut	34	Clamp
13	Spring	38	Stopper
17	Washer	40	Seal
18	Spacer	41	Spacer
19	Hanger	110	Lubricant (food-grade grease)
21	Packing	112	Lubricant (food-grade grease)



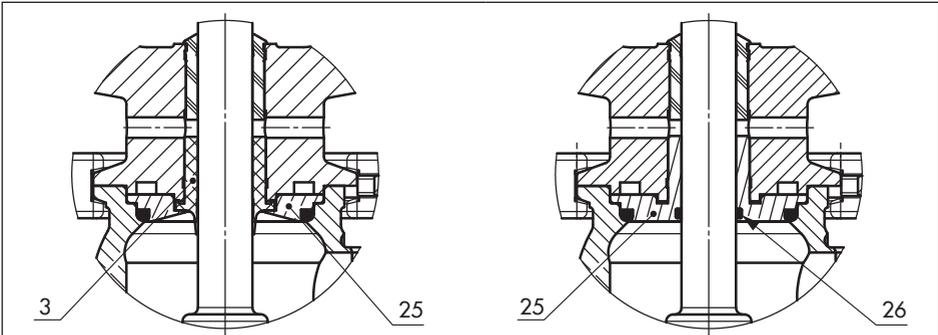


Fig. 9-3: DN 15 to 125 · Bar stock body with PEEK stem seal and centering ring

Fig. 9-4: DN 15 to 125 · Bar stock body with anti-crystallizing stem seal system

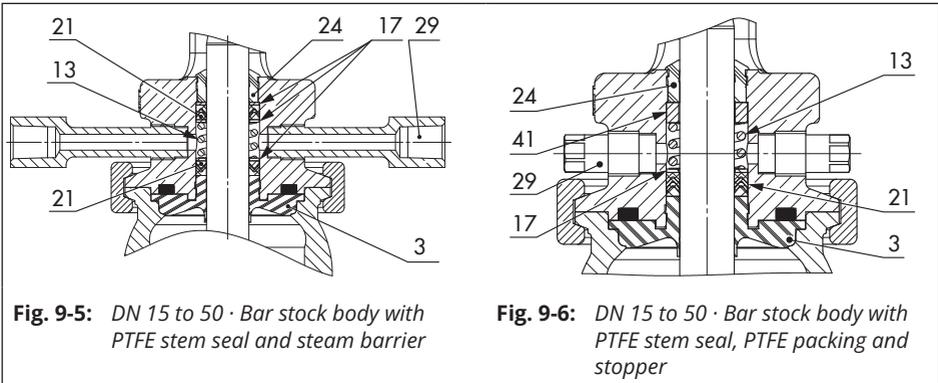


Fig. 9-5: DN 15 to 50 · Bar stock body with PTFE stem seal and steam barrier

Fig. 9-6: DN 15 to 50 · Bar stock body with PTFE stem seal, PTFE packing and stopper

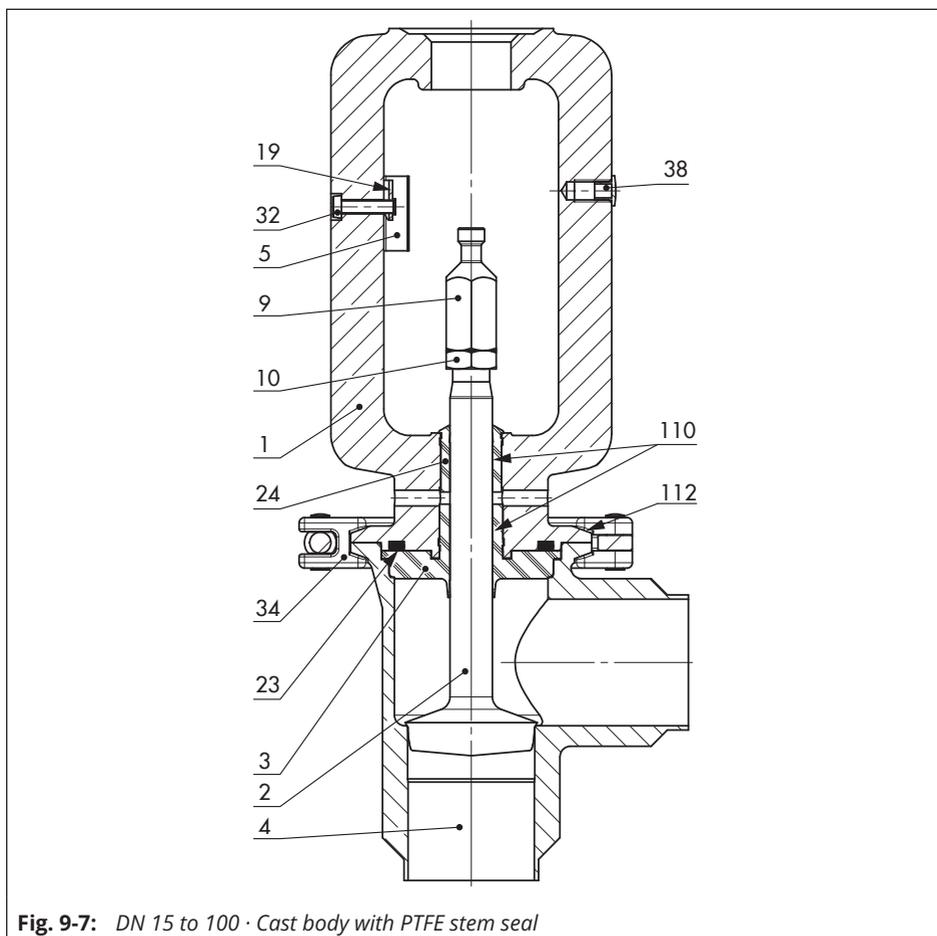
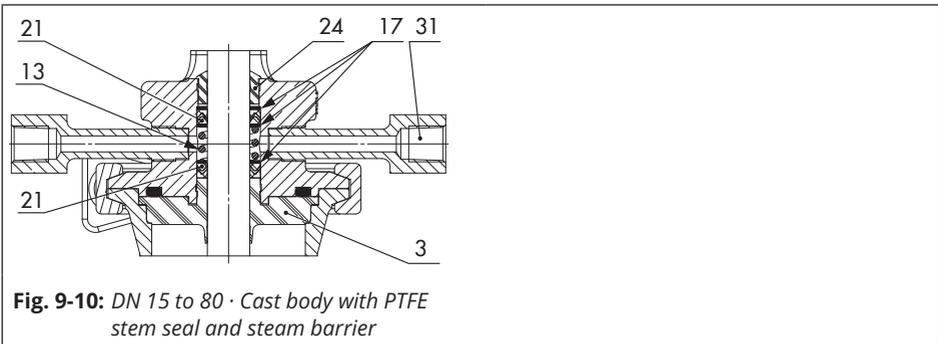
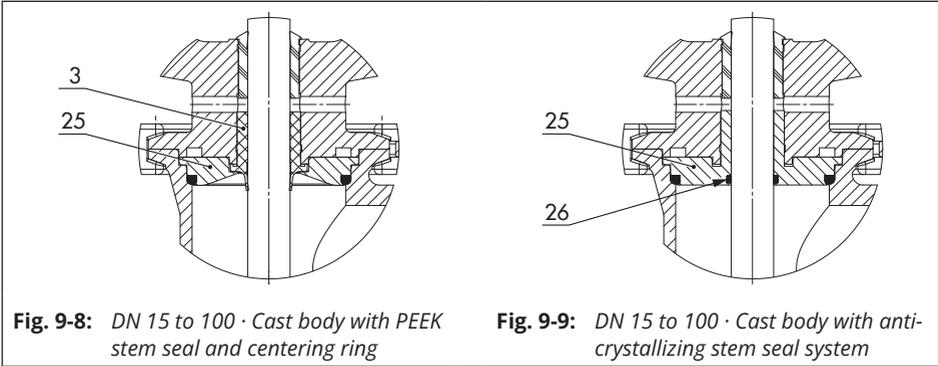


Fig. 9-7: DN 15 to 100 · Cast body with PTFE stem seal

Servicing



10 Decommissioning

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

⚠ DANGER

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

Control valves 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 control valve:

- ➔ Depressurize all plant sections affected and the valve (including the actuator). Release any stored energy.
- ➔ Drain the process medium from the plant sections affected as well as from the valve.

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

⚠ 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. Additionally, a loud noise may briefly occur through the sudden venting of the pneumatic actuator or pneumatic valve accessories not fitted with noise-reducing elements. Both can damage hearing.

- ➔ Wear hearing protection when working near the valve.

⚠ WARNING

Crush hazard arising from actuator and plug stem moving.

- ➔ Do not insert hands or finger into the yoke while the air supply is connected to the actuator.
- ➔ Before working on the control valve, disconnect and lock the pneumatic air supply as well as the control signal.
- ➔ Do not impede the movement of the actuator and plug stem by inserting objects into the yoke.
- ➔ Before unblocking the actuator and plug stem after they have become blocked (e.g. due to seizing up after remaining in the same position for a long time), release any stored energy in the actuator (e.g. spring compression). See associated actuator documentation.

Decommissioning

⚠ WARNING

Risk of personal injury due to exhaust air being vented.

While the valve is operating, air is vented from the actuator, e.g. to change the valve's position or to open or close the valve.

➔ *Wear eye protection when working in close proximity to the control valve.*

⚠ WARNING

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

While working on the valve, residual medium can flow out of the valve and, depending on its properties, cause personal injury, e.g. (chemical) burns.

➔ *Wear protective clothing, safety gloves, respiratory protection and eye protection.*

To put the control valve out of operation for service work or to remove it from the pipeline, proceed as follows:

1. Close the shut-off valves upstream and downstream of the control valve to stop the process medium from flowing through the valve.
2. Completely drain the pipelines and valve.
3. Disconnect and lock the pneumatic air supply to depressurize the actuator.
4. Release any stored energy.

5. If necessary, allow the pipeline and valve components to cool down or warm up to the ambient temperature.

11 Removal

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

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

⚠ WARNING

Crush hazard arising from actuator and plug stem moving.

- ➔ Do not insert hands or finger into the yoke while the air supply is connected to the actuator.
- ➔ Before working on the control valve, disconnect and lock the pneumatic air supply as well as the control signal.
- ➔ Do not impede the movement of the actuator and plug stem by inserting objects into the yoke.
- ➔ Before unblocking the actuator and plug stem after they have become blocked (e.g. due to seizing up after remaining in the same position for a long time), release any stored energy in the actuator (e.g. spring compression). See associated actuator documentation.

⚠ WARNING

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

While working on the valve, residual medium can flow out of the valve and, depending on its properties, cause personal injury, e.g. (chemical) burns.

- ➔ Wear protective clothing, safety gloves, respiratory protection and eye protection.

⚠ WARNING

Risk of personal injury due to preloaded springs.

Actuators with preloaded springs are under tension. They can be identified by the long bolts protruding from the bottom of the actuator.

- ➔ Before starting any work on the actuator, relieve the compression from the preloaded springs.

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

- The control valve is put out of operation (see the 'Decommissioning' chapter).

11.1 Removing the valve from the pipeline

a) Version with welding ends

1. Support the valve to hold it in place when separated from the pipeline (see the 'Shipment and on-site transport' chapter).
2. Cut the pipeline in front of the weld seam.
3. Remove the valve from the pipeline (see the 'Shipment and on-site transport' chapter).

a) Valve with flanges, threaded ends or clamp connections:

1. Support the valve to hold it in place when separated from the pipeline (see the 'Shipment and on-site transport' chapter).
2. Undo flanged, threaded or clamp connection.
3. Remove the valve from the pipeline (see the 'Shipment and on-site transport' chapter).

11.2 Removing the actuator from the valve

See associated actuator documentation.

12 Repairs

If the control valve 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 valve 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. Exceptions apply concerning some special device models
 - ▶ www.samsongroup.com > Service > After-sales Service > Returning goods.
2. Send an e-mail
 - ▶ returns-de@samsongroup.com to register the return shipment including the following information:
 - Type
 - Article number
 - Configuration ID
 - Original order

- Completed Declaration on Contamination, which can be downloaded from our website at
 - ▶ www.samsongroup.com > Service > After-sales Service > Returning goods.

After checking your registration, we will send you a return merchandise authorization (RMA).

3. Attach the RMA (together with the Declaration on Decontamination) to the outside of your shipment so that the documents are clearly visible.
4. Send the shipment to the address given on the RMA.

Note

Further information on returned devices and how they are handled can be found at
 ▶ www.samsongroup.com > Service > After-sales Service.

13 Disposal



SAMSON is a producer registered in Europe. ► <https://www.samsongroup.com> > About SAMSON > Environment, Social & Governance > Material Compliance > Waste electrical and electronic equipment (WEEE)
WEEE reg. no.: DE 62194439

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

i Note

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

14 Certificates

The declarations and certificates are included on the next pages:

- Declaration of conformity in compliance with Pressure Equipment Directive 2014/68/EU on pages 14-2 to 14-5
- Declaration of conformity according to Machinery Directive 2006/42/EC on page 14-6
- Declaration of incorporation in compliance with Machinery Directive 2006/42/EC for the Type 3347 Valve with other actuators other than Types 3271 and 3277 Actuators on page 14-7
- Declaration of conformity in compliance with Regulations No. 2023/2006/EC, No. 1935/2004/EC and No. 10/2011/EU on pages 14-8 to 14-12
- Declaration of conformity in compliance with Regulation No. 1907/2006/EU as well as Directives 2008/98/EC and 2018/851/EU on page 14-13 to page 14-14
- RoHS declaration of conformity in compliance with Directive 2011/65/EU, 2015/863/EU on page 14-15
- Declaration of conformity in compliance with Regulations GB 4806.1-2016 and GB 31603-2015 of the Chinese food industry on pages 14-16 to 14-18

- Declaration of conformity in compliance with the requirements in TSG D7002-2006 for Chinese pressure equipment on page 14-19
- Declaration of conformity according to Regulation China RoHS 2.0, GB/T26572-2011 on page 14-20
- 3-A certificate (standard 53-06) on page 14-21

The certificates shown were up to date at the time of publishing. The latest certificates can be found on our website:

► www.samsongroup.com > Products > Valves > 3347

Other optional certificates are available on request.



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Module A / Modul A

DC014
2022-05

Par la présente, SAMSON REGULATION SAS déclare sous sa seule responsabilité pour les produits suivants :
For the following products, SAMSON REGULATION SAS hereby declares under its sole responsibility:

Appareils / Devices	Type	Exécution / Version	Matériel du corps / body Material	PN Class	DN NPS	Fluides / fluids
Vanne de décharge / Back pressure reducing valve	2371-0	DIN	Acier / steel	$P_{max T=20^{\circ}C}$ 10 bar	DN 32 – 50	Tous fluides / all fluids
		ANSI		$P_{max T=70^{\circ}F}$ 150 psi	NPS 1 ¼ – 2	
Détendeur alimentaire / Pressure reducing valve	2371-1	DIN	Acier / steel	$P_{max T=20^{\circ}C}$ 10 bar	DN 32 – 50	Tous fluides / all fluids
		ANSI		$P_{max T=70^{\circ}F}$ 150 psi	NPS 1 ¼ – 2	
Vanne de régulation passage droit / Globe valve	2423	à membrane with diaphragm	Fonte grise / cast iron	PN25	DN 65 – 125	G2 (L2 1)
		à soufflet with bellow	Fonte sphéroïdale / spheroidal graphite iron	PN25	DN 50 – 125	
			Acier / steel	PN16	DN 65 – 100	
				PN25 PN40	DN 50 – 100 DN 40 – 100	
Vanne de régulation passage droit / Globe valve	3241	DIN	Fonte grise / cast iron	PN10	DN 125 – 150	G2, L1, L2 1)
		DIN	Fonte grise & fonte sphéroïdale / cast iron & spheroidal graphite iron	PN16	DN 65 – 125	
		DIN	Fonte sphéroïdale / spheroidal graphite	PN 25	DN 50 – 80	
		ANSI	Fonte grise / cast iron	CI 125 CI 250	NPS 2 ½ - 4 NPS 1 ½ - 2	
		DIN	Acier / steel	PN10	DN 32 – 100	
				PN16 PN25	DN 32 – 50 DN 32 – 40	
ANSI	CI 150	NPS 1 ¼ - 2				
Vanne de régulation 3 voies / 3-way Valve	3244	DIN	Fonte grise / cast iron	PN10 PN16	DN 125 – 150 DN 65 – 125	G2, L1, L2 1)
		DIN	Acier / steel	PN10	DN 32 – 100	Tous fluides / all fluids
				PN16	DN 32 – 50	
				PN25	DN 32 – 40	
ANSI	CI 150	NPS 1 ¼ - 2				
Vanne de régulation passage droit / Globe valve	3251	DIN	Acier / steel	PN16	DN 32 – 50	Tous fluides / all fluids
		ANSI		CI 150	NPS 1 ½ - 2	
Vanne équerre / Angle valve	3256	DIN	Acier / steel	PN16	DN 32 – 50	Tous fluides / all fluids
		ANSI		CI 150	NPS 1 ¼ - 2	
Vanne à segment sphérique / Segment ball valve	3310	DIN	Acier / steel	PN10 PN16 PN25	DN 40 – 50 DN 80 – 100 DN 40	Tous fluides / all fluids
		ANSI		CI 150	NPS 1 ½ - 2	
		DIN		PN16	DN 65 – 100	
Vanne de régulation passage droit / Globe valve	3321	ANSI	Fonte grise / cast iron	CI 125	NPS 2 ½ - 4	G2, L1, L2 1)
		DIN	Fonte sphéroïdale / spheroidal graphite iron	PN25	DN 50 – 80	
		ANSI	Acier / steel	CI 150	NPS 1 ½ - 2	
				CI 125	NPS 2 ½ - 4	
Vanne de régulation 3 voies / 3-way Valve	3323	DIN	Fonte grise / cast iron : GJL-250	PN16	DN 65 – 100	G2, L1, L2 1)
		DIN	Fonte sphéroïdale / spheroidal graphite iron	PN25	DN 50 – 80	
Vanne papillon / Butterfly valve	3331	DIN	Acier / steel	PN10	DN 100	Tous fluides / all fluids
Vanne à membrane / Diaphragm valve	3345	DIN	Acier / steel	$P_{max T=20^{\circ}C}$ 10 bar	DN 32 – 100	Tous fluides / all fluids
		ANSI		$P_{max T=20^{\circ}C}$ 16 bar	DN 32 – 50	
		DIN	Fonte grise & fonte sphéroïdale / cast iron & spheroidal graphite iron	$P_{max T=70^{\circ}F}$ 150 psi or 230 psi	NPS 1 ¼ – 2	
				$P_{max T=20^{\circ}C}$ 10 bar $P_{max T=20^{\circ}C}$ 16 bar $P_{max T=20^{\circ}C}$ 40 bar	DN 125 – 150 DN 65 – 125 DN 40 – 50	
ANSI	$P_{max T=70^{\circ}F}$ 150 psi $P_{max T=70^{\circ}F}$ 230 psi $P_{max T=70^{\circ}F}$ 580 psi	NPS 2 ½ – 4 NPS 2 ½ – 5 NPS 1 ½ – 2				



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DC014
2022-05

Module A / Modul A

Appareils / Devices	Type	Exécution / Version	Matériel du corps / body Mater- rial	PN Class	DN NPS	Fluides / fluids
Vanne alimentaire / Sanitary valve	3347	DIN	Acier / steel	$P_{max} T = 20^{\circ}C$: 10 bar	DN 125 – 150	G2, L1, L2 ¹⁾
		ANSI		$P_{max} T = 20^{\circ}F$: 150 psi	NPS 5 – 6	
Vanne aseptique / Aseptic valve	3349	DIN	Acier / steel	$P_{max} T = 20^{\circ}C$: 10 bar	DN 32 – 100	Tous fluides / all fluids
		ANSI		$P_{max} T = 20^{\circ}C$: 16 bar	DN 32 – 50	
				$P_{max} T = 20^{\circ}C$: 25 bar	DN 32 – 40	
		$P_{max} T = 70^{\circ}F$: 150 psi		NPS 1 1/4 – 4		
$P_{max} T = 70^{\circ}F$: 230 psi	NPS 1 1/2 – 2					
$P_{max} T = 70^{\circ}F$: 360 psi	NPS 1 1/2 – 1 1/2					
Vanne Tout ou Rien / On-Off Valve	3351	DIN	Acier / steel	PN16	DN 32 – 50	Tous fluides / all fluids
		ANSI		PN25	DN 32 – 40	
		DIN	Fonte grise & fonte sphéroïdale / cast iron & spheroidal graphite iron	PN16	DN 65 – 100	
			Fonte sphéroïdale / spheroidal graphite iron	PN25	DN 50 – 80	
ANSI	Fonte grise / cast iron	CI 125	NPS 2 1/2 – 4			
Bride de mesure / Measure flange	5090	DIN	Acier / steel	PN6	DN 200 – 500	G2, L2 ¹⁾
				PN10	DN 125 – 350	
				PN16	DN 65 – 200	
				PN25	DN 50 – 125	
				PN40	DN 40 – 100	

¹⁾ Gas selon l'article 4 § 1.c) i) / Gases Acc. to article 4 paragraphs 1.c) i)
Liquide selon l'article 4 § 1.c) ii) / Liquids Acc. to article 4 paragraphs 1.c) ii)

la conformité avec le règlement suivant : / the conformity with the following requirement :

La Directive du Parlement Européen et du Conseil d'harmonisation des lois des Etats Membres concernant la mise à disposition sur le marché d'équipements sous pression / Directive of the European Parliament and of the Council on the Harmonization of the laws of the Member States relating of the making available on the market of pressure equipment	2014/68/UE 2014/68/EU	Du / of 15.05.2014
Procédure d'évaluation de la conformité appliquée pour les fluides selon l'Article 4 § 1 Applied conformity assessment procedure for fluids according to Article 4 § 1	Module A / Modul A	

Normes techniques appliquées / Technical standards applied :
DIN EN 12516-2, DIN EN 12516-3, ASME B16.34, DIN-EN 60534-4, DIN-EN 1092-1

Fabricant / manufacturer : Samson Régulation SAS, 1, rue Jean Corona, FR-69120 VAULX-EN-VELIN

Vaulx-en-Velin, le 23/05/22

Bruno Soulas
Directeur Stratégie et Développement / Head of Strategy and
Development

Joséphine Signoles-Fontaine
Responsable du service QSE / Head of QSE Department



DECLARATION UE DE CONFORMITE EU DECLARATION OF CONFORMITY

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Module H / Modul H, N°/ Nr CE-0062-PED-H-SAM 001-23-FRA-rev-A

DC012
2023-12

Par la présente, SAMSON REGULATION SAS déclare sous sa seule responsabilité pour les produits suivants :
For the following products, SAMSON REGULATION SAS hereby declares under its sole responsibility:

Appareils / Devices	Type	Exécution / Version	Matériel du corps / body Material	PN Class	DN NPS	Fluides / fluids	
Vanne de régulation passage droit / globe valve	3241	DIN	Fonte grise & fonte sphéroïdale / cast iron & spheroidal graphite iron	PN 16	DN 150	G2, L1, L2 ¹⁾	
		ANSI		CI 125	NPS 6		
		DIN	Fonte sphéroïdale / spheroidal graphite iron	PN 25	DN 100 – 150		
		DIN	Acier / steel	PN10 PN16 PN25 PN40	DN 125 – 150 DN 65 – 150 DN 50 – 150 DN 32 – 150		Tous fluides / all fluids
		ANSI		CI 150 CI 300	NPS 2 ½ – 6 NPS 1 ½ – 6		
DIN	Fonte grise / cast iron	PN 16	DN 150	G2, L1, L2 ¹⁾			
Vanne de régulation 3 voies / 3-way Valve	3244	DIN	Acier / steel	PN10 PN16 PN25 PN40	DN 125 – 150 DN 65 – 150 DN 50 – 150 DN 32 – 150	Tous fluides / all fluids	
		ANSI		CI 150 CI 300	NPS 2 ½ – 6 NPS 1 ½ – 6		
		DIN		Acier / steel	PN16 PN25 PN40 – 400		DN 65 – 150 DN 50 – 150 DN 32 – 150
ANSI	CI 150 CI 300 - 2500	NPS 2 ½ – 6 NPS 1 ½ – 6					
Vanne haute pression / High pressure valve	3252	DIN	Acier / steel	PN40 – 400	DN 32 – 80	Tous fluides / all fluids	
		ANSI		CI 300 - 2500	NPS 1 ½ – 3		
Vanne équerre / Angle valve	3256	DIN	Acier / steel	PN16 PN40 – 400	DN 65 – 150 DN 32 – 150	Tous fluides / all fluids	
		ANSI		CI 150 CI 300 – 2500	NPS 2 ½ – 6 NPS 1 ½ – 6		
Vanne à segment sphérique / Segment ball valve	3310	DIN	Acier / steel	PN10 PN16 PN25 PN40	DN 150 DN 80 – 150 DN 50 – 150 DN 40 – 150	Tous fluides / all fluids	
		ANSI		CI 150 CI 300	NPS 3 – 6 NPS 1 ½ – 6		
Vanne de régulation passage droit / globe valve	3321	DIN	Fonte sphéroïdale / spheroidal graphite iron	PN 25	DN 100	G2, L1, L2 ¹⁾	
		DIN	Acier / steel	PN16 PN40	DN 65 – 100 DN 32 – 100	Tous fluides / all fluids	
		ANSI		CI 150 CI 300	NPS 2 ½ – 4 NPS 1 ½ – 4		
Vanne de régulation 3 voies / 3-way Valve	3323	DIN	Fonte sphéroïdale / spheroidal graphite iron	PN 25	DN 100	G2, L1, L2 ¹⁾	
		DIN	Acier / steel	PN16 PN40	DN 65 – 100 DN 32 – 100	Tous fluides / all fluids	
		ANSI		CI 150 CI 300	NPS 2 ½ – 4 NPS 1 ½ – 2		
Vanne papillon / Butterfly valve	3331	DIN	Acier / steel	PN10 PN16 – 50	DN 150 – 400 DN 100 – 400	Tous fluides / all fluids	
		ANSI		CI 150 – 300	NPS 4 – 16		
Vanne à membrane / Diaphragm valve	3345	ANSI	Fonte grise & fonte sphéroïdale / cast iron & spheroidal graphite iron	P _{max} T= 70°F 150 psi P _{max} T= 70°F 230 psi	NPS 5 – 6 NPS 6	G2, L1, L2 ¹⁾	
			Acier / steel	P _{max} T= 70°F 150 - 230 psi	NPS 2 ½ – 6	Tous fluides / all fluids	



DECLARATION UE DE CONFORMITE EU DECLARATION OF CONFORMITY

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Module H / Modul H, N°/ Nr CE-0062-PED-H-SAM 001-23-FRA-rev-A

DC012
2023-12

Apareils / Devices	Type	Exécution / Version	Matériel du corps / body Material	PN Class	DN NPS	Fluides / fluids
Vanne alimentaire / Sanitary valve	3347	DIN	Acier / steel	P _{max} T = 20°C : 16 bar P _{max} T = 20°C : 40 bar P _{max} T = 20°C : 63 bar	DN 150 DN 65 – 150 DN 32 – 150	G2, L1, L2 ¹⁾
		ANSI		P _{max} T = 70°F : 230 psi P _{max} T = 70°F : 580 psi P _{max} T = 70°F : 910 psi	NPS 6 NPS 2 1/2 – 6 NPS 1 1/4 – 6	
Vanne aseptique / Aseptic valve	3349_HV01	DIN	Acier / steel	P _{max} T = 20°C : 16 bar P _{max} T = 20°C : 25 bar	DN 65 – 100 DN 50 – 100	Tous fluides / all fluids
		ANSI		P _{max} T = 70°F : 230 psi P _{max} T = 70°F : 360 psi	NPS 2 1/2 – 4 NPS 2 – 4	
Vanne Tout ou Rien / On-Off Valve	3351	DIN	Fonte sphéroïdale / spheroidal graphite iron	PN 25	DN 100	G2, L1, L2 ¹⁾
		DIN	Acier / steel	PN16 PN25 PN40	DN 65 – 100 DN 50 – 100 DN 32 – 100	Tous fluides / all fluids
		ANSI		CI 150 CI 300	NPS 2 1/2 – 4 NPS 1 1/2 – 4	
Bride de mesure / Measure flange	5090	DIN	Acier / steel	PN10	DN 400 – 500	G2, L2 ¹⁾
				PN16	DN 250 – 500	
				PN25	DN 150 – 500	
				PN40	DN 125 – 500	

¹⁾ Gas selon l'article 4 § 1.c) i) / Gases Acc. to article 4 paragraphs 1.c) i)
Liquide selon l'article 4 § 1.c) ii) / Liquids Acc. to article 4 paragraphs 1.c) ii)

la conformité avec le règlement suivant : / the conformity with the following requirement:

La Directive du Parlement Européen et du Conseil d'harmonisation des lois des Etats Membres concernant la mise à disposition sur le marché d'équipements sous pression / Directive of the European Parliament and of the Council on the Harmonization of the laws of the Member States relating of the making available on the market of pressure equipment	2014/68/UE 2014/68/EU	Du / of 15.05.2014
Procédure d'évaluation de la conformité appliquée pour les fluides selon l'Article 4 § 1 Applied conformity assessment procedure for fluids according to Article 4 § 1	Module H / Modul H	Certificat n° CE- 0062-PED-H-SAM 001-23-FRA-rev-A

Normes techniques appliquées / Technical standards applied :
DIN EN 12516-2, DIN EN 12516-3, ASME B16.34, DIN-EN 60534-4, DIN-EN 1092-1

Le système de contrôle Qualité du fabricant est effectué par l'organisme de certification suivant :
The manufacturer's quality management system is monitored by the following notified body:

Bureau Veritas Services SAS N°/Nr 0062, 4 place des Saisons 92400 COURBEVOIE
Fabricant / manufacturer : Samson Régulation SAS, 1, rue Jean Corona, FR-69120 VAULX-EN-VELIN

Vaulx-en-Velin, le 14/12/23

Bruno Soulas
Directeur Général – Directeur Stratégie et Développement /
Director general - Head of Strategy and Development

Joséphine Signoles-Fontaine
Responsable du service QSE / Head of QSE department

SAMSON REGULATION - 1 rue Jean Corona - 69120 Vaulx-en-Velin
Tél.: +33 (0)4 72 04 75 00 - Fax: +33 (0)4 72 04 75 75 - E-mail: france@samsongroup.com Internet: www.samson.fr

Société par actions simplifiée au capital de 10 000 000 € - Siège social : Vaulx-en-Velin
N° SIRET: RCS Lyon B 788 165 603 00127 - N° de TVA: FR 86 788 165 603 - Code APE 2814Z

BNP Paribas

N° compte 0002200215245 - Banque 3000401857
IBAN FR763004018570002200215245 - BIC (code SWIFT) BNPFRFP3

Crédit Lyonnais

N° compte 0000060035B41 - Banque 3000201936
IBAN FR9830002019360000060035B41 - BIC (code SWIFT) CRLYFRPP



EU DECLARATION OF CONFORMITY

DC032
2020-07

Declaration of Conformity of Final Machinery

in accordance with Annex II, section 1. A. of the Directive 2006/42/EC

For the following products:

Pneumatic Control & Hygienic Angle Valve Type 3347-1/-7 consisting of the type 3347 Valve and Type 3271/Type 3277 Pneumatic Actuator or Type 3347 with Type 3379 or 3372 Pneumatic Actuator

We hereby declare that the machinery mentioned above complies with all applicable requirements stipulated in Machinery Directive 2006/42/EC.

For product descriptions of the valve and actuator, refer to:

- Type 3347 Valve: Mounting and Operating Instructions EB 8097
- Types 3271 and 3277 Actuators: Mounting and Operating Instructions EB 8310-X
- Type 3379 Actuator: Mounting and Operating Instructions EB 8315
- Type 3372 Actuator: Mounting and Operating Instructions EB 8313

Valve accessories (e.g. positioners, limit switches, solenoid valves, lock-up valves, supply pressure regulators, volume boosters and quick exhaust valves) are classified as machinery components in this declaration of conformity and do not fall within the scope of the Machinery Directive as specified in § 35 and § 46 of the Guide to Application of the Machinery Directive 2006/42/EC issued by the European Commission. In the SAMSON Manual H 02 titled "Appropriate Machinery Components for SAMSON Pneumatic Control Valves with a Declaration of Conformity of Final Machinery", SAMSON defines the specifications and properties of appropriate machinery components that can be mounted onto the above specified final machinery.

Referenced technical standards and/or specifications:

- VCI, VDMA, VGB: "Leitfaden Maschinenrichtlinie (2006/42/EG) — Bedeutung für Armaturen, Mai 2018" [German only]
- VCI, VDMA, VGB: "Zusatzdokument zum „Leitfaden Maschinenrichtlinie (2006/42/EG) — Bedeutung für Armaturen vom Mai 2018" [German only], based on DIN EN ISO 12100:201 1-03

Comment:

Information on residual risks of the machinery can be found in the mounting and operating instructions of the valve and actuator as well as in the referenced documents listed in the mounting and operating instructions.

Persons authorized to compile the technical file:

SAMSON REGULATION SAS – 1 rue Jean Corona – FR-69120 VAULX-EN-VELIN
Vaux-en-Velin, 30 July 2020

Michael Lachenal-Chevallet
R&D Manager

Joséphine Signoles-Fontaine
QSE Manager



DECLARATION OF INCORPORATION

DC043
2022-12

Declaration of Incorporation in compliance with Machinery Directive 2006/42/EC

For the following products:

Type 3347 Pneumatic Control & Hygienic Angle Valve

We certify that the Type 3347 Pneumatic Control & Hygienic Angle Valves are partly completed machinery as defined in the Machinery Directive 2006/42/EC and that the safety requirements stipulated in Annex I, 1.1.2, 1.1.3, 1.1.5, 1.3.2, 1.3.4 and 1.3.7 are observed. The relevant technical documentation described in Annex VII, part B has been compiled.

Products we supply must not be put into service until the final machinery into which it is to be incorporated has been declared in conformity with the provisions of the Machinery Directive 2006/42/EC.

Operators are obliged to install the products observing the accepted industry codes and practices (good engineering practice) as well as the mounting and operating instructions. Operators must take appropriate precautions to prevent hazards that could be caused by the process medium and operating pressure in the valve as well as by the signal pressure and moving parts.

The permissible limits of application and mounting instructions for the products are specified in the associated data sheets as well as the mounting and operating instructions; the documents are available in electronic form on the Internet at www.samsongroup.com.

For product descriptions of the valve, refer to Mounting and Operating Instructions EB 8097.

Referenced technical standards and/or specifications:

- VCI, VDMA, VGB: "Leitfaden Maschinenrichtlinie (2006/42/EG) — Bedeutung für Armaturen, Mai 2018" [German only]
- VCI, VDMA, VGB: "Zusatzdokument zum „Leitfaden Maschinenrichtlinie (2006/42/EG) — Bedeutung für Armaturen vom Mai 2018" [German only], based on DIN EN ISO 12100:201 1-03

Comments:

- See mounting and operating instructions for residual hazards.
- Also observe the referenced documents listed in the mounting and operation instructions.

Persons authorized to compile the technical file:

SAMSON REGULATION SAS – 1 rue Jean Corona – FR-69120 VAULX-EN-VELIN
Vaulx-en-Velin, 23rd December 2022

Bruno Soulas
General Director
Head of Strategy and Development

Joséphine Signoles-Fontaine
Head of QSE department



DECLARATION OF CONFORMITY

For the following product

DC006

2024-12

Type 3347

Hygienic Angle Valve

European regulation

Food contact

The Hygienic Angle Valve Type 3347 meets the requirements of the food and pharmaceutical industry.

Manufacturing processes of Samson Regulation and those of its suppliers comply with the good manufacturing practices established by regulation (EC) No. 2023/2006¹.

The valve components in contact with foodstuffs meet the following requirements:

- the metal parts are made of forged stainless steel 1.4404/316L (valve body and plug) or cast stainless steel 1.4409/A351 CF3M (valve body) in accordance with:
 - o the regulations (EC) No. 1935/2004²
 - o the Council of Europe Resolution CM/Res(2013)9 on metals and alloys used in food contact materials and articles;
 - o the French decree of 13 January 1976 on stainless steel materials and objects in contact with foodstuffs;
 - o the sheet published by the French authority DGCCRF: MCDA n°1 (V2 - 2017), Aptitude for food contact of metals and metal alloys intended to come into contact with foodstuffs.
- PTFE-guided version : The stem seal, which ensures the seal with the outside, is made of PTFE in accordance with:
 - o the regulations (EC) No. 1935/2004² and (EU) No. 10/2011³ as amended
The conditions and results of the overall and specific migration tests are detailed on Annex 1.
 - o with the recommendations LI & LII for PTFE, XXI for EPDM published by BfR (Federal Institute for Risk Assessment).
- PEEK-guided version:
 - o The stem seal, which ensures the seal with the outside, is made of PEEK in accordance with:
 - the Regulations (EC) No. 1935/2004² and (EU) No. 10/2011³ as amended
The conditions and results of our supplier's global and specific migration tests are available on Annex 2.
 - o The body seal is made of PTFE in accordance with:

¹ Regulation (EC) No 2023/2006 on good manufacturing practice for materials and articles intended to come into contact with food

² Regulation (EC) No 1935/2004 on materials and articles intended to come into contact with food

³ Regulation (EU) No 10/2011 on plastic materials and articles intended to come into contact with food, as last amended by Regulation (EU) No 2020/1245



- the regulations (EC) No. 1935/2004² and (EU) No. 10/2011³ as amended
The conditions and results of the overall and specific migration tests are detailed on Annex 1.
 - with the recommendations LI & LII for PTFE, XXI for EPDM published by BfR (Federal Institute for Risk Assessment).
 - Anti-crystallizing version :
 - The compensating ring, which participates in the tightness with the metal centering ring, is made of EPDM in accordance with :
 - the regulation (EC) No. 1935/2004²
 - the French Order of 5 August 2020 on rubber materials and articles intended to come into contact with foodstuffs and soothers for infants and young children;
 - the sheet published by the French authority DGCCRF: MCDA n°3 (V3 - 2021), Aptitude for food contact of organic plastic materials intended to come into contact with foodstuffs;

The conditions and results of our supplier's global and specific migration tests are available on Annex 1.
 - The body seal is made of PTFE in accordance with:
 - the regulations (EC) No. 1935/2004² and (EU) No. 10/2011³ as amended
The conditions and results of the overall and specific migration tests are detailed on Annex 1.
 - with the recommendations LI & LII for PTFE, XXI for EPDM published by BfR (Federal Institute for Risk Assessment).
 - The HT-S1 surface treatment of the steam in accordance with:
 - the regulations (EC) No. 1935/2004²
 - the Council of Europe Resolution CM/Res(2013)9 on metals and alloys used in food contact materials and articles;
 - the French decree of 13 January 1976 on stainless steel materials and objects in contact with foodstuffs;
 - the sheet published by the French authority DGCCRF: MCDA n°1 (V2 - 2017), Aptitude for food contact of metals and metal alloys intended to come into contact with foodstuffs.
 - The optional valve seals, which provide the internal seal, are made of PEEK Natural Food & Life Science Grade and according to our supplier's declaration of conformity comply with:
 - the Regulations (EC) No. 1935/2004² and (EU) No. 10/2011³ as amended
The conditions and results of our supplier's global and specific migration tests are available on Annex 2.

According to the migration tests carried out on the plastic components in accordance with Regulation (EU) No 10/2011³ as amended, the overall and specific migrations remain within the limits set by the above-mentioned Regulation when the complete apparatus is used under the conditions indicated below:

- repeated short-term and long-term contact with all kinds of foodstuffs in applications at room temperature up to 121 °C.



Environmental regulation and others

The Hygienic Angle Valve Type 3347 is compliant with

- Directive RoHS 2011/65/EU, 2015/863/EU
- Regulation REACH 1907/2006/EC

USA regulation

Food contact and pharmaceutical regulations

The Type 3347 Hygienic Angle Valve meets the requirements of the food industries according to the following parameters.

- The PTFE used in the manufacture of the seals, in direct contact with the fluid complies with :
 - o FDA regulation 21 CFR §177.1550,
 - o USP Class VI 121°C
- The PEEK used in the manufacture of the seals complies with :
 - o FDA regulation 21 CFR §177.2415,
 - o USP Class VI 121°C
- The composition of EPDM used in the manufacture of the seals, complies with :
 - o the regulation FDA CFR 21 §177.2600,
 - o USP Class VI 121°C
- The grease used for the assembly of parts in contact with the fluid, complies with :
 - o the regulation FDA CFR 21 §178.3570,
 - o NSF-H1 requirements
- The HT-S1 surface treatment of the steam complies with :
 - o FDA

Chinese regulation

Food contact

The Hygienic Angle Valve Type 3347 meets the requirements of the Chinese food and pharmaceutical industries.

The valve components that come into contact with foodstuffs meet the following requirements:

- the metal parts are made of forged stainless steel 1.4404/316L (valve body and plug) or cast stainless steel 1.4409/A351 CF3M (valve body) in accordance with:
 - o the regulations GB 4806.1-2016⁴ and GB 4806.9-2023⁴
 - o The conditions and results of the overall and specific migration tests are detailed on Annex 3.

⁴ Regulation GB 4806.1-2016 on general safety requirements for materials and articles intended to come into contact with food; GB 4806.7-2023 for plastic materials, GB 4806.9-2023 for metal



- PTFE-guided version : The stem seal, which seals to the outside, is made of PTFE:
 - o Our supplier's declaration of conformity certifies that this material complies with regulations GB 4806.1-2016⁴, GB 4806.7-2023⁴ and GB 9685-2016⁵ ;
 - o The conditions and results of the overall and specific migration tests are detailed on Annex 3.
- PEEK-guided version:
 - o The stem seal, which ensures the seal with the outside, is made of PEEK :
 - Our supplier's declaration of conformity certifies that this material complies with regulations GB 4806.1-2016⁴, GB 4806.7-2023⁴ and GB 9685-2016⁵
 - The conditions and results of our supplier's global and specific migration tests are available on Annex 2.
 - o The body seal is made of PTFE :
 - Our supplier's declaration of conformity certifies that this material complies with regulations GB 4806.1-2016⁴, GB 4806.6-2016⁴ and GB 9685-2016⁵ ;
 - The conditions and results of the overall and specific migration tests are detailed on Annex 3
- Anti-crystallizing version :
 - o The compensating ring, which participates in the tightness with the metal centering ring, is made of EPDM in accordance with :
 - the regulations GB 4806.1-2016⁴ and GB 4806.9-2023⁴
 - The conditions and results of the overall and specific migration tests are detailed on Annex 3
 - o The body seal is made of PTFE :
 - Our supplier's declaration of conformity certifies that this material complies with regulations GB 4806.1-2016⁴, GB 4806.7-2023⁴ and GB 9685-2016⁵ ;
 - The conditions and results of the overall and specific migration tests are detailed on Annex 3
- the optional plug seals, which provide the internal seal, are made of PEEK natural Food & Life Science Grade:
 - o Our supplier's declaration of conformity certifies that this material complies with regulations GB 4806.1-2016⁴, GB 4806.7-2023⁴ and GB 9685-2016⁵;
 - o The conditions and results of our supplier's global and specific migration tests are available on Annex 2.

Environmental regulation and others

The Hygienic Angle Valve Type 3347 meets the requirements of :

- China RoHS 2.0 GB/T26572-2011

⁵ Regulation GB 9685-2016 on the use of additives in materials intended to come into contact with food



Other regulations

The composition of the plastical materials in contact with the fluid is :

- Free of animal-derived ingredients (ADI free) and thus free of TSE/BFE
- Free of human-derived ingredients
- Purely of synthetic origin.

SAMSON REGULATION S.A.S.

A handwritten signature in black ink, appearing to be "B. Soulas", written over a horizontal line.

Bruno Soulas
General Director
Head of Strategy and Development

SAMSON REGULATION S.A.S.

A handwritten signature in black ink, appearing to be "S. Durand", written over a horizontal line.

Sabrina Durand
Quality certification engineer



DECLARATION OF CONFORMITY**DC007**
2021-12

Regulation (EU) No. 1907/2006 (REACH, Registration, Evaluation, Authorisation and Restriction of Chemicals); United Nations Globally Harmonised System (UN GHS); and WFD, Waste Framework Directive (EU) 2008/98/EC, Article 9(1)(i) as amended by Directive (EU) 2018/851 of 30 May 2018, and their national implementations

We hereby certify that we are well informed about the REACH regulation, which entered into force on 1 June 2007 and have determined the applicable consequences and obligations, especially pre-registration and registration of substances, notifications to public bodies, authorization, and restriction. We manufacture "articles" as defined in the REACH Regulation Article 2. As a result, we are a "downstream user" in most cases. We do not produce any substances or mixtures that we sell.

Concerning the registration of the relevant substances we use to manufacture our products, we can inform you based on REACH Article 10 that, on the basis of the information presently available to us, we do not currently reach the threshold of one ton per year. It is possible for us to provide more precise data if required.

Concentration of SVHC (substances of very high concern) in SAMSON Products

We have a duty to communicate information to our customers on substances contained in our products according to Article 33 of the REACH Regulation: SAMSON calculate the contents of the substances in every individual article (e.g. nuts, bolts etc.) included in a bill of materials separately, following the judgment by the Court of Justice of the European Union concerning case C-106/14 of 16 October 2015, "Once an article, always an article" (O5A). SAMSON refer to a Candidate List of SVHC, that lists up the substances that we report:

These substances are often determined based on the classification of chemical substances and mixtures in the United Nations Global Harmonized System (UN GHS). We implement these systematics in Europe by following the Regulation (EC) No. 1272/2008 (CLP) on classification, labeling and packaging of substances and mixtures, forming a unified approach with the REACH Regulation. Both Safety Data Sheets (SDS, MSDS) for chemicals and chemical mixtures as well as SAMSON Material Data Sheets (MDS) for declaring a material and its substance content are prescribed by these regulations, based on an official list:

Compliance with the Candidate List of SVHC for Authorisation

Should you need to make reference to the most recent list, kindly see to the version published on the Internet, with the latest SAMSON references. Go to the following website to check whether the duty to communicate information according to REACH Article 33 applies to a SAMSON product:

<https://www.samsongroup.com/en/about-samson/material-compliance/reach-regulation/#c2723>

Also, we frequently cite further SVHC details on the delivery papers.

The Candidate List according to Article 59 (1, 10) of Regulation (EC) No. 1907/2006 (REACH) was first published on 1 September 2008. Since then, it is constantly expanded every six months by the European Chemicals Agency (ECHA). The Candidate List is regularly updated around the middle and end of every year. It now comprises of over 200 substances:

<https://www.echa.europa.eu/web/guest/candidate-list-table> (in English).

As a result, it is an on-going process to check whether our products contain SVHC in a concentration greater than 0.1% (w/w). We are in close contact with our suppliers as part of this process and we will inform you if we discover that any changes apply to us.



SCIP Database, “Substances of Concern In articles as such or in complex objects (Products)”

As legally requested by the Waste Framework Directive (WFD) since 5 January 2021 and the respective national implementation, SAMSON AG input the necessary data into the European Chemical Agency's (ECHA) SCIP Database.

The REACH Candidate List is updated every six months. SAMSON will not issue, every half a year, any more statements or fill in specific, non-standardized documents of proof in over 20 different formats that our articles are not affected.

It is legally only required to communicate the affected articles and (if the need be) their sub-articles to customers if SVHC surpass 0.1 % weight of weight in in articles or in separate articles as a part of more complex articles., as specified in REACH Article 33. Also, protective measures against SVHC have to be stated where applicable.

SAMSON REGULATION SAS
Vaulx-en-Velin, 14 December 2021

A handwritten signature in blue ink, appearing to read "Bruno Soulas", written over a horizontal line.

Bruno Soulas
Director of Strategy and Development

A handwritten signature in blue ink, appearing to read "Joséphine Signoles-Fontaine", written over a horizontal line.

Joséphine Signoles-Fontaine
Head of QSE Department

SAMSON REGULATION S.A.S.



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DECLARATION UE DE CONFORMITE
EU DECLARATION OF CONFORMITY
EU KONFORMITÄTSERKLÄRUNG

DC008
2021-12

La présente déclaration de conformité est établie sous la seule responsabilité du fabricant.
This declaration of conformity is issued under the sole responsibility of the manufacturer.
Die alleinige Verantwortung für die Ausstellung dieser Konformitätserklärung trägt der Hersteller.

Nous certifions pour les produits suivants en exécution standard :
For the following products in standard execution:
Für die folgenden Produkte in Standard-Ausführung:

Type / type / Typ : 2371, 3252, 3310, 3331, 3347, 3349, 3351, 3710, 3711, 3776, 3777, 3812, 3963,
3964, 3967, 4708, 4746, 5090, Samstation

sont conformes à la législation applicable harmonisée de l'Union :
the conformity with the relevant Union harmonization legislation is declared with:
wird die Konformität mit den einschlägigen Harmonisierungsrechtsvorschriften der Union bestätigt:

RoHS 2011/65/EU, 2015/863/EU

EN 50581:2012, IEC 63000:2016

Fabricant : SAMSON REGULATION S.A.S.
Manufacturer: 1, rue Jean Corona
Hersteller: 69520 Vaulx-en-Velin
France

Vaulx-en-Velin, le 14/12/21

Au nom du fabricant,
On behalf of the Manufacturer,
Im Namen des Herstellers,

SAMSON REGULATION S.A.S.

Joséphine SIGNOLES-FONTAINE
Responsable QSE

SAMSON REGULATION - 1 rue Jean Corona - 69120 Vaulx-en-Velin
Tél.: +33 (0)4 72 04 75 00 - Fax: +33 (0)4 72 04 75 75 - E-mail: samson@samson.fr - Internet: www.samson.fr

Société par actions simplifiée au capital de 10 000 000 € - Siège social: Vaulx-en-Velin
N° SIRET: RCS Lyon B 788 165 603 00127 - N° de TVA: FR 86 788 165 603 - Code APE 2814Z

BNP Paribas

N° compte 0022200215245 - Banque 3000401857
IBAN FR7630004018570002200215245 - BIC (code SWIFT) BNPFAFRPP/BE

Crédit Lyonnais

N° compte 0000060035841 - Banque 3000201936
IBAN FR9830002019360000060035841 - BIC (code SWIFT) CRLYFRPP



DECLARATION OF CONFORMITY

For the following product

DC001

2022-03

Type 3347 Hygienic Angle Valve

The Hygienic Angle Valve Type 3347 meets the requirements of the Chinese food and pharmaceutical industries.

The valve components that come into contact with foodstuffs meet the following requirements:

- the metal parts are made of forged stainless steel 1.4404/316L (valve body and plug) or cast stainless steel 1.4409/A351 CF3M (valve body) in accordance with:
 - o the regulations GB 4806.1-2016⁵ and GB 4806.9-2016⁵;
 - o The conditions and results of the overall and specific migration tests are detailed on the next page.
- The stem seal, which seals to the outside, is made of PTFE:
 - o Our supplier's declaration of conformity certifies that this material complies with regulations GB 4806.1-2016⁶, GB 4806.6-2016⁶ and GB 9685-2016⁶;
 - o The conditions and results of the overall and specific migration tests are detailed on the next page.
- the optional plug seals, which provide the internal seal, are made of PEEK natural Food & Life Science Grade:
 - o Our supplier's declaration of conformity certifies that this material complies with regulations GB 4806.1-2016⁶, GB 4806.7-2016⁶ and GB 9685-2016⁶;
 - o The conditions and results of our supplier's global and specific migration tests are available on request.

According to the migration tests carried out on plastic and metal parts in accordance with the regulations GB 31604-2015⁷ and GB 5009.156-2016⁸, the overall and specific migration remains within the limits set by the above-mentioned regulations when the complete apparatus is used under the conditions indicated below:

- for all foodstuffs (acc. to annex A Table A1) due to the satisfactory results obtained with the simulants (Tables 1 and 2);
- under the conditions covered by the tests: high-temperature applications at a maximum temperature of 121 °C (according to table 6).

⁵ Regulation GB 4806.1-2016 on general safety requirements for materials and articles intended to come into contact with food; GB 4806.6-2016 for plastic resins, GB 4806.7-2016 for plastic materials, GB 4806.9-2016 for metal

⁶ Regulation GB 9685-2016 on the use of additives in materials intended to come into contact with food

⁷ Regulation GB 31604-2015 on the general principles for migration testing,

⁸ Regulation GB 5009.156-2016 on the method of pre-treatment of materials and articles intended to come into contact with foodstuffs



Detailed conditions and results of migration test on PTFE stem seal

Overall migration (OM)

The maximum limit on the overall migration (OML) has been tested and measured in accordance with the following table:

Simulant	Duration	Temperature	Ratio surface / volume (dm ² /dl)	OML (mg/dm ²)	Results (mg/dm ²)
10% ethanol	2 h	Back flow temperature	1	10	1.3
4% acetic acid	2 h	Back flow temperature	1	10	1.5
Vegetal oil	2 h	Back flow temperature	1	10	1.9

Specific migration (SM)

The maximum limits on the specific migration (SML) of substances authorized by the Regulation GB 4806.6⁵ and GB 4806.9⁵ have been tested and measured in accordance with the following tables:

Polymer name	No	CAS No	SML (mg/kg)	Status
PTFE= Polytetrafluoro- Ehtylène	87	9002-84-0	0.05	OK
FEP = hexafluoropropylène	85	25067-11-2	0.01	OK

Simulant	Duration	Temperature	Item	Results (mg/kg)	SML (mg/kg)	Status
4% acetic acid	2h	Back flow temperature	As	<0.01	< 0.04	OK
			Cd	<0.002	< 0.02	OK
			Cr	0.01	< 2.0	OK
			Ni	0.02	< 0.5	OK
			Pb	0.01	< 0.05	OK

Detailed conditions and results of migration test on metallic parts in stainless steel 1.4404 / 316 L

Overall migration (OM)

The maximum limit on the overall migration (OML) has been tested and measured in accordance with the following table:

Simulant	Duration	Temperature	Ratio Surface / volume (dm ² /dl)	OML (mg/dm ²)	Results (mg/dm ²)
10% ethanol	2h	Back flow temperature	1	10	0.8
4% acetic acid	2h	Back flow temperature	1	10	0.7
95% ethanol	3.5h	*60°	1	10	1.3
Isocotane	1.5h	*60°	1	10	1.2

*The OL 95% and ISO test conditions correspond to conventional fatty medium substitution test conditions (2 h at 100°C). These conditions are quoted in the European standard ISO 1186-1 (2002)

Specific migration (SM)

The maximum limit on the specific migration (SML) of substances authorized by the Regulation GB 4806.9⁵ has been tested and measured in accordance with the following table:

Simulant	Duration	Temperature	Item	Results (mg/kg)	SML (mg/kg)	Status
4% acetic acid	2h	Back flow temperature	As	<0.01	< 0.04	OK
			Cd	<0.002	< 0.02	OK
			Cr	0.11	< 2.0	OK
			Ni	0.10	< 0.5	OK
			Pb	<0.01	< 0.05	OK



Detailed conditions and results of migration test on metallic parts in stainless steel 1.4409 / A351 CF3M

Overall migration (OM)

The maximum limit on the overall migration (OML) has been tested and measured in accordance with the following table:

Simulant	Duration	Temperature	Ratio Surface / volume (dm ² /dl)	OML (mg/dm ²)	Results (mg/dm ²)
10% ethanol	2h	Back flow temperature	1	10	0.8
4% acetic acid	2h	Back flow temperature	1	10	0.7
95% ethanol	3.5h	*60°	1	10	1.3
Isooctane	1.5h	*60°	1	10	1.2

*The OL 95% and ISO test conditions correspond to conventional fatty medium substitution test conditions (2 h at 100°C). These conditions are quoted in the European standard ISO 1186-1 (2002)

Specific migration (SM)

The maximum limit on the specific migration (SML) of substances authorized by the Regulation GB 4806.9² has been tested and measured in accordance with the following table:

Simulant	Duration	Temperature	Item	Results (mg/kg)	SML (mg/kg)	Status
4% acetic acid	2h	Back flow temperature	As	<0.01	< 0.04	OK
			Cd	<0.002	< 0.02	OK
			Cr	0.069	< 2.0	OK
			Ni	0.10	< 0.5	OK
			Pb	<0.01	< 0.05	OK

SAMSON REGULATION S.A.S.

Bruno Soulas
Head of Strategy and Development

SAMSON REGULATION S.A.S.

Joséphine Signoles-Fontaine
Head of QSE Department



DECLARATION OF CONFORMITY

For the following products

DC016

2019-08

Type 3241, 3244, 3249, 3251, 3252, 3256, 3347, 3321, 3349 Control Valve

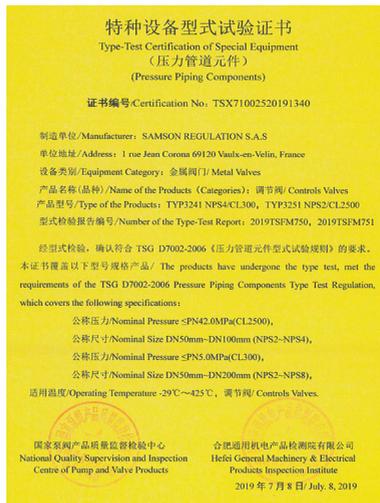
Certificate nb°: **TSX71002520191340**

Test report nb°: **2019TSFM750-TYP3241
and 2019TSFM751-TYP3251**

Valves 3241 and 3251 have passed the evaluation tests according to the requirements of TSG D7002-2006 Chinese Pressure Equipment.

As a result, all of the above check valves meet the requirements of TSG D7002-2006 for Chinese pressure equipment according to the following characteristics:

- DN 50 to 200 PN ≤ 5 MPa (50 bar) or NPS 2 to NPS 8 Class ≤ 300,
- DN 50 to 100 PN ≤ 42 MPa (420 bar) or NPS 2 to NPS 4 Class ≤ 2500,
- Operating temperature: -29°C ≤ T ≤ 425°C.



SAMSON REGULATION S.A.

Bruno Soulas
Head of Administration

SAMSON REGULATION S.A.

Joséphine Signoles-Fontaine
QSE Manager

SAMSON REGULATION S.A.S.



1/1

DC027
2020-04

DECLARATION DE CONFORMITE DECLARATION OF CONFORMITY

符合性声明

La présente déclaration de conformité est établie sous la seule responsabilité du fabricant.
This declaration of conformity is issued under the sole responsibility of the manufacturer.
制造商对发布的符合性声明全权负责。

Nous certifions que les produits suivants en exécution standard :
For the following products in standard execution:
适用于下述型号的产品：

Type / type / 型号 : 2371, 3249, 3252, 3310, 3331, 3347, 3349, 3351, 3710, 3711, 5090, Samstation

sont conformes à la législation applicable :
the conformity with the relevant legislation is declared with:
声明符合相关法规：

China RoHS 2.0 GB/T26572-2011

Fabricant : **SAMSON REGULATION S.A.S.**
Manufacturer : 1, rue Jean Corona
制造商 69120 Vaulx-en-Velin
France

Vaulx-en-Velin, le 20/04/2020

Au nom du fabricant,
On behalf of the Manufacturer,
制造商的代表人

SAMSON REGULATION S.A.S.

Joséphine SIGNOLES-FONTAINE
Responsable QSE
QSE Manager
QSE 负责人

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Société par actions simplifiée au capital de 10 000 000 € - Siège social : Vaulx-en-Velin
N° SIRET: RCS Lyon B 788 165 603 00127 - N° de TVA: FR 86 788 165 603 - Code APE 2814Z

BNP Paribas

N° compte 0002200215245 - Banque 3000401657
IBAN FR7630004018570002200215245 - BIC (code SWIFT) BNPAFRPPVBE

Crédit Lyonnais

N° compte 00000600335B41 - Banque 3000201936
IBAN FR98300020193600000600335B41 - BIC (code SWIFT) CRLYFRPP



THIS IS TO CERTIFY THAT

Samson Regulation S.A.S.

1, rue Jean Corona - BP 140, Vaulx -e n-Ve lin 69120 , France

is hereby authorized to continue to apply the
3-A Symbol to the models of equipment, conforming to 3-A Sanitary Standards for:

Number 53-07
53-07 (Compression-Type Valves)

set forth below

CIP Models: 3347 Series with Var-ID codes xxxxxx-HY and 3349 Series with Var-ID codes xxxxxx-HY all fitted with actuator 3277 or 3379. Optional accessories include positioners 3724, 3730 or 3760, limit indicator 3776, pressure reducer 4708 and solenoid valves 3967 or 3963.

VALID THROUGH: **December 31, 2024**

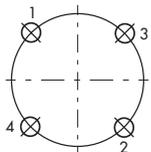
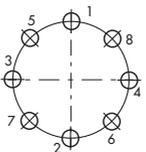
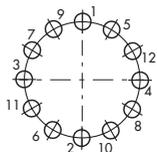
The issuance of this authorization for the use of the 3-A Symbol is based upon the voluntary certification, by the applicant for it, that the equipment listed above complies fully with the 3-A Sanitary Standard(s) designated. Legal responsibility for compliance is solely that of the holder of this Certificate of Authorization, and 3-A Sanitary Standards, Inc. does not warrant that the holder of an authorization at all times complies with the provisions of the said 3-A Sanitary Standards. This in no way affects the responsibility of 3-A Sanitary Standards, Inc. to take appropriate action in such cases in which evidence of nonconformance has been established.

NEXT TPV INSPECTION/REPORT DUE: **December 2028**

15 Appendix

15.1 Tightening torques, lubricants and tools

Table 15-1: *Tightening sequence*

With 4 bolts	With 8 bolts	With 12 bolts
		

➔ Tighten radial pressure-retaining bolting gradually in a crisscross pattern. Apply the target torque over several rounds.

Tightening torques

Table 15-2: *Tightening torques for connection of valve body and bolted bonnet*

Nominal size		Tightening torque for bolts (34.2) in Nm
DN	NPS	
6 to 25 (micro-flow valve)	¼ to 1 (micro-flow valve)	7
15 to 40	½ to 1 ½	30
50	2	50
65 to 100	2 ½ to 4	100

Tools

Apart from the standard tool, no special tools are required for this valve model to assemble and remove parts.

Appendix

Lubricants

⚠ WARNING

Exposure to hazardous substances poses a serious risk to health.

Certain lubricants and cleaning agents are classified as hazardous substances. These substances have a special label and a material safety data sheet (MSDS) issued by the manufacturer.

- *Make sure that an MSDS is available for any hazardous substance used. If necessary, contact the manufacturer to obtain an MSDS.*
 - *Inform yourself about the hazardous substances and their correct handling.*
-

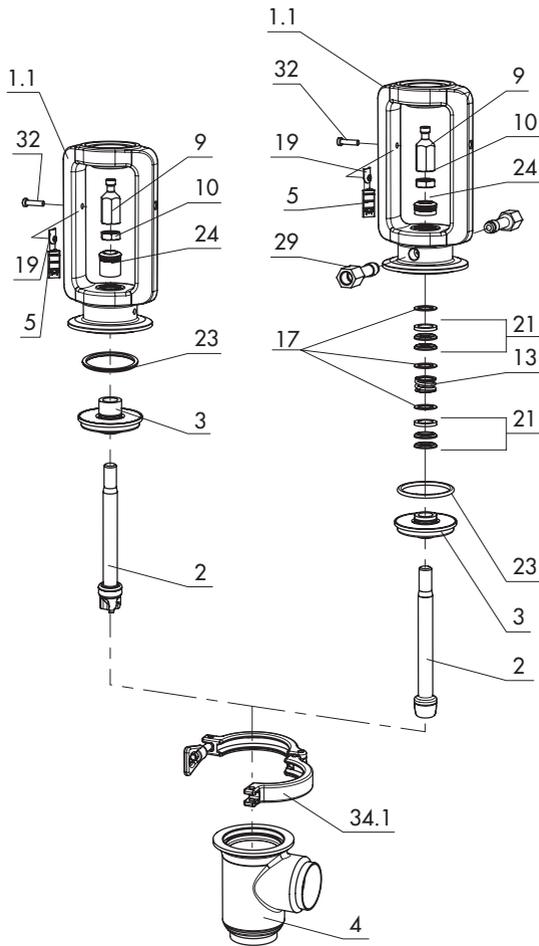
Table 15-3: *Recommended lubricant*

Applica- tion	Tem- pera- ture range in °C	Color	Micro- flow valve version
Valves for food processing	-50 to+150	White	8150-9002

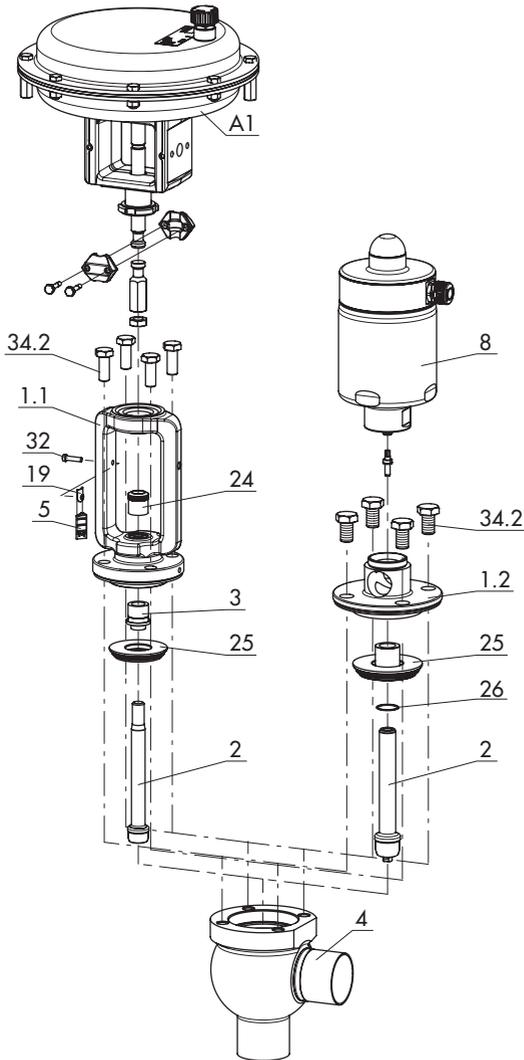
15.2 Spare parts

- 1.1 Yoke
- 1.2 Valve bonnet
 - 2 Plug
 - 3 Stem seal
 - 4 Body
 - 5 Travel indicator scale
 - 8 Actuator
 - 9 Stem connector nut
- 10 Lock nut
- 13 Spring
- 17 Washer
- 19 Hanger
- 21 Packing
- 23 Seal
- 24 Bearing bushing/wiper seal
- 25 Centering ring
- 26 O-ring seal
- 29 Nipple/stopper
- 32 Screw
- 34.1 Clamp
- 34.2 Bolt
 - 41 Spacer

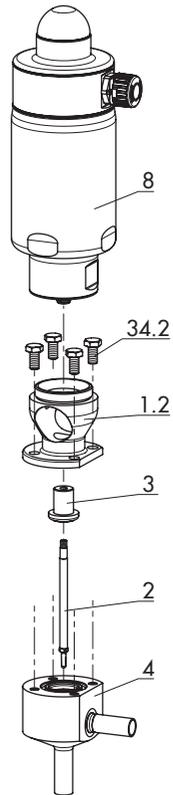
Cast body with PTFE seal without packing (left) and with packing (right)



Bar stock body with PEEK seal (left) and with anti-crystallizing seal system (right)



Micro-flow valve version



15.3 After-sales service

Contact our 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 AG, 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:

- Order number and position number in the order
- Type, model number, nominal size and valve version
- Pressure and temperature of the process medium
- Flow rate in m³/h
- Bench range of the actuator (e.g. 0.2 to 1 bar)
- Is a strainer installed?
- Installation drawing

EB 8097 EN



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