INFORMATION SHEET



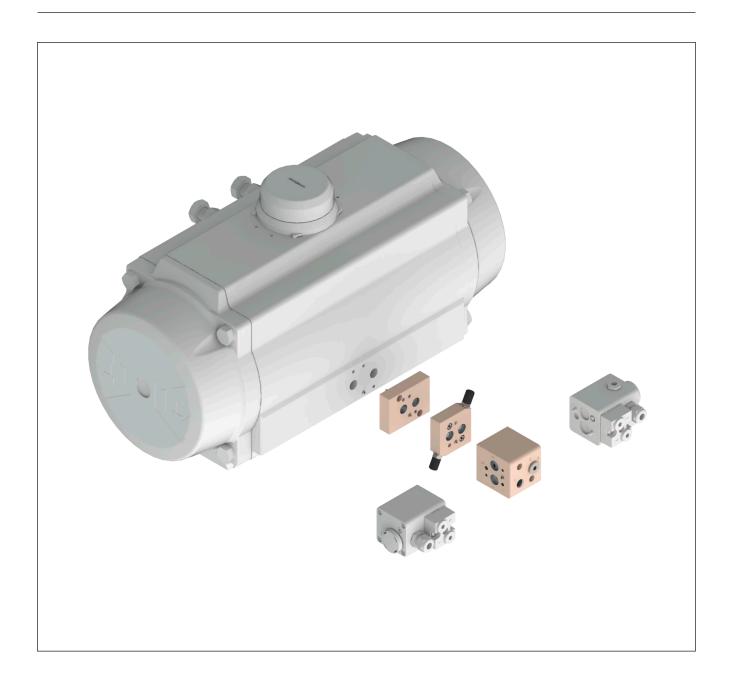
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SAMSON's modular design concept

Function blocks for valve accessories with NAMUR interface

Application

This document provides an overview of SAMSON's modular function blocks for valve accessories with a NAMUR interface. Such function blocks include adapter plates, double-axial adapters and restrictor plates as well as special constructions.



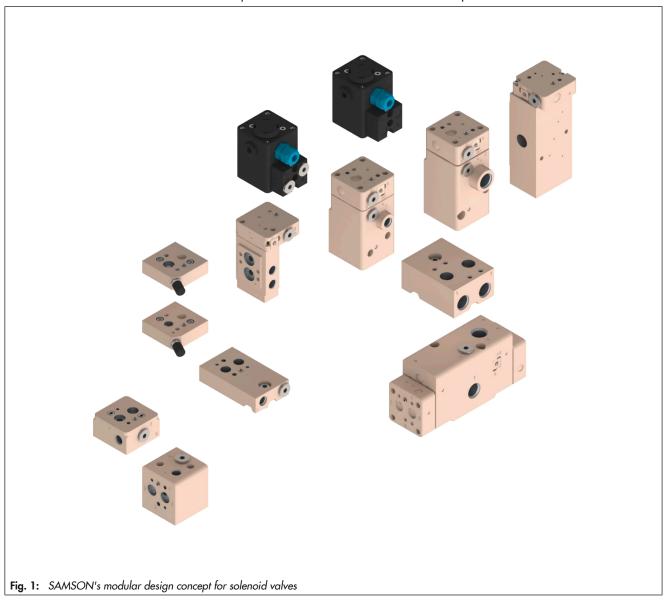
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1 General · Functions and scope of application

The modular design allows SAMSON solenoid valves to be easily adapted to various applications. As a common pneumatic interface, the NAMUR interface according to VDI/VDE 3845 is used for thread sizes $\frac{1}{4}$ " and $\frac{1}{2}$ ", while the extended NAMUR interface according to VDI/VDE 3847 can also be used for thread size $\frac{1}{4}$ ".

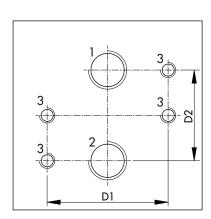
The standardized interface allows the modular parts to be combined with each other as required.



1.1 NAMUR interface according to VDI/VDE 3845 and VDI/VDE 3847

1.1.1 NAMUR interface according to VDI/VDE 3845

The NAMUR interface is a standardized interface for attachment. The interface includes two 'Supply (actuator)' air ducts (port 2) or 'Exhaust (actuator)' air ducts (port 3) as well as four tapped holes for mounting (see Fig. 2). The supply (port 1) and any pilot supply required (port 9) must be routed or hooked up separately.



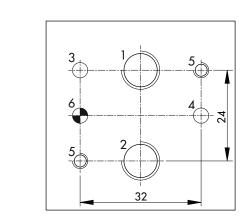
- 'Supply (actuator)' air duct
- 2 'Exhaust (actuator)' air duct
- 3 M5 holes for mounting/ Hole for coded screw

Fig. 2: NAMUR interface according to VDI/VDE 3845

The NAMUR interface according to VDI/VDE 3845 is available in $\frac{1}{4}$ " and $\frac{1}{2}$ " sizes (sizes relating to the air ducts). The M5 ($\frac{1}{4}$ ") and M6 ($\frac{1}{2}$ ") holes for mounting are additionally used to mount a coded screw, which prescribes the mounting position of the solenoid valve. Refer to VDI/VDE 3845 for a precise description of the pneumatic interface.

1.1.2 Extended NAMUR interface according to VDI/VDE 3847

In contrast to the VDI/VDE 3845, the NAMUR interface according to VDI/VDE 3847 has additional air ducts for supply (port 1) and the external pilot supply (port 9). See Fig. 3.



- 1 'Supply (actuator)' air duct
- 2 'Exhaust (actuator)' air duct
- 3 'Supply air' air duct
- 4 'External pilot supply' air duct
- 5 M5 holes for mounting
- 6 Hole for coded screw

Fig. 3: Extended NAMUR interface according to VDI/VDE 3847

The extended NAMUR interface provides all pneumatic connections required in one interface. It allows solenoid valves to be directly mounted on actuators/components without an additional connection of the supply or external pilot supply. The mounted coded screw prescribes the installation direction of the solenoid valve. It ensures that the additional air ducts (1 and 9) are always in the correct position. The NAMUR interface according to VDI/VDE 3847 is available in ½" size (size relating to the air ducts for supply and exhaust of the actuator).

The extended NAMUR interface according to VDI/VDE 3847 is compatible with the NAMUR interface according to VDI/VDE 3845 provided the ports 1 and 9 are sealed air-tight. In this case, the supply and external pilot supply (if required) must be routed separately again.

Two M5 holes are used for mounting. Refer to VDI/VDE 3847 for a precise description of the pneumatic interface.

1.1.3 Port labeling

If not specified otherwise, the port labeling of the (extended) NAMUR interface is as follows:

Port	Function
1	Supply air
2	Actuator (supply)
3	Actuator (exhaust)
9	External pilot supply

1.2 Materials

If not specified otherwise, the specifications used describe the following materials:

Specification Material designation and surface finish	
Aluminum EN AW-6082-T6/DIN EN 754-2 · Powder coated	
Stainless steel	1.4404/DIN EN 10088-3 · No surface finish

1.3 Threaded connections

Components with a thread are marked correspondingly. Both Whitworth pipe threads (G) or threads according to national pipe thread standards (NPT) are available:

Specification	Thread standard	
G	Whitworth pipe thread – ISO 228	
NPT	National Pipe Thread – ASME/ANSI B1.20.1	

i Note

Thread diameter specifications are stated in inches.

2 Adapter plates

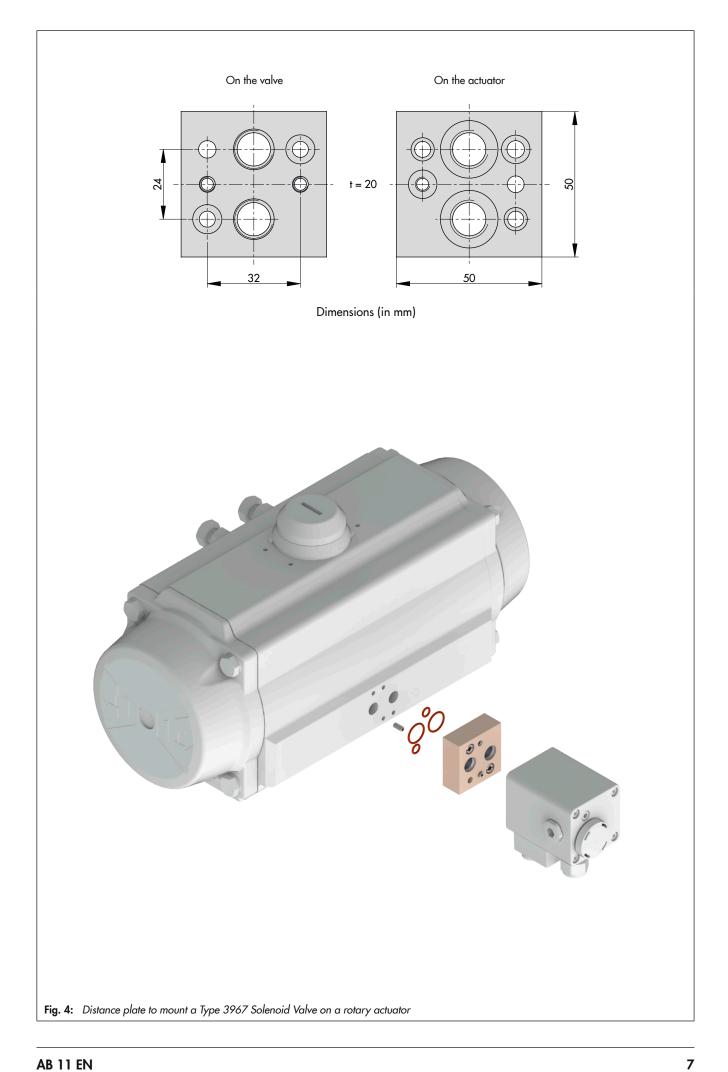
The SAMSON modular adapter plates are mounted between the actuator and pilot valve. They are suitable for adapting the (extended) NAMUR interface of the pilot valve to the installation conditions, a different actuator interface or various types of attachment.

2.1 Distance plate with extended NAMUR interface 1/4"

Distance plate made of aluminum/stainless steel, for pilot valves with NAMUR interface according to VDI/VDE 3845 or VDI/VDE 3847 on actuators with NAMUR interface according to VDI/VDE 3845 or integral attachment according to VDI/VDE 3847 including fastening screws and seals.

→ See Fig. 4.

Order no.:	Aluminum, Ematal coating: Stainless steel	G 1/4: 1400-9741 G 1/4: 1402-0234
Mounting interface:	Actuators with interface accoaccording to VDI/VDE 3847	rding to VDI/VDE 3845 (1/4") or integral attachment (1/4") interface
Pilot valve interface:	Pilot valves with NAMUR interface $\frac{1}{4}$ " according to VDI/VDE 3845 or extended NAMUR interface $\frac{1}{4}$ " according to VDI/VDE 3847	
Description of functions:	The distance plate is mounted between the actuator and pilot valve. Additional space is gained by using the distance plate. As a result, it is possible to also mount pilot valves whose shape prevents them being flush-mounted directly to the actuator.	
Logic symbol:		1 9 2 3

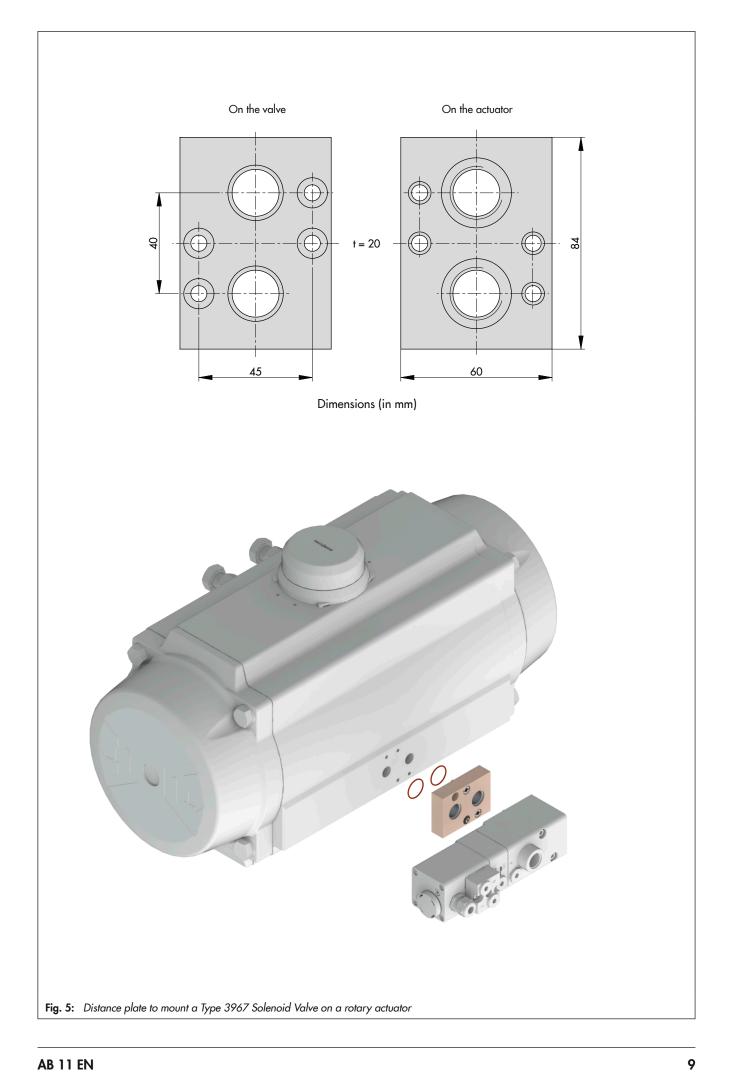


2.2 Distance plate with NAMUR interface 1/2"

Distance plate made of aluminum, for pilot valves with NAMUR interface according to VDI/VDE 3845 on actuators with NAMUR interface according to VDI/VDE 3845 including fastening screws and seals.

→ See Fig. 5.

Order no.:	Aluminum G 1/2: 1400-9743		
Mounting interface:	Actuators with VDI/VDE 3845 interface 1/2"		
Pilot valve interface:	Pilot valves with NAMUR interface ½" according to VDI/VDE 3845		
Description of functions:	The distance plate is mounted between the actuator and pilot valve. Additional space is gained by using the distance plate. As a result, it is possible to also mount pilot valves whose shape prevents them being flush-mounted directly to the actuator.		
Logic symbol:			

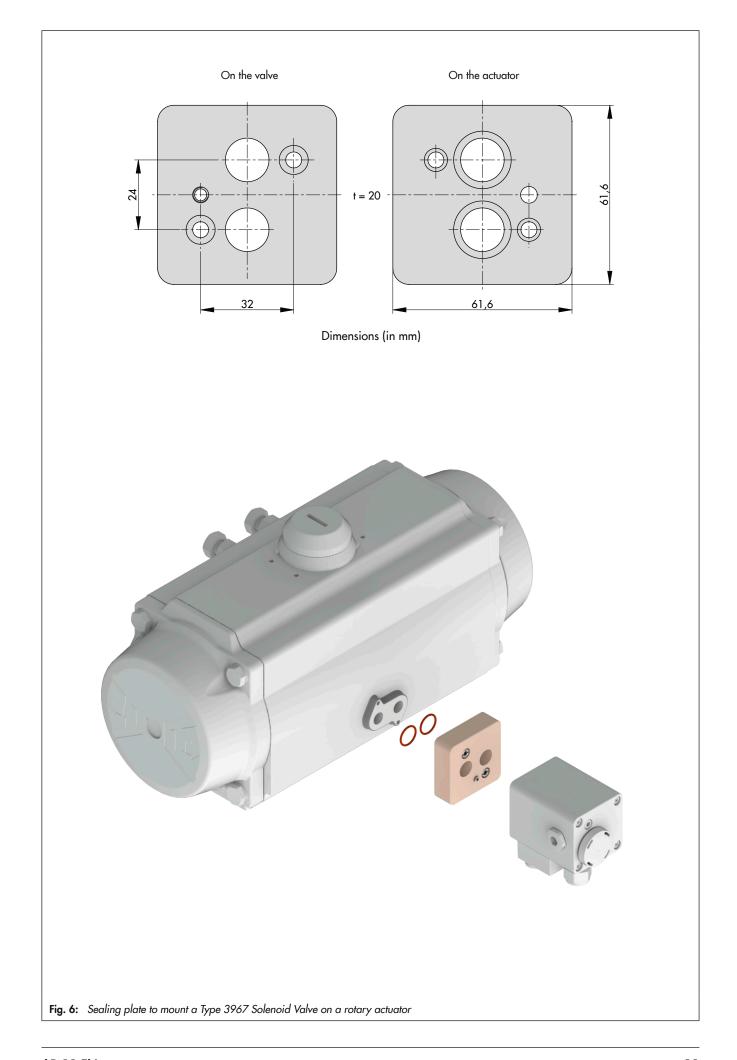


2.3 Sealing plate with extended NAMUR interface 1/4"

Sealing plate made of aluminum, for pilot valves with NAMUR interface according to VDI/VDE 3847 on actuators with NAMUR interface according to VDI/VDE 3845 including fastening screws and seals.

→ See Fig. 6.

Order no.:	Aluminum: 1402-1480		
Mounting interface:	Actuators with VDI/VDE 3845 interface 1/4"		
Pilot valve interface:	Pilot valves with extended NAMUR interface 1/4" according to VDI/VDE 3847		
Description of functions:	The sealing plate is mounted between the actuator with NAMUR interface according to VDI/VDE 3845 and pilot valve. The sealing plate is used to mount pilot valves with an extended NAMUR interface according to VDI/VDE 3847 onto an actuator whose facing is too small to seal the pilot air ducts 1 and 9 of the extended NAMUR interface.		
Logic symbol:			

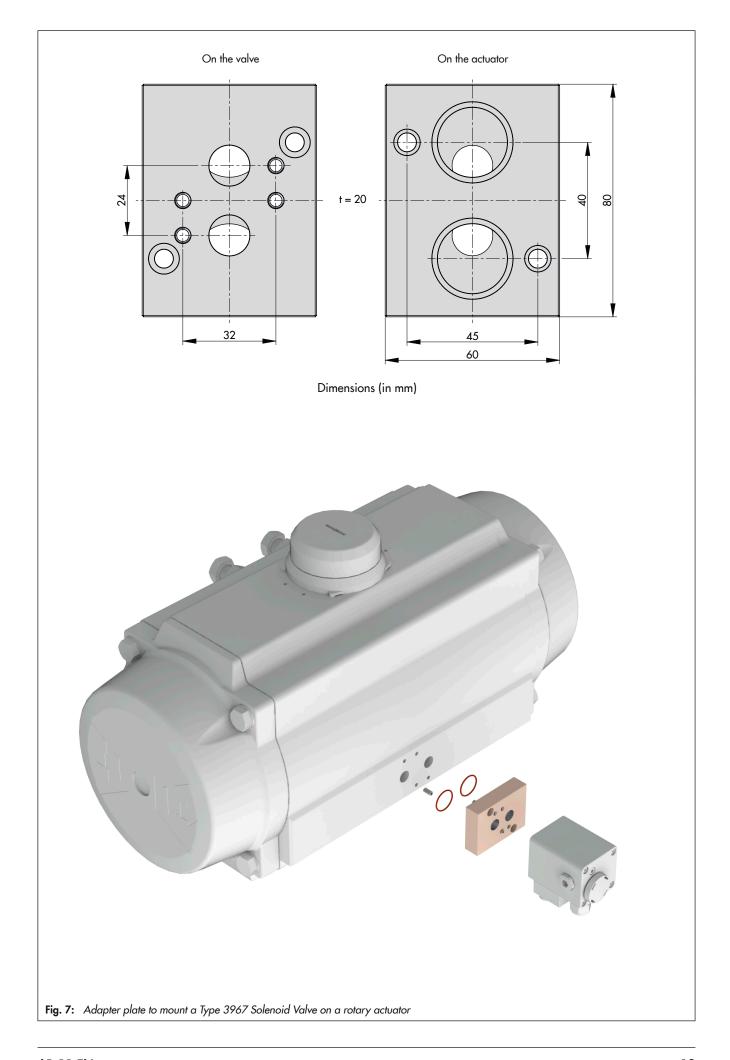


2.4 Adapter plate for NAMUR interface $\frac{1}{4}$ " on NAMUR interface $\frac{1}{2}$ "

Adapter plate made of aluminum/stainless steel, for pilot valves with NAMUR interface according to VDI/VDE 3845 or VDI/VDE 3845 or VDI/VDE 3847 on actuators with NAMUR interface according to VDI/VDE 3845 including fastening screws and seals.

→ See Fig. 7.

Order no.:	Aluminum, Ematal coating: Stainless steel:	1380-1652 1380-1797	
Mounting interface:	Actuators with VDI/VDE 384	15 interface ½"	
Pilot valve interface:	Pilot valves with NAMUR interface $\frac{1}{4}$ " according to VDI/VDE 3845 or extended NAMUR interface $\frac{1}{4}$ " according to VDI/VDE 3847		
Description of functions:	The adapter plate is mounted between the actuator and pilot valve. The adapter plate is used to mount pilot valves with a NAMUR interface according to VDI/VDE 3845 or VDI/VDE 3847 with ½" thread on actuators with NAMUR interface according to VDI/VDE 3845 with ½" thread. When pilot valves with extended NAMUR interface according to VDI/VDE 3847 are used, ports 1 and 9 are sealed off by the adapter plate.		
Logic symbol:		2 3	

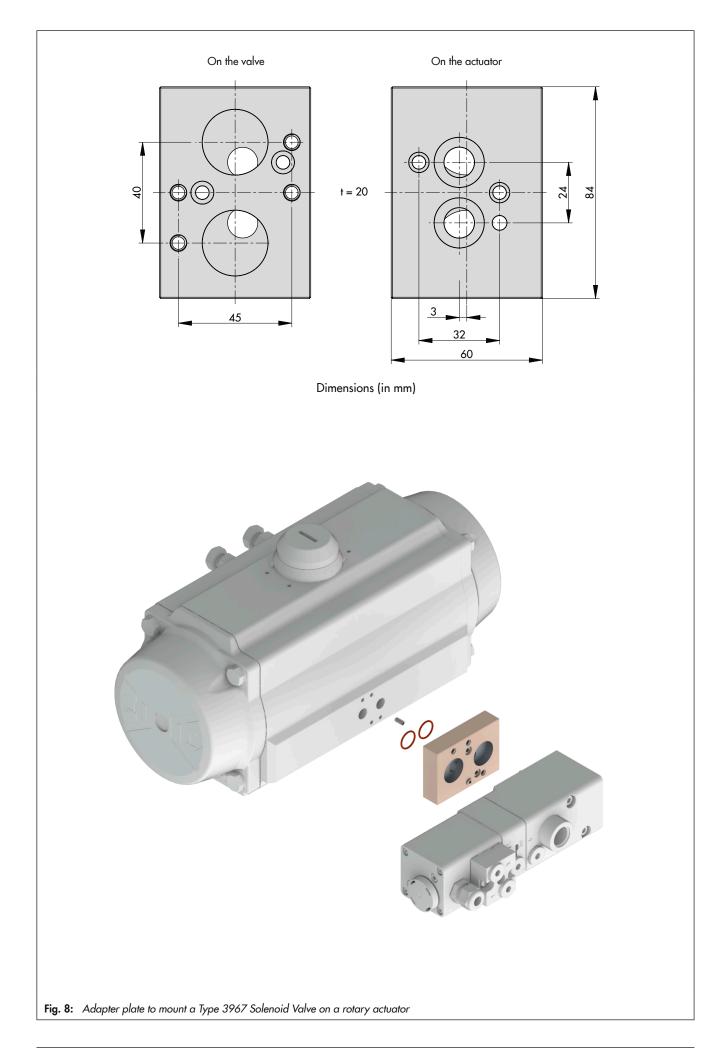


2.5 Adapter plate for NAMUR interface ½" on NAMUR interface ¼"

Adapter plate made of aluminum/stainless steel, for pilot valves with NAMUR interface according to VDI/VDE 3845 on actuators with NAMUR interface according to VDI/VDE 3845 including fastening screws and seals.

→ See Fig. 8.

Order no.:	Aluminum, Ematal coating: Stainless steel:	1380-1795 1380-1796	
Mounting interface:	Actuators with VDI/VDE 384	45 interface 1/4"	
Pilot valve interface:	Pilot valves with NAMUR interface ½" according to VDI/VDE 3845		
Description of functions:	The adapter plate is mounted between the actuator and pilot valve. The adapter plate is used to mount pilot valves with a NAMUR interface according to VDI/VDE 3845 with ½" thread on actuators with NAMUR interface according to VDI/VDE 3845 with ¼" thread.		
Logic symbol:			



2.6 Adapter plate for extended NAMUR interface 1/4" with external threaded connections

Adapter plate with threaded connections made of aluminum (with Ematal coating)/stainless steel, for pilot valves with extended NAMUR interface according to VDI/VDE 3847 on actuators with NAMUR interface according to VDI/VDE 3845 including fastening screws and seals and 1/8" vent plug (see Fig. 9).

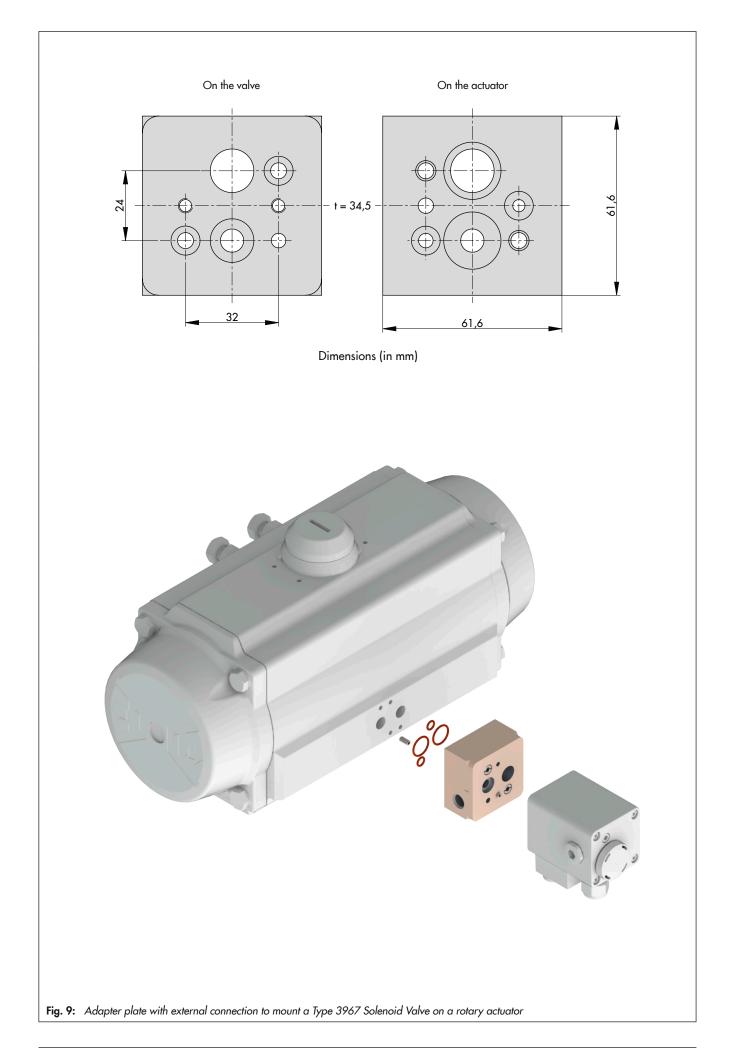
Order no.:	Aluminum, Ematal coating Aluminum Stainless steel Stainless steel	G 1/4: 1/4 NPT: G 1/4: 1/4 NPT:	1402-0695 1402-0697 1402-0696 1402-0698	
		3 · 1/8 NPT: 3 · 1/8 NPT:	1992-3965 8323-0028 8414-0136	
Mounting interface:	Actuators with interface acco to VDI/VDE 3847 interface	rding to VDI/	VDE 3845 (¼") or inte	egral attachment (¼") according
Pilot valve interface:	Pilot valves with extended NA	MUR interfa	ce ¼" according to VD	I/VDE 3847
Description of functions: The adapter plate is mounted between the actuator of VDE 3845 and pilot valve. The supply air is connected supplied to the port 1 of the pilot valve through the editor VDI/VDE 3847. An external pilot supply can be use erated valves. The adapter plate is fitted with two verifications.		is connected to port 1 ough the extended NA an be used at port 9 c	of the adapter plate, which is MUR interface according to If the adapter plate for pilot-op-	
	Both ports 3 on the adapter paccessories. The 1/8" vent plug plug is included in the scope	is sealed by		haust air feedback of other valve e delivered state. The ½″ vent
	The adapter plate allows the pilot valve to be exchanged without making any changes to the air supply lines.			
Logic symbol:	3- 9- 1-		2	3

i Note

If the pilot valve does not have its own vent plug, the $\frac{1}{8}$ " screw plug must be replaced with the $\frac{1}{8}$ " vent plug (1992-3965) included in the scope of delivery.

• NOTICE

The exhaust air pressure must not exceed 6 bar when the 1/8 vent plug (1992-3965) is used.

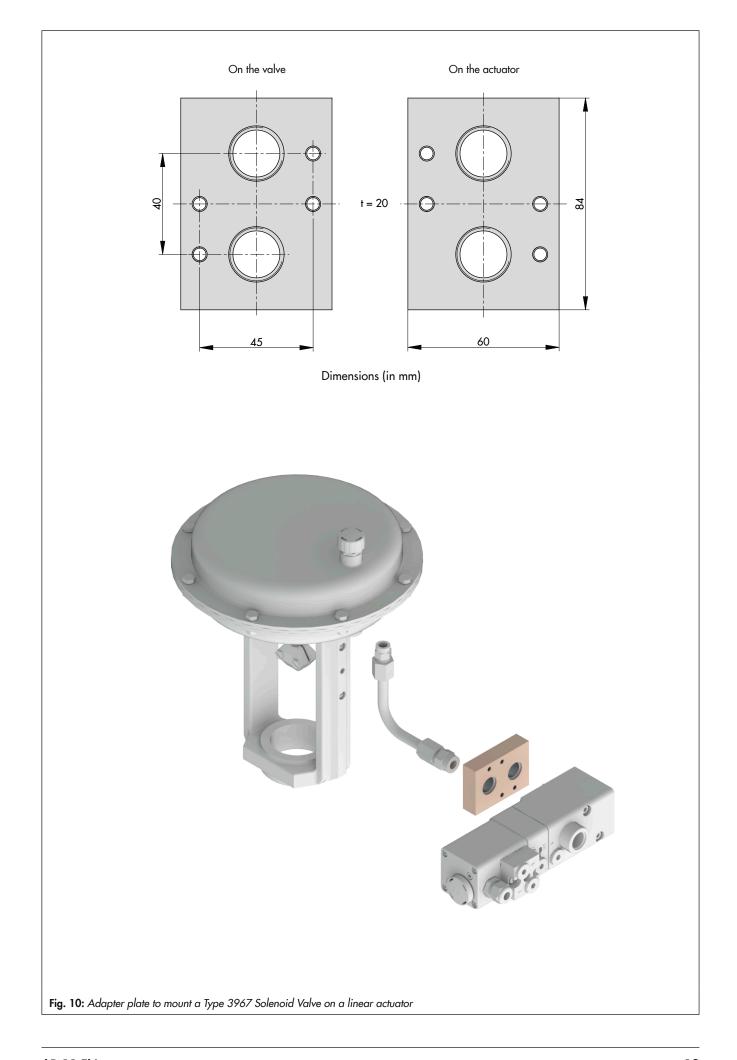


2.7 Adapter plate for NAMUR interface $\frac{1}{2}$ " on threaded connection $\frac{1}{2}$ "

Adapter plate with threaded connections, made of aluminum (powder coated)/stainless steel, for pilot valves with NAMUR interface according to $VDI/VDE\ 3845$ on threaded connection

→ See Fig. 10.

Order no.:	Aluminum, Ematal coating Aluminum Stainless steel Stainless steel	G ½: 1402-1833 ½ NPT: 1402-1834 G ½: 1402-1835 ½ NPT: 1402-1836	
Mounting interface:	Actuators with threaded con	nnections	
Pilot valve interface:	Pilot valves with NAMUR interface ½" according to VDI/VDE 3845		
Description of functions:	The adapter plate is mounted between the actuator with threaded connection and the pilot valve. The adapter plate is used to fit pilot valves with a NAMUR interface according to VDI/VDE 3845 with ½"-size with a connecting thread and integrate them into a pipe connection.		
Logic symbol:		2 3	



2.8 Adapter plate with extended NAMUR interface 1/4" on NAMUR rib

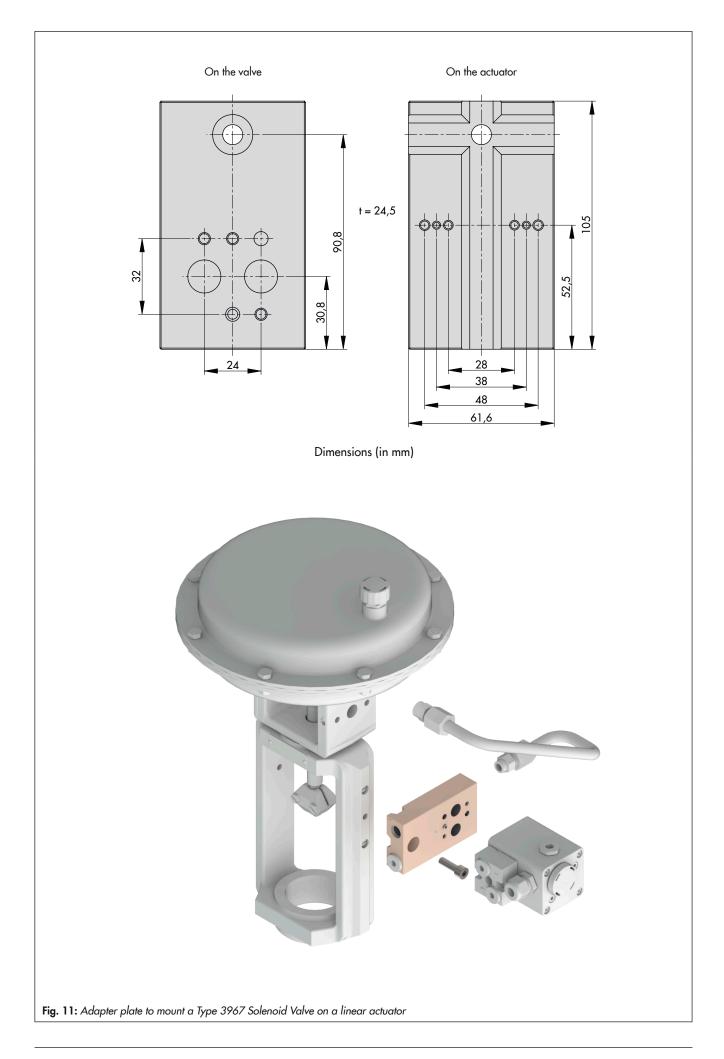
Adapter plate with threaded connections, made of aluminum/stainless steel, for pilot valves with extended NAMUR interface according to VDI/VDE 3847 on actuators with NAMUR rib according to IEC 60534-6 including fastening screw.

→ See Fig. 11.

Order no.:	Aluminum, Ematal coating Aluminum Stainless steel Stainless steel	G 1/4: 1400-9598 1/4 NPT: 1400-9599 G 1/4: 1400-9600 1/4 NPT: 1400-9601	
Mounting interface:	Actuators with NAMUR rib acc	ording to IEC 60534-6/actuators with threaded connections	
Pilot valve interface:	Pilot valves with extended NAM	IUR interface 1/4" according to VDI/VDE 3847	
Description of functions:	The adapter plate is mounted between the actuator and pilot valve. The adapter plate is used to mount the pilot valve to the NAMUR rib according to IEC 60534-6 and to integrate it into the pipeline using the connecting thread. The supply air is connected to port 1 of the adapter plate, which is supplied to the port 1 of the pilot valve through the extended NAMUR interface according to VDI/VDE 3847. An external pilot supply can be used at port 9 of the adapter plate for pilot-operated valves. The port 3 of the adapter plate can be used for an optional exhaust air feedback of other valve accessories. The adapter plate allows the pilot valve to be exchanged without making any changes to the air supply lines.		
Logic symbol:		1 9 2 3	

i Note

If the pilot valve does not have separate venting, install a vent plug in the pipe at port 3.

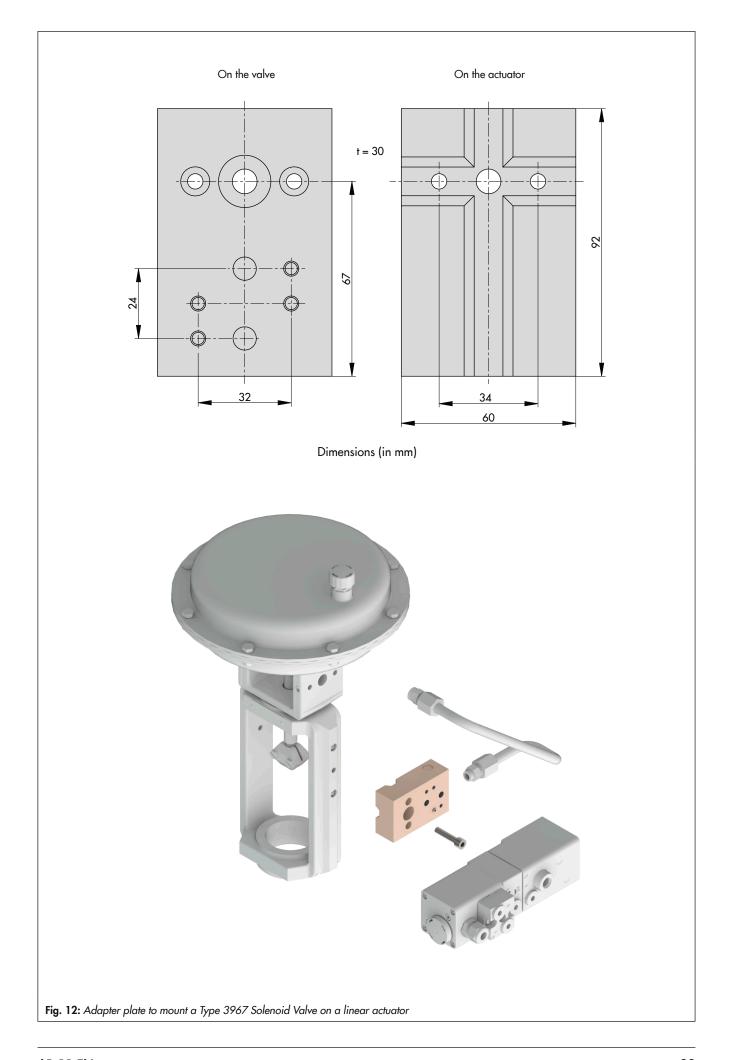


2.9 Adapter plate with NAMUR interface 1/4" on NAMUR rib

Adapter plate with threaded connections, made of aluminum, for pilot valves with NAMUR interface according to VDI/VDE 3845 on actuators with NAMUR rib according to IEC 60534-6 including fastening screw.

→ See Fig. 12.

Order no.:	Aluminum, Ematal coating Aluminum	G 1/4: 1400-6751 1/4 NPT: 1400-9924
Mounting interface:	Actuators with NAMUR rib according to IEC 60534-6/actuators with threaded connections	
Pilot valve interface:	Pilot valves with NAMUR interface 1/4" according to VDI/VDE 3845	
Description of functions:	The adapter plate is mounted between the actuator and pilot valve. The adapter plate is used to mount the pilot valve to the NAMUR rib according to IEC 60534-6 and to integrate it into the pipeline using the connecting thread.	
Logic symbol:		2 3

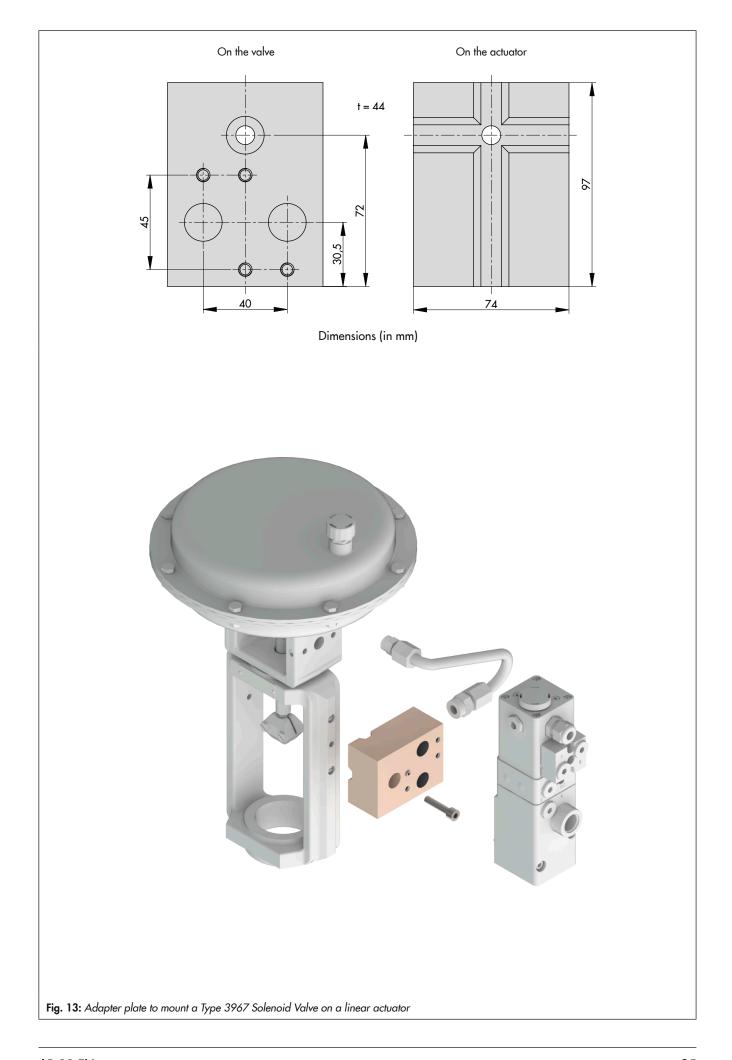


2.10 Adapter plate with NAMUR interface $\frac{1}{2}$ " on NAMUR rib

Adapter plate with threaded connections, made of aluminum/stainless steel, for pilot valves with NAMUR interface according to VDI/VDE 3845 on actuators with NAMUR rib according to IEC 60534-6 including fastening screw.

→ See Fig. 13.

Order no.:	Aluminum G 1/2: 1402-0827 Aluminum 1/2 NPT: 1402-0829 Stainless steel G 1/2: 1402-0828 Stainless steel 1/2 NPT: 1402-0830	
Mounting interface:	Actuators with NAMUR rib according to IEC 60534-6/actuators with threaded connections	
Pilot valve interface:	Pilot valves with NAMUR interface ½" according to VDI/VDE 3845	
Description of functions:	The adapter plate is mounted between the actuator and pilot valve. The adapter plate is used to mount the pilot valve to the NAMUR rib according to IEC 60534-6 and to integrate it into the pipeline using the connecting thread.	
Logic symbol:		

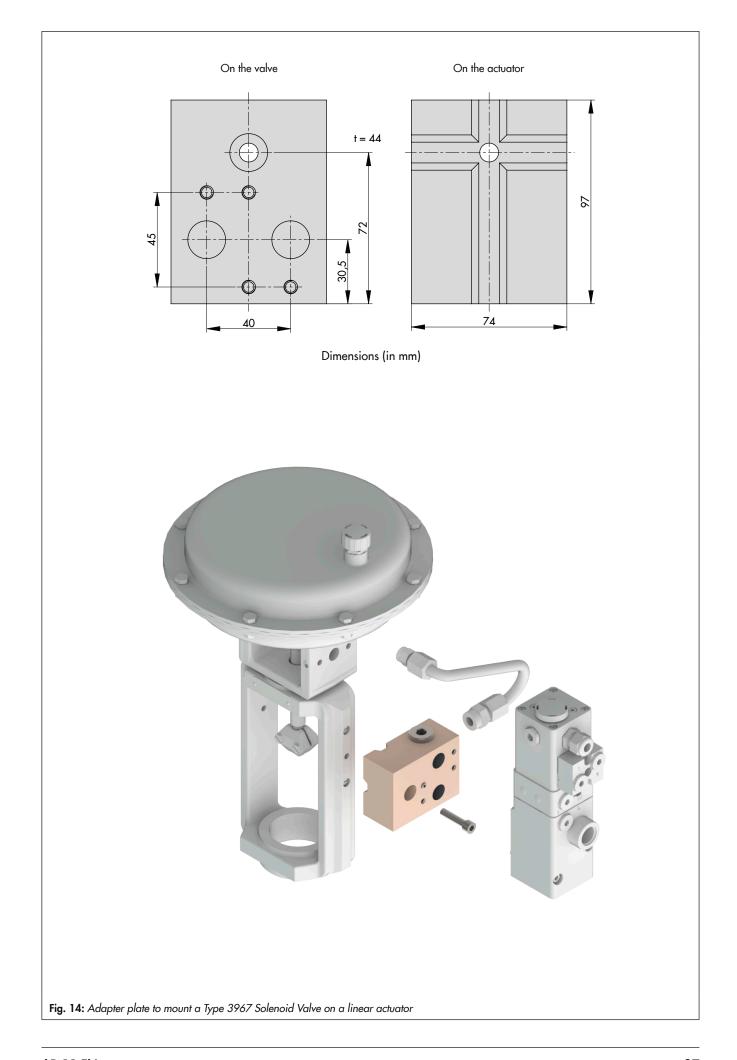


2.11 Adapter plate with NAMUR interface $\frac{1}{2}$ " on NAMUR rib with additional connections

Adapter plate with threaded connections, made of aluminum/stainless steel, for pilot valves with NAMUR interface according to VDI/VDE 3845 on actuators with NAMUR rib according to IEC 60534-6 including fastening screw.

→ See Fig. 14.

Order no.:	Aluminum, Ematal coating $G \frac{1}{2}$: 1402-1461 Stainless steel $G \frac{1}{2}$: 1402-1462	
Mounting interface:	Actuators with NAMUR rib according to IEC 60534-6/actuators with threaded connections	
Pilot valve interface:	Pilot valves with NAMUR interface ½" according to VDI/VDE 3845	
Description of functions:	The adapter plate is mounted between the actuator and pilot valve. The adapter plate is used to mount the pilot valve to the NAMUR rib according to IEC 60534-6 and to integrate it into the pipeline using the connecting thread. The adapter plate has additional ports and can be used for an optional exhaust air feedback of other valve accessories.	
Logic symbol:	3 5 5 3	



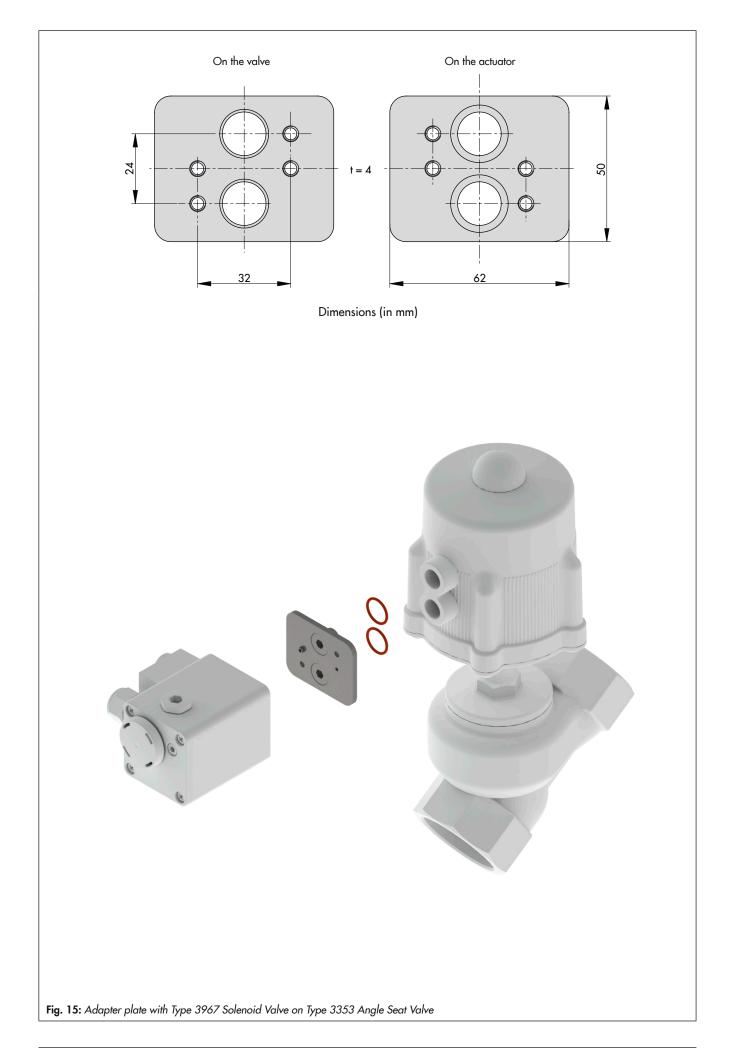
2.12 Adapter plate with extended NAMUR interface $1\!\!/4''$ for SAMSON Types 3353 and 3354 Valves

Adapter plate made of stainless steel, for pilot valves with NAMUR interface according to VDI/VDE 3845 or extended NAMUR interface according to VDI/VDE 3847 for mounting on SAMSON Types 3353 and 3354 Angle Seat Valves.

→ See Fig. 15.

Order no.:	Stainless steel: 1409-3001 1)	
Mounting interface:	SAMSON Types 3353 and 3354 Angle Seat Valves	
Pilot valve interface:	Pilot valves with NAMUR interface $1/4$ " according to VDI/VDE 3845 or extended NAMUR interface $1/4$ " according to VDI/VDE 3847	
Description of functions:	The adapter plate is mounted between the actuator of the angle seat valve and the pilot valve. It routes the pneumatic connections of the actuator to an interface according to VDI/VDE 3845. It allows pilot valves with an interface according to VDI/VDE 3835 or VDI/VDE 3847 to be mounted without any piping between the actuator and pilot valve.	

The following parts are additionally required for pilot valves with extended NAMUR interface 1/4" according to VDI/VDE 3847: 1x M5x6 screw (stainless steel 1.4404), order number 8333-1237 1x M5 seal (for M5x6 screw), order number 0790-6118



2.13 Adapter plate with extended NAMUR interface 1/4" for SAMSON Type 3351 On/off Valve

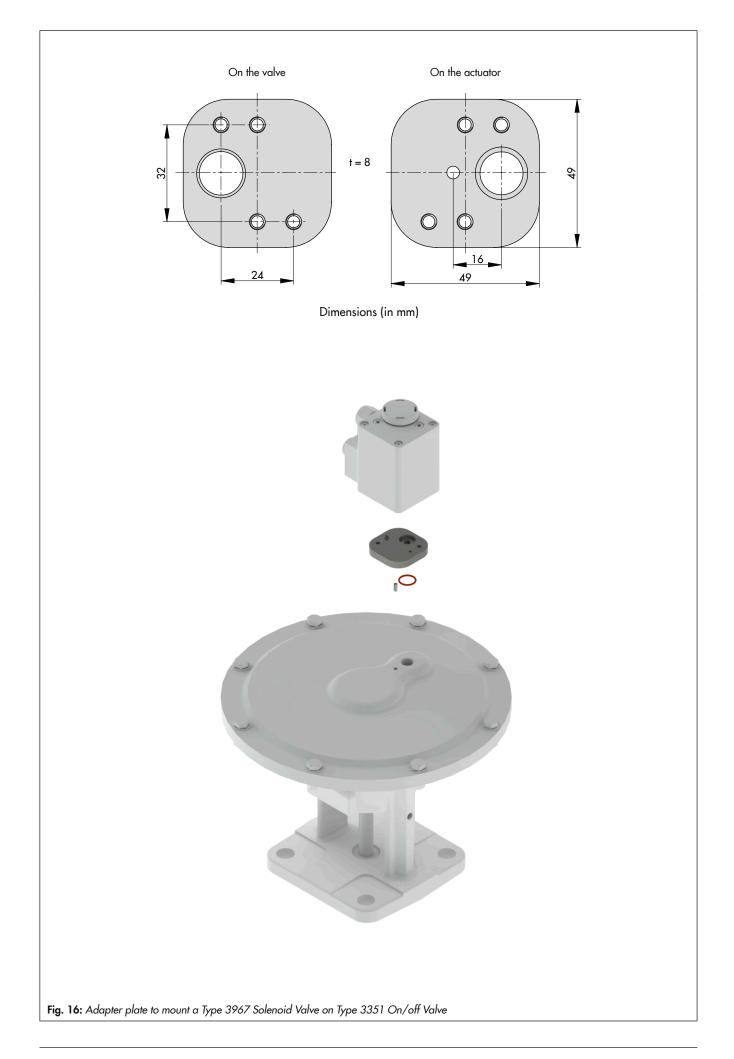
Adapter plate made of stainless steel, for pilot valves with NAMUR interface according to VDI/VDE 3845 or VDI/VDE 3847 for mounting on SAMSON Type 3351 On/off Valve.

→ See Fig. 16.

Order no.:	Stainless steel: 1400-9638 1) Stainless steel: 1402-0095 2)
Mounting interface:	SAMSON Type 3351 On/off Valve
Pilot valve interface:	Pilot valves with NAMUR interface $\frac{1}{4}$ " according to VDI/VDE 3845 or extended NAMUR interface $\frac{1}{4}$ " according to VDI/VDE 3847
Description of functions:	The adapter plate is mounted between the actuator of the on/off valve and the pilot valve. It routes the pneumatic connections of the actuator to an interface according to VDI/VDE 3845. It allows pilot valves with an interface according to VDI/VDE 3845 or VDI/VDE 3847 to be mounted without any piping between the actuator and pilot valve.

 $^{^{1)}}$ $\,$ For pilot valves with extended NAMUR interface $^{1}\!\!/\!4''$ according to VDI/VDE 3847

²⁾ Pilot valves with NAMUR interface 1/4" according to VDI/VDE 3845



3 Double-axial adapters

SAMSON's modular double-axial adapters are mounted between the actuator and pilot valve. They are used to adapt the mounting position of the pilot valve by turning the interface.

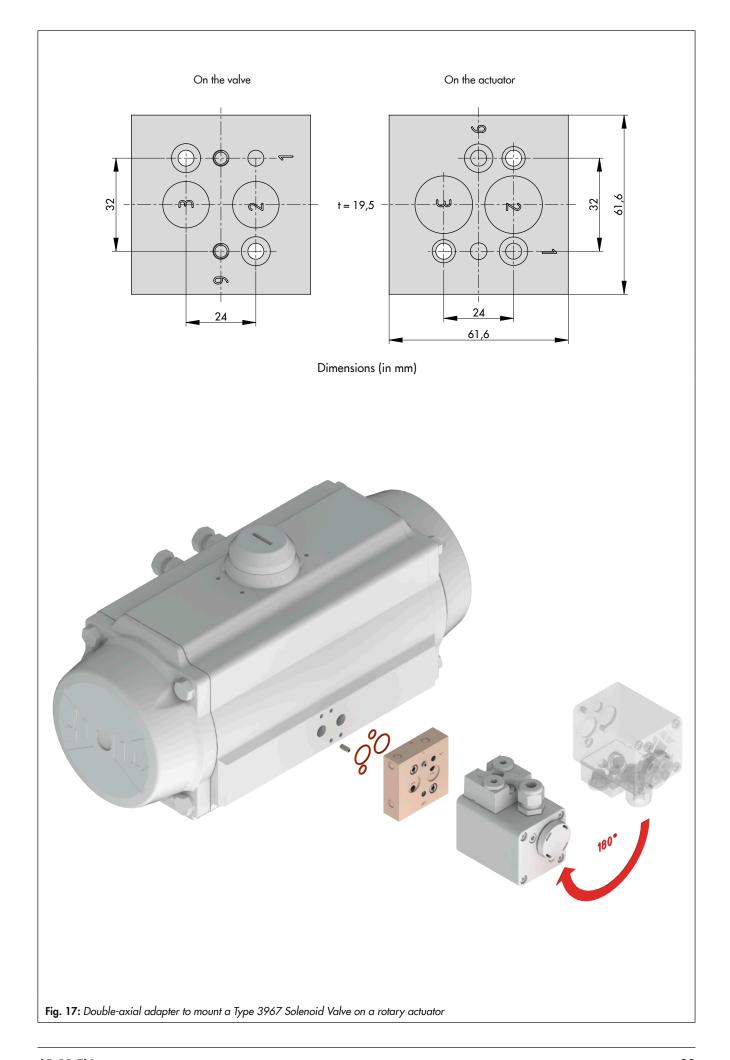
The pilot air ducts of the double-axial adapters with extended NAMUR interface according to VDI/VDE 3847 are also diverted correspondingly.

3.1 Double-axial adapter 180° with extended NAMUR interface 1/4"

Double-axial adapter made of aluminum, for pilot valves with NAMUR interface according to VDI/VDE 3845 or VDI/VDE 3847 on actuators with NAMUR interface according to VDI/VDE 3845 or integral attachment according to VDI/VDE 3847 including fastening screws and seals.

→ See Fig. 17.

Order no.:	Aluminum: 1402-0280	
Mounting interface:	Actuators with interface according to VDI/VDE 3845 ($\frac{1}{4}$ ") or integral attachment according to VDI/VDE 3847 interface ($\frac{1}{4}$ ")	
Pilot valve interface:	Pilot valves with NAMUR interface $\frac{1}{4}$ " according to VDI/VDE 3845 or extended NAMUR interface $\frac{1}{4}$ " according to VDI/VDE 3847	
Description of functions:	The double-axial adapter is mounted between the actuator and pilot valve. The double-axial adapter is used to optimize the mounting position of the pilot valve by turning the interface by 180°.	
Logic symbol:		

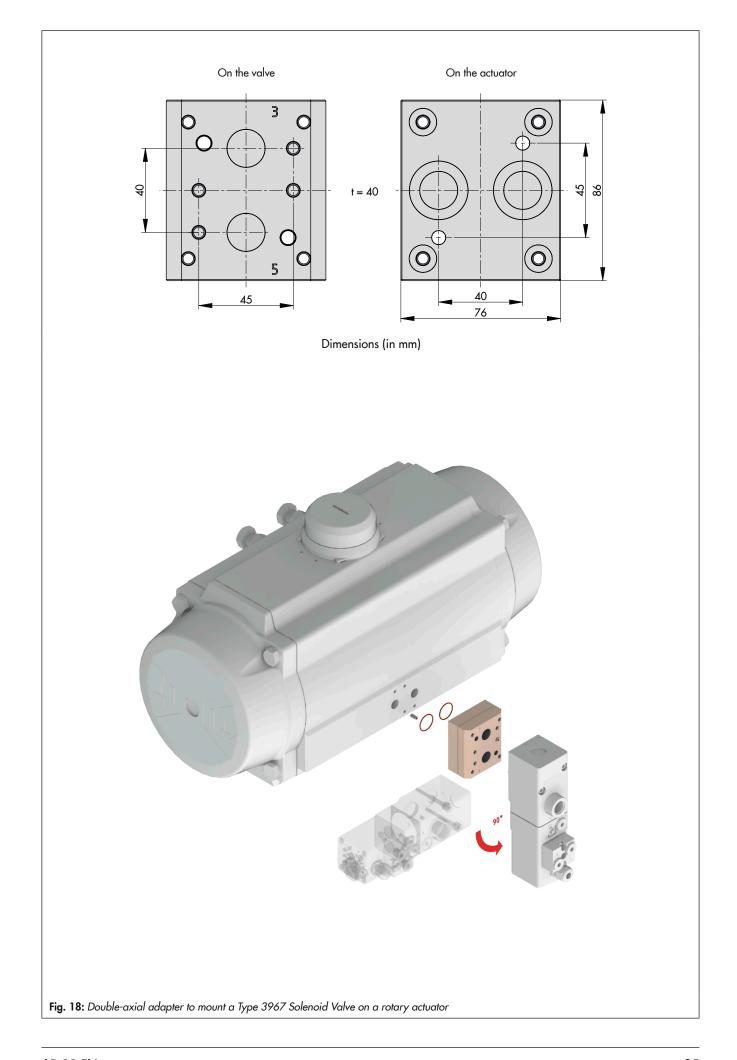


3.2 Double-axial adapter 90° with NAMUR interface $\frac{1}{2}$ "

Double-axial adapter made of aluminum/stainless steel, for pilot valves with NAMUR interface according to VDI/VDE 3845 on actuators with NAMUR interface according to VDI/VDE 3845 including fastening screws and seals.

→ See Fig. 18.

Order no.:	Aluminum: 1402-0602 Stainless steel: 1402-0603		
Mounting interface:	Actuators with VDI/VDE 3845 interface ½"		
Pilot valve interface:	Pilot valves with NAMUR interface ½" according to VDI/VDE 3845		
Description of functions:	The double-axial adapter is mounted between the actuator and pilot valve. The double-axial adapter is used to optimize the mounting position of the pilot valve by turning the interface by 90°.		
Logic symbol:			

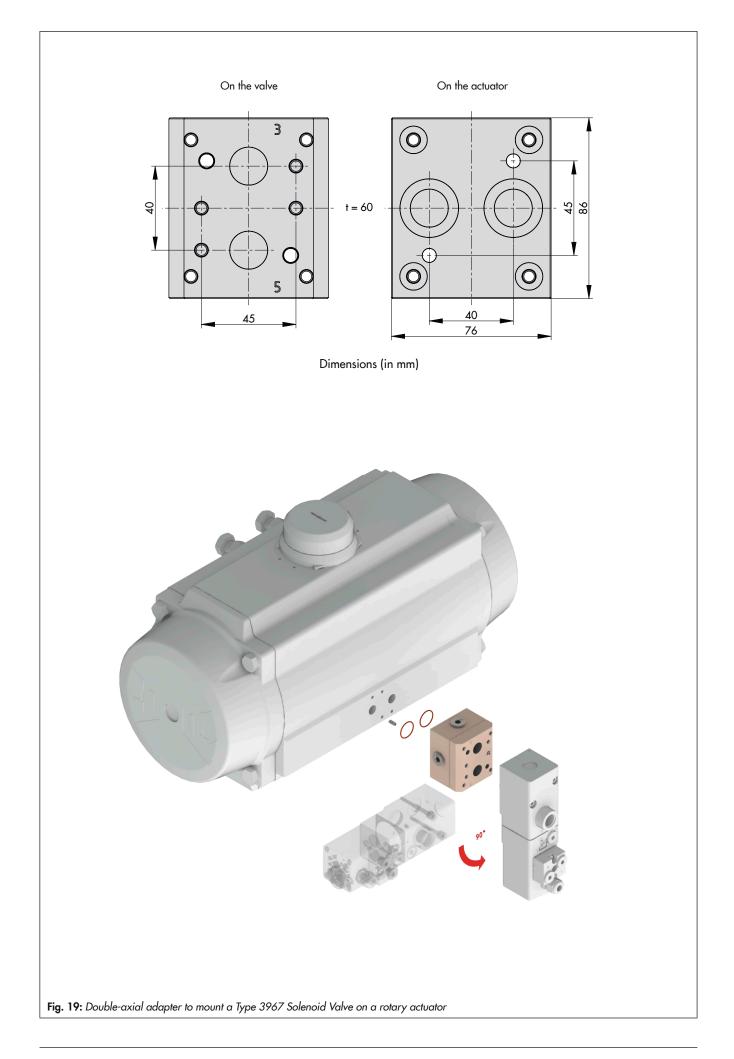


3.3 Double-axial adapter 90° with NAMUR interface $\frac{1}{2}$ " with additional threaded connections

Double-axial adapter made of aluminum/stainless steel, for pilot valves with NAMUR interface according to VDI/VDE 3845 on actuators with NAMUR interface according to VDI/VDE 3845 including fastening screws and seals.

→ See Fig. 19.

Order no.:	Aluminum, Ematal coating Stainless steel	G 1/2: 1402-1662 G 1/2: 1402-1663
Mounting interface:	Actuators with VDI/VDE 3845 interface V_2 "	
Pilot valve interface:	Pilot valves with NAMUR interface ½" according to VDI/VDE 3845	
Description of functions:	adapter is used to optimize the 90° .	ounted between the actuator and pilot valve. The double-axial e mounting position of the pilot valve by turning the interface by additional threaded ports (G $\frac{1}{2}$) and can be used for an optional valve accessories.
Logic symbol:	- -	



4 Restrictor plates

SAMSON's modular restrictor plates are mounted between the actuator and pilot valve. They allow the opening and/or closing times of the actuator to be adjusted by restricting the corresponding air flow rate.

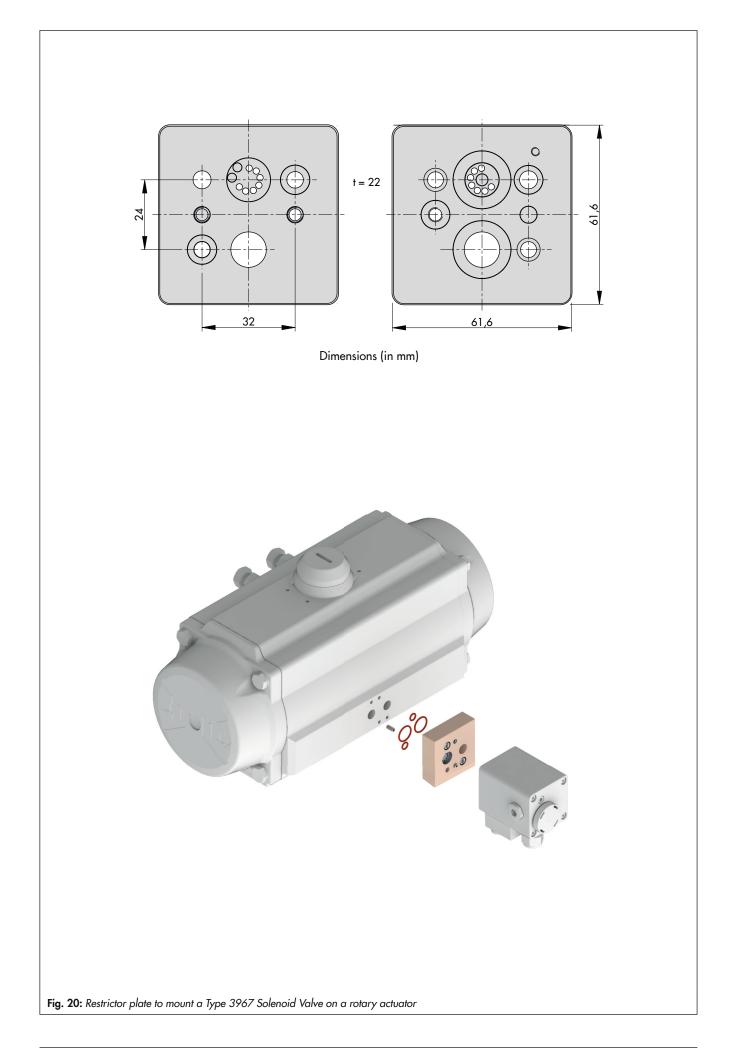
4.1 Fine exhaust air restrictor for extended NAMUR interface 1/4"

Restrictor plate for restricting the exhaust air flow based on the pressure, made of aluminum, for pilot valves with NAMUR interface according to VDI/VDE 3845 or VDI/VDE 3847 on actuators with NAMUR interface according to VDI/VDE 3845 or integral attachment with VDI/VDE 3847 interface including fastening screws and seals.

→ See Fig. 22.

Order no.:	Aluminum with Ematal coating: 100088769 Aluminum with Ematal coating SIL: 100087311 1)		
Mounting interface:	Actuators with interface according to VDI/VDE 3845 ($\frac{1}{4}$ ") or integral attachment according to VDI/VDE 3847 interface ($\frac{1}{4}$ ")		
Pilot valve interface:	Pilot valves with NAMUR interface $\frac{1}{4}$ " according to VDI/VDE 3845 or extended NAMUR interface $\frac{1}{4}$ " according to VDI/VDE 3847		
Description of functions:	The restrictor plate is mounted between the actuator and pilot valve. This restrictor plate allows the closing time of the actuator to be adjusted by restricting the flow rate of the exhaust air within the range from K_{VS} 0 to 0.27 (K_{VS} 0.002 to 0.27 for SIL-approved restrictors ¹⁾) at 6 bar.		
Logic symbol:			

Suitable for use in safety-instrumented systems (SIL) according to IEC 61508 observing the SIL suitability of the solenoid valve/restrictor plate assembly



4.2 Fine supply air restrictor of extended NAMUR interface 1/4"

Restrictor plate for restricting the supply air flow based on the pressure, made of aluminum, for pilot valves with NAMUR interface according to VDI/VDE 3845 or VDI/VDE 3847 on actuators with NAMUR interface according to VDI/VDE 3845 or integral attachment with VDI/VDE 3847 interface including fastening screws and seals.

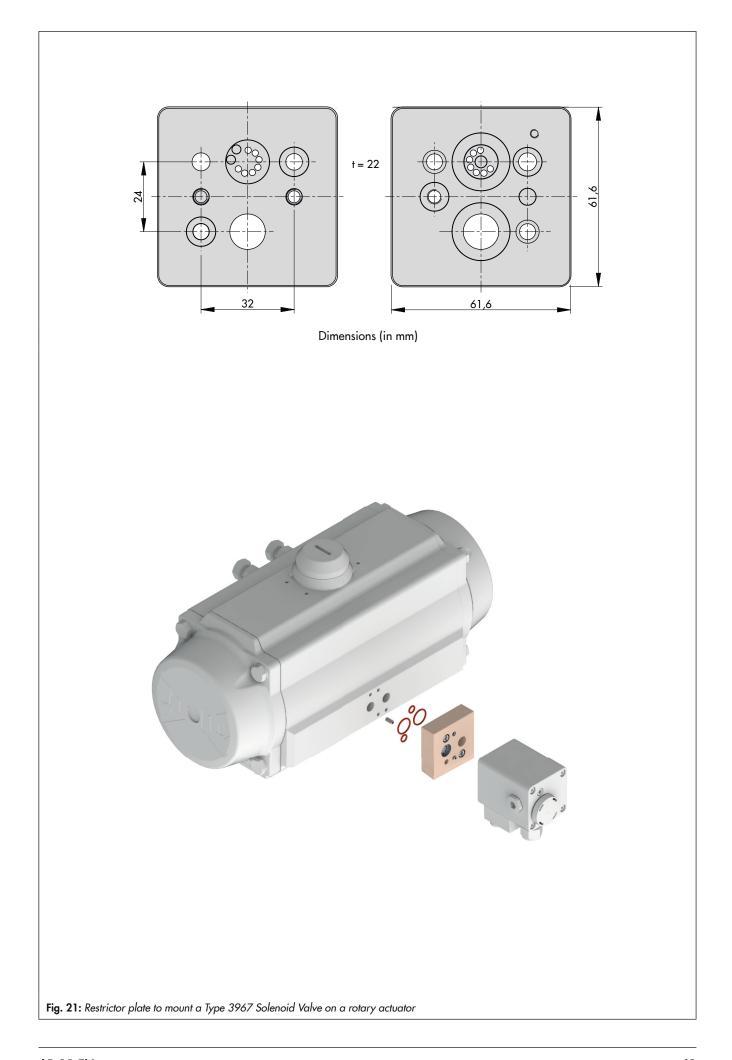
→ See Fig. 23.

Order no.:	Aluminum with Ematal coating: 100084937 Aluminum with Ematal coating SIL: 100084935 1)		
Mounting interface:	Actuators with interface according to VDI/VDE 3845 ($\frac{1}{4}$ ") or integral attachment according to VDI/VDE 3847 interface ($\frac{1}{4}$ ")		
Pilot valve interface:	Pilot valves with NAMUR interface $\frac{1}{4}$ " according to VDI/VDE 3845 or extended NAMUR interface $\frac{1}{4}$ " according to VDI/VDE 3847		
Description of functions:	The restrictor plate is mounted between the actuator and pilot valve. This restrictor plate allows the opening time of the actuator to be adjusted by restricting the flow rate of the supply air within the range from K_{VS} 0 to 0.27 (K_{VS} 0.002 to 0.27 for SIL-approved restrictors ¹⁾) at 6 bar.		
Logic symbol:			

Suitable for use in safety-instrumented systems (SIL) according to IEC 61508 observing the SIL suitability of the solenoid valve/restrictor plate assembly

i Note

The reduction of the air supply may cause a stick-slip effect in the actuator.



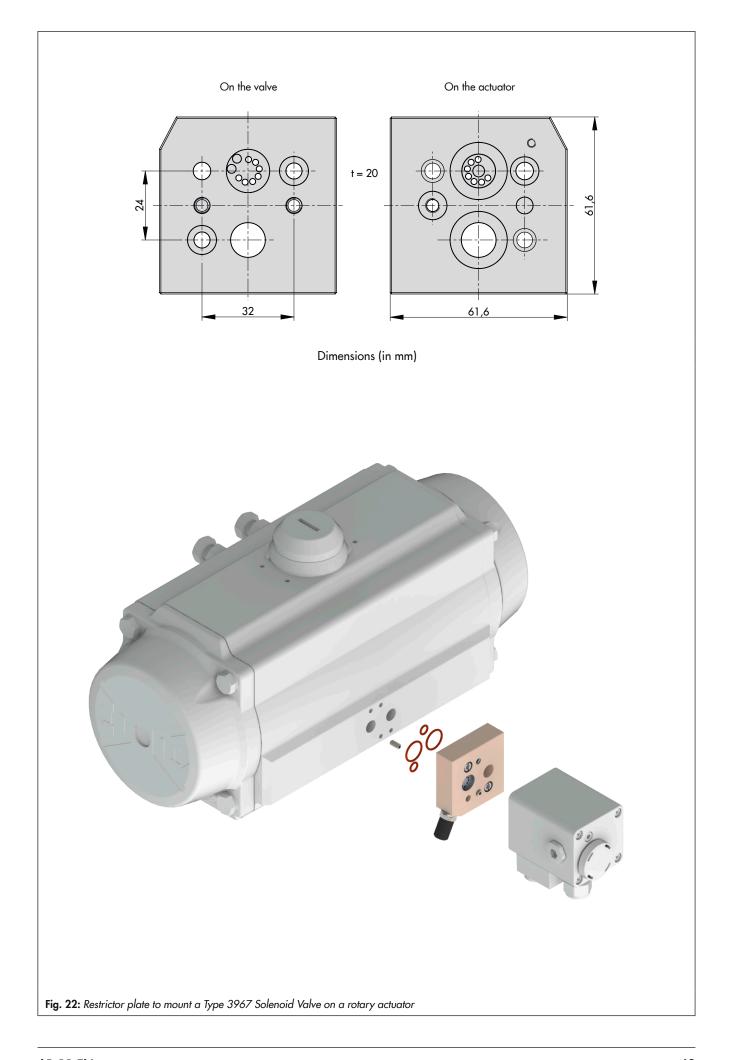
4.3 Exhaust air restrictor for extended NAMUR interface 1/4"

Restrictor plate for restricting the exhaust air flow based on the pressure, made of aluminum/stainless steel, for pilot valves with NAMUR interface according to VDI/VDE 3845 or VDI/VDE 3847 on actuators with NAMUR interface according to VDI/VDE 3845 or integral attachment with VDI/VDE 3847 interface including fastening screws and seals.

→ See Fig. 22.

Order no.:	Aluminum: 1400-9602 Aluminum SIL: 1402-0141 1) Stainless steel: 1402-0137 Stainless steel SIL: 1402-0142 1)		
Mounting interface:	Actuators with interface according to VDI/VDE 3845 ($\frac{1}{4}$ ") or integral attachment according to VDI/VDE 3847 interface ($\frac{1}{4}$ ")		
Pilot valve interface:	Pilot valves with NAMUR interface $\frac{1}{4}$ " according to VDI/VDE 3845 or extended NAMUR interface $\frac{1}{4}$ " according to VDI/VDE 3847		
Description of functions:	The restrictor plate is mounted between the actuator and pilot valve. This restrictor plate allows the closing time of the actuator to be adjusted by restricting the flow rate of the exhaust air within the range from K_{VS} 0 to 0.28 (K_{VS} 0.01 to 0.28 for SIL-approved restrictors ¹⁾) at 6 bar.		
Logic symbol:			

Suitable for use in safety-instrumented systems (SIL) according to IEC 61508 observing the SIL suitability of the solenoid valve/restrictor plate assembly



4.4 Supply air restrictor of extended NAMUR interface 1/4"

Restrictor plate for restricting the supply air flow based on the pressure, made of aluminum/stainless steel, for pilot valves with NAMUR interface according to VDI/VDE 3845 or VDI/VDE 3847 on actuators with NAMUR interface according to VDI/VDE 3845 or integral attachment with VDI/VDE 3847 interface including fastening screws and seals.

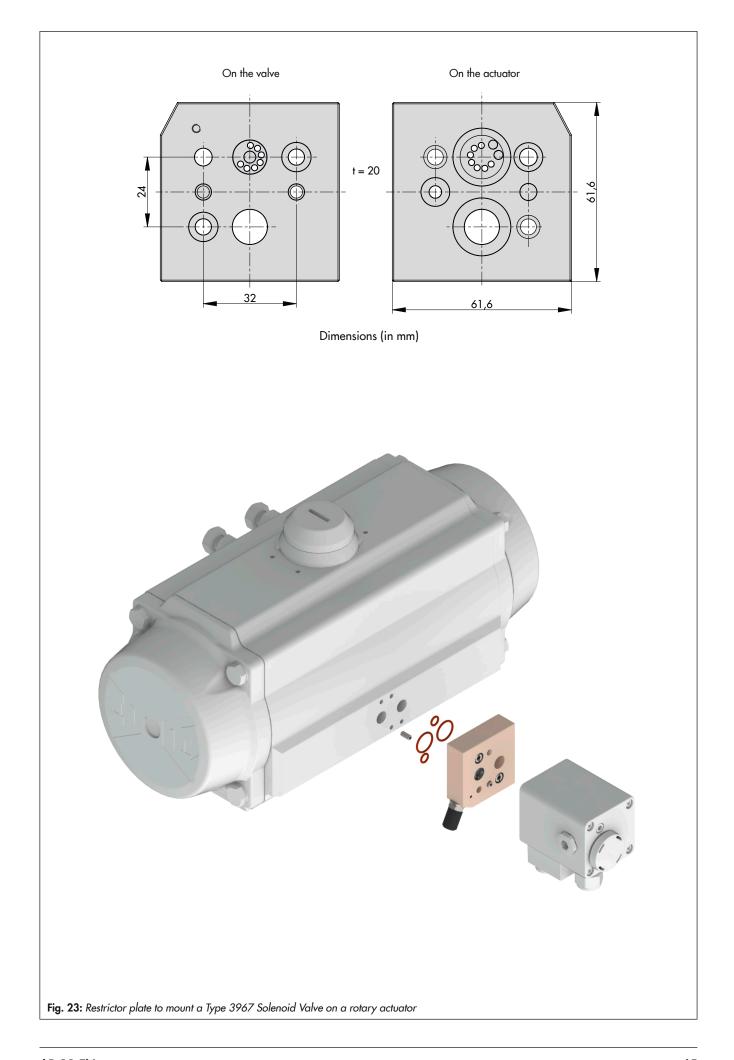
→ See Fig. 23.

Order no.:	Aluminum: 1400-9603 Aluminum SIL: 1402-0139 1) Stainless steel: 1402-0136 Stainless steel SIL: 1402-0140 1)		
Mounting interface:	Actuators with interface according to VDI/VDE 3845 ($\frac{1}{4}$ ") or integral attachment according to VDI/VDE 3847 interface ($\frac{1}{4}$ ")		
Pilot valve interface:	Pilot valves with NAMUR interface $\frac{1}{4}$ " according to VDI/VDE 3845 or extended NAMUR interface $\frac{1}{4}$ " according to VDI/VDE 3847		
Description of functions:	The restrictor plate is mounted between the actuator and pilot valve. This restrictor plate allows the opening time of the actuator to be adjusted by restricting the flow rate of the supply air within the range from K_{VS} 0 to 0.28 (K_{VS} 0.01 to 0.28 for SIL-approved restrictors ¹⁾) at 6 bar.		
Logic symbol:			

Suitable for use in safety-instrumented systems (SIL) according to IEC 61508 observing the SIL suitability of the solenoid valve/restrictor plate assembly

i Note

The reduction of the air supply may cause a stick-slip effect in the actuator.



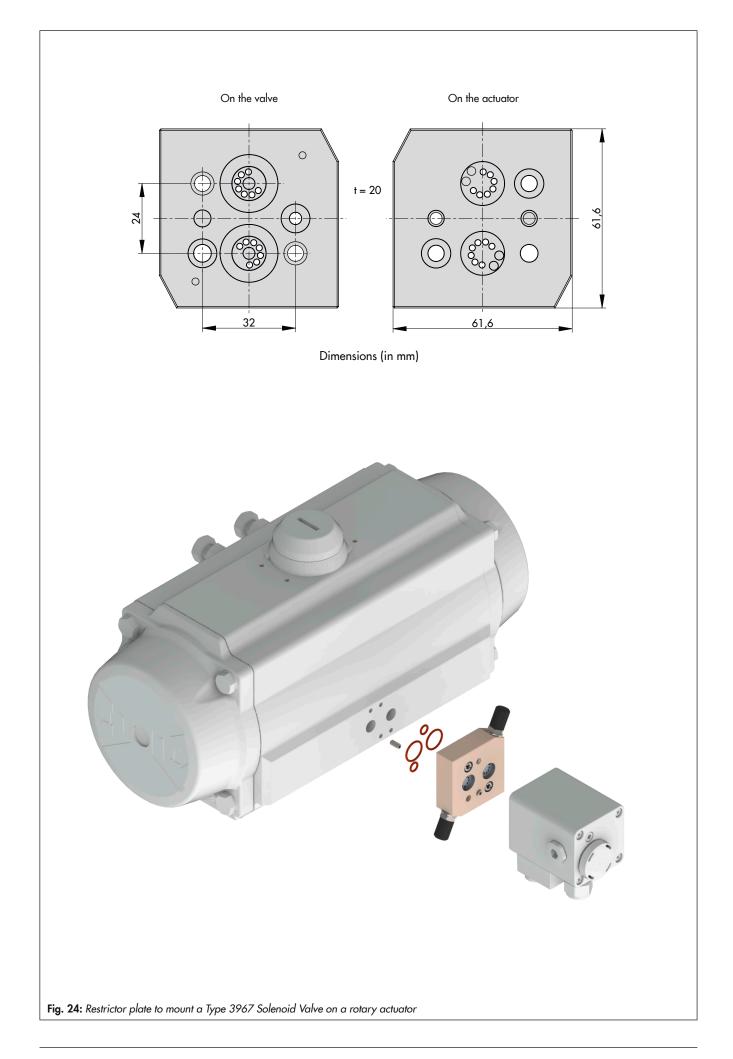
4.5 Double exhaust air restrictor with extended NAMUR interface 1/4"

Restrictor plate for restricting the exhaust air flow based on the pressure, made of aluminum/stainless steel, for pilot valves with NAMUR interface according to VDI/VDE 3845 or VDI/VDE 3847 on actuators with NAMUR interface according to VDI/VDE 3845 or integral attachment with VDI/VDE 3847 interface including fastening screws and seals.

→ See Fig. 24.

Order no.:	Aluminum: 1400-9604 Aluminum SIL: 1402-0143 1) Stainless steel: 1402-0138 Stainless steel SIL: 1402-0144 1)		
Mounting interface:	Actuators with interface according to VDI/VDE 3845 ($\frac{1}{4}$ ") or integral attachment according to VDI/VDE 3847 interface ($\frac{1}{4}$ ")		
Pilot valve interface:	Pilot valves with NAMUR interface $\frac{1}{4}$ " according to VDI/VDE 3845 or extended NAMUR interface $\frac{1}{4}$ " according to VDI/VDE 3847		
Description of functions:	The restrictor plate is mounted between the actuator and pilot valve. This restrictor plate allows the opening or closing time of a double-acting actuator to be adjusted by restricting the flow rate of both exhaust air flows within the range from K_{VS} 0 to 0.28 (K_{VS} 0.01 to 0.28 for SIL-approved restrictors $^{1)}$) at 6 bar.		
Logic symbol:			

Suitable for use in safety-instrumented systems (SIL) according to IEC 61508 observing the SIL suitability of the solenoid valve/restrictor plate assembly



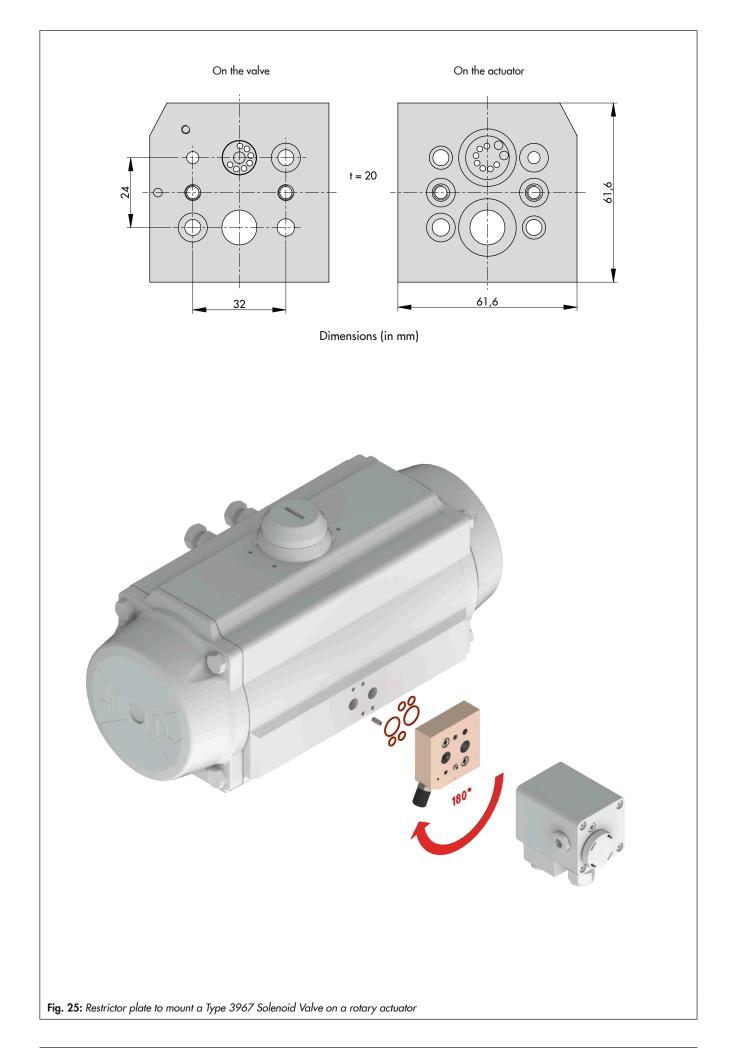
4.6 Universal restrictor with extended NAMUR interface 1/4"

Restrictor plate for restricting the air flow based on the pressure, made of aluminum/stainless steel, for pilot valves with NAMUR interface according to VDI/VDE 3845 or VDI/VDE 3847 on actuators with NAMUR interface according to VDI/VDE 3845 or integral attachment with VDI/VDE 3847 interface including fastening screws and seals.

→ See Fig. 25.

Order no.:	Aluminum SIL: 1402-0149 1) Stainless steel SIL: 1402-0150 1)		
Mounting interface:	Actuators with interface according to VDI/VDE 3845 ($\frac{1}{4}$ ") or integral attachment according to VDI/VDE 3847 interface ($\frac{1}{4}$ ")		
Pilot valve interface:	Pilot valves with NAMUR interface $\frac{1}{4}$ " according to VDI/VDE 3845 or extended NAMUR interface $\frac{1}{4}$ " according to VDI/VDE 3847		
Description of functions:	The restrictor plate is mounted between the actuator and pilot valve. This restrictor plate allows the opening or closing time of a double-acting actuator to be adjusted by restricting the flow rate of the supply air within the range from K_{VS} 0.01 to 0.28 at 6 bar. The actuator chamber (port 2 or 4) that is restricted can be changed by turning the restrictor plate by 180°.		
Logic symbol:			

Suitable for use in safety-instrumented systems (SIL) according to IEC 61508 observing the requirements in the Manufacturer's Declaration No. 1296 and Safety Manual ▶ SH 3967-2



5 Special constructions

SAMSON's modular special constructions make it possible to use solenoid valves in special engineered cases. Special constructions include redundancy plates, an adapter plate for operating several solenoid valves using a single air supply as well as an adapter plate to implement the closed-circuit principle.

5.1 Emergency supply · NAMUR interface 1/4", integrated parallel connection - 2002

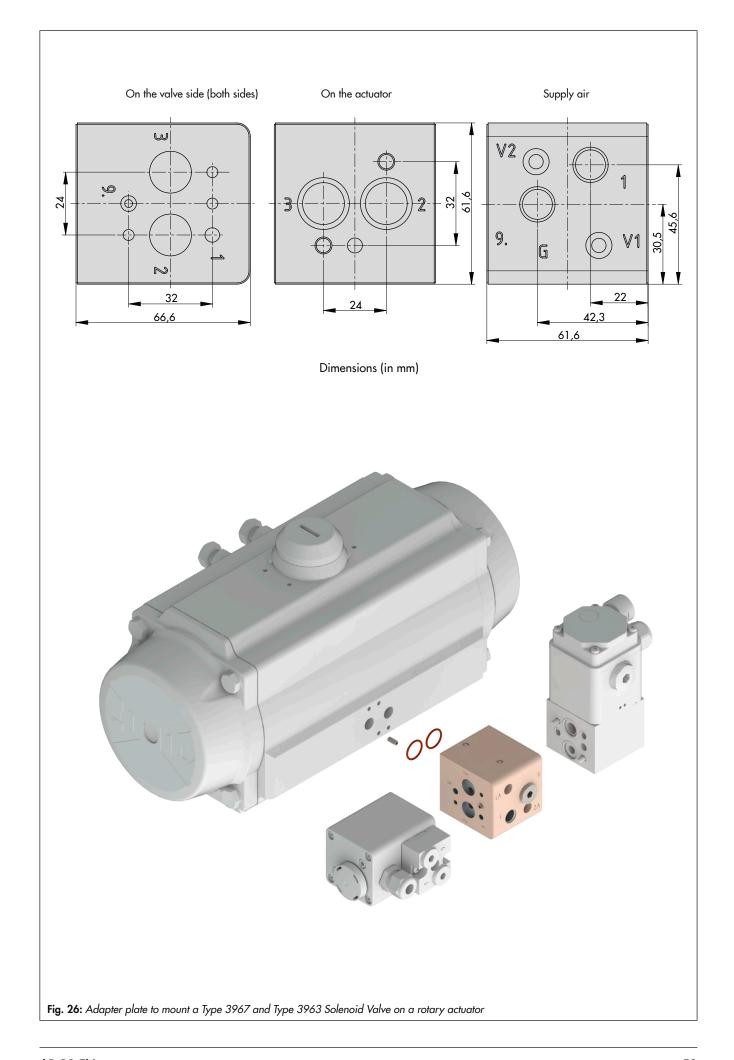
Adapter plate made of aluminum/stainless steel, for pilot valves with NAMUR interface according to VDI/VDE 3847 on actuators with NAMUR interface according to VDI/VDE 3845 including fastening screws and seals.

→ See Fig. 26.

Order no.:	Aluminum, Ematal coatin Aluminum Stainless steel Stainless steel	g G 1/4: 1/4 NPT: G 1/4: 1/4 NPT:	1402-0007 1402-0009 1402-0008 1402-0010		
Mounting interface:	Actuators with VDI/VDE	3845 interfa	ce 1/4"		
Pilot valve interface:	Pilot valves with extended NAMUR interface 1/4" according to VDI/VDE 3847			47	
Description of functions:	The adapter plate is mounted between the actuator and pilot valve. The adapter plate is used to increase the availability through parallel connection of two pilot valves. The pilot valves are mounted to the left and right on the extended NAMUR interfaces according to VDI/VDE 3847. The adapter plate is fastened to the actuator using a third NAMUR interface according to VDI/VDE 3845.				
Logic symbol:	-	V1 3 2		V2 9	

i Note

The pilot valve's venting at the connecting surface V2 of the adapter plate must be sealed. Refer to TV-SK 9932 for a detailed mounting description.



5.2 Emergency venting · NAMUR interface 1/4", integrated series connection

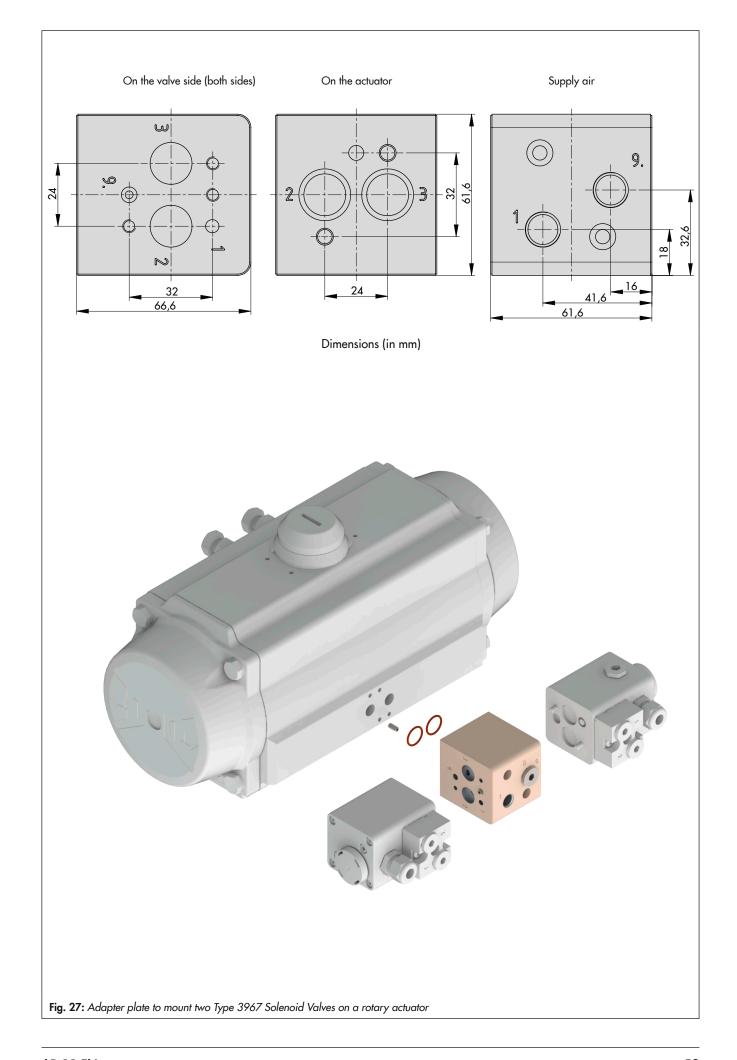
Adapter plate made of aluminum/stainless steel, for pilot valves with NAMUR interface according to VDI/VDE 3847 on actuators with NAMUR interface according to VDI/VDE 3845 including fastening screws and seals.

→ See Fig. 27.

Order no.:	Aluminum, Ematal coating Aluminum Stainless steel Stainless steel	G 1/4: 1/4 NPT: G 1/4: 1/4 NPT:	1402-0012	
Mounting interface:	Actuators with VDI/VDE 3845 interface 1/4"			
Pilot valve interface:	Pilot valves with extended NAMUR interface 1/4" according to VDI/VDE 3847			
Description of functions:	increase the safety through s the left and right on the exter	eries conr nded NAA	the actuator and pilot valve. The adapter plate is used to nection of two pilot valves. The pilot valves are mounted to MUR interfaces according to VDI/VDE 3847. The adapter a third NAMUR interface according to VDI/VDE 3845.	

i Note

The pilot valves at V1 and V2 interfaces of the adapter plate must have a venting. Refer to TV-SK 9932 for a detailed mounting description.



5.3 Emergency venting · Extended NAMUR interface ¼", integrated series connection

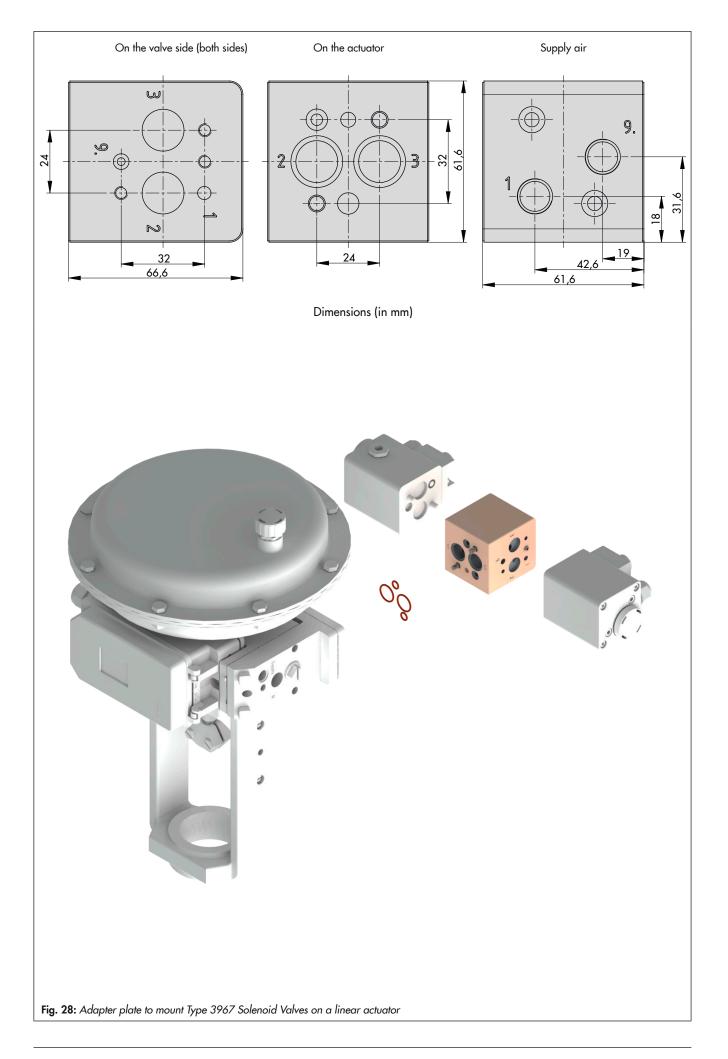
Adapter plate made of aluminum, for pilot valves with NAMUR interface according to VDI/VDE 3847 on actuators with integral attachment according to VDI/VDE 3847 including fastening screws and seals.

→ See Fig. 28.

Order no.:	Aluminum G 1/4: 1402-1873			
Mounting interface:	Actuators with integral attachment with VDI/VDE 3847 interface (1/4")			
Pilot valve interface:	Pilot valves with extended NAMUR interface 1/4" according to VDI/VDE 3847			
Description of functions:	The adapter plate is mounted between the actuator and pilot valve. The adapter plate is used to increase the safety through series connection of two pilot valves. The pilot valves are mounted to the left and right on the extended NAMUR interfaces according to VDI/VDE 3847. The adapter plate is fastened to the actuator using integral attachment according to VDI/VDE 3847.			

i Note

The pilot valves at V1 and V2 interfaces of the adapter plate must have a venting. Refer to TV-SK 9932 for a detailed mounting description.



5.4 Emergency supply \cdot NAMUR interface $\frac{1}{2}$ ", integrated parallel connection through booster valve

Pneumatic booster valve made of aluminum/stainless steel, for pilot valves with NAMUR interface according to VDI/VDE 3847 on actuators with NAMUR interface according to VDI/VDE 3845 including fastening screws and seals.

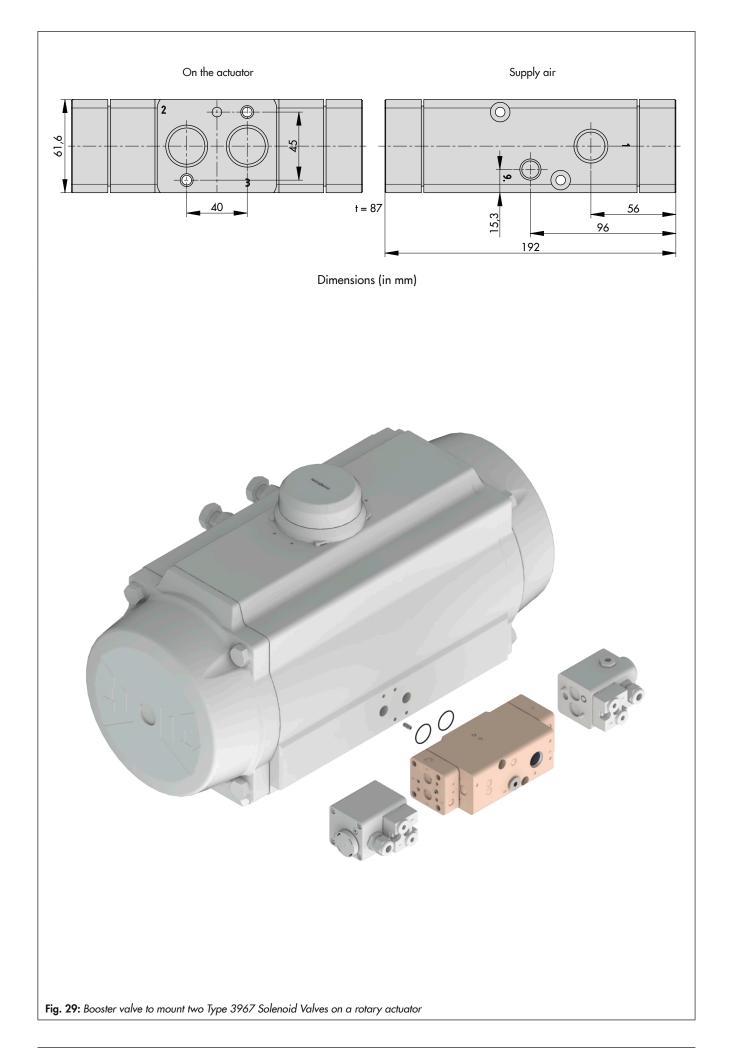
→ See Fig. 29.

Order no.:	Aluminum G 1/4 SIL: Configuration ID 5737887 1) Aluminum 1/4 NPT SIL: Configuration ID 5800280 1) Stainless steel 1/4 NPT SIL: Configuration ID 5800281 1) Stainless steel 1/4 NPT SIL: Configuration ID 5800283 1)			
Mounting interface:	Actuators with VDI/VDE 3845 interface ½"			
Pilot valve interface:	Pilot valves with extended NAMUR interface 1/4" according to VDI/VDE 3847			
Description of functions:	The booster valve is used to increase the availability through parallel connection of two pilot valves and raises their flow coefficient to K_{VS} 1.9. The pilot valves are mounted to the left and right on the extended NAMUR interfaces according to VDI/VDE 3847. The booster valve is fastened to the actuator using a third NAMUR interface according to VDI/VDE 3845.			

Refer to the referenced documents for Type 3756 Pneumatic Booster Valve for more details and other versions.

i Note

The pilot valves at V1 and V2 interfaces of the booster valve must have a venting.



5.5 Emergency venting \cdot NAMUR interface $\frac{1}{2}$ ", integrated series connection through booster valve

Pneumatic booster valve made of aluminum/stainless steel, for pilot valves with NAMUR interface according to VDI/VDE 3847 on actuators with NAMUR interface according to VDI/VDE 3845 including fastening screws and seals.

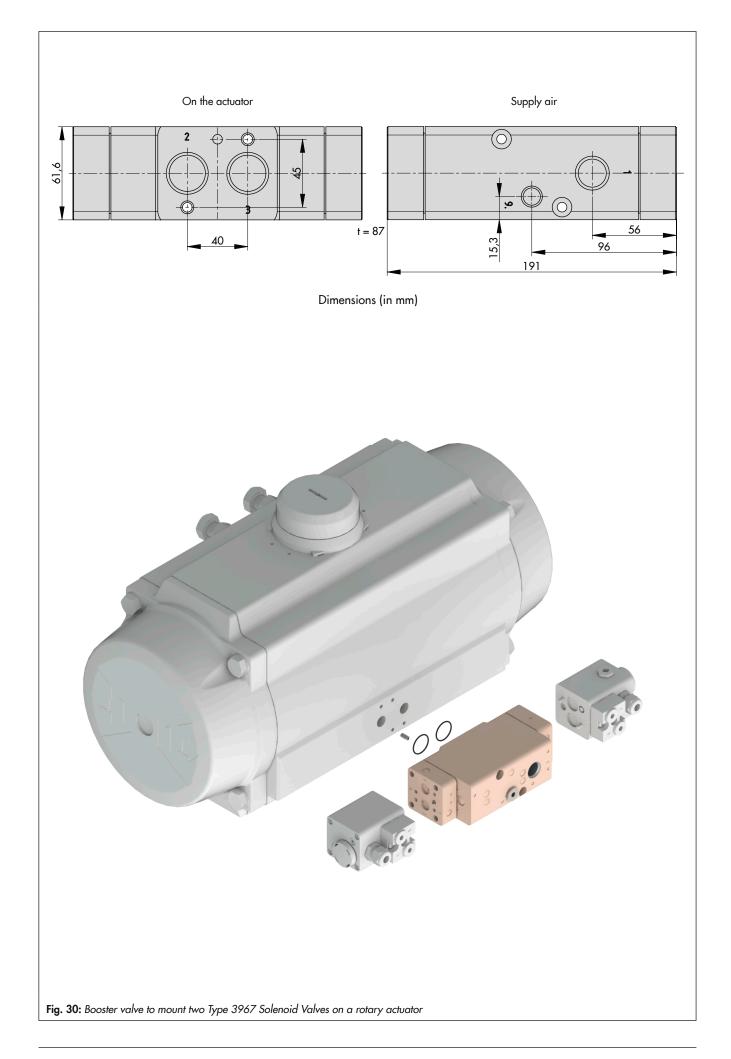
→ See Fig. 30.

Order no.:	Aluminum G ½ SIL: 3756 · Configuration ID 5711460 ¹¹ Aluminum ½ NPT SIL: 3756 · Configuration ID 5711464 ¹¹ Stainless steel G ½ SIL: 3756 · Configuration ID 5711730 ¹¹ Stainless steel ½ NPT SIL: 3756 · Configuration ID 5711726 ¹¹		
Mounting interface:	Actuators with VDI/VDE 3845 interface ½"		
Pilot valve interface:	Pilot valves with extended NAMUR interface 1/4" according to VDI/VDE 3847		
Description of functions:	The booster valve is used to increase the safety through series connection of two pilot valves and to raise their K_{VS} to 1.9. The pilot valves are mounted to the left and right on the extended NAMUR interfaces according to VDI/VDE 3847. The booster valve is fastened to the actuator using a third NAMUR interface according to VDI/VDE 3845.		

Refer to the referenced documents for Type 3756 Pneumatic Booster Valve for more details and other versions.

i Note

The pilot valves at V1 and V2 interfaces of the booster valve must have a venting.



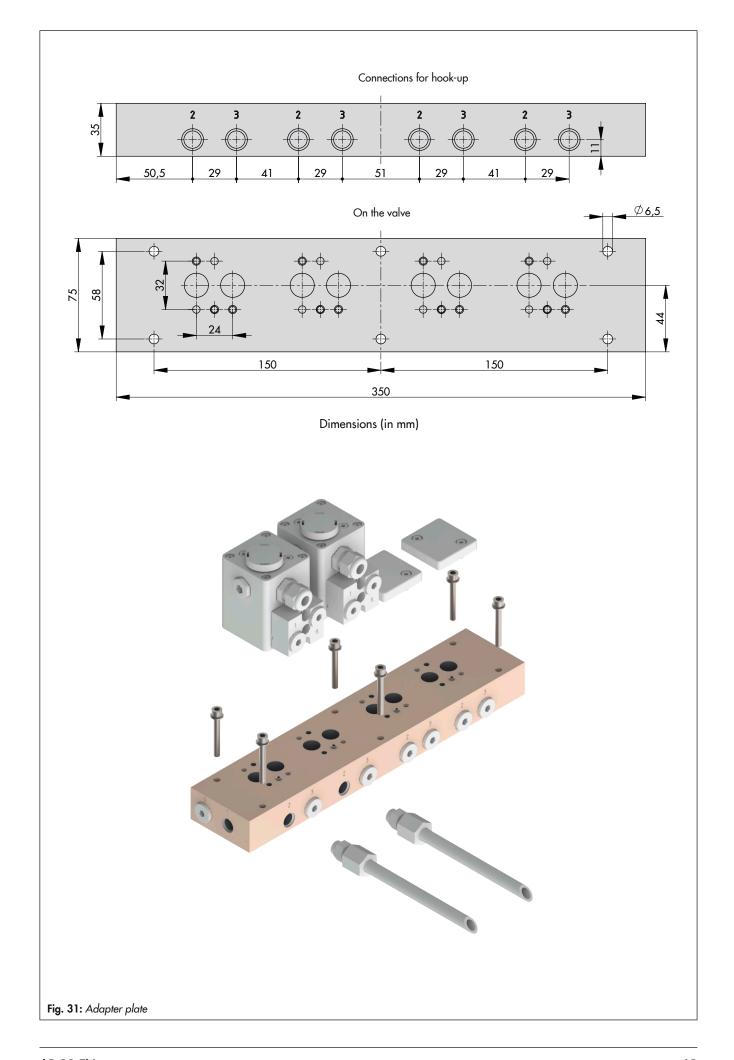
5.6 Adapter plate for four NAMUR interfaces $\frac{1}{4}$ " on threaded connection $\frac{1}{4}$ "

Adapter plate with threaded connections, made of aluminum, for pilot valves with NAMUR interface according to VDI/VDE 3847 on threaded connection including fastening screws and seals.

→ See Fig. 31.

Order no.:	Aluminum G 1/4:	1402-0438		
	Accessories Dummy plate: Screw plug: O-ring 14x1.5:	1402-1290 ¹⁾ 0070-0858 8421-0070		
Mounting interface:	Actuators with threaded connections			
Pilot valve interface:	Pilot valves with extended NAMUR interface 1/4" according to VDI/VDE 3847			
Description of functions:	The adapter plate is mounted between the actuator and pilot valve. The adapter plate is used to supply up to four pilot valves simultaneously over a central supply air connection. The pilot valves are mounted on the extended NAMUR interfaces according to VDI/VDE 3847 and can be included in the pipe hook-up using a connecting thread. Any connecting spaces not used can be sealed with a dummy plate (accessories).			

¹⁾ Including fastening screws and gaskets



5.7 Adapter plate (closed-circuit principle)

Adapter plate made of aluminum, for pilot valves with NAMUR interface according to VDI/VDE 3847 on actuators with integral attachment according to VDI/VDE 3847 including fastening screws and seals.

→ See Fig. 32.

Order no.:	Aluminum G 1/4: 1402-1553
Mounting interface:	Actuators with integral attachment with VDI/VDE 3847 interface (1/4")
Pilot valve interface:	Pilot valves with extended NAMUR interface 1/4" according to VDI/VDE 3847
Description of functions:	The adapter plate is mounted between the mounting block and pilot valve. The adapter plate is used to implement the closed-circuit principle. The adapter plate connects port 9 of the mounting block to the port 9 and port 3 of the pilot valve. As a result, closed-loop control of the actuator takes place when the pilot valve is energized. When the pilot valve is de-energized, the actuator is supplied with maximum air.

i Note

This function is only provided when pilot-operated pilot valves are used. The pilot valve must have a sealable venting port.

