MOUNTING AND OPERATING INSTRUCTIONS

EB 8115 EN

Translation of original instructions

Type 3321CT Valve · DIN and ANSI versions

For combining with actuators, e.g. Type 3379 Pneumatic Actuator

Edition June 2022

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 > Service & Support > Downloads > Documentation***.

Definition of signal words

⚠ DANGER

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

⚠ WARNING

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

NOTICE

Property damage message or malfunction

Note

Additional information

Tip

Recommended action

1 Safety instructions and measures

Intended use

The SAMSON Type 3321CT Globe Valve in combination with an actuator (e.g. Type 3379 Pneumatic Actuator) is designed to regulate the flow rate, pressure or temperature of liquids, gases or vapors.

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 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.

Explosion-protected versions of this device must be operated only by personnel who has undergone special training or instructions or who is authorized to work on explosion-protected devices in hazardous areas.

Personal protective equipment

We recommend checking the hazards posed by the process medium being used (e.g. ▶ GESTIS (CLP) hazardous substances database). Depending on the process medium and/or the activity, the protective equipment required includes:

– Protective clothing, 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 when working at height
– Safety footwear, ESD (electrostatic discharge) footwear, if necessary

➔ 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 3379 Pneumatic Actuator, the valve moves to a certain fail-safe position (see the 'Design and principle of operation' section) 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 observe all hazard statements, warning 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 safety instructions 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' section 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.

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

Referenced documentation

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

– Mounting and operating instructions for the mounted actuator, e.g. ▶ EB 8315 for SAMSON's Type 3379 Pneumatic Actuator
– Mounting and operating instructions for mounted valve accessories (positioner, solenoid valve etc.)

– When a substance is used in the device, which is listed as being a substance of very high concern on the candidate list of the REACH regulation:
  Information on safe use of the part affected
  ▶ www.samsongroup.com > About SAMSON > Material Compliance > REACH

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

1.1 Notes on possible severe personal injury

⚠ DANGER

Risk of bursting in pressure equipment.

Valves and pipelines are pressure equipment. Impermissible pressure 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 all the plant sections concerned as well as 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.

Risk of personal injury due to exhaust air being vented.

While the valve is operating, air is vented from the actuator, for example, during closed-loop operation or when the valve opens or closes.

➔ 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 silencers and vent plugs.

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

⚠ WARNING

Risk of personal injury due to preloaded springs.

Valves in combination with pneumatic actuators with preloaded springs are under tension.

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

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 all the plant sections affected and 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 through incorrect operation, use or installation as a result of information on the valve being illegible.

Over time, markings, labels and nameplates on the 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 excessively high or low tightening torques.

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 'Tightening torques' in Annex).

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 'Tools' section in Annex).

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 'Lubricants' section in Annex).

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.

2 Markings on the device

2.1 Valve nameplate

Fig. 2-1: *Inscriptions on the valve nameplate*

Item	Inscription meaning
1…5	PED (Pressure Equipment Directive), Article 4, paragraph 3 ID of the notified body, fluid group and category
6	Type designation
7	Device index (2-digit number)
9	Year of manufacture
12	Production number
14	Flow coefficient: K_{VS}
15	Characteristic: % (equal percentage)
16	Seat-plug seal: ME: metal PK: soft seal with PEEK
17	Seat code (trim material): 00 (1.4404)
20	Country of origin

The nameplate is affixed to the flange of the valve (see Fig. 2-2).

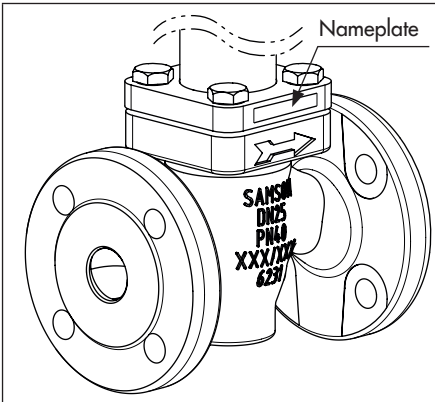


Fig. 2-2: *Valve nameplate*

2.2 Actuator nameplate

See associated actuator documentation.

3 Design and principle of operation

The single-seated Type 3321CT Globe Valve is preferably combined with a SAMSON Type 3379 Pneumatic Actuator.

The seat (2) and plug with plug stem (3) are installed in the body (1). The plug stem has a thread to screw it onto the actuator stem and is sealed by the spring-loaded packing (8).

The process medium flows through the valve in the direction indicated by the arrow in the flow-to-open direction. The plug position determines the cross-sectional area between the seat and plug.

The position of the plug is changed by the control signal acting on the actuator.

3.1 Fail-safe action

Depending on how the compression springs are arranged in the actuator, the control valve with the SAMSON Type 3379 Pneumatic Actuator has one of two fail-safe positions that become effective when the supply air fails:

– **Actuator stem extends (FA)**

  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 (FE)**

  When the signal pressure is reduced or the air supply fails, the springs move the actuator stem upwards and open the valve. The valve closes when the signal pressure is increased enough to overcome the force exerted by the springs.

3.2 Additional fittings

Strainers

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

Bypass and shut-off valves

We recommend installing a shut-off valve both upstream of the strainer and downstream of the 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.

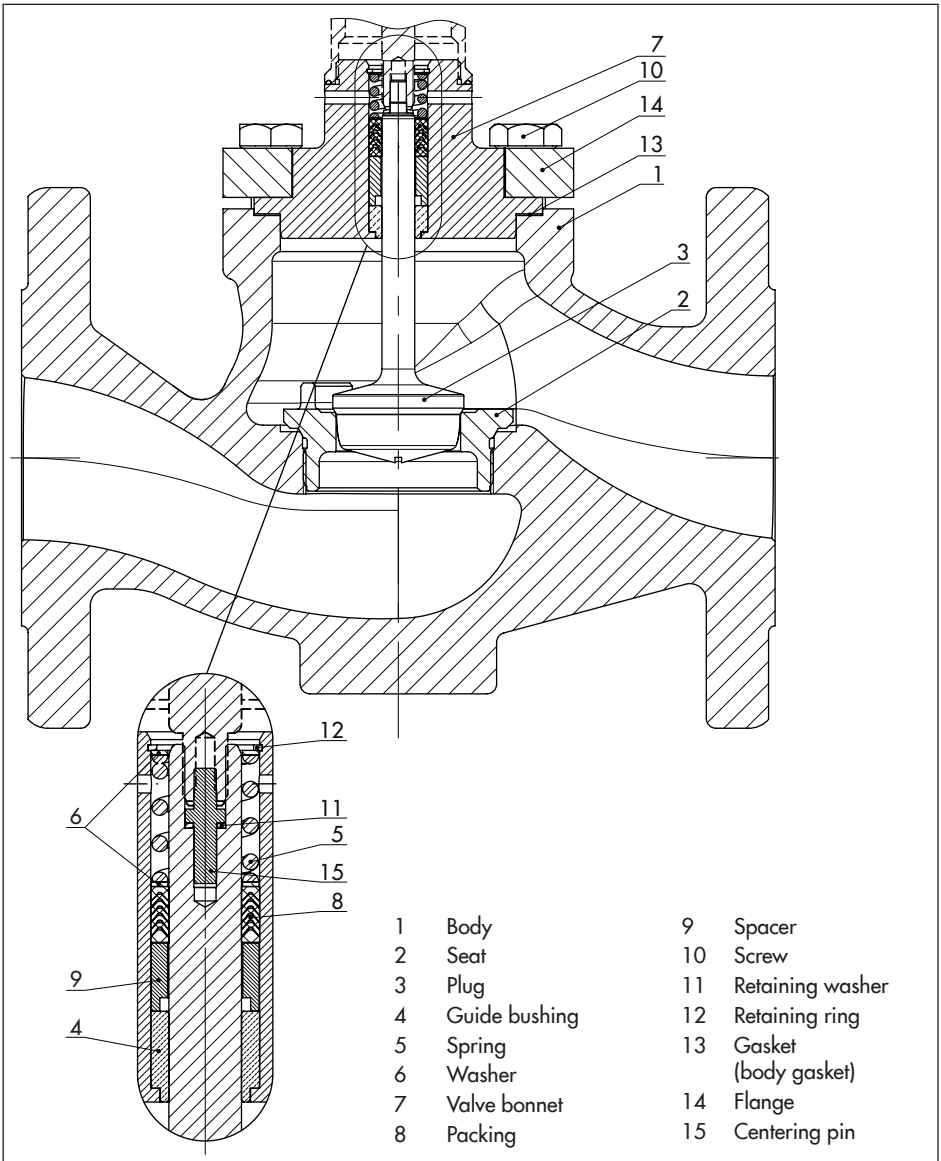


Fig. 3-1: *Type 3321CT Valve, DN 32 to 80*

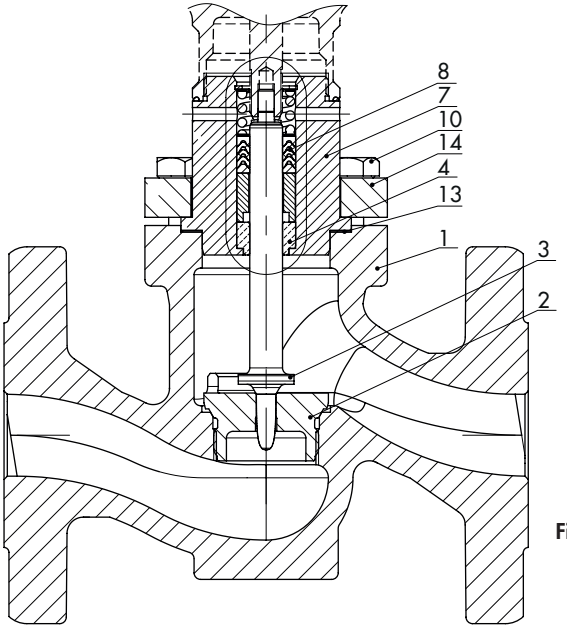


Fig. 3-2: *Type 3321CT Valve, DN 15 to 25*

3.3 Technical data

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

Note

More information is available in Data Sheet ▶ T 8115.

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.

Table 3-1: *Technical data for Type 3321CT*

Valve size	**DN 15 to 80 · NPS ½ to 3**
Pressure rating	PN 16 and 40 · Class 150 and 300
Type of connection	Flanges with raised face form B1 according to EN 1092-1/RF
Seat-plug seal	Metal or soft seal
Characteristic	Equal percentage
Rangeability	50 :1
Permissible medium temperature	
Standard version	–10 to 220 °C · 14 to 428 °F
Leakage class according to IEC 60534-4 or ANSI/FCI 70-2	
Metal seal	IV
Soft seal	VI
Conformity	CE · EAC
	FDA compliance Compliance with EC Directive 1935/2004

Table 3-2: *Materials*

Type 3321CT Valve	
Valve body	Stainless steel 1.4408 · A351 CF8M
Valve bonnet	Stainless steel 1.4404 or 1.4408 · A182 F316L or A351 CF8M
Seat	Stainless steel 1.4404 · A182 F316L
Plug with plug stem	Stainless steel 1.4404 · A182 F316L
Plug seal	Seal for soft-seated plug: PEEK (certified according to FDA/Regulation (EC) 1935/2004)
Guide bushing	Nickel alloy
Packing	V-ring packing: PTFE with carbon, spring: 1.4310
Body gasket	Graphite seal on metal core

Type 3379 Pneumatic Actuator	
Housing and cover	Stainless steel 1.4409 · A351 CF3M
Actuator stem	Stainless steel 1.4404 · A182 F316L

Type 3379 Pneumatic Actuator	
Piston	Glass-fiber-reinforced polyamide
	Stainless steel 1.4409 · A351 CF3M [1]
Dome (visual indicator)	Polycarbonate
Bearing	Polymer
Spring	Spring steel
Gasket	NBR

[1] For Ø150 piston

Type 3724 Positioner	
Housing and cover	Stainless steel 1.4409 · A351 CF3M
Transparent cover	Polycarbonate

Table 3-3: *Dimensions and weights*

Table 3-3.1: *Type 3321CT Valve*

DN		15	20	25	32	40	50	65	80
NPS		½	¾	1	–	1½	2	2½	3
L	PN 16/40 mm	130	150	160	180	200	230	290	310
	Class 150 in [1]	7.25	7.25	7.25	–	8.75	10	10.88	11.75
	Class 300 in [1]	7.5	7.62	7.75	–	9.25	10.5	11.5	12.5
H1	mm	102			114			147	
	in [1]	4.02			–	4.49		5.78	
H2	mm	44			72			98	
	in [1]	1.73			–	2.83		3.86	
Weight	kg	5	6	7	11	12	16	28	32
	lbs [1]	15	18	20	–	35	44	32	82

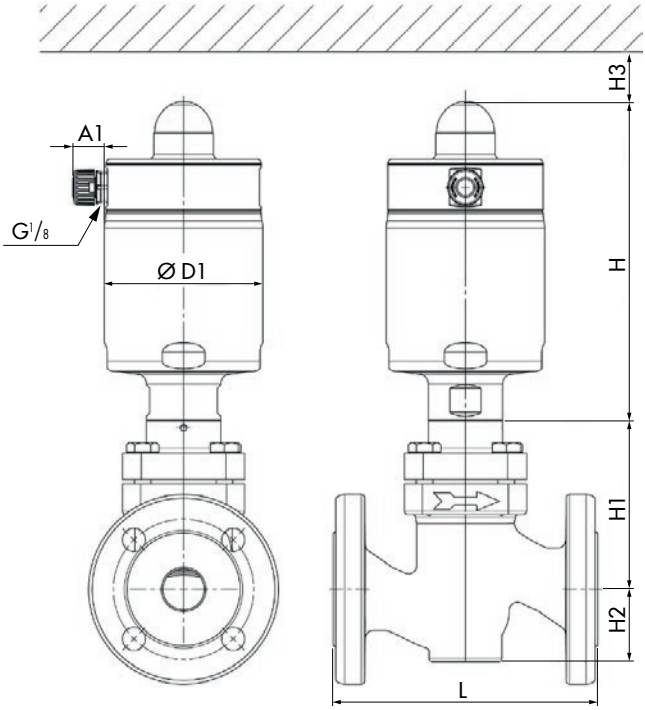
[1] ANSI specifications

Table 3-3.2: *Type 3379 Pneumatic Actuator*

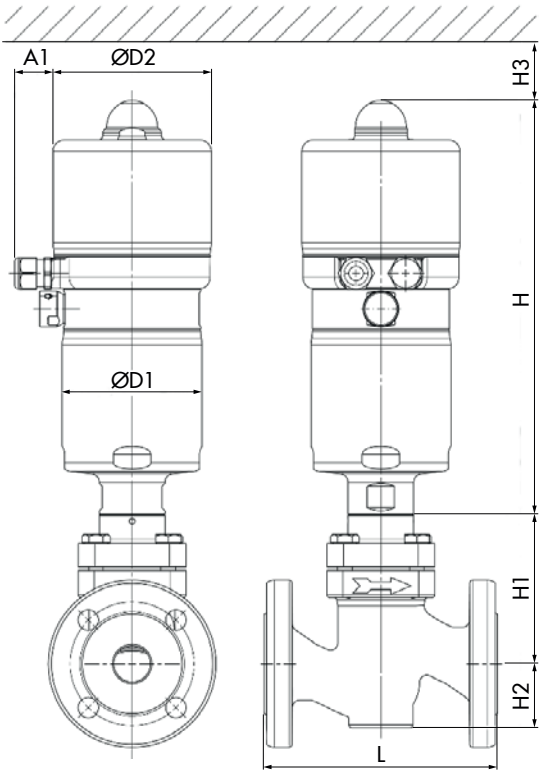
Piston diameter		**mm**	**63**	**90**	**150**
Actuator area		**cm²**	**31**	**63**	**176**
With Type 3724 Positioner	H	mm	285		310
	H3 [1]	mm	150		
	A1	mm	30		
	ØD1	mm	108		
	ØD2	mm	69	96	160
	Weight	kg (approx.)	3.7	4.9	10.7
Without positioner	H	mm	195		215
	H3 [1]	mm	150		
	A1	mm	20		
	ØD1	mm	69	96	160
	Weight	kg (approx.)	1.8	3.1	8.9

[1] Minimum clearance required to remove the actuator

Dimensional drawings



Type 3321CT Valve with Type 3379 Pneumatic Actuator



Type 3321CT Valve with Type 3379 Pneumatic Actuator and Type 3724 Positioner

Note

The associated documentation applies to the actuator and valve accessories. For example:

- *EB 8315 for Type 3379 Pneumatic Actuator*
- *T 8395 for Type 3724 Electropneumatic Positioner*

4 Shipment and on-site transport

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

4.1 Accepting the delivered goods

After receiving the shipment, proceed as follows:

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

4.2 Removing the packaging from the valve

Observe the following sequence:

➔ Do not open or remove the packaging until immediately before lifting to install the valve 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).*

⚠ WARNING

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

➔ *Observe the valve's center of gravity.*

➔ *Secure the 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 injury in particular) depending on the weight of the control valve.

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

NOTICE

Risk of valve damage due to incorrectly attached slings.

➔ *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 or any other parts.*

➔ *Observe lifting instructions (see section 4.3.2).*

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.

Note

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

4.3.2 Lifting the valve

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

Lifting instructions

– Use a hook with safety latch (see Fig. 4-1) to secure the slings from slip-

ping off the hook during lifting and transporting.

– Secure slings against slipping.
– Make sure the slings can be removed from the valve 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 pipeline is always horizontal during lifting and the axis of the plug stem is always vertical.

Lifting the control valve

1. Attach one sling to each flange of the body and to the rigging equipment (e.g. hook) of the crane or forklift (see Fig. 4-3).
2. Carefully guide two slings around the actuator. Secure the slings against slipping by using a connector.
3. Carefully lift the control valve. Check whether the lifting equipment and accessories can bear the weight.
4. Move the control valve at an even pace to the site of installation.
5. Install the valve into the pipeline (see the 'Installation' section).
6. After installation in the pipeline, check whether the flanges are bolted tight and the valve in the pipeline holds.
7. Remove slings.

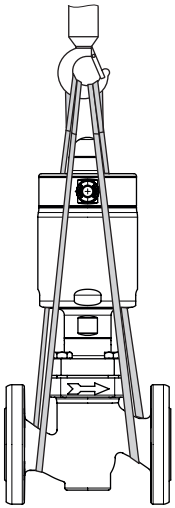


Fig. 4-3: *Lifting points on the control valve*

4.4 Storing the valve

NOTICE

Risk of valve damage due to improper storage.

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

Note

We recommend regularly checking the control valve and the prevailing storage conditions during long storage periods.

Storage instructions

- Protect the control valve against external influences (e.g. impact).
- Secure the valve in the stored position against slipping or tipping over.
- 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.

Tip

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

5 Installation

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

5.1 Installation conditions

Work position

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

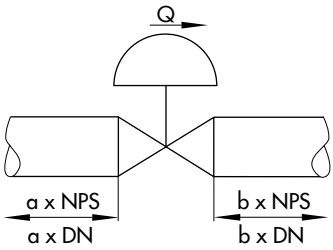
Plant operators must ensure that, after installation of the device, the operating personnel can perform all necessary work safely and easily access the device from the work position.

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 valve functions properly, proceed as follows:

Table 5-1: *Inlet and outlet lengths*



Q Flow rate
a Inlet length
b Outlet length

State of process medium	Valve conditions	Inlet length a	Outlet length b
Gas	Ma ≤ 0.3	2	4
	0.3 ≤ Ma ≤ 0.7	2	10
Vapor	Ma ≤ 0.3 [1]	2	4
	0.3 ≤ Ma ≤ 0.7 [1]	2	10
	Wet steam (percentage of condensate > 5 %)	2	20
Liquid	Free of cavitation/w < 10 m/s	2	4
	Cavitation producing noise/w ≤ 3 m/s	2	4
	Cavitation producing noise/3 < w < 5 m/s	2	10

[1] No wet steam

➔ Observe the recommended inlet and outlet lengths (see Table 5-1). Contact SAMSON if the valve conditions or states of the medium process deviate.

➔ Install the valve free of stress and with the least amount of vibrations as possible. Read information under "Mounting position" and "Support or suspension" in this section.

➔ Install the valve allowing sufficient space to remove the actuator and valve or to perform service and repair work on them.

Mounting position

Generally, we recommend 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 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, valve size, material, pressure rating and temperature range) match the plant conditions (size and pressure rating of the pipeline, medium temperature etc.). See the 'Markings on the device' section for nameplate details.
– The requested or required additional pipe fittings (see 'Additional fittings' in the 'Design and principle of operation' section) have been installed or prepared as necessary before installing the valve.

Proceed as follows:

➔ Lay out the necessary material and tools to have them ready during installation work.

➔ Flush the 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 tightening torques of the bolted joints (see the 'Tightening torques' section in Annex). 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 valve damage due to excessively high or low tightening torques.

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 'Tightening torques' in Annex).*

! ***NOTICE***

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

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

! ***NOTICE***

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

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

! ***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.*

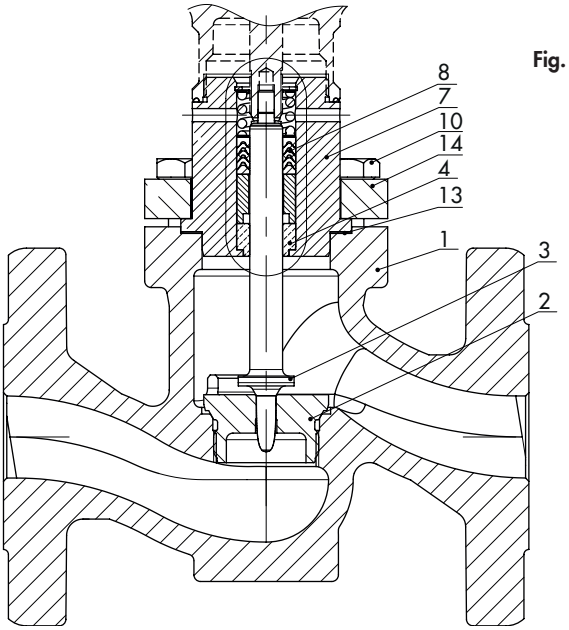


Fig. 5-1: *Type 3321CT Valve*

1	Body
2	Seat
3	Plug
4	Guide bushing
7	Valve bonnet
8	Packing
10	Screw
13	Body gasket
14	Flange

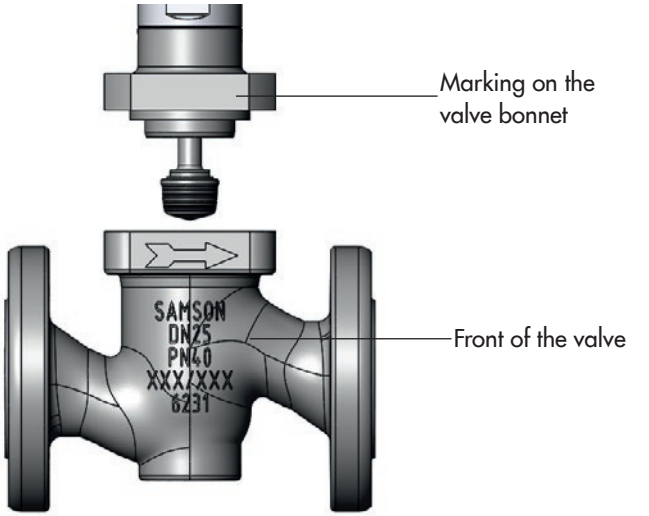


Fig. 5-2: *Aligning the valve bonnet*

5.3.1 Mounting the actuator onto the valve

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

1. Make sure that the valve is completely open (the plug stem is completely retracted).

   Version with "actuator stem extends" fail-safe action: apply a signal pressure that corresponds to the upper bench range value to the connection on the bottom diaphragm chamber.

   Version with "actuator stem retracts" fail-safe action: make sure that no signal pressure is applied to the actuator.
2. Undo the screws (10) on the valve bonnet (7).
3. Lift the flange (14), valve bonnet (7) together with the plug and plug stem (3) off the body (1).
4. Apply a suitable thread-locking fluid to the female thread of the actuator stem.
5. Screw the plug stem (3) into the actuator stem. Observe tightening torques.
6. Apply a suitable lubricant to the thread of the valve bonnet (7).
7. Screw the valve bonnet (7) into the actuator base until it reaches the metal stop. Observe tightening torques.
8. Carefully place the actuator, valve bonnet (7), flange (14) and plug with plug stem (3) onto the body (1).

   Make sure that the marking on the valve bonnet are aligned with the front of the valve (see Fig. 5-2).

   Make sure that the gasket (13) is properly seated in the body.
9. Apply a suitable lubricant to the screws (10).
10. Firmly press the plug (3) into the seat (2), while fastening down the valve bonnet (7) with the screws (10). Gradually tighten the screws in a crisscross pattern. Observe tightening torques.
11. For further instructions concerning Type 3379 Actuator (pneumatic connections, alignment of the actuator etc.) ▶ EB 8315.

5.3.2 Installing the valve into the pipeline

NOTICE

Premature wear and leakage due to insufficient support or suspension.

➔ *Support or suspend the valve sufficiently at suitable points.*

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 using suitable lifting equipment to the site of installation (see information under 'Lifting the valve' in the 'Shipment and on-site transport' section). Observe the flow direction through the valve. The arrow on the valve indicates the direction of flow.
5. Make sure that the correct flange gaskets are used.
6. Bolt the pipe to the valve free of stress.
7. Attach a support or suspension on the valve, if necessary.

5.4 Testing the installed valve

⚠ DANGER

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

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 all the plant sections concerned as well as 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 fittings. Both can damage hearing.

➔ *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, for example, during closed-loop operation or when the valve opens or closes.

➔ *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.

➔ *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. Avoid sudden surges in pressure since the resulting high velocities may 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.

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' section).

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 section is only to be performed by personnel appropriately qualified to carry out such tasks.

⚠ WARNING

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

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 fittings. Both can damage hearing.

➔ *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, for example, during closed-loop operation or when the valve opens or closes.

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

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

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

Start-up/putting the valve 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.
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 can damage the valve.
3. Check the valve to ensure it functions properly.

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 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 fittings. Both can damage hearing.

➔ *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, for example, during closed-loop operation or when the valve opens or closes.

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

8 Malfunctions

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

8.1 Troubleshooting

Malfunction	Possible reasons	Recommended action
Actuator and plug stem does not move on demand.	Actuator is blocked.	Check attachment. 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.
	Signal pressure too low	Check the signal pressure. Check the signal pressure line for leakage.
Actuator and plug stem does not stroke through the entire range.	Signal pressure too low	Check the signal pressure. Check the signal pressure line for leakage.
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.
	Valve trim is worn out.	Replace seat and plug (see the 'Servicing' section) or contact our after-sales service.
The valve leaks to the atmosphere (fugitive emissions).	Defective packing	Replace packing (see the 'Servicing' section) or contact our after-sales service.
	Flanged joint loose or gasket worn out	Check the flanged joint. Replace gasket at the flanged joint (see the 'Servicing' section) or contact our after-sales service.

i ***Note***

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

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 section 8.1).
3. Rectify those malfunctions that can be remedied based on the instructions provided here. Contact our after-sales service in all other cases.

Putting the valve back into operation after a malfunction

See the 'Start-up' section.

9 Servicing

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

The following documents are also required for servicing the valve:

– Mounting and operating instructions for the mounted actuator, e.g. ▶ EB 8315 for Type 3379 Pneumatic Actuator

⚠ DANGER

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

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 all the plant sections concerned as well as 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 fittings. Both can damage hearing.

➔ *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, for example, during closed-loop operation or when the valve opens or closes.

➔ *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.

➔ *Before starting any work on the actuator, relieve the compression from the pre-*

loaded 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 valve damage due to excessively high or low tightening torques.

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 'Tightening torques' in Annex).*

NOTICE

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

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

NOTICE

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

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

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.*

i 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 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 Preparing the valve for service work

1. Lay out the necessary material and tools to have them ready for the service work.
2. Put the control valve out of operation (see the 'Decommissioning' section).
3. Remove the valve from the pipeline (see the 'Removal' section).
4. Make sure that the valve is completely open (the plug stem is completely retracted).

   Version with "actuator stem extends" fail-safe action: apply a signal pressure that corresponds to the upper bench range value to the connection on the bottom diaphragm chamber.

   Version with "actuator stem retracts" fail-safe action: make sure that no signal pressure is applied to the actuator.

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

– Replace the gaskets as described in section 9.4.1.
– Replace the packing (see section 9.4.2)
– Replace the seat and plug (see section 9.4.3)

9.3 Installing the valve after service work

1. Reinstall the valve into the pipeline (see the 'Installation' section).
2. Put the control valve back into operation (see the 'Start-up' section). Observe the requirements and conditions for start-up or putting the valve back into operation.

9.4 Service work

➔ Before performing any service work, preparations must be made to the control valve (see section 9.2).

➔ After all service work is completed, check the control valve before putting it back into operation (see 'Testing the installed valve' in the 'Installation' section).

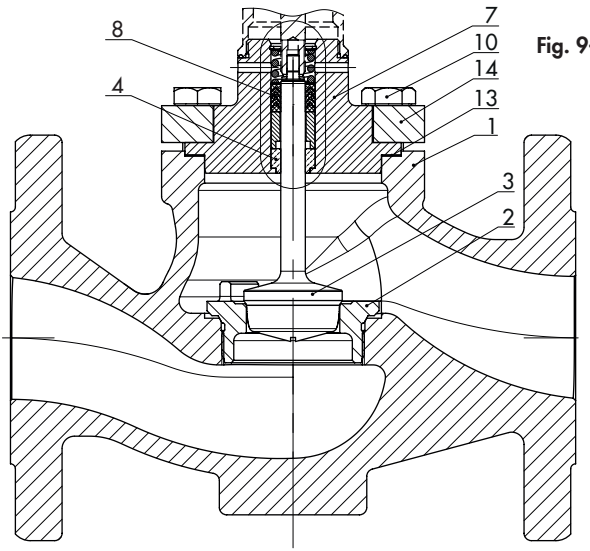


Fig. 9-1: *Type 3321CT Valve*

1 Body
2 Seat
3 Plug
4 Guide bushing
7 Valve bonnet
8 Packing
10 Screw
13 Body gasket
14 Flange

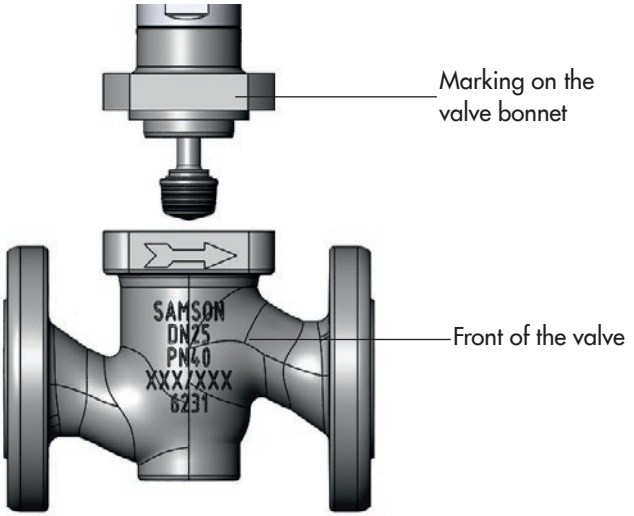


Fig. 9-2: *Aligning the valve bonnet*

9.4.1 Replacing the gasket

1. Undo the screws (10) on the valve bonnet (7).
2. Lift the actuator, flange (14), valve bonnet (7) and plug with plug stem (3) off the body (1).
3. Remove the gasket (13). Carefully clean the sealing faces in the valve body (1) and on the valve bonnet (7).
4. Insert a new gasket (13) into the body.
5. Carefully place the actuator, valve bonnet (7), flange (14) and plug with plug stem (3) onto the body (1).

   Make sure that the marking on the valve bonnet are aligned with the front of the valve (see Fig. 9-2).
6. Apply a suitable lubricant to the screws (10).
7. Firmly press the plug (3) into the seat (2), while fastening down the valve bonnet (7) with the screws (10).Firmly press the plug (3) into the seat (2). Gradually tighten the screws in a crisscross pattern. Observe tightening torques.

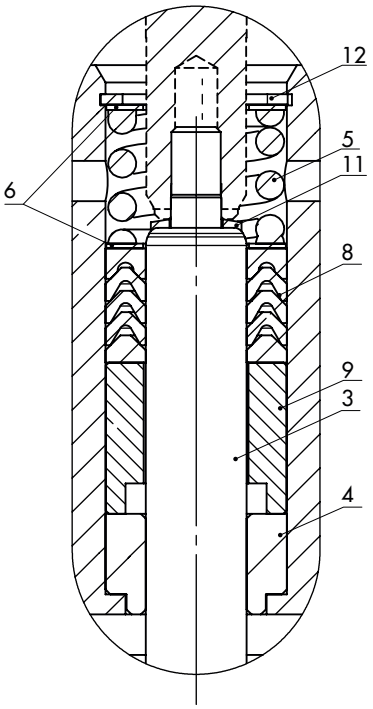
9.4.2 Replacing the packing

1. Undo the screws (10) on the valve bonnet (7).
2. Lift the actuator, flange (14), valve bonnet (7) and plug with plug stem (3) off the body (1).
3. Replace the gasket (see section 9.4.1)
4. Unscrew the valve bonnet (7) from the actuator base.
5. Unscrew the plug stem (3) from the actuator stem.
6. Pull the plug with plug stem (3) out of the valve bonnet (7).
7. Pull the entire packing out of the packing chamber using a suitable tool.
8. Renew damaged parts. Clean the packing chamber thoroughly.
9. Apply a suitable lubricant to all the packing parts and to the plug stem (3).
10. Make sure that the guide bushing (4) and spacer (9) are seated correctly in the valve bonnet (7).
11. Insert the packing parts into the packing chamber. Make sure to observe the proper order (see Fig. 9-3 or Fig. 9-5).
12. Place the retaining ring (12) on the packing parts.
13. Use a suitable tool to press the packing together until the retaining ring (12) is seated in the groove of the valve bonnet (7).
14. Place the retaining washer (11) from above onto the plug stem (3). Observe the proper alignment (see Fig. 9-4).
15. Carefully slide the plug stem (3) into the valve bonnet (7).
16. Apply a suitable thread-locking fluid to the female thread of the actuator stem.
17. Screw the plug stem (3) into the actuator stem. Observe tightening torques.
18. Apply a suitable lubricant to the thread of the valve bonnet (7).

19. Screw the valve bonnet (7) into the actuator base until it reaches the metal stop. Observe tightening torques.
20. Carefully place the actuator, valve bonnet (7), flange (14) and plug stem (3) onto the body (1).

    Make sure that the marking on the valve bonnet are aligned with the front of the valve (see Fig. 9-2).

    Make sure that the gasket (13) is properly seated in the body.
21. Apply a suitable lubricant to the screws (10).
22. Firmly press the plug (3) into the seat (2), while fastening down the valve bonnet (7) with the screws (10). Gradually tighten the screws in a crisscross pattern. Observe tightening torques.
23. For further instructions concerning Type 3379 Actuator (pneumatic connections, alignment of the actuator etc.) ▶ EB 8315.



3	Plug stem	8	Packing
4	Guide bushing	9	Spacer
5	Spring	11	Retaining washer
6	Washer	12	Retaining ring

Fig. 9-3: *Packing for DN 15 to 50*

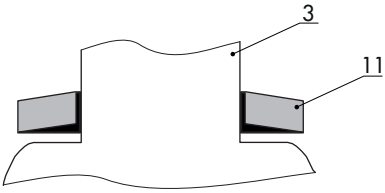
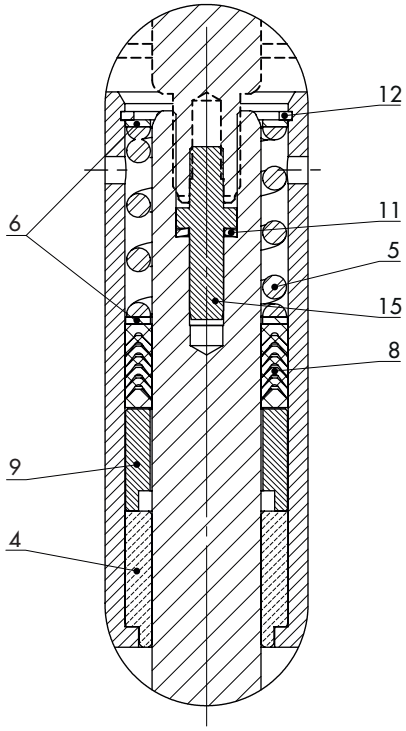


Fig. 9-4: *Aligning the retaining washer*



4	Guide bushing	9	Spacer
5	Spring	11	Retaining washer
6	Washer	12	Retaining ring
8	Packing	15	Centering pin

Fig. 9-5: *Packing for DN 65 to 80*

9.4.3 Replacing the seat and plug

NOTICE

Risk of damage to the facing of the seat and plug due to incorrect service or repair.

➔ *Always replace both the seat and plug.*

Tip

When replacing the seat and plug, we also recommend replacing the gasket and packing. See sections 9.4.1 and 9.4.2.

1. Undo the screws (10) on the valve bonnet (7).
2. Lift the actuator, flange (14), valve bonnet (7) and plug with plug stem (3) off the body (1).
3. Replace the gasket (see section 9.4.1)
4. Unscrew the seat (4) using a suitable tool.
5. Apply a suitable lubricant to the thread and the sealing cone of the new seat.
6. Screw in the seat (4). Observe tightening torques.
7. Unscrew the valve bonnet (7) from the actuator base.
8. Unscrew the plug stem (3) from the actuator stem.
9. Pull the plug with plug stem (3) out of the valve bonnet (7).
10. Pull the entire packing out of the packing chamber using a suitable tool.
11. Apply a suitable lubricant to all the packing parts and to the new plug stem (3). We recommend replacing the packing as well. See section 9.4.2.
12. Make sure that the guide bushing (4) and spacer (9) are seated correctly in the valve bonnet (7).

13. Insert the packing parts into the packing chamber. Make sure to observe the proper order (see Fig. 9-3 or Fig. 9-5).
14. Place the retaining ring (12) on the packing parts.
15. Use a suitable tool to press the packing together until the retaining ring (12) is seated in the groove of the valve bonnet (7).
16. Place the retaining washer (11) from above onto the new plug stem (3). Observe the proper alignment (see Fig. 9-4).
17. Carefully slide the new plug stem with plug (3) into the valve bonnet (7).
18. Apply a suitable thread-locking fluid to the female thread of the actuator stem.
19. Screw the plug stem (3) into the actuator stem. Observe tightening torques.
20. Apply a suitable lubricant to the thread of the valve bonnet (7).
21. Screw the valve bonnet (7) into the actuator base until it reaches the metal stop. Observe tightening torques.
22. Carefully place the actuator, valve bonnet (7), flange (14) and plug with plug stem (3) onto the body (1).

    Make sure that the marking on the valve bonnet are aligned with the front of the valve (see Fig. 9-2).

    Make sure that the gasket (13) is properly seated in the body.
23. Apply a suitable lubricant to the screws (10).
24. Firmly press the plug (3) into the seat (2), while fastening down the valve bonnet (7) with the screws (10). Gradually tighten the screws in a crisscross pattern. Observe tightening torques.
25. For further instructions concerning Type 3379 Actuator (pneumatic connections, alignment of the actuator etc.) u EB 8315.

9.5 Ordering spare parts and operating supplies

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

Spare parts

See the 'Spare parts' section in the Annex for details on spare parts.

Lubricant

See the 'Lubricants' section in the Annex for details on suitable lubricants.

Tools

See the 'Tools' section in the Annex for details on suitable tools.

10 Decommissioning

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

⚠ DANGER

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

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 all the plant sections concerned as well as 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 fittings. Both can damage hearing.

- ➔ *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, for example, during closed-loop operation or when the valve opens or closes.

- ➔ *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 decommission the control valve 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 section is only to be performed by personnel appropriately qualified to carry out such tasks.

⚠ WARNING

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

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 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.

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

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

– The control valve is put out of operation (see the 'Decommissioning' section).

11.1 Removing the valve from the pipeline

1. Support the valve to hold it in place when separated from the pipeline (see the 'Shipment and on-site transport' section).
2. Unbolt the flanged joint.
3. Remove the valve from the pipeline (see the 'Shipment and on-site transport' section).

12 Repairs

If the 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 & Support > After-sales Service.*
2. Send an e-mail
   ▶ retouren@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 & Support > After-sales Service.*

   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 & Support > After-sales Service.*

13 Disposal

➔ Observe local, national and international refuse regulations.

➔ Do not dispose of components, lubricants and hazardous substances together with your household waste.

14 Certificates

These declarations are included on the next pages:

- Declaration of conformity in compliance with Machinery Directive 2006/42/EC for Type 3321CT Globe Valve and the SAMSON Type 3379 Pneumatic Actuator on page 14-2
- Declaration of conformity in compliance with Pressure Equipment Directive 2014/68/EU:
  - Country of origin: France, see page 14-3 to 14-4
  - Country of origin: Germany, see page 14-5 to 14-6
- Declaration of conformity in compliance with the EU Regulation (EC) No. 1935/2004 and the US Regulation FDA 21 CFR Section 177.1550 ("Industrial valves in special execution with seals and packings for food contact") on page 14-7
- Declaration of conformity in compliance with the EU Regulation (EC) No. 1935/2004 and the US Regulation FDA 21 CFR Section 177.1550 ("Industrial valves in special execution used in food or pharmaceutical environment") on page 14-8
- Declaration of conformity in compliance with the requirements in TSG D7002-2006 for Chinese pressure equipment on page 14-9

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 & Applications > Product selector > Valves > 3321CT*

Other optional certificates are available on request.

EU DECLARATION OF CONFORMITY

DC030
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:

Type 3321CT Globe Valve in combination with Type 3379 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 3321CT Valve: Mounting and Operating Instructions EB 8115
- Type 3379 Actuator: Mounting and Operating Instructions EB 8315

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
Vaulx-en-Velin, 30 July 2020

Michael Lachenal-Chevallet
R&D Manager

Joséphine Signoles-Fontaine
QSE Manager

SAMSON REGULATION S.A.S.

DECLARATION UE DE CONFORMITE
EU DECLARATION OF CONFORMITY
EU-KONFORMITÄTSERKLÄRUNG

DC012
2021-06

Module H / Modul H, N°/ Nr CE-0062-PED-H-SAM 001-20-FRA-rev-A

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:
SAMSON REGULATION SAS erklärt in alleiniger Verantwortung für folgende Produkte:

Appareils / Devices / Geräte	Type / Typ	Exécution / Version / Ausführung
Vanne de régulation passage droit / globe valve / Durchgangsventil	3241	DIN - corps en fonte sphéroïdale / body of spheroidal graphite iron / Gehäuse Sphäroguss : GJS-400-18-LT DN 65 - 150 PN 25 Fluides / fluids / Fluide G2, L1, L2 [1)]
	3241	ANSI - corps en fonte grise / body of cast iron / Gehäuse Grauguss: A126 B Cl 250 NPS 4 – 6 Fluides / fluids / Fluide G2, L1, L2 [1)]
	3241	DIN ANSI - corps en acier moulé / body of cast steel / Gehäuse Gussstahl DN 32 – 150 PN_{max} 40 NPS $1^{1/2}$ - 6 Cl_{max} 300 Tous fluides / all fluids / alle Fluide
Vanne de régulation 3 voies / 3-way Valve / Drei-Wege-Stellventil	3244	DIN - corps en fonte sphéroïdale / body of spheroidal graphite iron / Gehäuse Sphäroguss : GJS-400-18-LT DN 65 - 150 PN 25 Fluides / fluids / Fluide G2, L1, L2 [1)]
	3244	DIN ANSI - corps en acier moulé / body of cast steel / Gehäuse Gussstahl DN 32 – 150 PN_{max} 40 NPS $1^{1/2}$ - 6 Cl_{max} 300 Tous fluides / all fluids / alle Fluide
Vanne de régulation passage droit / globe valve / Durchgangsventil	3251	DIN & ANSI - corps en acier moulé / body of cast steel / Gehäuse Gussstahl DN 32 – 200 NPS 1 ¼ – 8 Tous fluides / all fluids / alle Fluide
Vanne haute pression / High pressure valve / Hochdruckventil	3252	DIN & ANSI - corps en acier forgé / body of forged steel / Gehäuse Schmiedestahl DN 32 – 80 PNmax 400 NPS 1 ¼ – 3 Clmax 2500 Tous fluides / all fluids / alle Fluide
	3252	DIN - corps en acier forgé / body of forged steel / Gehäuse Schmiedestahl DN 100 PNmax 16 Tous fluides / all fluids / alle Fluide
Vanne équerre / Angle valve / Eckventil	3256	DIN & ANSI - corps en acier moulé / body of cast steel / Gehäuse Gussstahl DN 32 – 200 NPS 1 ¼ – 8 Tous fluides / all fluids / alle Fluide
Vanne à segment sphérique / Segment ball valve / Kugelsegmentventil	3310	DIN & ANSI - corps en acier moulé / body of cast steel / Gehäuse Gussstahl DN 40 – 300 NPS 1 ½ – 12 Tous fluides / all fluids / alle Fluide
Vanne de régulation passage droit / globe valve / Durchgangsventil	3321	DIN ANSI - corps en acier moulé / body of cast steel / Gehäuse Gussstahl DN 32 – 100 Cl 150 - 300 NPS $1^{1/2}$ - 4 Tous fluides / all fluids / alle Fluide
Vanne papillon / Butterfly valve / Stell-klappe	3331	DIN ANSI - corps en acier moulé / body of cast steel / Gehäuse Gussstahl DN 50 – 400 NPS 2 - 16 Tous fluides / all fluids / alle Fluide
Vanne à membrane / Diaphragm valve / Membran-Ventil	3345	DIN & ANSI corps en fonte sphéroïdale, aciers moulé & forgé / body of spheroidal graphite iron, cast & forged steel / Gehäuse Sphäroguss, Gussstahl & Schmiedestahl DN 125 – 150 NPS 5 – 6 Tous fluides / all fluids / alle Fluide
Vanne alimentaire / Sanitary valve / Hygienisches Ventil	3347	DIN & ANSI corps en aciers moulé & forgé / body of, cast & forged steel / Gehäuse Gussstahl & Schmiedestahl DN 150 $P_{max\ T=20°C}$ 16 bar NPS 6 $P_{max\ T=70°F}$ 230 psi Fluides / fluids / Fluide G2, L1, L2 [1)]
	3347	DIN & ANSI corps en aciers moulé & forgé / body of, cast & forged steel / Gehäuse Gussstahl & Schmiedestahl DN 65 – 150 $P_{max\ T=20°C}$ 40 bar NPS $2^{1/2}$ – 6 $P_{max\ T=70°F}$ 580 psi Fluides / fluids / Fluide G2, L1, L2 [1)]
	3347	DIN & ANSI corps en aciers moulé & forgé / body of, cast & forged steel / Gehäuse Gussstahl & Schmiedestahl DN 32 – 125 $P_{max\ T=20°C}$ 63 bar NPS 1 ¼ – 5 $P_{max\ T=70°F}$ 910 psi Fluides / fluids / Fluide G2, L1, L2 [1)]
Vanne Tout ou Rien / On-Off Valve / Auf-Zu Ventil	3351	DIN - corps en fonte sphéroïdale / body of spheroidal graphite iron / Gehäuse Sphäroguss : GJS-400-18-LT DN 65 - 150 PN 25 Fluides / fluids / Fluide G2, L1, L2 [1)]
	3351	ANSI - corps en fonte grise / body of cast iron / Gehäuse Grauguss: A126 B Cl 250 NPS 4 – 6 Fluides / fluids / Fluide G2, L1, L2 [1)]
	3351	DIN ANSI - corps en acier moulé / body of cast steel / Gehäuse Gussstahl DN 32 – 150 PN_{max} 40 NPS $1^{1/2}$ - 6 Cl_{max} 300 Tous fluides / all fluids / alle Fluide
Bride de mesure / Measure flange / Messflansch	5090	DIN & ANSI - corps en acier forgé / body of forged steel / Gehäuse Schmiedestahl DN 40 – 500 NPS 1.5 – 20
Tube de mesure / Measure tube / Messrohr	5091	DIN & ANSI - corps en acier forgé / body of forged steel / Gehäuse Schmiedestahl DN 40 – 500 NPS 1.5 – 20

[1)] Gas selon l'article 4 § 1.c) i) / Gases Acc. to article 4 paragraphs 1.c) i) / Gases nach Artikel 4 Abs.1 Pkt. c) i)
Liquide selon l'article 4 § 1.c) ii) / Liquids Acc. to article 4 paragraphs 1.c) ii) / Flüssigkeiten nach Artikel 4 Abs.1 Pkt. c) ii)

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

BNP Paribas N° compte 0002200215245 • Banque 3000401857
IBAN FR7630004018570002200215245 • BIC (code SWIFT) BNPAFRPPVBE

Société par actions simplifiées 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

Crédit Lyonnais N° compte 00000600035B41 • Banque 3000201936
IBAN FR9830002019360000600035B41 • BIC (code SWIFT) CRLYFRPP

SAMSON REGULATION S.A.S.

DECLARATION UE DE CONFORMITE
EU DECLARATION OF CONFORMITY
EU-KONFORMITÄTSERKLÄRUNG

DC012
2021-06

Module H / Modul H, N°/ Nr CE-0062-PED-H-SAM 001-20-FRA-rev-A

la conformité avec le règlement suivant : / the conformity with the following requirement: / die Konformität mit nachfolgender Anforderung:

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 / Richtlinie des Europäischen Parlaments und des Rates zur Harmonisierung der Rechtsvorschriften der Mitgliedstaaten über die Bereitstellung von Druckgeräten auf dem Markt	**2014/68/UE 2014/68/EU**	**Du / of / vom 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 (Angewandtes Konformitätsbewertungsverfahren für Fluide nach Art. 4 Abs.1	**Module H / Modul H**	**certificat n° / Zertifikat-Nr. CE-0062-PED-H-SAM 001-20-FRA-rev-A**

Normes techniques appliquées / Technical standards applied / Angewandte technische Spezifikation :
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:
Das Qualitätssicherungssystem des Herstellers wird von folgender benannter Stelle überwacht:

Bureau Veritas Services SAS N°/Nr 0062, 8 Cours du Triangle, 92800 PUTEAUX - LA DEFENSE
Fabricant / manufacturer / Hersteller : Samson Régulation SAS, 1, rue Jean Corona, FR-69120 VAULX-EN-VELIN

Vaulx-en-Velin, le 11/06/21

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

Joséphine Signoles-Fontaine
Responsable QSE / QSE Manager

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 simplifiées 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 FR7630004018570002200215245 • BIC (code SWIFT) BNPAFRPPVBE

Crédit Lyonnais N° compte 0000060035B41 • Banque 3000201936
IBAN FR9830002019360000060035B41 • BIC (code SWIFT) CRLYFRPP

SMART IN FLOW CONTROL

SAMSON

EU-KONFORMITÄTSERKLÄRUNG
EU DECLARATION OF CONFORMITY

Modul A/Module A

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

Geräte/Devices	Bauart/Series	Typ/Type	Ausführung/Version
Durchgangsventil/Globe valve	240	3241	DIN, Gehäuse GG, DN 65-125, Gehäuse GGG, DN 50-80, Fluide G2, L1, L2[1)]/ DIN, body of cast iron, DN 65-125, body of spheroidal-graphite iron, DN 50-80, fluids G2, L1, L2[1)]
Durchgangsventil/Globe valve	240	3241	DIN, Gehäuse Stahl u.a., DN 40-100, Fluide G2, L2[2)] DIN, body of steel, etc., DN 40-100, fluids G2, L2[2)]
Durchgangsventil/Globe valve	240	3241	ANSI, Gehäuse GG, Class 250, NPS 1 ½ bis NPS 2, Class 125, NPS 2 ½ bis NPS 4, Fluide G2, L1, L2[1)] ANSI, body of cast iron, Class 250, NPS 1 ½" to NPS 2, Class 125, NPS 2 ½" to NPS 4, fluids G2, L1, L2[1)]
Dreiwegeventil/Three-way valve	240	3244	DIN, Gehäuse GG, DN 65-125, Gehäuse GGG, DN 50-80, Fluide G2, L1, L2[1)]/ DIN, body of cast iron, DN 65-125, body of spheroidal-graphite iron, DN 50-80, fluids G2, L1, L2[1)]
Dreiwegeventil/Three-way valve	240	3244	DIN, Gehäuse Stahl u.a., DN 40-100, Fluide G2, L2[2)] DIN, body of steel, etc., DN 40-100, fluids G2, L2[2)]
Schrägsitzventil/Angle seat valve	---	3353	DIN, Rotgussgehäuse, alle Fluide DIN, red brass body, all fluids
Schrägsitzventil/Angle seat valve	---	3353	DIN, Gehäuse Stahl, Fluide G2, L1, L2[1)] DIN, body of steel, fluids G2, L1, L2[1)]
Durchgangsventile/Globe valve	V2001	3321	DIN, Gehäuse GG, DN 65-100, Fluide G2, L1, L2[1)]/ DIN, body of cast iron, DN 65-100, fluids G2, L1, L2[1)]
Durchgangsventile/Globe valve	V2001	3321	ANSI, Gehäuse GG, NPS 2 ½ bis NPS 4, Fluide G2, L1, L2[1)]/ ANSI, body of cast iron, NPS 2 ½ to NPS 4, fluids G2, L1, L2[1)]
Dreiwegeventil/Three-way valve	V2001	3323	DIN, Gehäuse GG, DN 65-100, Fluide G2, L1, L2[1)]/ DIN, body of cast iron, DN 65-100, fluids G2, L1, L2[1)]
Dreiwegeventil/Three-way valve	V2001	3323	ANSI, Gehäuse GG, NPS 2 ½ bis NPS 4, Fluide G2, L1, L2[1)]/ ANSI, body of cast iron, NPS 2 ½ to NPS 4, fluids G2, L1, L2[1)]
Dreiwegeventil/Three-way valve	250	3253	DIN, Gehäuse GG, DN 200 PN 10, Fluide G2, L1, L2[1)]/ DIN, body of cast iron, DN 200 PN 10, fluids G2, L1, L2[1)]

[1)] Gase nach Art. 4 Abs.1 Pkt. c.i zweiter Gedankenstrich//Gases according to Article 4(1)(c.i), second indent
Flüssigkeiten nach Art. 4 Abs.1 Pkt. c.ii//Liquids according to Article 4(1)(c.ii)

[2)] Gase nach Art. 4 Abs.1 Pkt. c.i zweiter Gedankenstrich//Gases according to Article 4(1)(c.i), second indent
Flüssigkeiten nach Art. 4 Abs.1 Pkt. c.ii zweiter Gedankenstrich//Liquids according to Article 4(1)(c.ii), second indent

die Konformität mit nachfolgender Anforderung:/that the products mentioned above comply with the requirements of the following standards:

Richtlinie des Europäischen Parlaments und des Rates zur Harmonisierung der Rechtsvorschriften der Mitgliedstaaten über die Bereitstellung von Druckgeräten auf dem Markt/Directive of the European Parliament and of the Council on the harmonization of the laws of the Member States relating to the making available on the market of pressure equipment	**2014/68/EU**	**vom 15. Mai 2014/ of 15 May 2014**
Angewandtes Konformitätsbewertungsverfahren für Fluide nach Art. 4 Abs. 1/ Applied conformity assessment procedure for fluids according to Article 4(1)	**Modul A/Module A**	

Angewandte technische Spezifikation/Technical standards applied: DIN EN 12516-2, DIN EN 12516-3, ASME B16.34

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

Frankfurt am Main, 23. Februar 2017/23 February 2017

i.V. Klaus Hörschken

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

i.V. Dr. Michael Heß

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

ce_modul_a_de,en_rev02.docx

SAMSON AKTIENGESELLSCHAFT
Weismüllerstraße 3 60314 Frankfurt am Main
Telefon: 069 4009-0 · Telefax: 069 4009-1507
E-Mail: samson@samson.de

SAMSON AKTIENGESELLSCHAFT
Weismuellerstrasse 3 60314 Frankfurt am Main, Germany
Phone: +49 69 4009-0 · Fax: +49 69 4009-1507
E-mail: samson@samson.de

Revision 02

EU DECLARATION OF CONFORMITY
TRANSLATION

Module H / N° CE-0062-PED-H-SAM 001-20-DEU-rev-A

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

Devices	Series	Type	Version
Globe valve	240	3241	DIN, body of cast iron from DN 150, body of spheroidal-graphite iron, from DN 100, fluids G2, L1, L2[1)]
			DIN/ANSI, body of steel, etc., all fluids
Three-way valve	240	3244	DIN, body of cast iron from DN 150, body of spheroidal-graphite iron, from DN 100, fluids G2, L1, L2[1)]
			DIN/ANSI, body of steel, etc., all fluids
Cryogenic valve	240	3248	DIN/ANSI, all fluids
Globe valve	250	3251	DIN/ANSI, all fluids
Globe valve	250	3251-E	DIN/ANSI, all fluids
Three-way valve	250	3253	DIN/ANSI, body of steel, etc., all fluids
Globe valve	250	3254	DIN/ANSI, all fluids
Angle valve	250	3256	DIN/ANSI, all fluids
Split-body valve	250	3258	DIN, all fluids
Angle valve (IG standards)	250	3259	DIN, all fluids
Steam-converting valve	280	3281	DIN/ANSI, all fluids
		3284	DIN/ANSI, all fluids
		3286	DIN/ANSI, all fluids
		3288	DIN, all fluids
Globe valve	V2001	3321	DIN, body of steel, etc., all fluids
			ANSI, all fluids
Three-way valve	V2001	3323	DIN, body of steel, etc., all fluids
			ANSI, all fluids
Angle seat valve	—	3353	DIN, body of steel, etc., all fluids
Silencer	3381	3381-1	DIN/ANSI, single attenuation plate with welding ends, all fluids
		3381-3	DIN/ANSI, all fluids
		3381-4	DIN/ANSI, single attenuation plate multi-stage with welding ends, all fluids
Globe valve	240	3241	ANSI, body of cast iron, Class 125, from NPS 5, fluids G2, L1, L2[1)]
Cryogenic valve	240	3248	DIN/ANSI, all fluids
Three-way valve	250	3253	DIN, body of cast iron from DN200 PN16, fluids G2, L1, L2[1)]
Globe valve	290	3291	ANSI, all fluids
Angle valve	290	3296	ANSI, all fluids
Globe valve	590	3591	ANSI, all fluids
Angle valve	590	3596	ANSI, all fluids
Cryogenic valve	590	3598	ANSI, NPS 3 to NPS 8, Class 900, all fluids
Control valve	—	3595	ANSI, all fluids

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

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

Directive of the European Parliament and of the Council on the harmonization of the laws of the Member States relating to the making available on the market of pressure equipment	**2014/68/EU**	**of 15 May 2014**
Applied conformity assessment procedure for fluids according to Article 4(1)	**Module H**	**by Bureau Veritas 0062**

The manufacturer's quality management system is monitored by the following notified body:
Bureau Veritas Services SAS, 8 Cours du Triangle, 92800 PUTEAUX – LA DEFENSE
Technical standards applied: DIN EN12516-2, DIN EN12516-3, ASME B16.34

Manufacturer: SAMSON AG, Weismuellerstrasse 3, 60314 Frankfurt am Main, Germany
Frankfurt am Main, 7 April 2021

Dr. Andreas Widl
Chief Executive Officer (CEO)

Dr. Thomas Steckenreiter
Chief Technology Officer (CTO)

Revision 08

DECLARATION OF CONFORMITY

DC021

For the following product

2020-07

Industrial valves in special execution with seals and packings for food contact types 3241, 3321 CT, 3310 and 3252

Seals and packings comply with:

- European Regulation (EC) No. 1935/2004
- American rules FDA 21 CFR § 177.1550.

Grease meets NSF-H1 regulations.

SAMSON REGULATION S.A.S.

Bruno Soulas
Head of Administration

Joséphine Signoles-Fontaine
QSE Manager

DECLARATION OF CONFORMITY

DC022

For the following product

2020-07

Industrial valves in special execution used in food or pharmaceutical environment types 3241, 3321 CT, 3310 and 3252.

For these valves, the materials (seals, glands and bodies), the preparation of the parts and the conditions of assembly are in accordance with:

- European Regulation (EC) No. 1935/2004
- American rules FDA 21 CFR § 177.1550.

Grease meets NSF-H1 regulations.

Warning: these valves are not suitable for direct contact with a food or pharmaceutical fluid. Their design does not comply with food or pharmaceutical requirements.

SAMSON REGULATION S.A.S.

Bruno Soulas
Head of Administration

Joséphine Signoles-Fontaine
QSE Manager

DECLARATION OF CONFORMITY

DC016

For the following products

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℃ ≤ T ≤425℃.

特种设备型式试验证书

Type-Test Certification of Special Equipment

（压力管道元件）

(Pressure Piping Components)

证书编号/Certification No：TSX71002520191340

制造单位/Manufacturer：SAMSON REGULATION S.A.S

单位地址/Address：1 rue Jean Corona 69120 Vaulx-en-Velin, France

设备类别/Equipment Category：金属阀门/ Metal Valves

产品名称（品种）/Name of the Products（Categories）：调节阀/ Controls Valves

产品型号/Type of the Products：TYP3241 NPS4/CL300，TYP3251 NPS2/CL2500

型式检验报告编号/Number of the Type-Test Report：2019TSFM750，2019TSFM751

经型式检验，确认符合 TSG D7002-2006《压力管道元件型式试验规则》的要求。本证书覆盖以下型号规格产品/ The products have undergone the type test, met the requirements of the TSG D7002-2006 Pressure Piping Components Type Test Regulation, which covers the following specifications：

公称压力/Nominal Pressure ≤PN42.0MPa(CL2500)，

公称尺寸/Nominal Size DN50mm~DN100mm (NPS2~NPS4)，

公称压力/Nominal Pressure ≤PN5.0MPa(CL300)，

公称尺寸/Nominal Size DN50mm~DN200mm (NPS2~NPS8)，

适用温度/Operating Temperature -29℃~425℃，调节阀/ Controls Valves.

国家泵阀产品质量监督检验中心
National Quality Supervision and Inspection Centre of Pump and Valve Products

合肥通用机电产品检测院有限公司
Hefei General Machinery & Electrical Products Inspection Institute

2019 年 7 月 8 日/ July. 8, 2019

SAMSON REGULATION S.A.

Bruno Soulas
Head of Administration

SAMSON REGULATION S.A.

Joséphine Signoles-Fontaine
QSE Manager

15 Annex

15.1 Tightening torques

Note concerning the following specifications:

- All tightening torques specified in Nm
- Tightening torque tolerance: ±10 %
- The tightening torques are based on a friction coefficient of 0.06 with a lubricated seat thread and facing.
- After long operating times or long periods or use at temperatures above 250 °C, the breakaway torque may be twice as high as the tightening torque.

15.1.1 Tightening torques to install the seat

Valve size			Seats (2) made of 1.4404	
DN	NPS	Thread	Without torque multiplier	With torque multiplier [1]
15 to 25	½ to 1	M32x1.5	160	– [2]
32 to 50	1½ to 2	M58x1.5	480	38
65 to 80	2½ to 3	M90x1.5	900	72

1) Torque multiplier with gear ratio 1:12.5

2) Only use a torque wrench to tighten the seat; do not use an additional torque multiplier.

15.1.2 Tightening torques for connection of body and bonnet

Valve size		Tightening torque for body nut (10)
DN	NPS	
15 to 25	½ to 1	30
32 to 50	1½ to 2	50
65 to 80	2½ to 3	100

15.1.3 Tightening torques for connection of plug stem and actuator stems

Valve size		Tightening torque for plug stem (3)
DN	NPS	
15 to 50	½ to 2	4
65 to 80	2½ to 3	20

15.1.4 Tightening torques for connection of bonnet and Type 3379 Actuator

Valve size		Tightening torque for valve bonnet (7)
DN	NPS	
15 to 80	½ to 3	50

15.2 Lubricants

⚠ WARNING

Damage to health after contact with hazardous substances.

Certain lubricants 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 operating personnel about the hazardous substances and their correct handling.*

15.2.1 Recommended lubricant

Application	Quantity [g]	Temperature range in °C	Color	Material no.
Seat thread, valve bonnet, packing, body screws	650	–200 to +220	White	8150-0073

15.2.2 Lubricant sorted by parts

Component	Seat	Valve bonnet	Body screw	Packing
Number within drawing	**2**	**7**	**10**	**8**
Lubricant	8150-0073			

15.3 Tools

15.3.1 Seat wrenches

Valve size DN	Valve size NPS	Tool	Material no.	Image
15 to 25	½ to 1	Seat wrench	0440-0065	
32 to 50	1½ to 2	Seat wrench	9110-2464	
65 to 80	2½ to 3	Seat wrench	9110-2467	

Special tools

The following tools are additionally required to install and remove the seat:

Valve size DN	Valve size NPS	Tool	Material no.	Image
32 to 80	1½ to 3	Torque multiplier SX30, gear ratio 1:12.5, max. 3000 Nm	9932-3808	
32 to 50	1½ to 2	Torque wrench	9932-3812	

Valve size DN	Valve size NPS	Tool	Material no.	Image
65 to 80	2½ to 3	Torque wrench	9932-3814	

15.3.2 Plug stem tool

Valve size DN	Valve size NPS	Tool	Material no.	Image
15 to 80	½ to 3	Socket wrench For seats >Ø24 mm	1281-0096	

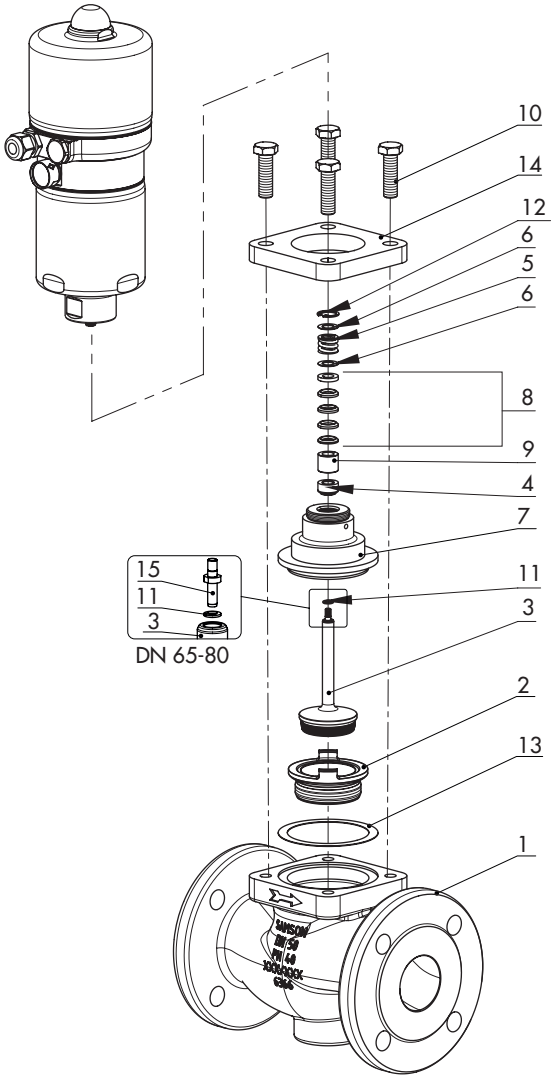
15.3.3 Packing extractor

Valve size DN	Valve size NPS	Tool	Material no.	Image
15 to 40	½ to 1½	Packing extractor	1280-3037	
50 to 500	2 to 20	Packing extractor	1280-3035	
15 to 50	½ to 2	Assembly tool for packing	1281-0094	
65 to 80	2½ to 3	Assembly tool for packing	1281-0145	

15.4 Spare parts

1 Body
2 Seat
3 Plug
4 Guide bushing
5 Spring
6 Washer
7 Valve bonnet
8 Packing
9 Spacer
10 Screw
11 Retaining washer
12 Retaining ring
13 Body gasket
14 Flange
15 Centering pin

Type 3379
Actuator



Type 3321CT Valve

15.5 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 aftersalesservice@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, valve size and valve version
- Pressure and temperature of the process medium
- Flow rate in m^3/h
- Direction of flow
- Bench range of the actuator (e.g. 0.2 to 1 bar)
- Is a strainer installed?
- Installation drawing

EB 8115 EN

SAMSON AKTIENGESELLSCHAFT
Weismüllerstraße 3 · 60314 Frankfurt am Main, Germany
Phone: +49 69 4009-0 · Fax: +49 69 4009-1507
samson@samsongroup.com · www.samsongroup.com

2022-07-14 · English