

## Application

Supply pressure regulators used to provide pneumatic measuring and control equipment with a constant air supply

**Set point ranges** 0.2 to 1.6 bar (3 to 24 psi)  
0.5 to 6 bar (8 to 90 psi)

The 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 regulators have a filter which can be vented:

- Type 4708-45 including filter with 15 µm
- All other Type 4708 including filter with 20 µm
- Special version with 5 µm

### Special features:

- Air blow-off and low air consumption
- Almost independent of upstream pressure
- Any mounting position (except version with filter receptacle)
- Suitable for pipe and panel mounting as well as for attachment to various positioners and actuators
- Optionally with pressure gauge with CrNiMo steel housing and brass measuring element or pressure gauge completely made of CrNiMo steel (these regulator versions are completely free of any copper alloy)
- Threaded ends G according to DIN ISO 228/1 or with NPT tapered pipe thread

### Versions

Supply pressure regulators with continuously adjustable set point range from 0.5 to 6 bar (8 to 90 psi)

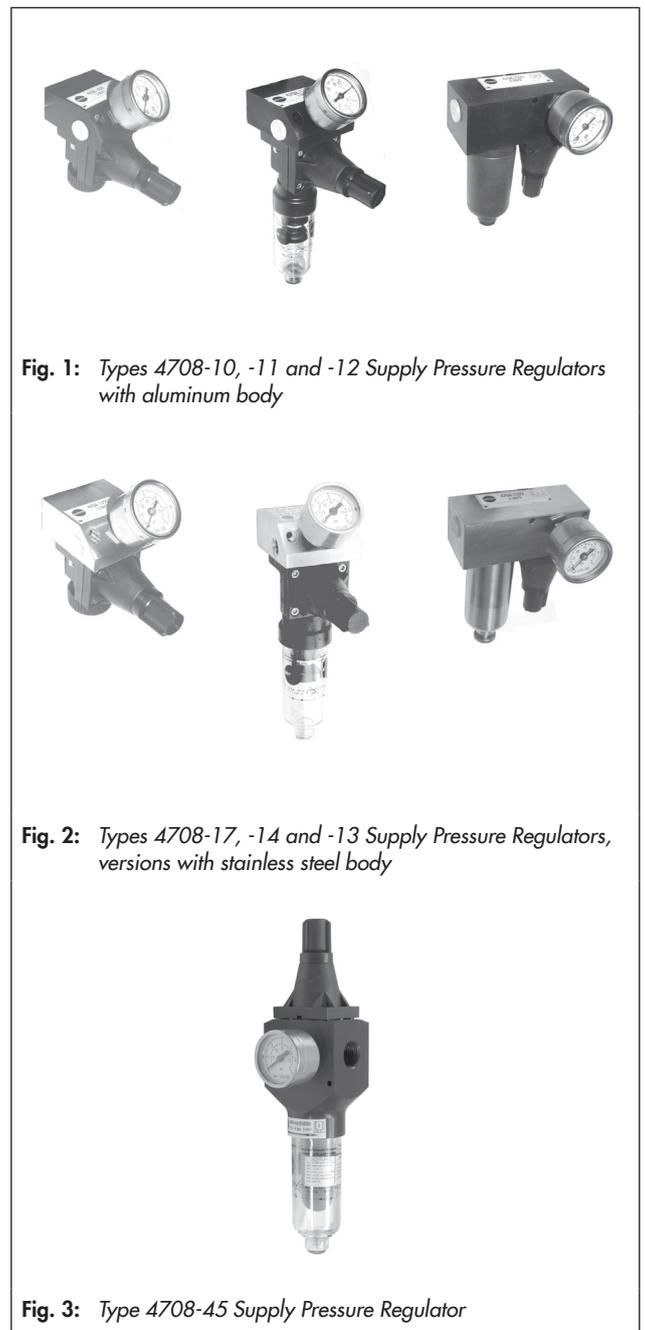
- **Types 4708-10 to -17** (Fig. 1, 2) · Supply pressure regulators with optional set point range 0.2 to 1.6 bar (3 to 23 psi) Mounted on rails conforming with DIN EN 50022/50035 with accessories or mounted using a universal bracket
- **Type 4708-45** (Fig. 3) · Supply pressure regulator with increased air capacity
- **Types 4708-53 to -58** (Fig. 7 onwards) · Supply pressure regulators for direct attachment to various positioners
- **Types 4708-62 and -64** (Fig. 13, 9) · Supply pressure regulators for direct attachment to Type 3277 and Type 3372 Pneumatic Actuators

### Further versions

- **Type 4708-82** (Fig. 6, 14) · Manual/automatic switchover functioning as a pneumatic bypass for positioners
- **Type 4708-83 to -87** (Fig. 15) · Compressed air filters

### Further information

- ▶ EB 8546 EN for **Type 4708-xx**
- ▶ EB 8546-1 EN for **Type 4708-45**



**Fig. 1:** Types 4708-10, -11 and -12 Supply Pressure Regulators with aluminum body

**Fig. 2:** Types 4708-17, -14 and -13 Supply Pressure Regulators, versions with stainless steel body

**Fig. 3:** Type 4708-45 Supply Pressure Regulator

### Principle of operation (Fig. 4)

The Type 4708 Supply Pressure Regulator operates according to the force-balance principle. By turning the set point screw (7), the tension of the spring (6) is changed and the output pressure is adjusted accordingly. The set point ranges from 0.2 to 1.6 bar or from 0.5 to 6 bar are obtained by using two different springs. The supply pressure regulator contains a filter cartridge (11). To drain the condensate, open the screw plug (12) by half a turn. When mounting the regulator, make sure the screw plug is in a horizontal or suspended position.

For versions with separate filter receptacle and condensate drainage, the regulator must be installed with the receptacle suspended.

### Supply pressure regulators combined with pneumatic or electropneumatic devices (Fig. 7 onwards)

Various adapter plates allow the supply pressure regulator to be attached to the various devices.



#### Note:

If the regulator is connected to supply networks carrying air that contains dust, oil or condensate, we recommend using SAMSOMATIC service units for compressed air treatment.

### Installation

To avoid the formation of excessive condensate, make sure the supply pressure regulator is installed as closely as possible to the compressor or the compressed air tank.

The regulator is either mounted directly in the pipeline or into the appropriate panel cut-out. In addition, it may be attached directly to the positioner or the pneumatic actuator.

Depending on the version used, the air connections are fitted with either G 1/4 or 1/4-18 NPT (G 1/2 or 1/2-14 NPT threads for Type 4708-45).

### Manual/automatic switchover

The output of a positioner is routed to the actuator over a manual/automatic switchover (Fig. 6). In automatic mode, the positioner output is used and in manual mode, the output pressure of the supply pressure regulator is routed directly to the actuator. This feature provides a manual bypass for the positioner.

The manual/automatic switchover is suitable for mounting on Types 376x, 378x and 373x Positioners or for mounting on an adapter plate connected up to the actuator. Type 4708-53 (Fig. 6) or Type 4708-54 can be directly connected to the manual/automatic switchover. All other supply pressure regulators are connected over piping.

### Accessories

A supplementary filter (Fig. 16) can be fitted on Type 4708-53 and Types 4708-55 to -63. The filter housing can be rotated 360° to ensure that the filter and condensate drainage always face downwards.

### Legend for Figs. 4 and 5

1 Body	6 Spring
1.1 Seat	7 Set point screw
1.2 Plug	8 Lock nut
1.3 Connecting bore	10 Diverting gasket
2 Plate	11 Filter cartridge
2.1 Diaphragm	12 Screw plug
3 Cover	20 Fastening screw
3.1 Venting bore	21 Spring washer
4 Centering bushing	30 Adjustment knob
5 Cap	

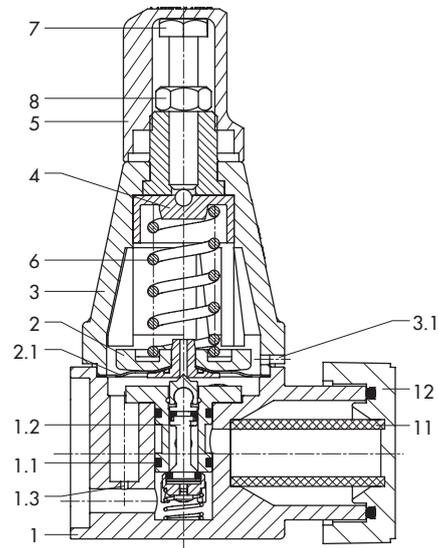


Fig. 4: Sectional view of Type 4708 Supply Pressure Regulator

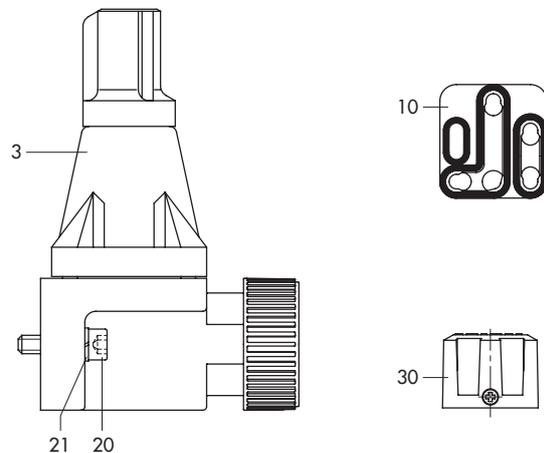


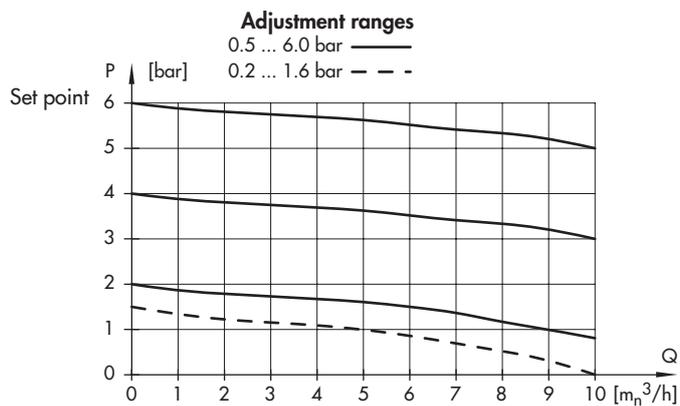
Fig. 5: View of diverting gasket (10) and adjustment knob (30)



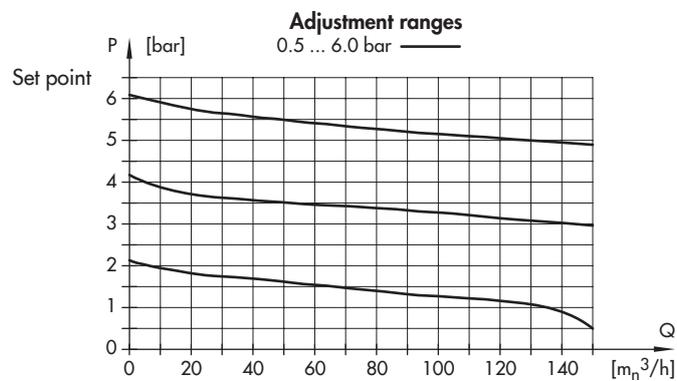
Fig. 6: Manual/automatic switchover with Type 4708-53 Supply Pressure Regulator with pressure gauges and filter receptacle

Positioner	For actuator	Associated supply pressure regulator
	Type 3271 Type 3277 – 120 cm <sup>2</sup> and 240 to 700 cm <sup>2</sup> – with hooked-up accessories (solenoid valve, Type 3709-2 Lock-up Valve) also with Type 4708-82 or with Type 3709-1	 <b>Fig. 7:</b> Type 4708-53xx
Type 3730 Type 3731 Type 376x Type 378x	Rotary actuators also with Type 4708-82 (not with Type 3709-1)	 <b>Fig. 8:</b> Type 4708-54xx
	Type 3277 – 240 to 700 cm <sup>2</sup> – without any hooked-up accessories and without manual/automatic switchover – Type 4708-82 (mounting block and pressure gauge are included in the scope of positioner delivery)	 <b>Fig. 9:</b> Type 4708-64xx
Type 3760	Type 3277 – 120 to 350 cm <sup>2</sup>	 <b>Fig. 10:</b> Type 4708-57xx
Type 3761	Rotary actuators	 <b>Fig. 11:</b> Type 4708-58xx
Type 4763 Type 4765	Type 3271	 <b>Fig. 12:</b> Type 4708-55xx
Version for integral attachment	Type 3372 – for Series V2001 valves	 <b>Fig. 13:</b> Type 4708-62xx

Universal supply pressure regulators and filters	Type
Manual/automatic switchover	<p data-bbox="734 190 949 224"><b>Fig. 14:</b> Type 4708-82</p> 
Filter with filter receptacle – for universal attachment with piping	<p data-bbox="734 392 965 470"><b>Fig. 15:</b> Type 4708-8xxx shown here: -83, -87</p> 
Accessories – Rotating supplementary filter for mounting on supply pressure regulators	<p data-bbox="734 616 981 750"><b>Fig. 16:</b> Filter for Type 4708-53 and Types 4708-55 to 4708-63</p> 



**Fig. 17:** Air flow characteristics with 8 bar supply pressure for Type 4708-xx Supply Pressure Regulators (measured with 1/4" connection)



**Fig. 18:** Air flow characteristics with 8 bar supply pressure for Type 4708-45 Supply Pressure Regulators (measured with 1/2" connection)

**Table 1: Technical data <sup>1)</sup>**

Supply pressure regulators	Type 4708-xx	Type 4708-45
Supply pressure	1 bar (15 psi) above the adjusted set point, however, at least 1.6 bar (24 psi)	At least 1 bar (15 psi) above the adjusted set point
Max. supply pressure	12 bar (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 <sub>n</sub> <sup>3</sup> /h	≤ 0.1 m <sub>n</sub> <sup>3</sup> /h
Dependency on inlet pressure	< 0.01 bar/Δp = 1 bar	Negligible (< 10 mbar/4 bar)
Reversing error	0.1 to 0.4 bar (depending on set point)	50 mbar with set point range 0.5 to 6 bar (8 to 90 psi)
Hysteresis	< 0.1 bar	50 mbar with set point range 0.5 to 6 bar (8 to 90 psi)
Filter cartridge mesh size	20 μm · Optionally 5 μm	15 μm
<b>Pressure gauge</b>		
Reading range	0 to 1.6 bar (0 to 24 psi) or 0 to 6 bar (0 to 90 psi)	
Connection	G 1/8	

Ambient temperature ranges																				
Supply pressure regulators	Type 4708	-10	-11	-12	-13	-14	-17	-45	-53	-54	-55	-57	-58	-62	-64	-82	-83	-84	-86	-87
Standard	-25 to 70 °C <sup>2)</sup>		•	•	•	•		•									•		•	
	-25 to 80 °C	•					•		•	•	•	•	•	•	•	•		•		•
Version for low temperatures	-40 to 80 °C														•					
	-50 to 70 °C <sup>2)</sup>		•	•	•	•		•									•		•	
	-50 to 80 °C	•					•		•	•	•	•	•	•		•		•		•

Weights																				
Supply pressure regulators	Type 4708	-10	-11	-12	-13	-14	-17	-45 <sup>3)</sup>	-53	-54	-55	-57	-58	-62	-64	-82	-83	-84	-86	-87
	kg (approx.)	0.48	0.58	0.66	1.65	1.2	1.0	0.74	0.68	0.95	0.37	0.47	0.4	0.4	0.5	0.4	0.24	0.32	0.59	0.95

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

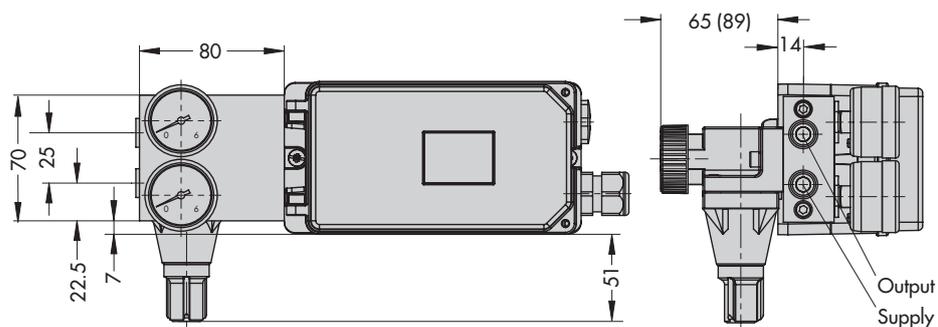
<sup>2)</sup> Applies also to rotating supplementary filter

<sup>3)</sup> With aluminum body and polyamide filter receptacle

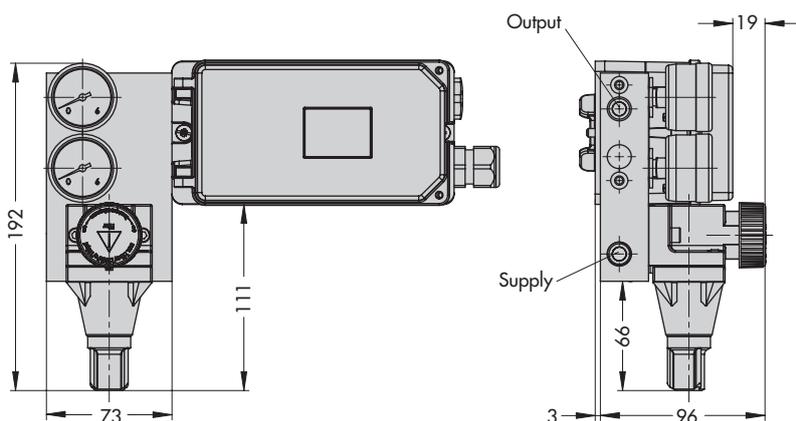
**Table 2: Materials**

Supply pressure regulators	Type 4708-xx	Type 4708-45	
Body	Metal parts	Aluminum (3.3547) or stainless steel (1.4404)	
	Plastic parts	Polyamide, glass fiber reinforced	
Cover	Polyamide, glass fiber reinforced		
Cap	Polyamide, glass fiber reinforced		
Plug	Polyamide, glass fiber reinforced and polyoxymethylene	1.4305 and polyoxymethylene	
Diaphragm	NBR · FVMQ for low-temperature version		
Diaphragm plate	Polyamide, glass fiber reinforced, or aluminum		
Set point spring	1.4310		
Filter receptacle	UV-resistant polyamide (Trogamid T5004)		
Filter cartridge	20 μm: Polypropylene · 5 μm: Stainless steel	15 μm: Polypropylene and polyethylene	
<b>Pressure gauge</b>			
Housing	Stainless steel		
Connection and measuring element	Nickel-plated brass or stainless steel for copper-free version		

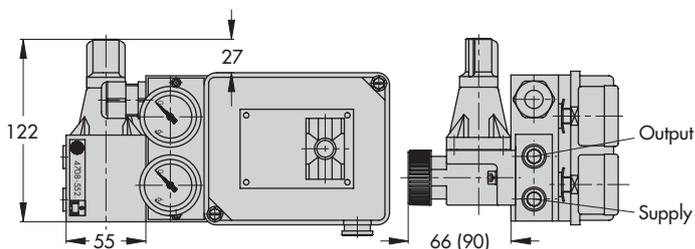
**Fig. 19:** (photo: Fig. 7) Type 4708-53xx Supply Pressure Regulator attached to Type 376x, 378x or 373x Positioner



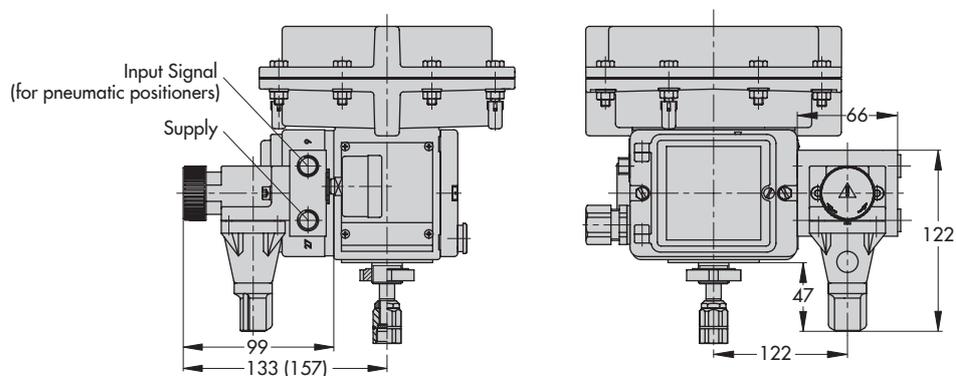
**Fig. 20:** (photo: Fig. 8) Type 4708-54xx Supply Pressure Regulator attached to Type 376x, 378x or 373x Positioner



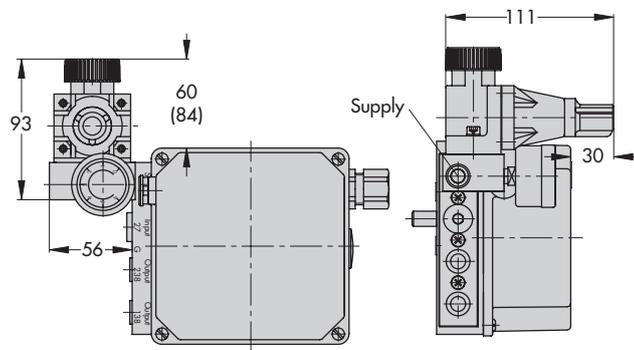
**Fig. 21:** (photo: Fig. 12) Type 4708-55xx Supply Pressure Regulator attached to Type 4736 or Type 4765 Positioner



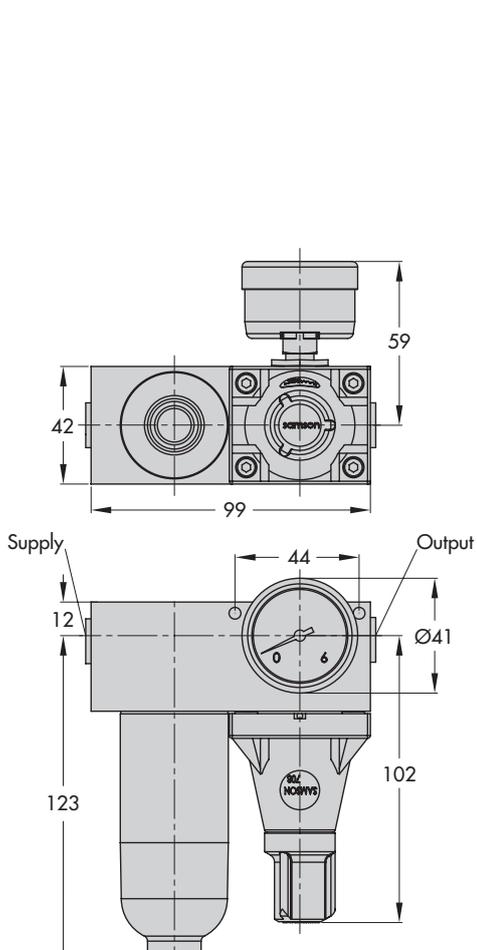
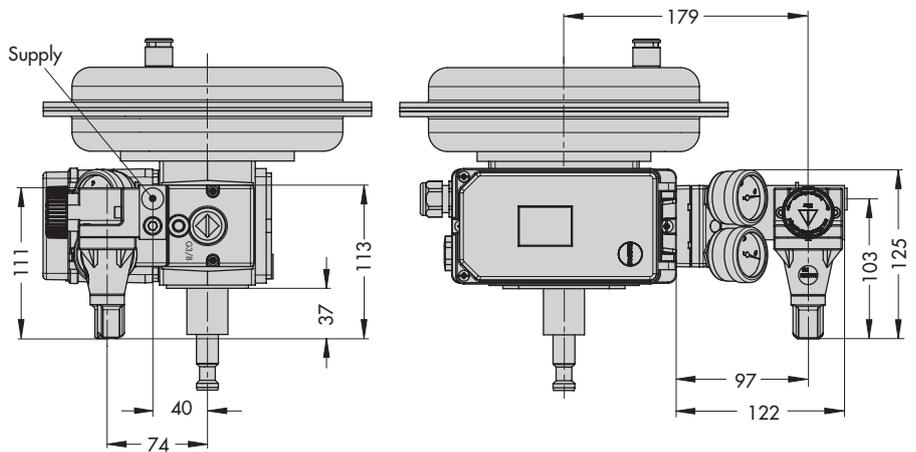
**Fig. 22:** (photo: Fig. 10) Type 4708-57xx Supply Pressure Regulator attached to Type 3760 Positioner



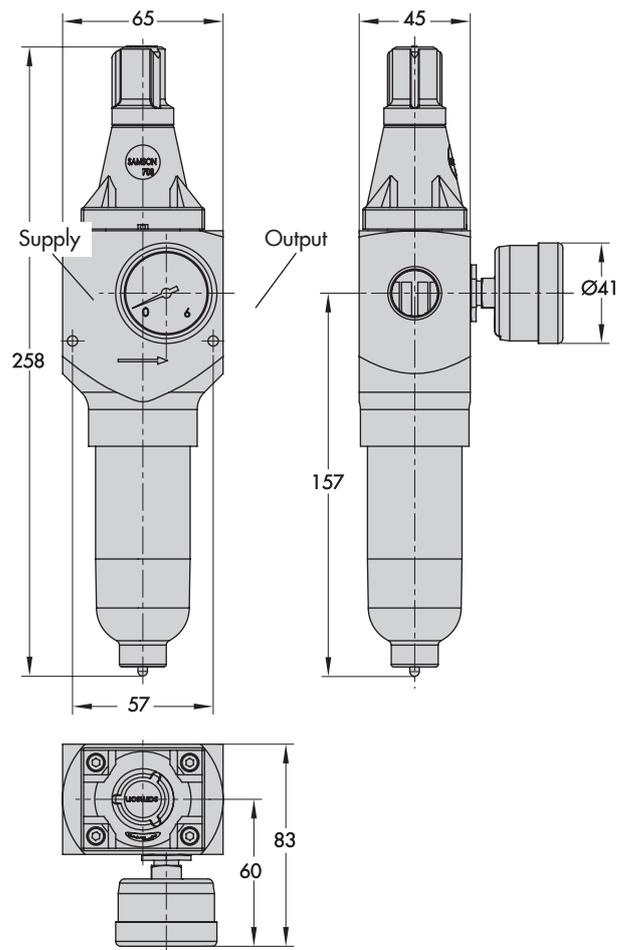
**Fig. 23:** (photo: Fig. 11) Type 4708-58xx Supply Pressure Regulator attached to Type 3761 Positioner



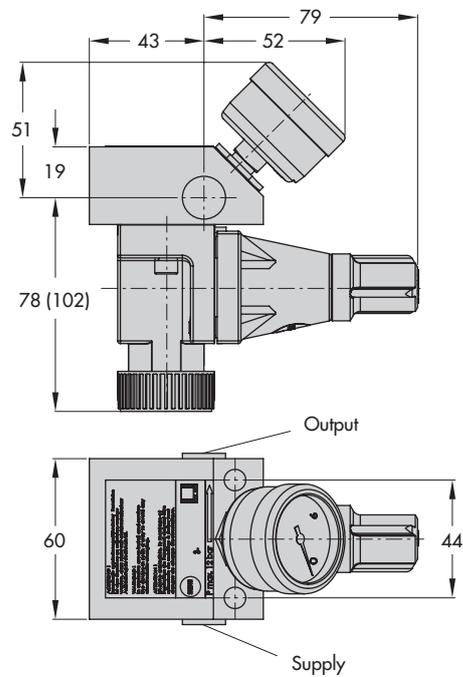
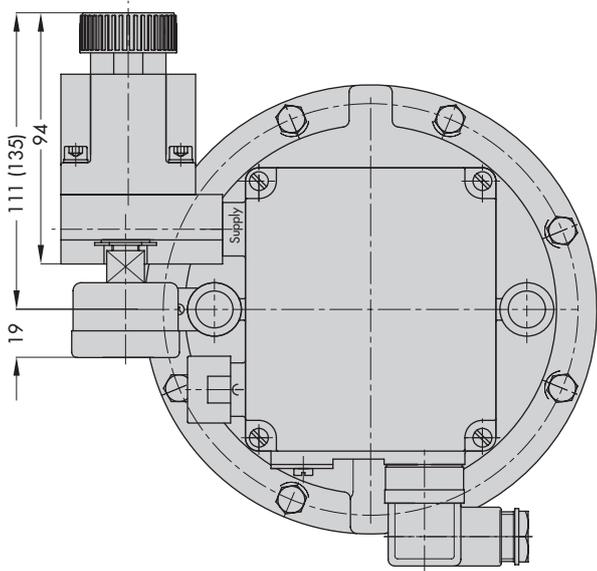
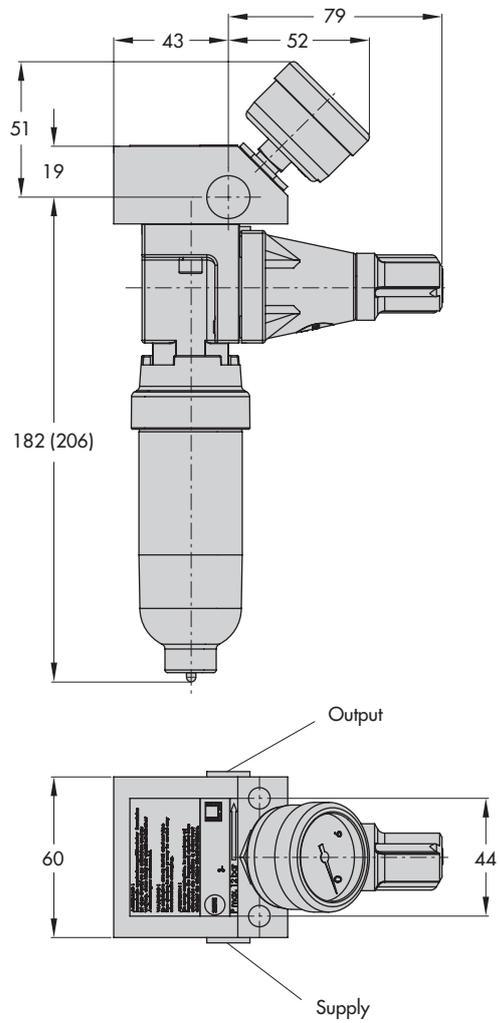
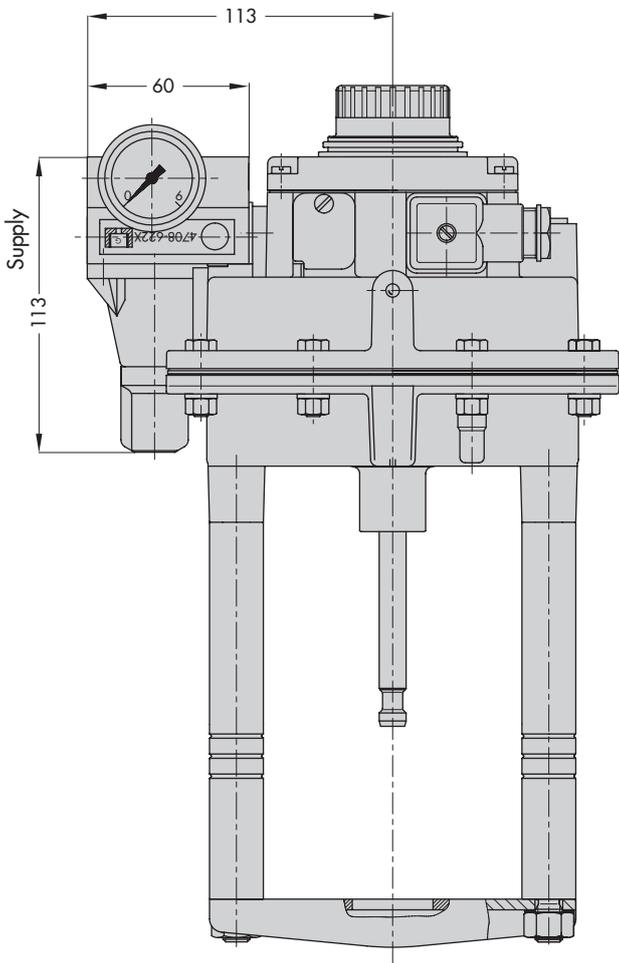
**Fig. 24:** (photo: Fig. 9) Type 4708-64xx Supply Pressure Regulator for Type 3277 Pneumatic Actuator and Type 376x, 378x or 373x Positioner



**Fig. 25:** (photo: Fig. 1, 2) Type 4708-12xx/-13xx Supply Pressure Regulator



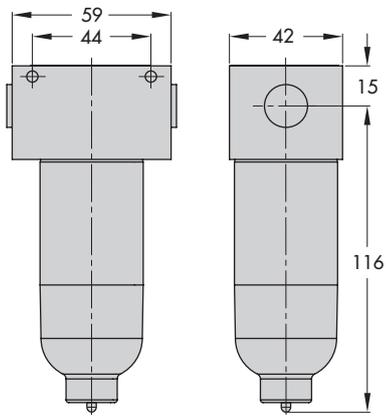
**Fig. 26:** (photo: Fig. 3) Type 4708-45 Supply Pressure Regulator



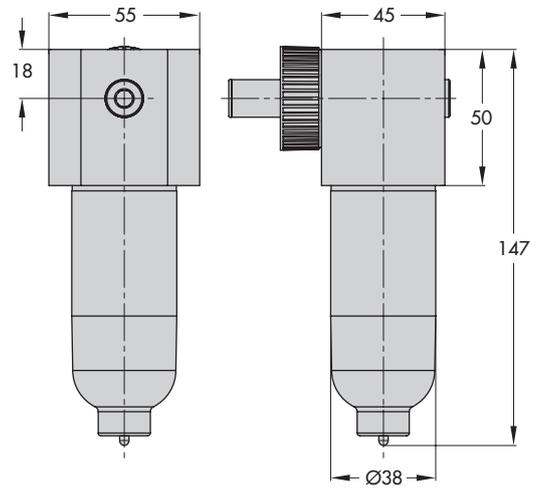
**Fig. 28:** (photo Fig. 13) Type 4708-62xx Supply Pressure Regulator for Type 3372 Pneumatic Actuator

**Fig. 27:** (photo Fig. 1, 2) Type 4708-11xx/14xx Supply Pressure Regulator

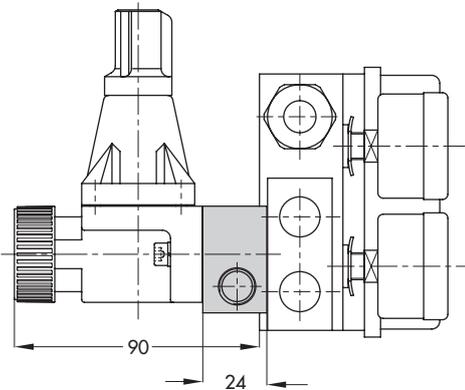
**Fig. 29:** (photo Fig. 1, 2) Type 4708-10xx/-17xx Supply Pressure Regulator



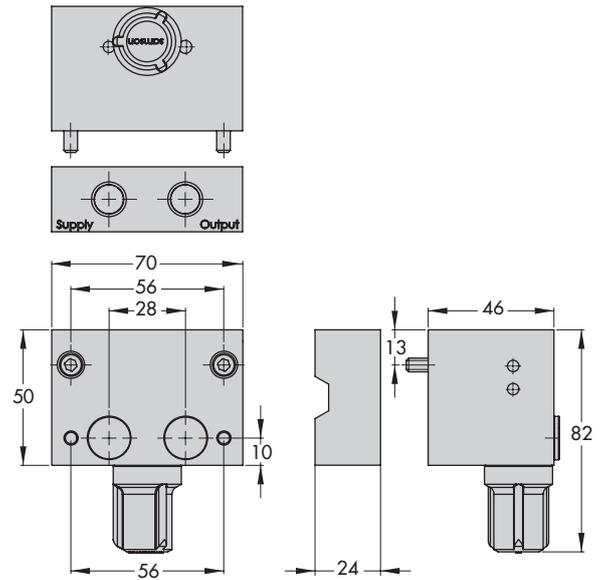
**Fig. 30:** (photo: Fig. 15)  
Type 4708-83xx/-84xx/-86xx/-87xx Filter



**Fig. 31:** (photo: Fig. 16) Rotating filter receptacle



**Fig. 32:** Intermediate plate for additional compressed air  
shown here: Type 4708-55xx



**Fig. 33:** (photo: Fig. 6) Type 4708-82 Manual/automatic Switchover  
with adapter plate

### Ordering text

Supply pressure regulator According to article code

### Accessories

For Type 4708-10 to -45 as well as Type 4708-81 to 87:  
Mounting parts for valve attachment or  
DIN rails acc. to EN 50022 or  
DIN rails acc. to EN 50035

For Type 4708-10, -11, -14, -17, -53, -55, -57, -58:  
Intermediate plate for additional compressed  
air output (G ¼ or ¼ NPT)

For Type 4708-53 and Type 4708-55 to -64:  
Rotating filter receptacle

For Type 4708-82:  
Adapter plate for freely configurable hook-  
up or NAMUR attachment (G ¼ or ¼ NPT)

## Article code

Supply pressure regulators	Type 4708-	x	x	x	x	0	x	x	x	x	x	0	0	x
Standard version														
Aluminum filter without filter receptacle		1	0	2			0	0	1					
				5			1							
with plastic filter receptacle		1	1	2			0	0	2					
				5			1							
with aluminum filter receptacle		1	2	2			0	0	3					
				5			1							
Stainless steel version														
Stainless steel filter with stainless steel filter receptacle		1	3	2			0	1	4					
				5			1							
with plastic filter receptacle		1	4	2			0	1	2					
				5			1							
without filter receptacle		1	7	2			0	1	1					
				5			1							
Version with increased air capacity														
Aluminum or stainless steel body, transparent plastic, aluminum or stainless steel filter receptacle		4	5	6	0			0	2					
				7	1		1	1	3					
				2	2			1	4					
Supply pressure regulator with adapter plate for positioner														
Type 3730, 3766, 3767, 3780, 3785, 3787		5	3	2	1		2	0	1					
				5	2									
Type 3730, 3766, 3767, 3780, 3785, 3787		5	4	2	1		2	0	1					
				5	2									
Type 4763/4765		5	5	2	0		0	0	1					
				5	0									
Type 3760		5	7	2	1		1	0	1					
				5	2									
Type 3761		5	8	2	0		0	0	1					
				5	1		1							
				2	2									
Supply pressure regulator with adapter plate for pneumatic actuator														
Type 3277 Actuator (240 to 700 cm <sup>2</sup> ) with Type 3730, 3766, 3767, 3780, 3785 or 3787 Positioner, Type 3372 Actuator		6	2	2	1		1	0	1					
				5	2									
Type 3277 Actuator with connection block		6	4	2	0		0	0	1					
				5	0									
Manual/automatic switchover														
Bypass for positioner		8	2	2	8		0	0	0		0			0
				5							1			
Filter without pressure gauge														
Aluminum body and plastic filter receptacle		8	3	2	8		0	0	2					
				5										
Aluminum body and aluminum filter receptacle		8	4	2	8		0	0	3					
				5										
Stainless steel body and plastic filter receptacle		8	6	2	8		0	1	2					
				5										
Stainless steel body and stainless steel filter receptacle		8	7	2	8		0	1	4					
				5										

Supply pressure regulators	Type 4708-	x	x	x	x	0	x	x	x	x	x	0	0	x
Connecting thread														
ISO-228/1 - G ¼				2										
¼-18 NPT				5										
ISO-228/1 - G ½				6										
½-14 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 CrNiMo steel (device free of copper)				1	0									
0.5 to 6.0 bar, with pressure gauge, (nickel-plated brass 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 CrNiMo steel (device free of copper)				4	0									
0.2 to 1.6 bar, with pressure gauge, (nickel-plated brass connection)				5	0									
Without				8	0									
No. of pressure gauges														
Without						0								
One pressure gauge						1								
Two pressure gauges						2								
Body material														
Aluminum							0							
Stainless steel							1							
Filter														
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														
-20 to 70 °C (standard)									0					
-40 to 70 °C	6	4							1					
-50 to 70 °C									2					
Application														
Standard										0				
Free of substances that impair paint adhesion										1				
Exhaust port with thread	1	2									2			
	1	3												
	4	5												
Special version														
Without												0	0	0
Filter cartridge, 5 µm mesh width												0	0	1

Specifications subject to change without notice



SAMSON AG · MESS- UND REGELTECHNIK  
Weismüllerstraße 3 · 60314 Frankfurt am Main · Germany  
Phone: +49 69 4009-0 · Fax: +49 69 4009-1507  
Internet: <http://www.samson.de>

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