MOUNTING AND OPERATING INSTRUCTIONS



EB 8313-3 EN

Translation of original instructions



Type 3372 with 120 cm 2 actuator area Type 3372 with 350 cm 2 actuator area

Type 3372 Electropneumatic Actuator

Actuator area: 120 and 350 cm²

With Type 3725 Positioner



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



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



NOTICE

Property damage message or malfunction



Additional information



Recommended action

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1 Safety instructions and measures

Intended use

The SAMSON Type 3372 Actuator is designed for operating a mounted globe valve. In combination with the valve, the actuator is used to shut off and control the flow of liquids, gases or vapors in the pipeline. The actuator is suitable for throttling service. In this case, the actuator is combined with the Type 3725 Positioner. The actuator can be used in processing and industrial plants.

The actuator is designed to operate under exactly defined conditions (e.g. thrust, travel). Therefore, operators must ensure that the actuator is only used in operating conditions that meet the specifications used for sizing the actuator at the ordering stage. In case operators intend to use the actuator in other applications or conditions than specified, contact SAMSON.

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

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

Reasonably foreseeable misuse

The actuator 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 accessories connected to the actuator

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 actuator 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.

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Safety instructions and measures

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 wearing the following personal protective equipment when handling the Type 3372 Electropneumatic Actuator:

- Safety gloves and safety footwear (ESD footwear, if necessary) when mounting or removing the actuator
- Eye protection and hearing protection while the actuator is operating.
- → 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 Type 3372 Electropneumatic Actuator does not have any special safety equipment.

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 actuator by the signal pressure, stored spring energy or 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 actuator 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.

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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.

Servicing explosion-protected devices

If a part of the device on which the explosion protection is based needs to be serviced, the device must not be put back into operation until a qualified inspector has assessed it according to explosion protection requirements, has issued an inspection certificate or given the device a mark of conformity. Inspection by a qualified inspector is not required if the manufacturer performs a routine test on the device before putting it back into operation and the passing of the routine test is documented by attaching a mark of conformity to the device. Replace explosion-protected components only with original, routine-tested components by the manufacturer.

Devices that have already been operated outside hazardous areas and are intended for future use inside hazardous areas must comply with the safety requirements placed on serviced devices. Before being operated inside hazardous areas, test the devices according to the specifications for servicing explosion-protected devices.

Maintenance, calibration and work on equipment

- Only use intrinsically safe current/voltage calibrators and measuring instruments for interconnection with intrinsically safe circuits to check or calibrate the equipment inside or outside hazardous areas.
- → Observe the maximum permissible values specified in the certificates for intrinsically safe circuits.

Referenced standards, directives and regulations

The Type 3372 Electropneumatic Actuator fulfills the requirements of the Directives 2014/30/EU and 2014/34/EU. Furthermore, the actuators are partly completed machinery as defined in the Machinery Directive 2006/42/EC. The declarations of conformity and incorporation are included in the 'Certificates' section.

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Safety instructions and measures

Referenced documentation

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

- EB 8394 for the mounted Type 3725 Positioner
- Mounting and operating instructions for the valve on which it is mounted
- Mounting and operating instructions for mounted valve accessories (e.g. ► EB 8367 for Type 4744 Limit Switch)
- AB 0100 for tools, tightening torques and lubricant
- 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 the actuator.

Actuators are pressurized. Improper opening can lead to actuator components bursting.

→ Before starting any work on the actuator, depressurize all plant sections affected and the actuator

Risk of fatal injury due to the ignition of an explosive atmosphere.

Incorrect installation, operation or servicing of the electropneumatic actuator in potentially explosive atmospheres may lead to ignition of the atmosphere and ultimately to death

- → The following regulations apply to installation in hazardous areas: EN 60079-14 (VDE 0165, Part 1).
- → Installation, operation or servicing of the electropneumatic actuator must only be performed by personnel who has undergone special training or instructions or who is authorized to work on explosion-protected devices in hazardous areas.

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1.2 Notes on possible personal injury

A WARNING

Crush hazard arising from moving parts.

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

- → Do not touch the actuator stem or insert hands or finger into the yoke or beneath the actuator stem while the air supply is connected to the actuator.
- → While working on the actuator, disconnect and lock the pneumatic air supply as well as the control signal.
- → Do not impede the movement of the actuator stem by inserting objects into the yoke.
- → Before unblocking the actuator stem after it has 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 'Relieving the spring compression in the actuator' in the 'Removal' section.

Risk of personal injury when the actuator vents.

The actuator is operated with air. As a result, air is vented during operation.

- → 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 1).
- → Use suitable silencers and vent plugs.
- → Wear eye and hearing protection when working near the actuator.

Risk of personal injury due to preloaded springs.

Actuators with preloaded springs are under tension. These actuators can be identified by several longer bolts with nuts protruding from the bottom diaphragm case. These bolts allow the spring compression to be relieved evenly on disassembling the actuator. Actuators with considerably preloaded springs are also labeled correspondingly (see section 1.4).

→ Before starting any work on the actuator, relieve the compression from the preloaded springs. See 'Relieving the spring compression in the actuator' in the 'Removal' section.

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¹⁾ If not described otherwise in the valve documentation, the work position for the control valve is the front view looking onto the operating controls (including valve accessories).

A 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.

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

Over time, markings, labels and nameplates on the actuator 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

i NOTICE

Risk of actuator damage due to excessively high supply pressure.

An excessively high supply pressure can lead to impermissible movements or forces which might damage the actuator.

- → Observe supply pressure restrictions. See the 'Operation' section.
- → Restrict the supply pressure by using a suitable supply pressure reducing station.

An incorrect electric signal will damage the electropneumatic actuator.

A current source must be used to power the actuator.

→ Only use a current source and never a voltage source.

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i NOTICE

Incorrect assignment of the terminals will damage the electropneumatic actuator and will lead to malfunction.

For the actuator to function properly, the prescribed terminal assignment must be observed

→ Connect the electrical wiring according to the prescribed terminal assignment.

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

Observe the specified torques when tightening actuator components. Excessive tightening torques lead to parts wearing out more quickly. Parts that are not tightened far enough may loosen.

→ Observe the specified tightening torques (► AB 0100).

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

Certain tools are required to work on the actuator.

→ Only use tools approved by SAMSON (► AB 0100).

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

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

→ Only use lubricants approved by SAMSON (► AB 0100).

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1.4 Warnings on the device

The following warning is only affixed to the device on delivery when the actuator is fitted with preloaded springs in the delivered state:

Warning	Meaning of the warning	Location on the device
Actuators manufactured before April 2020 have the following warning affixed to them:	Warning to indicate that actuator parts are pressurized. The springs in the actuator are preloaded. Only open the actuator following the instructions in this document. See 'Relieving the spring compression in the actuator' in the 'Removal' section.	
ACHTUN VORGESPAI ANTRIE	NNTER PRE-LOADED SERVO-MOTEUR	

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2 Markings on the device

Actuator nameplate

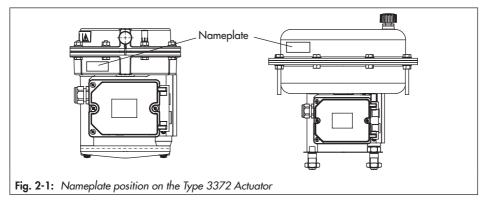
The nameplate is stuck on the diaphragm casing. The nameplate of the Type 3372 with 120 cm² actuator area is located on the bottom diaphragm case. The nameplate of the Type 3372 with 350 cm² actuator area is located on the top diaphragm case. It includes all details required to identify the device:

- 1 Actuator area
- Model number
- 3 Configuration ID
- 4 Serial number
- 5 Max. supply pressure p_{max} in bar /psi
- 6 Month and year of manufacture
- 7 Symbol indicating fail-safe action

Actuator stem extends (FA)

- Actuator stem retracts (FE)

- 8 Operating travel in mm
- 9 Bench range in bar
- 10 Bench range in psi
- 11 indicating manual override
- 12 Data Matrix code



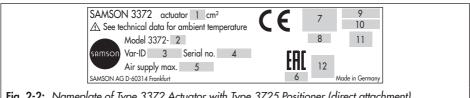


Fig. 2-2: Nameplate of Type 3372 Actuator with Type 3725 Positioner (direct attachment)

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2.2 Label indicating actuator with preloaded springs

A label on the actuator indicates that the actuator springs are preloaded in the delivered state (see Fig. 2-3).



Fig. 2-3: Adhesive label indicating preloaded actuator springs in the delivered state

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3 Design and principle of operation

The Type 3372 Electropneumatic Actuators have an actuator area of either 120 or 350 cm². They are mainly used for attachment to SAMSON Series V2001 Valves:

- Type 3321 Globe Valve
- Type 3323 Three-way Valve
- Type 3531 Globe Valve for Heat Transfer Oil
- Type 3535 Three-way Valve for Heat Transfer Oil

Table 3-1 and Table 3-2 provide an overview of the possible combinations and how the actuator is mounted on the valve.

The electropneumatic actuators mainly consist of two diaphragm cases, a diaphragm and internal springs. The actuator is connected to the valve bonnet using a rod-type yoke. The stem connector clamps connect the actuator stem with the plug stem of the valve.

The Type 3725 Electropneumatic Positioner is attached to the rod with the largest diameter using a support element. This positioner converts the control signal received from a control system (4 to 20 mA reference variable) into a proportional pressure signal.

The signal pressure p_{st} creates the force $F = p_{st} \cdot A$ at the diaphragm surface A, which is opposed by the springs in the actuator. The bench range is determined by the number of springs used and their compression, taking into account the rated travel. The travel is proportional to the signal pressure p_{st} .

3.1 Direction of action

The direction of action is determined by how the springs and diaphragm plate are arranged in the actuator. The direction of action is fixed at the ordering stage and cannot be changed.

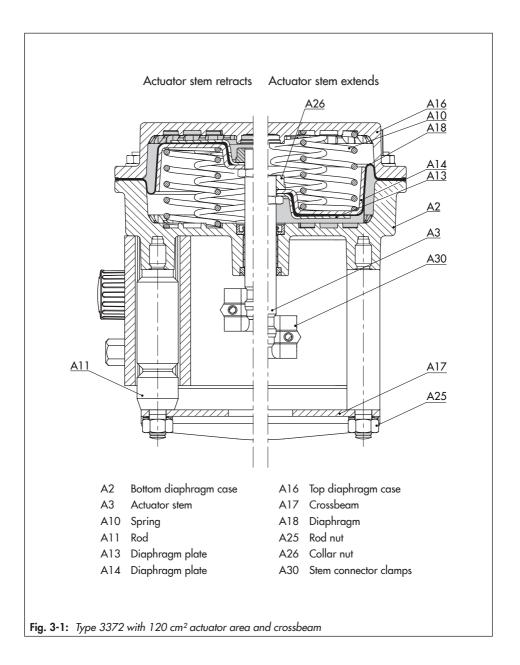
Actuator stem extends (FA)

With direction of action "actuator stem extends", the compressed air is applied to the signal pressure connection on the bottom diaphragm case.

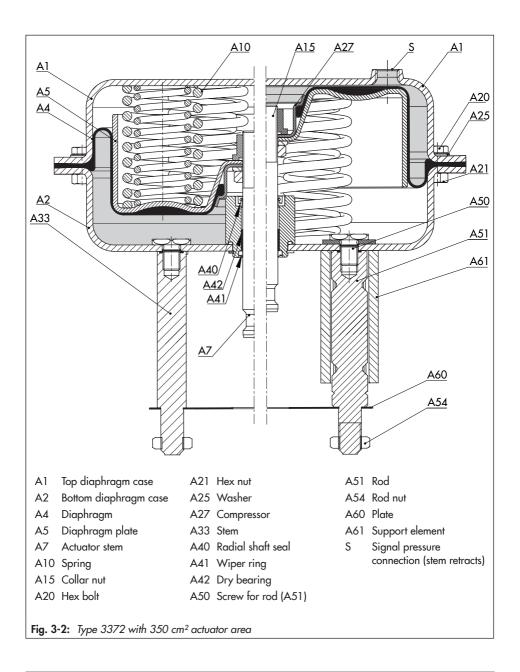
Actuator stem retracts (FE)

With direction of action "actuator stem retracts", the compressed air is applied to the signal pressure connection on the top diaphragm case.

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EB 8313-3 EN 3-3

3.2 Signal pressure routing

The signal pressure of the mounted Type 3725 Positioner is routed through the corresponding port in the support element.

Actuator stem extends (FA)

In the "actuator stem extends" version, the signal pressure is routed directly through the support element to the bottom diaphragm chamber and moves the actuator stem upward opposing the spring force (see Fig. 3-3).

Actuator stem retracts (FE)

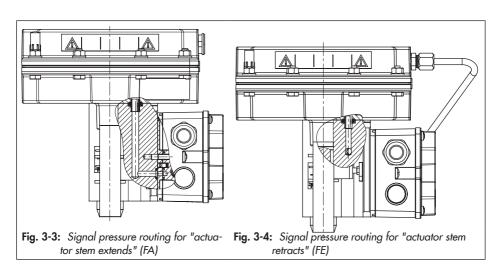
The support element of the version with failsafe action "actuator stem retracts" has a borehole at the side. The signal pressure is routed to the top diaphragm chamber over external piping and moves the actuator stem downward opposing the spring force (see Fig. 3-4).

3.3 Fail-safe position

When the signal pressure is reduced or the control signal fails, the fail-safe position of the control valve (see section 3.1) depends on whether the springs are installed in the top or bottom diaphragm chamber.

3.3.1 Actuator stem extends

When the signal pressure is reduced or the control signal fails, the springs move the actuator stem downward and close the globe valve. The valve opens when the signal pressure is increased enough to overcome the spring force.



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3.3.2 Actuator stem retracts

When the signal pressure is reduced or the control signal fails, the springs move the actuator stem upward and open a mounted alobe valve. The valve closes when the signal pressure is increased enough to overcome the spring force.

Mounting types 3.4

There are two types of mounting depending on the valve/actuator combination: mounting using a crossbeam or rods (see Table 3-1 and Table 3-21.

When the actuator is mounted to the valve using a crossbeam (form B, Fig. 3-5), the actuator is fastened to the valve bonnet using a central nut.

When the actuator is mounted using rods (form C, Fig. 3-6), the actuator is connected to the valve bonnet using rods. In this case, a crossbeam is not required for mounting the actuator. A plate keeps the correct distance between rods in the 350 cm² version.

Both mounting types are described in the 'Mounting and assembly' section.

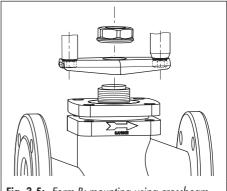


Fig. 3-5: Form B: mounting using crossbeam

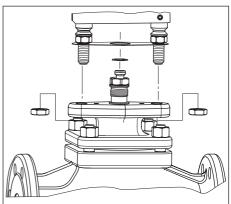


Fig. 3-6: Form C: mounting using rods (in this example: 350 cm²)

Table 3-1:	Mounting	onto	HVAC	valves
------------	----------	------	-------------	--------

	Actuator area	120 cm ²	350 cm ²
	Travel	15 mm	30 mm
Type Valve	Valve size DN		
3214	65 to 100	Form B	-
3214	125 to 250	-	On request
3260	65 to 80	Form B	-
3260	100 to 150	_	Form B

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Table 3-2: Mounting onto Series V2001 Valves

					120	cm ²		
				Stem ext	ends (FA)	Stem ret	racts (FE)	
				2.1 to 3.3	1.4 to 2.3	0.4 to 1.4	1.4 to 2.3	
Туре	DN	K _{vs}	Travel		15	mm		
3321	15 to 50	0.25 to 35		В	В	В	В	
3321	65 to 100	40 to 100	15 mm	C 1)	-	C 1)	-	
3323	15 to 50	4 to 32	13 mm	_	В	_	В	
3323	65 to 80	60 to 80		-	-	-	-	
3321	100	160	20	-	-	-	-	
3323	100	160	30 mm	-	-	_	-	
3531	15 to 80	1.6 to 80	15	В	В	В	В	
3535	15 to 80	4 to 80	15 mm	В	В	В	В	

3.5 Versions

Standard version of Type 3372 (120 cm²)

The housings of Type 3372 Electropneumatic Actuators have an actuator area of 120 cm² and are made of die-cast aluminum.

Standard version of Type 3372 (350 cm²)

The housings of Type 3372 Electropneumatic Actuators have an actuator area of 350 cm² and are made of sheet steel.

3.6 Accessories

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.

► AB 07

Lifting fixture

A special lifting tool is available to lift the electropneumatic actuator with 120 and 350 cm² actuator areas (AB 0100).

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	350					
Stem extends (FA)	Stem retracts (FE)	Stem extends (FA)	Stem retracts (FE)			
2.1 to 2.7	1.5 to 2.1	2.2 to 3.8	1.5 to 2.7			
15	mm	30	mm	K _{vs}	DN	Туре
-	-	-	-	0.25 to 35	15 to 50	3321
С	С	-	-	40 to 100	65 to 100	3321
-	-	-	-	4 to 32	15 to 50	3323
С	С	-	-	60 to 80	65 to 80	3323
-	-	С	С	160	100	3321
-	-	С	С	160	100	3323
-	-	-	-	1.6 to 80	15 to 80	3531
-	-	-	-	4 to 80	15 to 80	3535

Reducing station for supply air

The reducing station for supply air can be directly attached when combined with a Type 3730 Positioner. All other reducing stations must be attached with an external hook-up.

3.7 Technical data

The nameplate provides information on the actuator version (see the 'Markings on the device' section).

i Note

More information is available in Data Sheet ► T 8313.

Conformity

The Type 3372 Electropneumatic Actuator with Type 3725 Positioner (direct attachment) bears the CE mark of conformity.

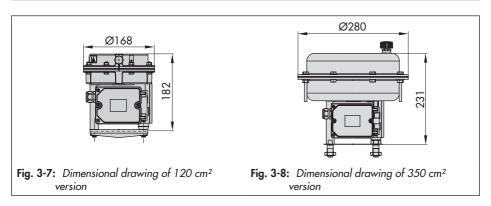


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Design and principle of operation

Table 3-3: Ex approvals

Туре 3372		With Type 3725 Positioner (direct attachment)					
Actuator area		120 cm ²	350 cm ²				
Rated travel		15 mm	15 mm 15 mm				
ATEX	Number		PTB 11 ATEX 2020 X	(
(C.)	Date	2011-08-25					
/CX/	Type of protection	II 2G Ex ia IIC T4					
	Number	2703735 X					
CSA Group	Date	2014-06-03					
® ®	Type of protection	Ex ia IIC T4; Class I, Zone O, AEx ia IIC T4; Class I, Div. 1, Groups A, B, C & D					
GOST	Number	RU C-DE.GB08.B.00697					
FREE	Date	e 2014-12-15					
	Valid until	2019-12-14					
	Type of protection	1EX ia IIC T4 Gb X					



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Table 3-4: Technical data

Actuator area		120	cm ²		350 cm ²			
Bench range in bar	0.4 to 1.4	1.4 t	o 2.3	2.1 to 3.3	1.5 to 2.1	2.1 to 2.7	1.5 to 2.7	2.2 to 3.8
Fail-safe action	Stem retracts (FE)	Stem retracts (FE)	Stem extends (FA)	Stem extends (FA)	Stem retracts (FE)	Stem extends (FA)	Stem retracts (FE)	Stem extends (FA)
Travel			15	mm			30	mm
Supply pressure				Max. 6	6 bar 1)			
Ambient temperature range	-35 to +90 °C ²)				-90 °C ²⁾			
Dimensions		Refer to Fig. 3-7			Refer to Fig. 3-8			
Weight, approx.	3.3 kg			15 kg				
Material								
Actuator housing	Alu	minum, po	owder coa	ting		1.0	332	
Diaphragm		Ν	BR		NBR			
Actuator stem	1.4305			1.4401/1.4404				
Electropneumatic pos	itioner							
Type 3725	Refer to Data Sheet ► T 8394 and Mounting and Operating Instructions ► EB 8394						ns	
Electric limit switch								
Type 4744-2 One electric limit contact · 15 mm travel range ► T 8367 and ► EB 8367					-	_		

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See the 'Operation' section for restrictions in on/off service.
Observe temperature limits of the mounted valve accessories.

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4 Shipment and on-site transport

The work described in this section is only to be performed by personnel qualified for the assignment accordingly.

4.1 Accepting the delivered goods

After receiving the shipment, proceed as follows:

- Check the scope of delivery. Check that the specifications on the actuator nameplate match the specifications in the delivery note. See the 'Markings on the device' section for nameplate details.
- Check the shipment for transportation damage. Report any damage to SAM-SON and the forwarding agent (refer to delivery note).
- 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' section.

4.2 Removing the packaging from the actuator

Observe the following sequence:

- Do not open or remove the packaging until immediately before mounting the actuator
- → Leave the actuator in its packaging to transport it on site.

→ Dispose and recycle the packaging in accordance with the local regulations.

4.3 Transporting and lifting the actuator

Due to the low service weight, lifting equipment is not required to lift and transport the actuator (e.g. to mount it onto a valve). If lifting equipment (e.g. crane or forklift) is to be used, we have a lifting fixture available for the actuator (see 'Accessories' in the 'Design and principle of operation' section).

4.3.1 Transporting the actuator

- → Leave the actuator in its packaging to transport it.
- → Observe the transport instructions.

Transport instructions

- Protect the actuator against external influences (e.g. impact).
- Do not damage the corrosion protection (paint, surface coatings). Repair any damage immediately.
- Protect the actuator against moisture and dirt.
- The permissible transportation temperature is between -20 and +65 °C.

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4.3.2 Lifting the actuator

i Note

See valve documentation for more information on lifting the entire control valve assembly.

4.4 Storing the actuator

NOTICE

Risk of actuator damage due to improper storage.

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

i Note

We recommend regularly checking the actuator and the prevailing storage conditions during long storage times.

Storage instructions

- When the valve and actuator are already assembled, observe the storage conditions for control valves. See associated valve documentation.
- Protect the actuator against external influences (e.g. impact).
- Secure the actuator in the stored position against slipping or tipping over.

- Do not damage the corrosion protection (paint, surface coatings). Repair any damage immediately.
- Protect the actuator against moisture and dirt. Store it at a relative humidity of less than 75 %. In damp spaces, prevent condensation. If necessary, use a drying agent or heating.
- Make sure that the ambient air is free of acids or other corrosive media.
- Observe permissible temperatures (see 'Technical data' in the 'Design and principle of operation' section).
- Do not place any objects on the actuator.

Special storage instructions for elastomers

Elastomer, e.g. actuator diaphragm

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

-∑- Tip

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

4-2 EB 8313-3 EN

5 Mounting and assembly

The work described in this section is only to be performed by personnel qualified for the assignment accordingly.

▲ DANGER

Risk of fatal injury due to the ignition of an explosive atmosphere.

Incorrect installation, operation or servicing of the electropneumatic actuator in potentially explosive atmospheres may lead to ignition of the atmosphere and cause death.

- → The following regulations apply to installation in hazardous areas: EN 60079-14 (VDE 0165, Part 1).
- → Work must only performed by personnel who has undergone special training or instructions or who is authorized to work on explosion-protected devices in hazardous areas.

5.1 Preparation for mounting

Before mounting, make sure the following conditions are met:

- The actuator is not damaged.
- The type designation, material and temperature range of the actuator match the ambient conditions (temperatures etc.).
 See the 'Markings on the device' section for nameplate details.

Proceed as follows:

Lay out the necessary material and tools to have them ready during mounting.

- → Check that the vent plugs to be used are not blocked.
- → Check any pressure gauges mounted on valve accessories to make sure they function properly.
- → When the valve and actuator are already assembled, check the tightening torques of the bolted joints (► AB 0100). Components may loosen during transport.

5.2 Mounting the device

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. Proceed as follows to mount the actuator and before start-up.

A WARNING

Risk of personal injury due to exhaust air being vented.

The actuator is operated with air. As a result, air is vented during operation.

- → During mounting make sure that vent holes are not located at eye level in the work position of the control valve and the actuator does not vent at eye level in the work position.
- → Wear eye and hearing protection when working near the actuator.

EB 8313-3 EN 5-1

A WARNING

Crush hazard arising from the moving actuator stem.

- → Do not touch the actuator stem or insert hands or finger into the yoke while the air supply is connected to the actuator.
- → Before working on the actuator, disconnect and lock the pneumatic air supply as well as the control signal.
- → Do not impede the movement of the actuator stem by inserting objects into the yoke.
- → Before unblocking the actuator stem after it has 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 'Relieving the spring compression in the actuator' in the 'Removal' section.

• NOTICE

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

Observe the specified torques on tightening actuator components. Excessively tightened torques lead to parts wearing out quicker. Parts that are not tightened far enough may loosen.

→ Observe the specified tightening torques (► AB 0100).

NOTICE

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

→ Only use tools approved by SAMSON (► AB 0100).

5.2.1 Mounting the actuator onto the valve

If the positioner is already mounted on the actuator (on the support element), it must be removed before the actuator can be mounted onto the valve. See associated positioner documentation.

To mount the actuator on the valve, proceed as follows:



The valve and actuator are assembled with special attention paid to the actuator's bench range and direction of action. These details are specified on the actuator nameplate (see the 'Markings on the device' section).

5-2 EB 8313-3 EN

a) 120 cm² version

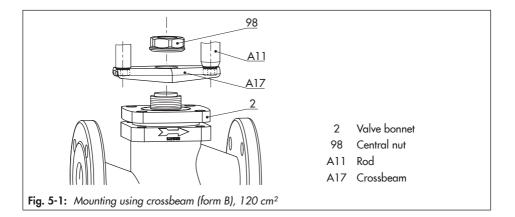
Mounting using crossbeam (form B, see Fig. 5-1)

NOTICE

The actuator can be damaged.

- → Do not unscrew the rods (A11) from the crossbeam (A17).
- Remove the clamps of the stem connector (A30) from the actuator.
- 2. Unscrew the central nut (98) from the valve bonnet (2).
- 3. Press the plug together with the plug stem firmly into the seat ring.
- 4. Place the actuator with the crossbeam (A17) onto the thread of the valve bonnet (2), making sure that the central nut (98) is placed over the plug stem and fasten it to the valve bonnet. Observe tightening torques.

- Fail-safe action "stem extends": position the stem connector clamps (A30) and screw them tight. Observe tightening torques.
 - Fail-safe action "stem retracts": apply pressure to the top diaphragm chamber until the actuator stem touches the plug stem. Position the stem connector clamps (A30) and screw them tight. Observe tightening torques.



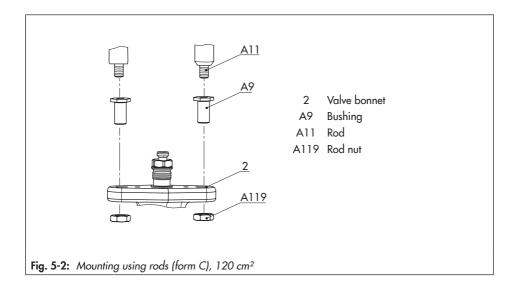
EB 8313-3 EN 5-3

Mounting and assembly

Mounting using rods (form C, see Fig. 5-2)

- Remove the stem connector clamps (A29) from the actuator.
- 2. Insert the rods (A11) into the bushings (A9) and place them in the corresponding holes on the valve bonnet (2).
- Tighten the rod nuts (A119) in alternating sequence. Observe tightening torques.
- Fail-safe action "stem extends": position the stem connector clamps (A29) and screw them tight. Observe tightening torques.

Fail-safe action "stem retracts": apply pressure to the top diaphragm chamber until the actuator stem touches the plug stem. Position the stem connector clamps (A29) and screw them tight. Observe tightening torques.



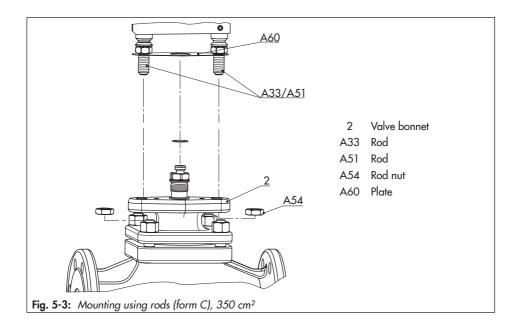
5-4 EB 8313-3 EN

b) 350 cm² version

Mounting using rods (form C, see Fig. 5-3)

- Remove the clamps of the stem connector (A12) from the actuator.
- Unscrew the rod nuts (A54) from the rods (A33, A51). Leave the plate (A60) attached to the rods.
- 3. Place the actuator with the rod ends on the valve bonnet (2).
- Tighten the rod nuts (A54) in alternating sequence. Make sure that the rods on the bottom case do not turn. Observe tightening torques.

- Fail-safe action "stem extends": position the stem connector clamps (A12) and screw them tight. Observe tightening torques.
 - Fail-safe action "stem retracts": apply pressure to the top diaphragm chamber until the actuator stem touches the plug stem. Position the stem connector clamps (A12) and screw them tight. Observe tightening torques.



EB 8313-3 EN 5-5

Mounting and assembly

5.3 Connections

The actuator is fitted with M20x1.5 black plastic cable glands and a pneumatic connecting plate G $\frac{1}{4}$ as standard.

→ If other connections are required, use the accessories listed in the mounting and operating instructions of the positioner (e.g. ► EB 8394 for Type 3725).

5-6 EB 8313-3 EN

6 Start-up

The work described in this section is only to be performed by personnel qualified for the assignment accordingly.

A DANGER

Risk of fatal injury due to the ignition of an explosive atmosphere.

Incorrect installation, operation or servicing of the electropneumatic actuator in potentially explosive atmospheres may lead to ignition of the atmosphere and cause death.

- → The following regulations apply to installation in hazardous areas: EN 60079-14 (VDE 0165, Part 1).
- → Work must only performed by personnel who has undergone special training or instructions or who is authorized to work on explosion-protected devices in hazardous areas.

▲ DANGER

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

Pneumatic actuators are pressure equipment that may burst when handled incorrectly. Flying projectile fragments or components can cause serious injury or even death. Before working on the actuator:

Depressurize all plant sections concerned and the actuator. Release any stored energy.

A WARNING

Risk of personal injury due to preloaded springs.

Actuators with preloaded springs are under tension. These actuators can be identified by several longer bolts with nuts protruding from the bottom diaphragm case. Actuators with considerably preloaded springs are also labeled correspondingly (see the 'Markings on the device' section).

Only open the actuator following the instructions in this document. See 'Relieving the spring compression in the actuator' in the 'Removal' section.

A WARNING

Risk of personal injury due to exhaust air being vented.

The actuator is operated with air. As a result, air is vented during operation.

→ Wear eye and hearing protection when working near the actuator.

A WARNING

Crush hazard arising from the moving actuator stem.

- → Do not insert hands or finger into the yoke while the air supply is connected to the actuator
- → Before working on the actuator, disconnect and lock the pneumatic air supply as well as the control signal.
- Do not impede the movement of the actuator stem by inserting objects into the yoke.

EB 8313-3 EN 6-1

→ Before unblocking the actuator stem after it has 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 'Relieving the spring compression in the actuator' in the 'Removal' section.

NOTICE

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

Observe the specified torques on tightening actuator components. Excessively tightened torques lead to parts wearing out quicker. Parts that are not tightened far enough may loosen.

→ Observe the specified tightening torques (► AB 0100).

NOTICE

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

→ Only use tools approved by SAMSON (► AB 0100).

6.1 Preloading the springs

See Fig. 6-1

By preloading the springs in the actuator, the following can be achieved:

The thrust is increased (only actuators with "stem extends")

 In combination with a SAMSON valve: the actuator travel range can be adapted to a smaller valve travel range

6.1.1 Tensioning the springs

NOTICE

Risk of actuator damage due to the springs being tensioned unevenly.

- → Distribute clamping bolts and nuts evenly around the circumference.
- → Tighten the nuts gradually in a crisscross pattern.

i Note

Only the springs in actuators with 350 cm² area can be preloaded.

- 1. Distribute the long bolts (A22) evenly around the circumference.
- Screw the nuts (A21) with shims (A25) onto the clamping bolts (A22) until they rest on the bottom diaphragm case (A2).
- 3. To tension the springs evenly, tighten the nuts (A21) gradually in a crisscross pattern until both diaphragm cases (A1, A2) rest on the diaphragm (A4). Hold the bolt head stationary with a suitable tool and apply the tightening torque to the nuts. Observe tightening torques.
- 4. Insert the short bolts (A20) through the intended holes in the diaphragm cases (A1, A2).

6-2 EB 8313-3 EN

 Screw the short nuts (A21) with shims (A25) onto the bolts (A20). Observe tightening torques.

6.1.2 Increasing the actuator thrust

The thrust can only be increased in actuators with "stem extends" direction of action. To achieve this, the springs of the actuators can be preloaded by up to 25 % of their travel or bench range.

Example: Preloading is required for a bench range of 1.5 to 2.1 bar. 25 % of this span is 0.15 bar. Therefore, the signal pressure range is shifted by 0.15 bar to 1.65 to 2.25 bar. The new lower signal range value is 1.65 bar and the new upper signal range value 2.25 bar.

→ Write the new signal pressure range of 1.65 to 2.25 bar on the actuator nameplate as the operating range with preloaded springs.

6.1.3 Adapting the travel range

In some cases, the valve and actuator have different rated travels. Depending on the direction of action, proceed as follows:

Direction of action: actuator stem extends

Always use actuators with preloaded springs when the valve's rated travel is smaller than the rated travel of the actuator.

Example: DN 25 valve with 15 mm rated travel and 350 cm² actuator with 30 mm rated travel; 1.5 to 2.7 bar bench range.

The signal pressure for half the actuator travel (15 mm) is 2.1 bar. Adding it to the lower signal pressure range value of 1.5 bar results in a signal pressure of 3.6 bar required for spring compression. The new lower signal range value is 3.6 bar and the new upper signal range value 4.8 bar.

Write the new signal pressure range of 3.6 to 4.8 bar on the actuator nameplate as the operating range with preloaded springs.

Direction of action: actuator stem retracts

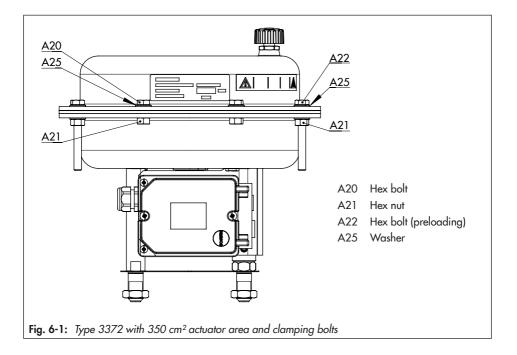
The springs of actuators with "stem retracts" action cannot be preloaded. When a SAMSON valve is combined with an oversized actuator (e.g. the rated travel of the actuator is larger than the rated travel of the valve), only the first half of the actuator's bench range can be used.

Example: DN 25 valve with 15 mm rated travel and 350 cm² actuator with 30 mm rated travel; 1.5 to 2.7 bar bench range.

At half the valve travel, the operating range is between 1.5 and 2.1 bar.

EB 8313-3 EN 6-3

Start-up



6-4 EB 8313-3 EN

7 Operation

The work described in this section is only to be performed by personnel qualified for the assignment accordingly.

▲ DANGER

Risk of fatal injury due to the ignition of an explosive atmosphere.

Incorrect installation, operation or servicing of the electropneumatic actuator in potentially explosive atmospheres may lead to ignition of the atmosphere and cause death.

- → The following regulations apply to installation in hazardous areas: EN 60079-14 (VDE 0165, Part 1).
- → Work must only performed by personnel who has undergone special training or instructions or who is authorized to work on explosion-protected devices in hazardous areas.

A WARNING

Risk of personal injury due to exhaust air being vented.

The actuator is operated with air. As a result, air is vented during operation.

→ Wear eye and hearing protection when working near the actuator.

A WARNING

Crush hazard arising from the moving actuator stem.

→ Do not insert hands or finger into the yoke while the air supply is connected to the actuator.

- → Before working on the actuator, disconnect and lock the pneumatic air supply as well as the control signal.
- Do not impede the movement of the actuator stem by inserting objects into the yoke.
- → Before unblocking the actuator stem after it has 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 'Relieving the spring compression in the actuator' in the 'Removal' section.

i Note

See associated mounting and operating instructions for additional instructions on operation, e.g. ► EB 8394 for Type 3725 Positioner or ► EB 8367 for Type 4744 Limit Switch

7.1 Throttling service

The Type 3372 Pneumatic Actuator is designed for a maximum supply pressure of 6 bar when used for throttling service.

7.2 On/off service

In on/off service, the supply pressure must be limited depending on the bench range or operating range of the actuator. The applicable bench range or operating range which the actuator can move through is written on the nameplate (see the 'Markings on the device' section).

EB 8313-3 EN 7-1

Version with direction of action "actuator stem retracts"

With fail-safe action "actuator stem retracts (FE)", the permissible supply pressure must not exceed the upper bench range value by more than 3 bar:

Bench range	Fail-safe action	Max. supply pressure
0.2 to 1.0 bar		4 bar
0.4 to 2.0 bar	Actuator stem retracts	5 bar
0.6 to 3.0 bar	Tellucis	6 bar

Version with direction of action "actuator stem extends"

With fail-safe action "actuator stem extends" and travel stop, the supply pressure must not exceed the upper signal range value by more than 1.5 bar.

7.3 Additional notes concerning operation

- → Label actuators with reduced supply pressure with a sticker ("Max. supply pressure limited to ... bar").
- → Only apply the signal pressure to the signal pressure connection (S) on the diaphragm chamber of the actuator which does not contain any springs (see Fig. 3-1 and Fig. 3-2 in the 'Design and principle of operation' section).
- → Only use vent plugs that let air through them.

7-2 EB 8313-3 EN

8 Malfunctions

8.1 Troubleshooting

Malfunction	Possible reasons	Recommended action
Actuator stem does not move on demand.	Actuator is blocked.	Check attachment. Unblock the actuator. WARNING! A blocked actuator (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 stem, disconnect and lock the pneumatic air supply as well as the control signal. Before unblocking the actuator stem, release any stored energy in the actuator (e.g. spring compression). See 'Relieving the spring compression in the actuator' in the 'Removal' section.
	Insufficient signal pressure	Check the signal pressure. Check the signal pressure line for leakage.
	Signal pressure not connected to the correct diaphragm chamber.	See the 'Mounting and assembly' section.
	Diaphragm in the actuator defective	See 'Replacing the diaphragm' in the 'Servicing' section.
Actuator stem does not stroke through its com-	Insufficient signal pressure	Check the signal pressure. Check the signal pressure line for leakage.
plete travel range.	Incorrect setting of valve accessories.	Check the actuator without valve accessories. Check the settings of the valve accessories.

i Note

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

EB 8313-3 EN 8-1

Malfunctions

8.2 Emergency action

The plant operator is responsible for emergency action to be taken in the plant.

8-2 EB 8313-3 EN

9 Service and conversion work

The work described in this section is only to be performed by personnel qualified for the assignment accordingly.

The following documents are also necessary for servicing the valve:

 AB 0100 for tools, tightening torques and lubricant

A DANGER

Risk of fatal injury due to the ignition of an explosive atmosphere.

Incorrect installation, operation or servicing of the electropneumatic actuator in potentially explosive atmospheres may lead to ignition of the atmosphere and cause death.

- → The following regulations apply to installation in hazardous areas: EN 60079-14 (VDE 0165, Part 1).
- → Work must only performed by personnel who has undergone special training or instructions or who is authorized to work on explosion-protected devices in hazardous greas.

▲ DANGER

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

Pneumatic actuators are pressure equipment that may burst when handled incorrectly. Flying projectile fragments or components can cause serious injury or even death. Before working on the actuator: Depressurize all plant sections concerned and the actuator. Release any stored energy.

A WARNING

Risk of personal injury due to preloaded springs.

Actuators with preloaded springs are under tension. These actuators can be identified by several longer bolts with nuts protruding from the bottom diaphragm case. Actuators with considerably preloaded springs are also labeled correspondingly (see the 'Markings on the device' section).

→ Only open the actuator following the instructions in this document. See 'Relieving the spring compression in the actuator' in the 'Removal' section.

A WARNING

Risk of personal injury due to exhaust air being vented.

The actuator is operated with air. As a result, air is vented during operation.

→ Wear eye and hearing protection when working near the actuator.

A WARNING

Crush hazard arising from the moving actuator stem.

→ Do not insert hands or finger into the yoke while the air supply is connected to the actuator.

EB 8313-3 EN 9-1

Service and conversion work

- Before working on the actuator, disconnect and lock the pneumatic air supply as well as the control signal.
- Do not impede the movement of the actuator stem by inserting objects into the yoke.
- → Before unblocking the actuator stem after it has 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 'Relieving the spring compression in the actuator' in the 'Removal' section.

A WARNING

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

After any adjustment or conversion work, the details on the actuator nameplate may no longer be correct. This may apply, for example, to the configuration ID or the symbol after reversal of the direction of action.

- → Immediately renew any nameplates or labels with incorrect or outdated information
- Add any new values to the nameplate. If necessary, contact SAMSON to obtain a new nameplate.

NOTICE

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

Observe the specified torques on tightening actuator components. Excessively tightened

torques lead to parts wearing out quicker. Parts that are not tightened far enough may loosen.

→ Observe the specified tightening torques (► AB 0100).

NOTICE

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

→ Only use tools approved by SAMSON (► AB 0100).

NOTICE

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

→ Only use lubricants approved by SAMSON (► AB 0100).

i Note

- 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 SAM-SON, which comply with the original specifications

9.1 Periodic testing

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

9-2 EB 8313-3 EN

-\(\square\) 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

- Lay out the necessary material and tools to have them ready for the intended work.
- Put the actuator out of operation (see the 'Decommissioning' section).
- Remove the actuator from the valve (see the 'Removal' section).

i Note

To remove an actuator with "stem extends" fail-safe action and/or with preloaded springs, a certain signal pressure must be applied to the actuator (see the 'Removal' section). Afterwards, the signal pressure must be removed and the air supply disconnected again and locked.

- Relieve the compression from the preloaded springs. See 'Relieving the spring compression in the actuator' in the 'Removal' section.
- Unthread and remove the nuts and bolts (including the washers) from around the actuator casing.

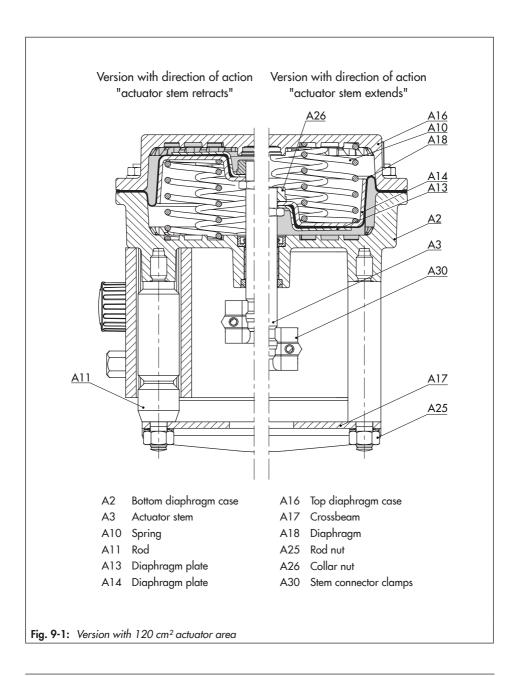
The following service work can be performed after preparation is completed:

- Replace the diaphragm (see section 9.4.1).
- Replace the actuator stem seals (see section 9.4.2).

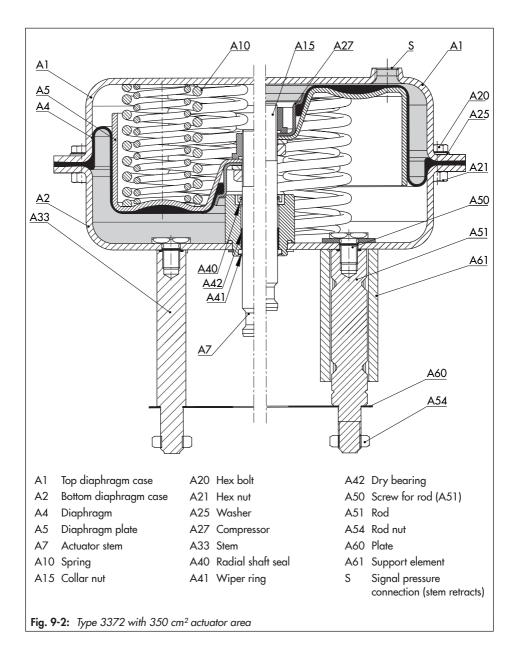
9.3 Mount the valve after service work

- Mount the actuator (see the 'Mounting and assembly' section).
- Adjust the upper or lower bench range values (see the 'Start-up' section).

EB 8313-3 EN 9-3



9-4 EB 8313-3 EN



EB 8313-3 EN 9-5

9.4 Service work

See Fig. 9-2 and Fig. 9-1

9.4.1 Replacing the diaphragm



Before dismantling the actuator, mark both diaphragm cases (A16, A2) to ensure that the pneumatic connections are mounted correctly later on reassembling the actuator.

a) 120 cm² version

Version with direction of action "actuator stem extends"

- 1. Lift off the top diaphragm case (A16) and remove springs (A10).
- Pull the actuator stem (A3) together with the diaphragm plate (A14), diaphragm (A18) and diaphragm plate (A13) out of the bottom diaphragm case (A2).
- 3. Unscrew the collar nut (A26).
- Remove the diaphragm plate (A14), diaphragm (A18) and diaphragm plate (A13) from the actuator stem (A3).
- Place the new diaphragm on the diaphragm plate (A13). Place on the diaphragm plate (A14).
- 6. Check the sealing element on the collar nut (A26). If necessary, renew it.
- 7. Tighten the collar nut (A26). Observe tightening torques.

- Apply a suitable lubricant to the actuator stem (A3).
- Place the actuator stem (A3) together with the diaphragm plate (A14), diaphragm (A18) and diaphragm plate (A13) in the bottom diaphragm case (A2). Make sure that the radial shaft seal (A2.2) is not damaged.
- Place the springs (A10) into the bottom diaphragm case, centering them in the intended recesses.
- 11. Place on the top diaphragm case (A16).
- 12. Fasten the top and bottom diaphragm cases (A16, A2) together using the nuts (A24) and bolts (A22). Place on the screw-on cap (A21). Observe tightening torques.

Version with direction of action "actuator stem retracts"

- 1. Lift off the top diaphragm case (A16).
- Pull the actuator stem (A3) together with the diaphragm plate (A14), diaphragm (A18) and diaphragm plate (A13) out of the bottom diaphragm case (A2).
- 3. Unscrew the collar nut (A26).
- Remove the diaphragm plate (A14), diaphragm (A18) and diaphragm plate (A13) from the actuator stem (A3).
- Place the new diaphragm on the diaphragm plate (A13). Place on the diaphragm plate (A14).
- Check the sealing element on the collar nut (A26). If necessary, renew it.
- 7. Tighten the collar nut (A26). Observe tightening torques.

9-6 EB 8313-3 EN

- Check whether the springs (A10) rest correctly in the bottom diaphragm case (A2).
- Apply a suitable lubricant to the actuator stem (A3).
- 10. Place the actuator stem (A3) together with the diaphragm plate (A14), diaphragm (A18) and diaphragm plate (A13) in the bottom diaphragm case (A2). Make sure that the radial shaft seal (A2.2) is not damaged.
- 11. Place on the top diaphragm case (A16).
- 12. Fasten the top and bottom diaphragm cases (A16, A2) together using the nuts (A24) and bolts (A22). Place on the screw-on cap (A21). Observe tightening torques.

b) 350 cm² version

Version with direction of action "actuator stem extends"

- Lift off the top diaphragm case (A1) and remove springs (A10).
- Pull the actuator stem (A7) together with the diaphragm plate (A5) and diaphragm (A4) out of the bottom diaphragm case (A2).
- 3. Unscrew the collar nut (A15).
- Take the compressor (A27), diaphragm plate (A5) and diaphragm (A4) off the actuator stem (A7).
- 5. Place the new diaphragm on the diaphragm plate (A5).

- 6. Place the compressor (A27) onto the actuator stem (A7).
- Check the sealing element on the collar nut (A15). If necessary, renew it.
- 8. Tighten the collar nut (A15). Observe tightening torques.
- Apply a suitable lubricant to the actuator stem (A7).
- 10. Insert the actuator stem (A7) together with the diaphragm plate (A5) and diaphragm (A4) into the bottom diaphragm case (A2). Make sure that the radial shaft seal (A40) is not damaged.
- Place the springs (A10) into the bottom diaphragm case, centering them in the intended recesses
- 12. Place on the top diaphragm case (A1).
- 13. If necessary, preload the springs (see the 'Start-up' section).
- 14. Fasten the top and bottom diaphragm cases (A1, A2) together using the nuts (A21) and bolts (A20). Observe tightening torques.

Version with direction of action "actuator stem retracts"

- Lift off the top diaphragm case (A1).
- 2. Pull the actuator stem (A7) together with the diaphragm plate (A5) and diaphragm (A4) out of the bottom diaphragm case (A2).
- 3. Unscrew the collar nut (A15).
- 4. Take the compressor (A27), diaphragm plate (A5) and diaphragm (A4) off the actuator stem (A7).

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Service and conversion work

- 5. Place the new diaphragm on the diaphragm plate (A5).
- Place the compressor (A27) onto the actuator stem (A7).
- Check the sealing element on the collar nut (A15). If necessary, renew it.
- 8. Tighten the collar nut (A15). Observe tightening torques.
- Check whether the springs (A10) rest correctly in the bottom diaphragm case (A2).
- Apply a suitable lubricant to the actuator stem (A7).
- 11. Insert the actuator stem (A7) together with the diaphragm plate (A5) and diaphragm (A4) into the bottom diaphragm case (A2). Make sure that the radial shaft seal (A40) is not damaged.
- 12. Place on the top diaphragm case (A1).
- 13. Fasten the top and bottom diaphragm cases (A1, A2) together using the nuts (A21) and bolts (A20). Observe tightening torques.

9.4.2 Replacing the actuator stem seals



Before dismantling the actuator, mark both diaphragm cases (A16, A2) to ensure that the pneumatic connections are mounted correctly later on reassembling the actuator.

a) 120 cm² version

Version with direction of action "actuator stem extends"

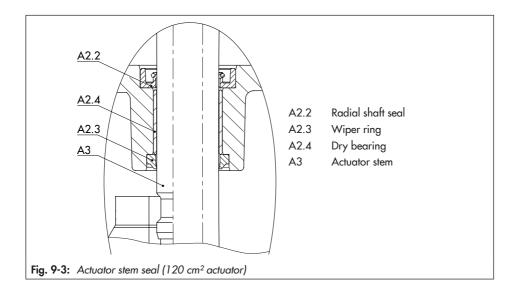
- Lift off the top diaphragm case (A16) and remove springs (A10).
- Pull the actuator stem (A3) together with the diaphragm plate (A14), diaphragm (A18) and diaphragm plate (A13) out of the bottom diaphragm case (A2).
- Use a suitable tool to remove the radial shaft seal (A2.2) from the bottom case (A2).
- Check the dry bearing (A2.4) and wiper (A2.3) and renew them, if necessary.
- 5. Apply a suitable lubricant to the seal lip of the new radial shaft seal.
- Use a suitable tool to mount the radial shaft seal. Observe the correct alignment of the radial shaft seal (see Fig. 9-3).
- Fill the cavity of the radial shaft seal, in which the spring is seated, with lubricant.
- 8. Apply a suitable lubricant to the actuator stem (A3).
- Place the actuator stem (A3) together with the diaphragm plate (A14), diaphragm (A18) and diaphragm plate (A13) in the bottom diaphragm case (A2). Make sure that the radial shaft seal (A2.2) is not damaged.
- Place the springs (A10) into the bottom diaphragm case, centering them in the intended recesses.
- 11. Place on the top diaphragm case (A16).

9-8 EB 8313-3 EN

12. Fasten the top and bottom diaphragm cases (A16, A2) together using the nuts (A24) and bolts (A22). Place on the screw-on cap (A21). Observe tightening torques.

Version with direction of action "actuator stem retracts"

- 1. Lift off the top diaphragm case (A16).
- 2. Pull the actuator stem (A3) together with the diaphragm plate (A14), diaphragm (A18) and diaphragm plate (A13) out of the bottom diaphragm case (A2).
- Use a suitable tool to remove the radial shaft seal (A2.2) from the bottom case (A2).
- 4. Check the dry bearing (A2.4) and wiper (A2.3) and renew them, if necessary.
- 5. Apply a suitable lubricant to the seal lip of the new radial shaft seal.
- Use a suitable tool to mount the radial shaft seal. Observe the correct alignment of the radial shaft seal (see Fig. 9-3).



EB 8313-3 EN 9-9

Service and conversion work

- Fill the cavity of the radial shaft seal, in which the spring is seated, with lubricant
- Check whether the springs (A10) rest correctly in the bottom diaphragm case (A2).
- 9. Apply a suitable lubricant to the actuator stem (A3).
- 10. Place the actuator stem (A3) together with the diaphragm plate (A14), diaphragm (A18) and diaphragm plate (A13) in the bottom diaphragm case (A2). Make sure that the radial shaft seal (A2.2) is not damaged.
- 11. Place on the top diaphragm case (A16).
- 12. Fasten the top and bottom diaphragm cases (A16, A2) together using the nuts (A24) and bolts (A22). Place on the screw-on cap (A21). Observe tightening torques.

b) 350 cm² version

Version with direction of action "actuator stem extends"

- Lift off the top diaphragm case (A1) and remove springs (A10).
- Pull the actuator stem (A7) together with the diaphragm plate (A5) and diaphragm (A4) out of the bottom diaphragm case (A2).
- Use a suitable tool to remove the radial shaft seal (A40) from the bottom case (A2).

- 4. Check the dry bearing (A2.4) and wiper (A2.3) and renew them, if necessary.
- 5. Apply a suitable lubricant to the seal lip of the new radial shaft seal
- Use a suitable tool to mount the radial shaft seal. Observe the correct alignment of the radial shaft seal (see Fig. 9-4).
- Fill the cavity of the radial shaft seal, in which the spring is seated, with lubricant.
- 8. Apply a suitable lubricant to the actuator stem (A7).
- Insert the actuator stem (A7) together with the diaphragm plate (A5) and diaphragm (A4) into the bottom diaphragm case (A2). Make sure that the radial shaft seal (A40) is not damaged.
- Place the springs (A10) into the bottom diaphragm case, centering them in the intended recesses.
- 11. Place on the top diaphragm case (A1).
- If necessary, preload the springs (see the 'Start-up' section).
- 13. Fasten the top and bottom diaphragm cases (A1, A2) together using the nuts (A21) and bolts (A20). Observe tightening torques.

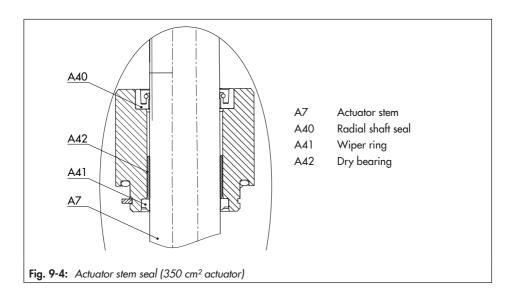
Version with direction of action "actuator stem retracts"

- 1. Lift off the top diaphragm case (A1).
- Pull the actuator stem (A7) together with the diaphragm plate (A5) and diaphragm (A4) out of the bottom diaphragm case (A2).

9-10 EB 8313-3 EN

- Use a suitable tool to remove the radial shaft seal (A40) from the bottom case (A2).
- 4. Check the dry bearing (A2.4) and wiper (A2.3) and renew them, if necessary.
- 5. Apply a suitable lubricant to the seal lip of the new radial shaft seal.
- Use a suitable tool to mount the radial shaft seal. Observe the correct alignment of the radial shaft seal (see Fig. 9-4).
- 7. Fill the cavity of the radial shaft seal, in which the spring is seated, with lubricant
- Check whether the springs (A10) rest correctly in the bottom diaphragm case (A2).
- 9. Apply a suitable lubricant to the actuator stem (A7).

- 10. Insert the actuator stem (A7) together with the diaphragm plate (A5) and diaphragm (A4) into the bottom diaphragm case (A2). Make sure that the radial shaft seal (A40) is not damaged.
- 11. Place on the top diaphragm case (A1).
- 12. Fasten the top and bottom diaphragm cases (A1, A2) together using the nuts (A21) and bolts (A20). Observe tightening torques.



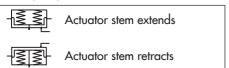
EB 8313-3 EN 9-11

9.5 Conversion work

9.5.1 Reversing the direction of action (fail-safe action)

The direction of action (and fail-safe action) of the Type 3372 Electropneumatic Actuator with 120 and 350 cm² actuator areas is determined at the ordering stage and cannot be changed. If necessary, contact our after-sales service

The fail-safe action is indicated on the nameplate by a symbol:



9.6 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 Annex for details on spare parts.

Lubricant

Details on suitable lubricants can be found in the document ▶ AB 0100.

Tools

Details on suitable tools can be found in the document ► AB 0100.

9-12 EB 8313-3 EN

10 Decommissioning

The work described in this section is only to be performed by personnel qualified for the assignment accordingly.

A DANGER

Risk of fatal injury due to the ignition of an explosive atmosphere.

Incorrect installation, operation or servicing of the electropneumatic actuator in potentially explosive atmospheres may lead to ignition of the atmosphere and cause death.

- → The following regulations apply to installation in hazardous areas: EN 60079-14 (VDE 0165, Part 1).
- → Work must only performed by personnel who has undergone special training or instructions or who is authorized to work on explosion-protected devices in hazardous greas.

▲ DANGER

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

Pneumatic actuators are pressure equipment that may burst when handled incorrectly. Flying projectile fragments or components can cause serious injury or even death. Before working on the actuator:

Depressurize all plant sections concerned and the actuator. Release any stored energy.

A WARNING

Risk of personal injury due to preloaded springs.

Actuators with preloaded springs are under tension. These actuators can be identified by several longer bolts with nuts protruding from the bottom diaphragm case. Actuators with considerably preloaded springs are also labeled correspondingly (see the 'Markings on the device' section).

Only open the actuator following the instructions in this document. See 'Relieving the spring compression in the actuator' in the 'Removal' section.

A WARNING

Risk of personal injury due to exhaust air being vented.

The actuator is operated with air. As a result, air is vented during operation.

→ Wear eye and hearing protection when working near the actuator.

A WARNING

Crush hazard arising from the moving actuator stem.

- → Do not insert hands or finger into the yoke while the air supply is connected to the actuator.
- → Before working on the actuator, disconnect and lock the pneumatic air supply as well as the control signal.
- Do not impede the movement of the actuator stem by inserting objects into the yoke.

EB 8313-3 EN 10-1

Decommissioning

→ Before unblocking the actuator stem after it has 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 'Relieving the spring compression in the actuator' in the 'Removal' section.

To decommission the actuator for service work or before removing it from the valve, proceed as follows:

- Put the valve and positioner out of operation. See associated valve and positioner documentation.
- 2. Disconnect the pneumatic air supply to depressurize the actuator.

10-2 EB 8313-3 EN

11 Removal

The work described in this section is only to be performed by personnel qualified for the assignment accordingly.

A DANGER

Risk of fatal injury due to the ignition of an explosive atmosphere.

Incorrect installation, operation or servicing of the electropneumatic actuator in potentially explosive atmospheres may lead to ignition of the atmosphere and cause death

- → The following regulations apply to installation in hazardous areas: EN 60079-14 (VDE 0165, Part 1).
- → Work must only performed by personnel who has undergone special training or instructions or who is authorized to work on explosion-protected devices in hazardous areas.

▲ DANGER

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

Pneumatic actuators are pressure equipment that may burst when handled incorrectly. Flying projectile fragments or components can cause serious injury or even death. Before working on the actuator:

→ Depressurize all plant sections concerned and the actuator. Release any stored energy.

A WARNING

Risk of personal injury due to preloaded springs.

Actuators with preloaded springs are under tension. These actuators can be identified by several longer bolts with nuts protruding from the bottom diaphragm case. Actuators with considerably preloaded springs are also labeled correspondingly (see the 'Markings on the device' section).

→ Only open the actuator following the instructions in this document. See 'Relieving the spring compression in the actuator' in the 'Removal' section.

A WARNING

Risk of personal injury due to exhaust air being vented.

The actuator is operated with air. As a result, air is vented during operation.

→ Wear eye and hearing protection when working near the actuator.

A WARNING

Crush hazard arising from the moving actuator stem.

- → Do not touch the actuator stem or insert hands or finger into the yoke while the air supply is connected to the actuator.
- → Before working on the actuator, disconnect and lock the pneumatic air supply as well as the control signal.
- Do not impede the movement of the actuator stem by inserting objects into the yoke.

EB 8313-3 EN 11-1

Removal

→ Before unblocking the actuator stem after it has 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 'Relieving the spring compression in the actuator' in the 'Removal' section.

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

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

11.1 Removing the actuator from the valve

See drawings in the 'Mounting and assembly' section.

a) 120 cm² version

For mounting using crossbeam (form B)

- Remove the clamps of the stem connector (A30) from the actuator.
- 2. For "stem extends" action with/without preloaded springs: to undo the central nut (98), apply approx. 50 % signal pressure to open the valve.
- 3. Unscrew the central nut (98) from the plug stem.
- 4. Disconnect the signal pressure again.
- 5. In the "actuator stem retracts" version: detach the external piping.

- 6. Lift the central nut (98) and actuator off the valve.
- Screw tight the central nut (98) on the valve.
- Screw tight the stem connector clamps (A30) onto the actuator. Observe tightening torques.

NOTICE

The actuator can be damaged.

→ Do not unscrew the rods (A11) from the crossbeam (A17).

For mounting using rods (form C)

- Remove the stem connector clamps (A29) from the actuator
- Undo the rod nuts (A119) in alternating sequence.
- Pull the rods (A11) with bushings (A9) out of the holes in the valve bonnet (2).
- Remove the bushings (A9) from the actuator and thread the rod nuts (A119) onto the rods (A11).
- Screw tight the stem connector clamps (A29) onto the actuator. Observe tightening torques.

b) 350 cm² version

- In the "actuator stem retracts" version: detach the external piping.
- Remove the clamps of the stem connector (A12) from the actuator.

11-2 EB 8313-3 EN

- Undo the rod nuts (A54) in alternating sequence.
- 4. Pull the rods (A33, A51) out of the holes in the valve bonnet (2).
- Thread the rod nuts (A54) onto the rods (A33, A51) on the actuator.
- Screw tight the stem connector clamps (A12) onto the actuator. Observe tightening torques.

11.2 Relieving the spring compression in the actuator

See Fig. 11-1

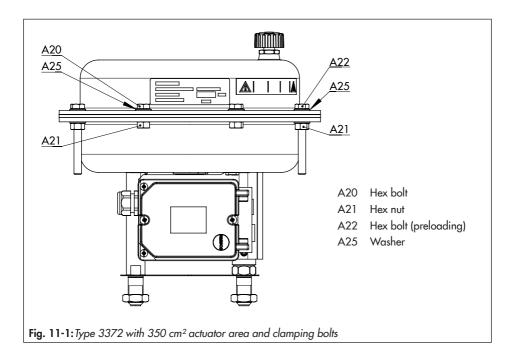
The long clamping bolts with clamping nuts and the short bolts with nuts are arranged evenly around the circumference of the actuator housing to fasten the top and bottom diaphragm cases together. The springs in the actuator are compressed using the long clamping bolts with the associated nuts.

To relieve the compression of the springs in the actuator, proceed as follows:

- Unthread and remove the short nuts and bolts (including the washers) on the diaphragm cases.
- Loosen the long clamping nuts and bolts on the diaphragm cases evenly in a crisscross pattern to gradually relieve the spring compression. Hold the bolt head stationary with a suitable tool and apply the torque to the nuts.

EB 8313-3 EN 11-3

Removal



11-4 EB 8313-3 EN

12 Repairs

If the actuator 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 actuator damage due to incorrect repair work.

- → Do not perform any repair work on your own.
- → Contact SAMSON's after-sales service for repair work.

12.1 Returning devices to SAMSON

Defective devices can be returned to SAM-SON for repair.

Proceed as follows to return devices:

- Exceptions apply concerning some special device models ➤ www.samson.de > Service & Support > After Sales Service.
- Send an e-mail retouren@samson.de
 to register the return shipment including
 the following information:
 - Туре
 - Article no.
 - Configuration ID
 - Original order
 - Completed Declaration on Contamination, which can be downloaded from our website at ▶ www.samson.
 de > Service & Support > After Sales Service.

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

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

i Note

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

www.samson.de > Service & Support > After Sales Service.

EB 8313-3 EN 12-1

12-2 EB 8313-3 EN

13 Disposal

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

EB 8313-3 EN 13-1

13-2 EB 8313-3 EN

14 Certificates

The certificates are included on the next pages:

- Declaration of conformity in compliance with Directive 2014/30/EU on page 14-2
- Declaration of conformity in compliance with Directive 2014/34/EU and 2014/30/EU on page 14-3
- EC type examination certificate on page 14-4 to page 14-6
- Declaration of incorporation in compliance with Machinery Directive 2006/42/EC on page 14-7

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 > Actuators > 3372

Other optional certificates are available on request.

EB 8313-3 EN 14-1



EU Konformitätserklärung/EU Declaration of Conformity/ Déclaration UE de conformité

Die alleinige Verantwortung für die Ausstellung dieser Konformitätserklärung trägt der Hersteller/ This declaration of conformity is issued under the sole responsibility of the manufacturer/ La présente déclaration de conformité est établie sous la seule responsabilité du fabricant. Für das folgende Produkt/For the following product/Nous certifions que le produit

Pneumatischer und elektropneumatischer Stellantrieb /
Pneumatic and Electropneumatic Actuators /
Servomoteur pneumatique et électropneumatique
Typ/Type/Type 3372-0

wird die Konformität mit den einschlägigen Harmonisierungsrechtsvorschriften der Union bestätigt / the conformity with the relevant Union harmonisation legislation is declared with/ est conforme à la législation d'harmonisation de l'Union applicable selon les normes:

EMC 2014/30/FU EN 61000-6-2:2005, EN 61000-6-3:2007

+A1:2011, EN 61326-1:2013

RoHS 2011/65/EU EN 50581:2012

Hersteller / Manufacturer / Fabricant:

SAMSON AKTIENGESELLSCHAFT Weismüllerstraße 3 D-60314 Frankfurt am Main Deutschland/Germany/Allemagne

Frankfurt / Francfort, 2017-07-29

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

Gert Nahler

Zentralabteilungsleiter/Head of Department/Chef du département Entwicklung Automation und Integrationstechnologien/ Development Automation and Integration Technologies iv. H. Erge

Hanno Zager Leiter Qualitätssicherung/Head of Quality Managment/ Responsable de l'assurance de la qualité

SAMSON AKTIENGESELLSCHAFT Weismüllerstraße 3 60314 Frankfurt am Main Telefon: 069 4009-0 · Telefax: 069 4009-1507 E-Mail: samson@samson.de Revison 07



EU Konformitätserklärung/EU Declaration of Conformity/ Déclaration UE de conformité

Die alleinige Verantwortung für die Ausstellung dieser Konformitätserklärung trägt der Hersteller/ This declaration of conformity is issued under the sole responsibility of the manufacturer/ La présente déclaration de conformité est établie sous la seule responsabilité du fabricant. Für das folgende Produkt/For the following product/Nous certifions que le produit

Pneumatischer und elektropneumatischer Stellantrieb / Pneumatic and Electropneumatic Actuators / Servomoteur pneumatique et électropneumatique Typ/Type/Type 3372-1

entsprechend der EU-Baumusterprüfbescheingung PTB 99 ATEX 2049 ausgestellt von der/ according to the EU Type Examination PTB 99 ATEX 2049 issued by/ établi selon le certificat CE d'essais sur échantillons PTB 99 ATEX 2049 émis par:

> Physikalisch Technische Bundesanstalt Bundesallee 100 D-38116 Braunschweig Benannte Stelle/Notified Body/Organisme notifié 0102

wird die Konformität mit den einschlägigen Harmonisierungsrechtsvorschriften der Union bestätigt / the conformity with the relevant Union harmonisation legislation is declared with/ est conforme à la législation d'harmonisation de l'Union applicable selon les normes:

EMC 2014/30/EU

EN 61000-6-2:2005, EN 61000-6-3:2007 +A1:2011, EN 61326-1:2013

Explosion Protection 94/9/EC (bis/to 2016-04-19) Explosion Protection 2014/34/EU (ab/from 2016-04-20)

EN 60079-0:2009, EN 60079-11:2012

RoHS 2011/65/EU

EN 50581:2012

Hersteller / Manufacturer / Fabricant:

SAMSON AKTIENGESELLSCHAFT Weismüllerstraße 3 D-60314 Frankfurt am Main Deutschland/Germany/Allemagne

Frankfurt / Francfort 2017-07-29

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

i.V. bert Naller

Gert Nahler
Zentralabteilungsleiter/Head of Department/Chef du département
Entwicklung Automation und Integrationstechnologien/
Development Automation and Integration Technologies

i V. H. Euger

Leiter Qualitätssicherung/Head of Quality Managment/ Responsable de l'assurance de la qualité

SAMSON AKTIENGESELLSCHAFT Weismüllerstraße 3 60314 Frankfurt am Main Telefon: 069 4009-0 · Telefax: 069 4009-1507 E-Mail: samson@samson.de Revison 07







(1) EU-TYPE EXAMINATION CERTIFICATE

(Translation)

- (2) Equipment or Protective Systems Intended for Use in Potentially Explosive Atmospheres - Directive 2014/34/EU
- (3) EU-Type Examination Certificate Number:

PTB 11 ATEX 2020 X

Issue: 1

(4) Product:

e/p-positioner, type 3725-1100...

(5) Manufacturer:

SAMSON AG

(6) Address:

Weismüllerstraße 3, 60314 Frankfurt, Germany

- (7) This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
- (8) The Physikalisch-Technische Bundesanstalt, notified body No. 0102 in accordance with Article 17 of the Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres, given in Annex II to the Directive.

The examination and test results are recorded in the confidential Test Report PTB Ex 19-29022.

Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0:2012 + A11:2013

EN 60079-11:2012

- (10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to the Specific Conditions of Use specified in the schedule to this certificate.
- (11) This EU-Type Examination Certificate relates only to the design and construction of the specified product in accordance to the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.
- (12) The marking of the product shall include the following:



Konformitätsbewertungsstelle Sektor Explosionsschutz On behalf of PTB: Braunschweig, February 25, 2019

Dr. Hng. F. Lienesch Direktor und Professo

sheet 1/3

EU-Type Examination Certificates without signature and official stamp shall not be valid. The certificates may be circulated only without alteration. Extracts or alterations are subject to approval by the Physikalisch-Technische Bundesanstalt. In case of dispute, the German text shall prevail.

Physikalisch-Technische Bundesanstalt • Bundesallee 100 • 38116 Braunschweig • GERMANY

Ex001e c





(13)

SCHEDULE

(14) EU-Type Examination Certificate Number PTB 11 ATEX 2020 X, Issue: 1

(15) Description of Product

The e/p-positioner, type 3725-1100.. is a single-acting positioner intended for the installation onto pneumatic lift drives and slewing-motion actuators. It is used for the assignment of a valve position to an actuating signal. Non-flammable media serve as pneumatic auxiliary power.

The e/p-positioner, type 3725-1100.. is a passive two-terminal network which may be connected to all certified intrinsically safe circuits provided that the permissible maximum values for U_i , I_i and P_i are not exceeded.

The equipment is installed inside the hazardous area.

The permissible ambient temperature range is -25 °C ... 80 °C.

Electrical data

Signal circuit	type of protection Intrinsic Safety Ex ia IIC
(terminals 11/12)	only for connection to a certified intrinsically
	safe circuit

Maximum values:

 $U_{i} = 28 \quad V$ $I_{i} = 115 \quad mA$ $P_{i} = 1 \quad W$ $C_{i} = 8.3 \text{ nF}$ $L_{i} \quad \text{negligibly low}$

(16) Test Report PTB Ex 19-29022

(17) Specific conditions of use

The manufacturer documentation and the operating instructions manual shall include all required information to restrict the risk of electrostatic charge to a minimum. A warning label shall be affixed to the equipment.

sheet 2/3

EU-Type Examination Certificates without signature and official stamp shall not be valid. The certificates may be circulated only without alteration. Extracts or alterations are subject to approval by the Physikalisch-Technische Bundesanstalt. In case of dispute, the German text shall prevail.

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EB 8313-3 EN 14-5





SCHEDULE TO EU-TYPE EXAMINATION CERTIFICATE PTB 11 ATEX 2020 X, Issue: 1

(18) Essential health and safety requirements

Dr.-Ing. F. Lienesch Direktor und Profess

Met by compliance with the aforementioned standards.

According to Article 41 of Directive 2014/34/EU, EC-type examination certificates which have been issued according to Directive 94/9/EC prior to the date of coming into force of Directive 2014/34/EU (April 20, 2016) may be considered as if they were issued already in compliance with Directive 2014/34/EU. By permission of the European Commission supplements to such EC-type examination certificates and new issues of such certificates may continue to hold the original certificate number issued before April 20, 2016.

Konformitätsbewertungstalle Sector Explosionsschutz
On behalf of PTB:

Braunschweig, February 25, 2019

sheet 3/3

EU-Type Examination Certificates without signature and official stamp shall not be valid. The certificates may be circulated only without alteration. Extracts or alterations are subject to approval by the Physikalisch-Technische Bundesanstalt. In case of dispute, the German text shall prevail.

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14-6 EB 8313-3 EN

DECLARATION OF INCORPORATION TRANSIATION



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

For the following products:

Type 3372 Actuators

We certify that the Type 3372 Actuators 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:

Type 3372 Actuator: Mounting and Operating Instructions EB 8313-X

Referenced technical standards and/or specifications:

- VCI, VDMA, VGB: Leitfaden Maschinenrichtlinie (2006/42/EG) Bedeutung für Armaturen, May 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 12100:2011-03

Comments:

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

Persons authorized to compile the technical file:

SAMSON AG, Weismüllerstraße 3, 60314 Frankfurt am Main, Germany Frankfurt am Main, 04 March 2021

Peter Arzbach

Director

Product Management

Peter Scheermesser

Director

Product Life Cycle Management and ETO Development for Valves and Actuators

Revision no. 00

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

Page 1 of 1

EB 8313-3 EN 14-7

14-8 EB 8313-3 EN

15 Annex

15.1 Tightening torques, lubricants and tools

► AB 0100 for tools, tightening torques and lubricants

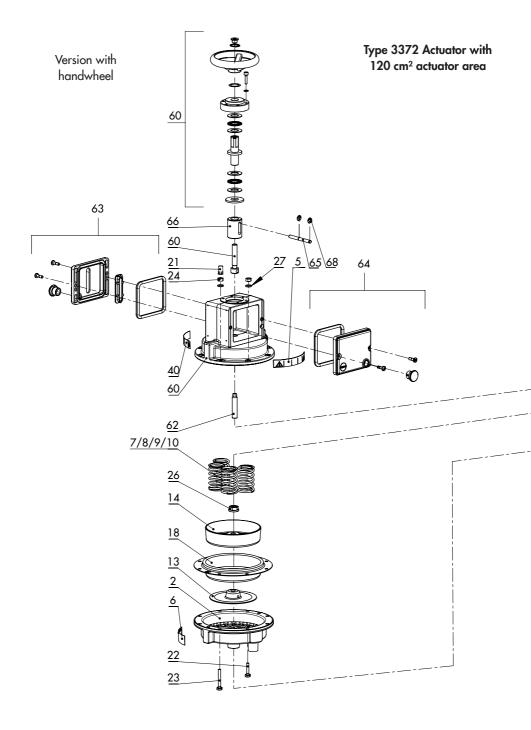
15.2 Spare parts

Type 3372 Actuator with 120 cm² actuator area

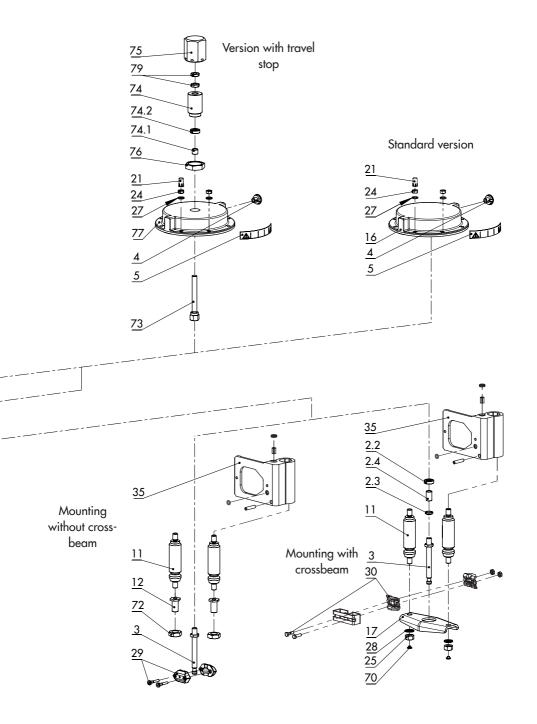
2	Bottom diaphragm case
2.2	Radial shaft seal
2.3	Wiper ring
2.4	Dry bearing
3	Actuator stem
4	Stopper
5	Label
6	Nameplate
7/8/9/10	Spring
11	Rod
12	Bushing
13	Diaphragm plate
14	Diaphragm plate
16	Top diaphragm case
17	Crossbeam
18	Diaphragm
21	Screw-on cap
22	Hex bolt
23	Hex bolt
24	Hex nut
25	Rod nut
26	Collar nut
27	Washer
28	Serrated lock washer
29/30	Stem connector clamps

	35	Pneumatic connection
	37	Rod
	60	Upper actuator section 1)
	62	Spindle 1)
	63	Device cover 1)
	64	Device cover 1)
	65	Pin 1)
	66	Sleeve 1)
	68	Retaining washer 1)
	70	Protective cap
	72	Rod nut (hex nut)
	73	Spindle ²⁾
	74	Sleeve 2)
	74.1	Dry bearing ²⁾
	74.2	Radial shaft seal 2)
	75	Cover 2)
	76	Lock nut 2)
	77	Top diaphragm case 2)
	79	Lock nut ²⁾
1)		or version with handwheel or version with travel stop

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15-2 EB 8313-3 EN



EB 8313-3 EN 15-3

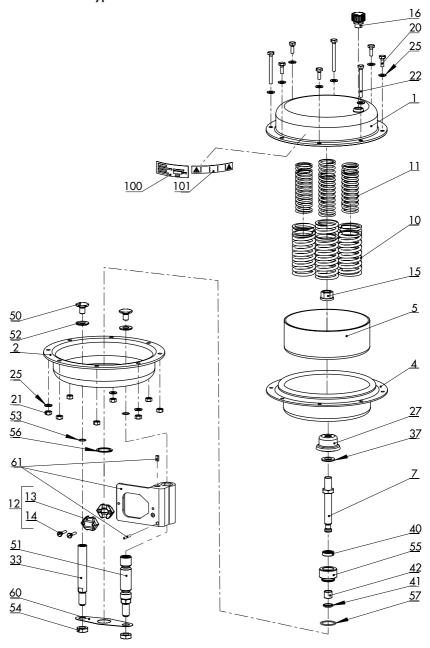
Annex

Type 3372 Actuator with 350 cm² actuator area

- 1 Top diaphragm case
- 2 Bottom diaphragm case
- 4 Diaphragm
- 5 Diaphragm plate
- 7 Actuator stem
- 10/11 Spring
 - 12 Stem connector clamp
 - 13 Stem connector clamp
 - 14 Screw
 - 15 Collar nut
 - 16 Vent plug
 - 20 Hex bolt
 - 21 Hex nut
 - 22 Hex bolt (preloading)
 - 25 Washer
 - 27 Compressor
 - 33 Rod
 - 37 Washer
 - 40 Radial shaft seal
 - 41 Wiper ring
 - 42 Dry bearing
 - 50 Screw for rod (51)
 - 51 Rod
 - 52 Washer (version with "actuator stem retracts" only)
 - 53 O-ring
 - 54 Rod nut
 - 55 Bushing
 - 56 Snap ring
 - 57 O-ring
 - 60 Plate
 - 61 Pneumatic connection
 - 100 Nameplate
 - 101 Label (preloading)

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Type 3372 Actuator with 350 cm² actuator area



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15.3 After-sales service

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

E-mail address

You can reach our after-sales service at aftersalesservice@samson.de.

Addresses of SAMSON AG and its subsidiaries

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

Required specifications

Please submit the following details:

- Order number and position number in the order
- Type, model number, actuator area, travel, direction of action and bench range (e.g. 0.2 to 1 bar) or the operating range of the actuator
- Type designation of mounted valve (if applicable)
- Type designations of mounted valve accessories (if applicable)
- Installation drawing

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EB 8313-3 EN

