MOUNTING AND OPERATING INSTRUCTIONS



EB 8546 EN

Translation of original instructions



Type 4708 Supply Pressure Regulators

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

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

Property damage message or malfunction

i Note

Additional information

-☆- Tip

Recommended action

1	Safety instructions and measures	5
1.1	Notes on possible personal injury	7
1.2	Notes on possible property damage	7
2	Markings on the device	8
3	Design and principle of operation	12
3.1	Versions	14
3.2	Technical data	15
3.3	Spare parts	17
3.4	Accessories	18
3.5	Dimensions in mm	19
4	Measures for preparation	28
4.1	Unpacking	28
4.2	Storage	28
5	Mounting the regulator	29
5.1	Compact supply pressure regulator	29
5.1.1	Direction of flow	29
5.1.2	Turning the supply pressure regulator	30
5.2	Supply pressure regulators for attachment to positioners and actuators	31
6	Pneumatic connections	34
6.1	Pressure aquae	24
	Tressere gauge	34
6.2	Additional output	34 35
6.2 7	Additional output	34 35 . 37
6.2 7 7.1	Additional output Manual/automatic switchover Mounting on positioners	34 35 . 37 37
6.2 7 7.1 7.2	Additional output Manual/automatic switchover Mounting on positioners Mounting using an adapter plate	34 35 37 37 38
6.2 7 7.1 7.2 7.3	Additional output Manual/automatic switchover Mounting on positioners Mounting using an adapter plate Operating the manual/automatic switchover unit	34 35 37 37 38 39
6.2 7 7.1 7.2 7.3 7.4	Additional output	34 35 37 37 38 39 39
6.2 7 7.1 7.2 7.3 7.4 7.4.1	Additional output	34 35 37 37 37 38 39 39 39
6.2 7 7.1 7.2 7.3 7.4 7.4.1 8	Additional output	34 35 37 37 37 37 39 39 39 39
6.2 7 7.1 7.2 7.3 7.4 7.4.1 8 8.1	Additional output	34 35 37 37 38 39 39 39 39 39 39 39
6.2 7 7.1 7.2 7.3 7.4 7.4.1 8 8.1 9	Additional output	34 35 37 37 37 39
6.2 7 7.1 7.2 7.3 7.4 7.4.1 8 8.1 9 10	Additional output	34 35 37 37 38 39 39 39 39 39 39 39 40 40 41
6.2 7 7.1 7.2 7.3 7.4 7.4.1 8 8.1 9 10 10.1	Additional output	34 35 37 38 39 39 39 39 39 39 39 39 39 39 40 40 41

Contents

11	Troubleshooting	
12	Decommissioning and removal	43
12.1	Decommissioning	
12.2	Removing the supply pressure regulator	
12.3	Disposal	43
13	After-sales service	44

1 Safety instructions and measures

Intended use

The Type 4708 Supply Pressure Regulator reduces and controls the maximum pressure of 12 bar (180 psi) in a compressed air network to the pressure adjusted at the set point adjuster. The device is designed to operate under exactly defined conditions (e.g. operating pressure, temperature). Therefore, operators must ensure that the supply pressure regulator is only used in applications where the operating conditions correspond to the technical data. In case operators intend to use the supply pressure regulators in other applications or conditions than specified, contact SAMSON.

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

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

Reasonably foreseeable misuse

The Type 4708 Supply Pressure Regulator is *not* suitable for the following applications:

- Use outside the limits defined during sizing and by the technical data

Furthermore, the following activities do not comply with the intended use:

- Use of non-original spare parts
- Performing maintenance activities not specified by SAMSON

Qualifications of operating personnel

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

Personal protective equipment

No personal protective equipment is required for the direct handling of the supply pressure regulator. Work on the control valve may be necessary when mounting or removing the device.

- → Observe the requirements for personal protective equipment specified in the valve documentation.
- → Check with the plant operator for details on further protective equipment.

Revisions and other modifications

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

Warning against residual hazards

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

Responsibilities of the operator

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

Responsibilities of operating personnel

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

Referenced standards and regulations

Devices with a CE marking fulfill the requirements of the Directives 2011/65/EU (RoHS) and 2015/863/EU. The declaration of conformity is included at the end of these instructions.

Referenced documentation

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

- The mounting and operating instructions of the components on which the supply pressure regulator is mounted (valve, actuator, positioner etc.).

1.1 Notes on possible personal injury

Risk of bursting in pressure equipment.

Control valves, mounting parts and pipelines are pressure equipment. Improper opening can lead to bursting of the valve.

- → Before starting any work on the control valve, depressurize all plant sections affected as well as the valve.
- → Observe the valve's safety instructions.

1.2 Notes on possible property damage

Risk of damage to the supply pressure regulator due to excessively high tightening torque.

→ Do not exceed the maximum permissible torques specified in these mounting and operating instructions.

Risk of damage to the supply pressure regulator due to foreign particles entering it.

→ Do not remove the protective film until immediately before mounting.

Risk of damage to the supply pressure regulator due to improper storage.

→ Observe the storage instructions. Contact SAMSON, if need be.

2 Markings on the device

Article code

Supply Pressure Regulator Type	4708-	x	x	x	x	x	x	x	x	ĸ	x	x	x	x
Standard version								Τ						Τ
Aluminum mounted parts, plastic body, with filter, without sep filter receptacle	arate	1	0					0						
Aluminum mounted parts, plastic body, with transparent filter receptacle		1	1					0						
Completely of aluminum, no plastic parts		1	2					2						
Stainless steel version								Τ						
Completely of stainless steel, no plastic parts		1	3					3						
Stainless steel mounted parts, plastic body, with transparent fir receptacle	lter	1	4					1						
$\ensuremath{Stainless}$ steel mounted parts, plastic body, with filter, without separate filter receptacle		1	7					1						
Version for increased air capacity								Τ						
Aluminum or stainless steel body, plastic cover, transparent pl or metal filter receptacle	astic	4	5				:	2/3						
Version with adapter plate for positioners														
Aluminum mounted parts, plastic body, with filter, without sep filter receptacle, for mounting onto Type 3730/3766/3767 Positioners	arate	5	3					0						
Aluminum mounted parts, plastic body, with filter, without sep filter receptacle, for mounting onto Type 3730/3766/3767 Positioners	arate	5	4					0						
Aluminum mounted parts, plastic body, with filter, without sep filter receptacle, for mounting onto Type $4763/4765$ Positione	arate ers	5	5					0						
Version with adapter plate for pneumatic actuators														
Aluminum mounted parts, plastic body, with filter, without sep filter receptacle, for mounting onto Type 3372 and Type 3277 Actuators (240 to 700 cm ²) with Type 3730/3766/3767 Positioners	arate	6	2					0						
Aluminum mounted parts, plastic body, with filter, without sep filter receptacle, for mounting onto Type 3277 Actuators (175 750 cm ²) with connection block	arate to	6	4					0						

Supply Pressure Regulator	Туре 4708-	x	х	x	x	х	x	x	x)	<u> </u>	сх	c x	x	c.
Further versions														
Manual/automatic switchover		8	2				C)/1						
Filter for compressed air, aluminum body, transparent preceptacle	olastic filter	8	3					0						
Filter for compressed air, aluminum body and filter rece	eptacle	8	4					0						
Filter for compressed air, stainless steel body, transpare filter receptacle	ent plastic	8	6					1						
Filter for compressed air, stainless steel body and filter	receptacle	8	7					1						
Connecting thread					Γ									
ISO-228/1-G 1/4				2										
1/4-18 NPT				5										
ISO-228/1-G 1/2				6										
1/2-14 NPT				7										
Set point range														
0.5 to 6.0 bar, without pressure gauge					0	0								
0.5 to 6.0 bar, with pressure gauge completely of stain (device free of copper)	less steel				1	0								
0.5 to 6.0 bar, with pressure gauge (nickel-plated bras	s connection)				2	0								
0.2 to 1.6 bar, without pressure gauge					3	0								
0.2 to 1.6 bar, with pressure gauge completely of stain (device free of copper)	less steel				4	0								
0.2 to 1.6 bar, with pressure gauge (nickel-plated bras	s connection)				5	0								
0.5 to 6.0 bar, with pressure gauge (nickel-plated bras dial in MPa and kg/cm ³)	s connection,				6	0								
Without					8	0								
Number of pressure gauges														
Without							0							
One pressure gauge							1							
Two pressure gauges							2							
Material														
Aluminum mounted parts (plastic cover)								0						
Stainless steel mounted parts (plastic cover)								1						
Aluminum mounted parts and cover								2						
Stainless steel mounted parts and cover								3						

Markings on the device

Supply Pressure Regulator	Туре 4708-	x	х	х	х	х	х	х	х	х	х	х	х	х
Filter												Τ		
Without									0					
in black plastic regulator body									1					
in transparent plastic receptacle (cannot be aligned)									2					
in aluminum receptacle (cannot be aligned)									3					
in stainless steel receptacle (cannot be aligned)									4					
Temperature range														
-25 to +70 °C (standard)										0				
-40 to +70 °C										1				
−50 to +70 °C										2				
Application												Τ		
Standard											0			
Device compatible with paint											1			
Exhaust port with thread											2			
Special version														
Without												0	0	0
Filter cartridge 5 µm												0	0	1
Pressure gauge connection 1/8 NPT												0	0	2
Special paint coating RAL 1019												0	0	2

3 Design and principle of operation

The supply pressure regulator is used to supply pneumatic measuring and control equipment with a constant air supply. The maximum 12 bar pressure of the compressed air network in a plant is reduced to an adjustable minimum pressure of 0.2 to 1.6 bar or 0.5 to 6 bar.

At the inlet side, the supply pressure regulator is equipped with a filter cartridge with a mesh size of 20 µm. In addition, the regulator can also be equipped with a filter receptacle and a pressure gauge on the outlet side.



The compressed air at the inlet flows across the filter through the free cross-section between the seat (1.1) and plug (1.2) and leaves the output with a reduced pressure depending on the plug position.

The output pressure to be controlled is transmitted to the diaphragm (2.1) over the connecting bore (1.3) and converted into a positioning force. This force is used to move the valve plug depending on the force of the positioning spring (6).

Turning the set point screw (7) causes the spring force to change and, as a result, the required set point is adjusted.

The set point ranges of the supply pressure regulator from 0.2 to 1.6 bar and 0.5 to 6 bar are determined by various tensions of the installed positioning spring (6).

Condensed water contained in the compressed air can be collected and drained when the filter cartridge (11) is mounted horizontally or the filter receptacle (13) is suspended downwards. The screw plug (12) can be unscrewed or the manual drainage (16) can be activated to drain condensed water.



3.1 Versions

Supply Pressure Regulator Type	4708-	x	x	x	x
Standard version	Ĩ				
Aluminum filter without filter receptacle		1	0		
with plastic filter receptacle		1	1		
with aluminum filter receptacle		1	2		
Stainless steel version					
Stainless steel filter with stainless steel filter receptacle		1	3		
with plastic filter receptacle		1	4		
without filter receptacle		1	7		
Connection	Î		·		
G 1/4				2	
1/4-18 NPT				5	
Set point range 0.5 to 6 bar (8 to 90 psi)	Î				
Without pressure gauge					0
with pressure gauge, completely free of copper					1
with pressure gauge, housing free of copper					2
Set point range 0.2 to 1.6 bar (3 to 23 psi)					
Without pressure gauge					3
with pressure gauge, completely free of copper					4
with pressure gauge, housing free of copper					5
Supply pressure regulator with increased air capacity					
► EB 8546-1		4	5		
with adapter plate for positioners					
Types 3730, 3766, 3767		5	3		
Types 3725, 3730, 3766, 3767		5	4		
Туре 3725, Турез 4763/4765		5	5		0
with adapter plate for pneumatic actuators					
Type 3277 Actuator (240 to 700 cm²) with Type 3730, 3766 or 3767 Positione	r	6	2		0
Туре 3372		6	2		
Type 3277 Actuator with connection block		6	4		0

Supply Pressure Regulator Type 4708-	x	x	x	x
Manual/automatic switchover				
Bypass for positioner	8	2		
Filter without pressure gauge Type 4708-				
Aluminum body and plastic filter receptacle	8	3		0
Aluminum body and aluminum filter receptacle	8	4		0
Stainless steel body and plastic filter receptacle	8	6		0
Stainless steel body and stainless steel filter receptacle	8	7		0

i Note

For details on the **Type 4708-45** Supply Pressure Regulator (with increased air capacity), see **EB 8546-1**.

3.2 Technical data

	Table	1:	Technical	data	1)
--	-------	----	-----------	------	----

Supply Pressure Regulator	Туре 4708-хх
Supply pressure	1.6 to 12 bar (24 to 180 psi)
Set point range	0.2 to 1.6 bar (3 to 24 psi) or 0.5 to 6 bar (8 to 90 psi)
Air consumption at 7 bar supply pressure	≤0.05 m _n ³/h
Dependency on inlet pressure	< 0.01 bar/Δp = 1 bar
Reversing error	0.1 to 0.4 bar (depending on set point)
Hysteresis	< 0.1 bar
Filter cartridge mesh size	20 μm · Optionally 5 μm
Compliance	CE·EHI
Pressure gauge	
Indicating range	0 to 1.6 bar (0 to 24 psi) or 0 to 6 bar (0 to 90 psi)
Connection	G 1/8
Degree of protection	IP 65

1) Values measured for Type 4708-xx with 1/4" connection and for Type 4708-45 with 1/2" connection

Table 2: Materials

Supply Pre	ssure Regulator	Туре 4708-хх
Body	Metal parts	Aluminum (3.3547, anodized) or stainless steel (1.4404)
	Plastic parts	Polyamide, glass fiber reinforced
Cover		Polyamide, glass fiber reinforced
Сар		Polyamide, glass fiber reinforced
Plug		Polyamide, glass fiber reinforced and polyoxymethylene
Diaphragm	I	NBR · FVMQ for low-temperature version
Diaphragm plate		Polyamide, glass fiber reinforced or aluminum
Set point spring		1.4310
Filter receptacle 1)		UV-resistant polyamide (Grilamid TR90UV), aluminum (3.3547) or stainless steel (1.4404)
Filter cartrie	dge	20 μm: polypropylene · 5 μm: stainless steel
Pressure ge	auge	
Housing		Stainless steel
Connection element	and measuring	Nickel-plated brass or stainless steel for copper-free version

¹⁾ See Data Sheet **>** T 8546/article code for material version

Table 3:	Ambient	temperature	ranges
----------	---------	-------------	--------

Туре 4708-	10	11	12	13	14	17	53	54	55	62	64	82	83	84	86	87
Version for standard temperatures																
-25 to +70 °C ¹⁾		٠	٠	•	•								٠		٠	
-25 to +80 °C	•					•	•	•	•	•	•	٠		٠		٠
Version for low temperatures																
-40 to +80 °C											•					
-50 to +70 °C 1)		٠	٠	•	•								٠		•	
−50 to +80 °C	•					•	•	•	•	•		•		•		•

1) Applies also to rotating supplementary filter

Table 4: Weights

Туре 4708-	10	11	12	13	14	17	53	54	55	62	64	82	83	84	86	87
kg (approx.)	0.48	0.58	0.66	1.65	1.2	1.0	0.68	0.95	0.37	0.4	0.5	0.4	0.24	0.32	0.59	0.95

3.3 Spare parts

→ See Fig. 2 on page 13.

Articles											Order numbers			
Filter														
Filter cartridge (11) 20 µm, polyethylene Filter cartridge (11) 5 µm including seal, polyethylene Filter cartridge (11) 5 µm, sintered stainless steel											8504-9027 8504-9030 1400-9609			
Filter parts														
Screw (11.1) Cap (11.2) Shroud (11.3) Air deflector (11.4)												8336-0790 0339-0018 0339-0017 0339-0016		
Filter receptacle and screw plug														
Filter receptacle (13), plastic ¹⁾ Filter receptacle (13), aluminum ¹⁾ Filter receptacle (13), stainless steel ¹⁾ Screw plug (12)												1199-0423 1199-0424 1199-0425 0079-0143		
Seals for filter receptacle (12.1													
For Type 4708	-10	-11	-12	-13	-14	-17	-53	-54	-55	-62	-64			
PVMQ	AQ • • • • • • • • • •										•	8421-9123		
NBR (free of silicone)	•	•			•	•	•	•	•	•	•	8421-0099		
PVMQ			•	٠								0439-0309		
NBR (free of silicone)			•	٠								0439-0061		
Pressure gauges														
Pressure gauge, entirely made of stainless steel (0 to 1.6 bar), including pressure compensation element										sure	100071420			
Pressure gauge, made of brass/stainless steel (0 to 1.6 bar), including pressure										re	1000/1428			
Pressure gauge, entirely made of stainless steel (0 to 6 bar), including pressure compensation element										re	100071411			
Pressure gauge, made of brass/stainless steel (0 to 6 bar), including pressure compensation element										•	100071415			
Lock nut												0089-0026		
Pressure gauge seal										1099-4305				

1) Version compatible with paint on request

3.4 Accessories

Accessories	Order no.			
Mounting parts for rail mounting according to EN 50022 according to EN 50035	1400-7341 1400-7342			
Mounting parts for mounting on bracket for Type 3271 or Type 3277 Actuator	1402-0157			
Intermediate plate for additional connection with Type 4708-10xx/-11xx/-53x Pressure Regulator (not required for Type 4708-54xx)	x/-55xx/-62xx Supply			
Aluminum with G ¼ thread Aluminum with ¼ NPT thread Stainless steel with G ¼ thread Stainless steel with ¼ NPT thread	1400-7400 1400-7404 1400-7402 1400-7406			
Special screw to mount Type 4708-54xx on Type 3710 Reversing Amplifier	1400-7806			
Adjustment knob for set point adjustment	1400-7408			
Nut for panel mounting	1400-7725			
Adapter plate for manual/automatic switchover (Type 4708-82)				
Aluminum with G ¼ thread Aluminum with ¼ NPT thread Stainless steel with G ¼ thread Stainless steel with ¼ NPT thread	1400-9605 1400-9606 1400-9607 1400-9608			
Adapter plate (from Type 3710) to mount Type 4708-53 on all old versions of Types 3766, 3767 or 3780 Positioner	1400-9621			
Filter cartridge 5 µm, sintered stainless steel (replacement part)	1400-9609			
Rotating supplementary filter ¹⁾ for Type 4708-53 and Types 4708-55 to -64: Temperature range: -25 to +70 °C Temperature range: -50 to +70 °C	1402-1132 1402-1133			
Grease for silicone-free version Grease for natural gas version Grease for low-temperature version	1402-1149 1402-1150 1402-1151			
Pressure gauge bracket for Type 4708-55 Supply Pressure Regulator	1402-1515			
Pressure gauge mounting kit up to max. 6 bar (output/supply) Stainless steel/brass Stainless steel/stainless steel	1402-0938 1402-0939			

1) Year of manufacture 2017 onwards

3.5 Dimensions in mm

(specifications in parentheses apply to additional compressed air connection, see page 26)















Design and principle of operation





4 Measures for preparation

After receiving the shipment, proceed as follows:

- Check the scope of delivery. Compare the shipment received with the delivery note.
- Check the shipment for transportation damage. Report any transportation damage.

4.1 Unpacking

i Note

Do not remove the packaging if the supply pressure regulator is to be transported to another location or kept in storage.

Before mounting the supply pressure regulator, proceed as follows:

- 1. Remove the packaging from the supply pressure regulator.
- 2. Dispose of the packaging in accordance with the valid regulations.

Risk of damage to the supply pressure regulator due to foreign particles entering it. Do not remove the protective film until immediately before mounting.

4.2 Storage

Risk of damage to the supply pressure regulator due to improper storage. Observe the storage instructions. Contact SAMSON, if need be.

Storage instructions

- Protect the supply pressure regulator against external influences (e.g. impact, shocks, vibration).
- Do not damage the corrosion protection (coating).
- Protect the supply pressure regulator against moisture and dirt. In damp spaces, prevent condensation. If necessary, use a drying agent or heating.
- Pack the supply pressure regulator in airtight packaging.

5 Mounting the regulator

- ➔ To prevent excessive amounts of condensed water from collecting, keep the distance between the compressor and supply pressure regulator as short as possible.
- → Make sure the drain plug faces downwards in versions with a filter receptacle.

5.1 Compact supply pressure regulator

The supply pressure regulator can either be mounted directly in the pipeline of the air supply or on rails or brackets using the corresponding mounting parts (see accessories in section 3.4).

Observe the direction of flow of the supply air. An arrow on the nameplate indicates the direction.

5.1.1 Direction of flow

In the compact supply pressure regulators (Types 4708-10xx/-11xx/-14xx and -17xx), the direction of flow can be changed as follows:

- 1. Unscrew the two fastening screws and lift the regulator off its connecting plate.
- 2. Remove the diverting gasket, turn it 180 degrees and reposition it (Fig. 3).
- The long rubber finger of the gasket must always point in the direction of the regulator outlet.
- 3. Fasten the supply pressure regulator onto the connecting plate.
- Stick the adhesive label included in the accessories over the arrow of the nameplate, making sure that the arrow indicates that the supply air flows in the opposite direction.



5.1.2 Turning the supply pressure regulator

The supply pressure regulator can be turned on its connecting plate to allow the set point screw to face either up or down.

- Unscrew the two fastening screws and lift the supply pressure regulator off its connecting plate.
- 2. Pull the diverting gasket out of the regulator and keep it in this position.

- 3. Turn the regulator 180 degrees and reinsert the gasket. In this way, you keep the bore assignment of the gasket for supply air input and regulator outlet.
- → The long rubber finger of the gasket must always point in the direction of the regulator outlet (reduced supply pressure).
- 4. Fasten the supply pressure regulator onto the connecting plate.



5.2 Supply pressure regulators for attachment to positioners and actuators

The supply pressure regulator versions intended for attachment to positioners and actuators are equipped with various adapter plates for the attachment.

If required, the installation position of the supply pressure regulator can be changed by turning it 180° on its adapter plate to allow the set point screw to face either up or down.

This applies particularly to positioners that can be mounted either to the left or right side of the valve yoke to determine the operating direction and fail-safe action of the actuator.

To turn the supply pressure regulator, proceed as described in section 5.1.2.

The regulator is turned on its adapter plate instead of on the connecting plate.

Supply pressure regulator for Type 3730/3766/3767/3787 Positioner

Type 4708-53xx for Type 3271 Actuator and Type 3277 Actuator (120, 240 to 700 cm²) with hooked-up valve accessories

- 1. Insert the gasket (2) into the recess of the adapter plate (1).
- 2. Place the supply pressure regulator on the positioner on the side where the pneumatic connections SUPPLY and OUTPUT are located. Screw tight using the two M5 screws (3).

Type 4708-54xx for rotary actuators Proceed to mount as for Type 4708-53xx. Type 4708-54xx has a second output sealed with a stopper. This is intended for reduced supply air. It can be used to supply a second device, if required (e.g. a pilot-operated solenoid valve).



Type 4708-55xx for Types 3725, 4763 and 4765 Positioners

- 1. Screw the special nuts (5) into the connecting holes of the positioner.
- 2. Insert the gasket (2) into the recess of the adapter plate (1).
- 3. Slide the special hollow screws (6) for SUPPLY and (7) for OUTPUT into the connecting holes of adapter plate (1).
- Place the supply pressure regulator onto the positioner and fasten it using the two special screws.
- Seal the spare connections with stoppers
 (4) to prevent dirt from entering the device.

Type 4708-64xx for Type 3277 Actuator

Before mounting, check whether the tip of the gasket (1.2) projecting from the side of the connection block (1) is positioned to match the actuator symbol (1.3) for the actuator's fail-safe action "actuator stem extends" or "actuator stem retracts". If this is not the case, proceed as follows:

- Unscrew the three Phillips screws (3.1), lift off the cover (1.1). Turn the gasket (1.2) by 180° and re-insert it. Continue with reassembly.
- Place the connection block (1) with the inserted O-ring against the positioner and actuator yoke and fasten using the hexagonal socket screw (3).
- Place the supply pressure regulator with O-ring on the connection block and fasten it with hexagonal socket screw (2).



Fig. 6: Attachment to Types 4763 and 4765 Positioners



Type 4708-62xx for Type 3372 Actuator

- 1. Screw the special nut (5) into the SUPPLY connecting hole of the actuator.
- 2. Slide the special hollow screw (6) into the connection hole of the adapter plate.
- Insert the O-ring (9). Position the supply pressure regulator and fasten it to the actuator using the special screw.
- Seal the spare connections with stoppers

 (4) to prevent dirt from entering the device.



6 Pneumatic connections

The air connections are designed either with G 1/4 or 1/4-18 NPT threads. On compact supply pressure regulators, an arrow on the adhesive label indicates the direction from the supply air input to the output.

In supply pressure regulators with two connecting holes in the adapter plate (Fig. 5 and Fig. 6), the supply air connection is marked SUPPLY.

The positioner's output signal is routed in these versions over the OUTPUT port through the adapter plate to the actuator.

6.1 Pressure gauge

When attaching the pressure gauge, make sure that a gap of 2 to 3 mm remains between the lock nut (20) and pressure gauge's square on tightening the lock nut.

For Types 4708-12xx/13xx (compact versions), additionally make sure that the blanking plug (23) is only screwed in until it is flush with the body. Otherwise, the seals (21, 22) will be damaged. Each seal is assigned either to the pressure gauge or to the screw plug and must be changed correspondingly if you change the location of the pressure gauge and screw plug to the other side.



6.2 Additional output

An additional output for reduced air pressure is required to allow the supply pressure regulator to supply two pneumatic devices. In some versions of Type 4708 (see section 3.4 on accessories), a second output can be made available by using an intermediate plate.

Example: Pneumatic actuator with positioner and pilot-operated solenoid valve

→ The supply air must be supplied separately to the pilot control.

The reduced supply pressure of the supply pressure regulator is additionally routed to the threaded connection at the side over the corresponding holes in the intermediate plate.

All versions can be ordered made of aluminum or stainless steel and with either G or NPT threads. See section 3.4.



Mounting the intermediate plate

- Remove the fastening screws and lift the supply pressure regulator (4) together with the diverting gasket (3) off the adapter plate (1). Make sure you do not change the position of the diverting gasket in the supply pressure regulator.
- → The long rubber finger of the diverting gasket (3) must always point toward the regulator outlet (reduced supply pressure). See Fig. 10 and Fig. 11.
- 2. Insert the O-rings (2.1) into the boreholes of the intermediate plate (2).

- Place the intermediate plate onto the connecting or adapter plate in such a way that their three boreholes (arranged in row) are located over the two 5 mm boreholes of the adapter plate and the boreholes (1.1) for the fastening screws are aligned correctly.
- 4. Place the supply pressure regulator (4) with the diverting gasket (3) onto the intermediate plate (2). Insert the longer fastening screws and fasten the parts.



7 Manual/automatic switchover

The positioner output is routed to the actuator over the manual/automatic switchover. In automatic mode, the positioner is in closedloop operation. In manual mode, the output pressure of any supply pressure regulator is directly applied to the actuator. This creates a manual bypass of the positioner.

The manual/automatic switchover unit is mounted directly onto Types 376x and 373x (see Fig. 12) or on an adapter plate with hook-up to the actuator (Fig. 15).

The Type 4708-53 or Type 4708-54 Supply Pressure Regulator can be directly mounted. All other supply pressure regulators can be connected to the manual/automatic switchover unit using piping (hook-up).

7.1 Mounting on positioners



- Insert gasket into recess of the manual/ automatic switchover unit.
- Fasten the manual/automatic switchover unit to the positioner using the two hexagonal socket screws.
- Connect hook-up to the SUPPLY and OUTPUT connections of the manual/ automatic switchover unit.



Fig. 13: Mounting the manual/automatic switchover using an adapter plate

Optionally, a Type 4708-53 Supply Pressure Regulator can be mounted upstream of the manual/automatic switchover unit (Fig. 14).



and filter receptacle

7.2 Mounting using an adapter plate

- Fasten adapter plate, for example to a NAMUR rib using a hexagonal socket screw.
- Fit the gasket on the manual/automatic switchover unit. Fasten it to the adapter plate using the two hexagonal socket screws.



- Connect hook-up for positioner and actuator as shown in Fig. 13.

7.3 Operating the manual/ automatic switchover unit

In normal operation, the manual/automatic switchover runs in automatic mode, during which the positioner supplies air to the pneumatic actuator.



To switch to manual mode, twist off the plastic cap. Turn the switchover pin counterclockwise and pull it (approx. 1 cm) out of the bayonet lock.

The compressed air is then routed directly from the supply pressure regulator or from the air supply network to the pneumatic actuator.

To switch back to automatic mode, push in the switchover pin again. To do this, insert the lock pin completely into the bayonet and lock it.

Replace plastic cap and tighten.

7.4 Filter with filter receptacle

The Types 4708-83, -84, -86 and -87 Air Filters are designed for universal use. They have either G $\frac{1}{4}$ or $\frac{1}{4}$ -18 NPT threaded connection.



7.4.1 Mounting the air filter

Mount the air filter directly into the pipeline, while ensuring the direction of flow (printed on the device) is kept.

→ The filter receptacle must face downwards to function correctly.

8 Rotating supplementary filter

The rotating supplementary filter (Fig. 14) is designed for mounting to Type 4708-53 and Types 4708-55 to -64 Supply Pressure Regulators ¹⁾. It replaces the small integrated filter cartridge. The entire filter housing can be rotated by 360° to ensure that the condensate drain always faces downwards.

Filter versions

Aluminum body with filter in transparent plastic receptacle

Temperature range: -25 to +70 °C, order no. 1402-1132

Special version:

Temperature range: -50 to +70 °C, order no. 1402-1133

8.1 Mounting the rotating supplementary filter

- 1. Remove the cover and filter cartridge from the supply pressure regulator.
- 2. Place the supplied seal carefully onto the groove (see arrow) of the connection.
- Insert connecting pipe together with seal into the supply pressure regulator and tighten the plastic coupling nut.
- → Make sure that the seal does not fall out of the groove on mounting.
- Adjust the direction of the supplementary filter until it is upright.
- 5. Secure the position by tightening the hexagonal socket screw (6 mm).
- 1) Year of manufacture 2017 onwards



9 Adjusting the set point

- ➔ Refer to Fig. 2
- ➔ Unscrew the cap (5) on the set point screw (7) and adjust the set point of the supply pressure regulator.
- → Turning the screw clockwise increases the output pressure and turning it counter-clockwise reduces the output pressure.
- → Lock the setting with the lock nut (8).

Risk of damage to the supply pressure regulator due to excessively high tightening torque applied to the lock nut. Do not exceed the maximum torque of **7 Nm**.

10 Maintenance

i Note

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

- The product warranty becomes void if service or repair work not described in these instructions is performed without prior agreement by SAMSON's after-sales service.
- Only use original spare parts by SAMSON, which comply with the original specifications.

10.1 Maintenance

Risk of injury due to high pressure. Shut off the air line before performing work on the supply pressure regulator.

Drain condensed water that has collected:

- → Activate the manual drainage.
- → Replace the seal (order no. 0439-0061), if necessary.

∹∑́- Tip

We recommend to check the filter as often as possible.

10.2 Preparation for return shipment

Defective supply pressure regulators can be returned to SAMSON for repair.

Proceed as follows to return devices to SAMSON:

- 1. Put the control valve out of operation. See associated valve documentation.
- 2. Remove the supply pressure regulator (see section 12).
- Proceed as described on our website at www.samsongroup.com > Service & Support > After-sales Service > Returning goods.

11 Troubleshooting

Risk of injury due to high pressure. Shut off the air line before performing work on the supply pressure regulator.

Leakage between supply pressure regulator and adapter plate:

→ Check whether the diverting gasket (Fig. 3 and Fig. 4) is installed and the two fastening screws are tightened properly.

Excessive blow-off over the venting bore:

→ Check whether the diverting gasket (Fig. 3 and Fig. 4) is installed correctly.

Air capacity drops and the output pressure drops:

→ Check the filter cartridge for dirt and make sure the set point is correctly adjusted.

Pressure drop

➔ Unscrew the filter receptacle and renew the filter cartridge (order no. 8504-9027).

12 Decommissioning and removal

Risk of bursting in pressure equipment. Control valves, mounting parts and pipelines are pressure equipment. Improper opening can lead to bursting of the valve.

- Before starting any work on the control valve, depressurize all plant sections affected as well as the valve.
- Observe the valve's safety instructions.

12.1 Decommissioning

To decommission the supply pressure regulator for maintenance work or disassembly, proceed as follows:

- 1. Disconnect the supply pressure of the pneumatic actuator.
- 2. Disconnect the supply air.
- 3. If necessary, allow valve components to cool down or heat up.

12.2 Removing the supply pressure regulator

- 1. Put the supply pressure regulator out of operation. See section 12.1.
- 2. Undo the threaded connections.
- 3. Remove the supply pressure regulator from the pipeline.

12.3 Disposal



We are registered with the German national register for waste electric equipment (stiftung ear) as a producer of electrical and electronic equipment, WEEE reg. no.: DE 62194439

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

∹∑- Tip

On request, we can appoint a service provider to dismantle and recycle the product.

13 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 the following e-mail address:

aftersalesservice@samsongroup.com

Addresses of SAMSON AG and its subsidiaries

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

Required specifications

Please submit the following details:

- Order number and position number in the order
- Type, serial number, device version

SAMSON REGULATION S.A.S.



1/1

DC008

2019-11

DECLARATION UE DE CONFORMITE

EU DECLARATION OF CONFORMITY

EU KONFORMITÄTSERKLÄRUNG

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

Nous certifions pour les produits suivants en exécution standard :

For the following products in standard execution: Für die folgenden Produkte in Standard-Ausführung:

 Type / type / Typ :
 2371, 3249, 3252, 3310, 3331, 3347, 3349, 3351, 3710, 3711, 3776, 3777, 3812, 3963, 3964, 3967, 4708, 4746, 5090, Samstation

sont conformes à la législation applicable harmonisée de l'Union :

the conformity with the relevant Union harmonization legislation is declared with: wird die Konformität mit den einschlägigen Harmonisierungsrechtsvorschriften der Union bestätigt:

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

EN50581:2012-09

Fabricant : Manufacturer: Hersteller:

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

Vaulx-en-Velin, le 26/11/19

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

SAMSON REGULATION S.A.S.

Joséphine SIGNOLES-FONTAINE Responsable QSE

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

Société par actions simplifiée au capital de 10 000 000 € • Siège social : Vaulx-en-Velin N° SIRET: RCS Lyon B 788 165 603 00127 • N° de TVA: FR 86 788 165 603 • Code APE 2814Z BNP Paribas Crédit Lyonnais N⁺ compte 0002200215245 • Banque 3000401857 IBAN FR763300401857000220215245 • BIC (code SWIFT) BNPAFRPPVBE N⁺ compte 000060035B41 • Banque 3000201936 IBAN FR883000211938600006005841 • BIC (code SWIFT) CRLYFRPP

EB 8546 EN



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