DATA SHEET

T 3967 EN

Type 3967 Solenoid Valve

Application

Solenoid valve to control pneumatic actuators with NAMUR interface according to VDI/VDE 3845, with integral attachment according to VDI/VDE 3847 or with NAMUR rib according to IEC 60534

Intrinsically safe, low-power binary signals issued by automation equipment or fieldbus systems can be used for controlling purposes. Different nominal signals and connection types allow the solenoid valve to be optimally adapted for the specific task.

Special features

- High level of operational reliability due to the flapper/nozzle assembly and booster valve with a seat and plug
- Standard version for nominal signals 6, 12, 24 V DC
- Type of protection: intrinsic safety Ex ia and non-sparking Ex nA
- Certification according to ATEX, IECEx, EAC (GOST), NEPSI and TR CMU 1055
- Power consumption: 6 to 27 mW
- Electrical connection using M16x1.5 cable gland
- Corrosion-resistant enclosure with degree of protection IP 65
- Pilot supply 1.4 to 10 bar
- Ambient temperature –45 to +80 °C, depending on type of protection, temperature class and seals
- Use with safety shut-off valves, certification for safety-instrumented systems according to IEC 61508 (SIL), optional

Implementation

– 3/2-way solenoid valve with K_{VS} 0.32 and NAMUR interface according to VDI/VDE 3845 and VDI/VDE 3847
– 3/2-way booster valve with K_{VS} 1.4, 2.0, 2.9 or 4.3
– 5/2-way booster valve with K_{VS} 1.4 or 2.9
– 5/3-way booster valve with K_{VS} 1.4
– Attachment to actuators with NAMUR interface, with integral attachment or with NAMUR rib
– Restrictor plate with exhaust air or supply restrictor (optional)
– Booster valves with NAMUR interface according to VDI/VDE 3845 (optional)
– Aluminum or stainless steel

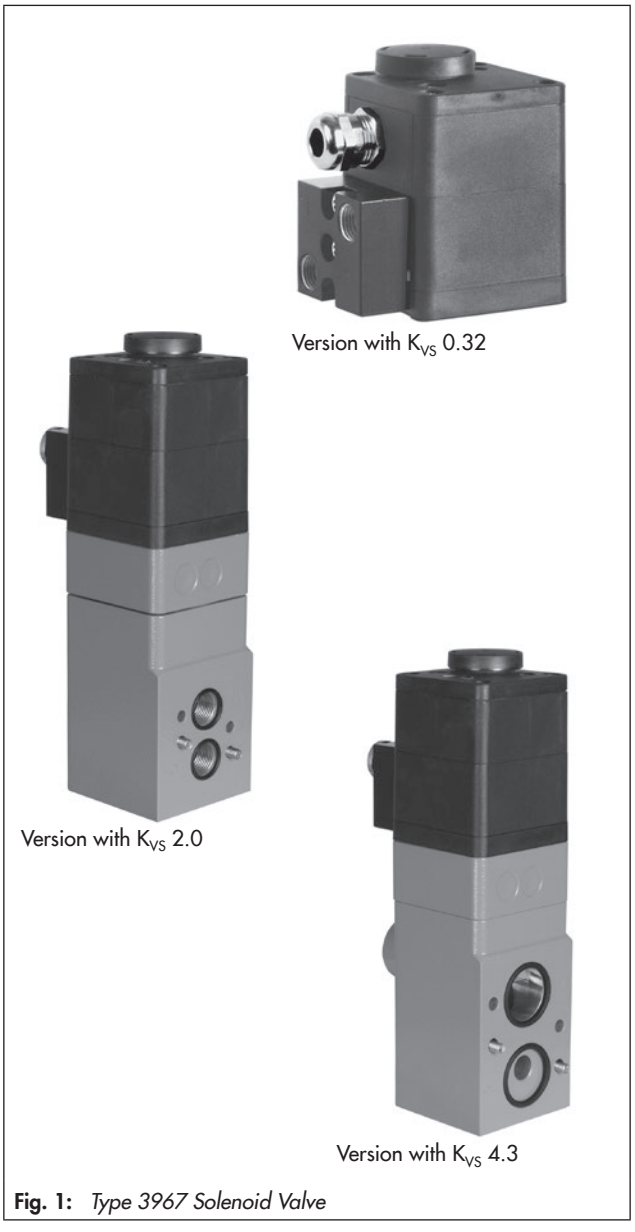

Fig. 1: *Type 3967 Solenoid Valve*

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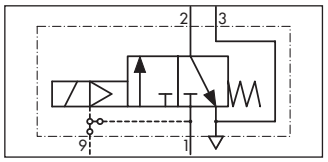
Edition January 2022

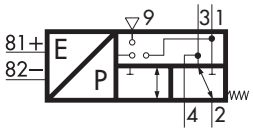
Solenoid valve version

K_{VS} 0.32



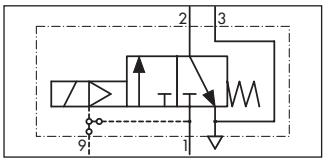
– 3/2-way function
– NAMUR interface ¼

K_{VS} 1.4

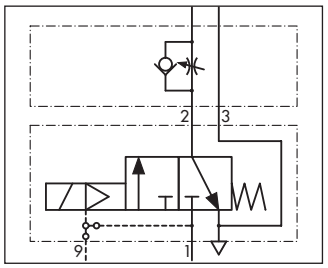


– 3/2-way function
– NAMUR interface ¼

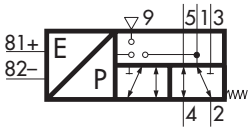
K_{VS} 2.0



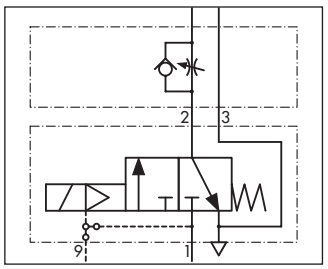
– 3/2-way function
– NAMUR interface ¼



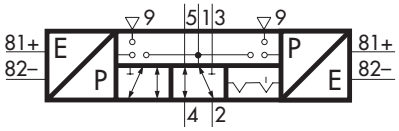
– 3/2-way function
– NAMUR interface ¼
– Exhaust air restrictor plate



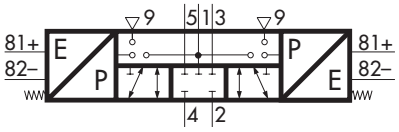
5/2-way function
NAMUR interface ¼



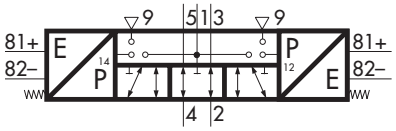
– 3/2-way function
– NAMUR interface ¼
– Supply air restrictor plate



– 5/2-way function with two detent positions
– NAMUR interface ¼

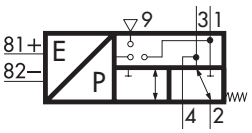
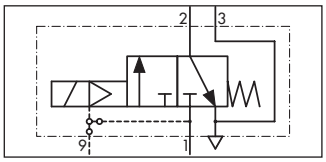


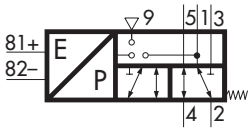
– 5/3-way function with spring-centered mid-position (ports 2 and 4 closed)
– NAMUR interface ¼



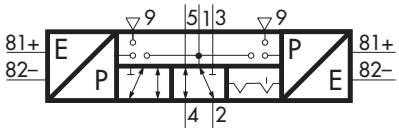
– 5/3-way function with spring-centered mid-position (ports 2 and 4 vented)
– NAMUR interface ¼

Solenoid valve version

K_{VS} 2.9	K_{VS} 4.3
	
– 3/2-way function – NAMUR interface ½	– 3/2-way function – NAMUR interface ½



– 5/2-way function
– NAMUR interface ¼



– 5/2-way function with two detent positions
– NAMUR interface ¼

Function

The solenoid valve consists of an electropneumatic binary converter with manual override and integrated booster valve actuated on one side with return spring.

The pilot supply for the electropneumatic binary converter is fed internally over port 1 or externally over port 9. By turning the turnable gasket, the pilot supply can be changed (see mounting and operating instructions ▶ EB 3967).

The pressure reducer reduces the pilot pressure to 1.4 bar.

In the idle position, the flapper is lifted off the outlet nozzle by the spring. As a result, a pressure lower than the deactivation pressure of the integrated booster valve builds up in the pressure divider, which consists of the restrictor and outlet nozzle. When the solenoid coil is energized by an electric binary signal, the outlet nozzle is closed by the flapper against the force of the spring. This causes the pressure in the pressure divider to rise above the activation pressure of the integrated booster valve and switches it to the operating position. After the solenoid coil is de-energized, the integrated booster valve is switched to the idle position again by a return spring.

Optionally, the solenoid valve can be upgraded to become a pneumatic booster valve actuated on one side. This results in higher K_{VS} coefficients (see Data Sheet ▶ T 3756).

Functional diagram

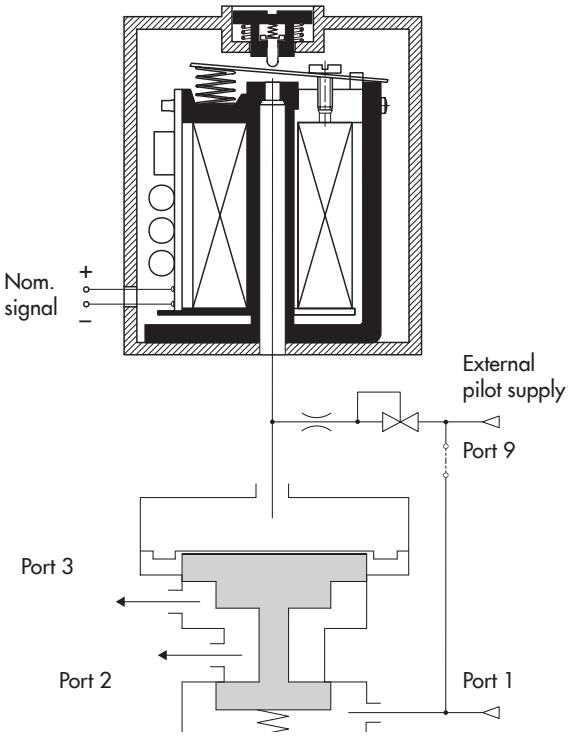


Fig. 2: *Solenoid valve with seat/plug switching element as a booster valve (K_{VS} 0.32)*

Summary of explosion protection approvals

Type	Certification			Type of protection/comments
3967-1	EC type examination certificate	Number	PTB 06 ATEX 2027	II 2G Ex ia IIC T6 Gb II 2D Ex ia IIIC T80 °C Db
		Date	2019-07-03	
	IECEx	Number	ECEx PTB 08.0036	Ex ia IIC T6...T4 Gb Ex ia IIIC T80°C Db
		Date	2022-08-23	
	CCC Ex	Number	2021322307003632	Ex ia IIC T4...T6 Gb Ex ia IIIC T80 °C Db
		Date	2023-04-15	
		Valid until	2026-01-07	
	EAC	Number	RU C-DE.EX01.B.00160/20	1Ex ia IIC T6...T4 Gb Ex ia IIIC T80 °C Db
		Date	2020-01-29	
		Valid until	2025-01-28	
	TR CMU 1055	Number	ZETC/111/2021	Module D
		Date	2021-08-25	
		Valid until	2024-08-24	
		Number	ZETC/37/2021	II 2G Ex ia IIC T6...T4 Gb II 2D Ex ia IIIC T80 °C Db
		Date	2021-07-26	
		Valid until	2024-07-25	
3967-8	Statement of conformity	Number	PTB 06 ATEX 2028 X	II 3G Ex nA II T6 II 3G Ex ic IIC T6 II 3D Ex tD A21 IP65 T80°C
		Date	2008-01-09	
	IECEx	Number	IECEx PTB 08.0038X	Ex nA II T6 Ex nL IIC T6 Ex tD A22 IP65 T80°
		Date	2008-08-28	
	EAC	Number	RU C-DE.EX01.B.00160/20	2Ex nA IIC T6...T4 Gc X 2Ex ic IIC T6...T4 Gc Ex tc IIIC T80 °C Dc
		Date	2020-01-29	
		Valid until	2025-01-28	

Type	Certification			Type of protection/comments
3967-8	TR CMU 1055	Number	ZETC/111/2021	Module D
		Date	2021-08-25	
		Valid until	2024-08-24	
		Number	ZETC/37/2021	II 3G Ex nA II T6 Gc II 3G Ex ic IIC T6 Gc II 3D Ex tc IIIC T80 °C Dc IP65
		Date	2021-07-26	
		Valid until	2024-07-25	

Technical data

General data		
Design		Solenoid with flapper/nozzle assembly and plug/seat valve with return spring
Degree of protection		IP 65 with filter check valve
Conformity		CE · EAC
Material	Enclosure	Polyamide PA 6-3-T-GF35, black
	Connecting plate	AlMgSiPb, powder coated, black or stainless steel 1.4404
	Adapter plate	AlMgSiPb, powder coated, gray beige RAL 1019 or stainless steel 1.4404
	Screws	Stainless steel A2-70
	Springs	Stainless steel 1.4310
	Seals	Silicone rubber
Ambient temperature		See Electric data
Mounting orientation		Any

Electric data					
Nominal signal		U_N	**6 V DC**	**12 V DC**	**24 V DC**
		U_{max}	27 V	40 V	60 V
Switching point	ON	$U_{80\ °C}$	≥4.8 V	≥9.6 V	≥18 V
		$I_{20\ °C}$	≥1.41 mA	≥1.52 mA	≥1.57 mA
		$P_{20\ °C}$	≥5.47 mW	≥13.05 mW	≥26.71 mW
	OFF	$U_{-25\ °C}$	≤1.0 V	≤2.3 V	≤4.6 V
Input impedance		$R_{20\ °C}$	2.6 kΩ	5.3 kΩ	10.5 kΩ
Effect of temperature			0.4 %/°C	0.2 %/°C	0.1 %/°C
Type of protection			Intrinsic safety (see table "Summary of explosion protection approvals")		
			Non-sparking (see table "Summary of explosion protection approvals")		
Output voltage [1]		U_i (V)	32		
Output current [1]		I_i (mA)	150		
Power dissipation [1]		P_i (mW)	250	No restrictions	
Outer inductance [1]		L_i	Negligibly small		
Outer capacitance [1]		C_i	Negligibly small		
Ambient temperature [2]			−45 to +60 °C (temperature class T6)		
			−45 to +70 °C (temperature class T5)		
			−45 to +80 °C (temperature class T4)		
Connection			Screw terminal, 2-pole, with cable gland M16x1.5		

[1] Permissible maximum values when connected to a certified intrinsically safe circuit.
[2] The permissible ambient temperature depends on the permissible ambient temperature of the components, type of protection and temperature class.

Pneumatic data for solenoid valve with K_{VS} 0.32 [1], actuated on one side		
Switching function		3/2-way function
K_{VS} [2]		0.32
Safety approval		SIL [3]
Compressed air quality according to ISO 8573-1		Max. particle size and density: Class 4 · Oil content: Class 3 · Pressure dew point: Class 3 or at least 10 K below the lowest ambient temperature to be expected
Pilot supply	Medium	Instrument air, free from corrosive substances and nitrogen
	Pressure [4]	1.4 to 10 bar
Operating medium		Instrument air, free from corrosive substances and nitrogen
Operating pressure		Max. 10 bar
Air consumption		≤80 l_n/h at 1.4 bar pilot supply in neutral position
		≤25 l_n/h at 1.4 bar pilot supply in operating position
Switching time		≤65 ms
Connection		G ¼ or ¼ NPT and NAMUR interface ¼ [5]
Weight		0.45 kg
		0.80 kg (with adapter plate)

1) The solenoid valve version with K_{VS} 0.32 can be fitted with a restrictor plate to adjust the actuating time of the pneumatic actuator.
2) The air flow rate when p_1 = 2.4 bar and p_2 = 1.0 bar is calculated using the following formula: $Q = K_{VS} \times 36.22$ in m³/h.
3) SIL according to IEC 61508
4) When using the solenoid valve with an operating pressure of 10 bar, a minimum pilot pressure of 1.9 bar is required.
5) NAMUR interface according to VDI/VDE 3845 and VDI/VDE 3847

Booster valve with NAMUR interface, K_{VS} 1.4 or 2.9, actuated on one side			
Switching function		3/2-way function with exhaust air feedback	5/2-way function
K_{VS} [1]		1.4 or 2.9	
Safety approval		–	–
Design		Spool, metal-to-metal seat, zero overlap, with return spring	
Material	Enclosure	Aluminum, powder coated, gray-beige RAL 1019 1.4404 (see Versions and ordering data for special versions)	
	Seals	Silicone	
	Filter	Polyethylene	
	Screws	1.4571	
Actuation		Type 3797 Solenoid Valve	
Operating medium		Instrument air (free from corrosive substances) or nitrogen, air containing oil or non-corrosive gases	
Compressed air quality according to ISO 8573-1		Max. particle size and density: Class 4 · Oil content: Class 3 · Pressure dew point: Class 3 or at least 10 K below the lowest ambient temperature to be expected	
Max. operating pressure		10 bar	
Ambient temperature [2]		–45 to +80 °C	
Switching cycles		≥2 x 10^7	
Connection	K_{VS} 1.4	G ¼ or ¼ NPT, NAMUR interface [3]	
	K_{VS} 2.9	G ½ or ½ NPT, NAMUR interface [3]	
Approx. weight	K_{VS} 1.4	485 g (standard version)	
	K_{VS} 2.9	1760 g (standard version)	

1) The air flow rate when p_1 = 2.4 bar and p_2 = 1.0 bar is calculated using the following formula: $Q = K_{VS} \times 36.22$ in m³/h.
2) The permissible ambient temperature of the solenoid valve depends on the permissible ambient temperature of the components, type of protection and temperature class.
3) NAMUR interface according to VDI/VDE 3845

Booster valve with NAMUR interface, K_{VS} 1.4 or 2.9, actuated on both sides				
Switching function		5/2-way function with two detent positions	5/3-way function with spring-centered mid-position (ports 2 and 4 closed)	5/3-way function with spring-centered mid-position (ports 2 and 4 vented)
K_{VS} [1]		1.4 or 2.9	1.4 (2.9 on request)	1.4 (2.9 on request)
Safety approval		–	–	–
Design		Spool, metal-to-metal seat, zero overlap		
Material	Enclosure	Aluminum, powder coated, gray beige RAL 1019 1.4404 (see Versions and ordering data for special versions)		
	Seals	Silicone		
	Filter	Polyethylene		
	Screws	1.4571		
Actuation		Type 3797 Solenoid Valve		
Operating medium		Instrument air (free from corrosive substances) or nitrogen, air containing oil or non-corrosive gases		
Compressed air quality according to ISO 8573-1		Max. particle size and density: Class 4 · Oil content: Class 3 · Pressure dew point: Class 3 or at least 10 K below the lowest ambient temperature to be expected		
Max. operating pressure		10 bar		
Ambient temperature [2]		–45 to +80 °C		
Switching cycles		≥2 x 10^7		
Connection	K_{VS} 1.4	G ¼ or ¼ NPT, NAMUR interface [3]		
	K_{VS} 2.9	G ½ or ½ NPT, NAMUR interface [3]		
Approx. weight	K_{VS} 1.4	685 g (standard version)		
	K_{VS} 2.9	2180 g (standard version)		

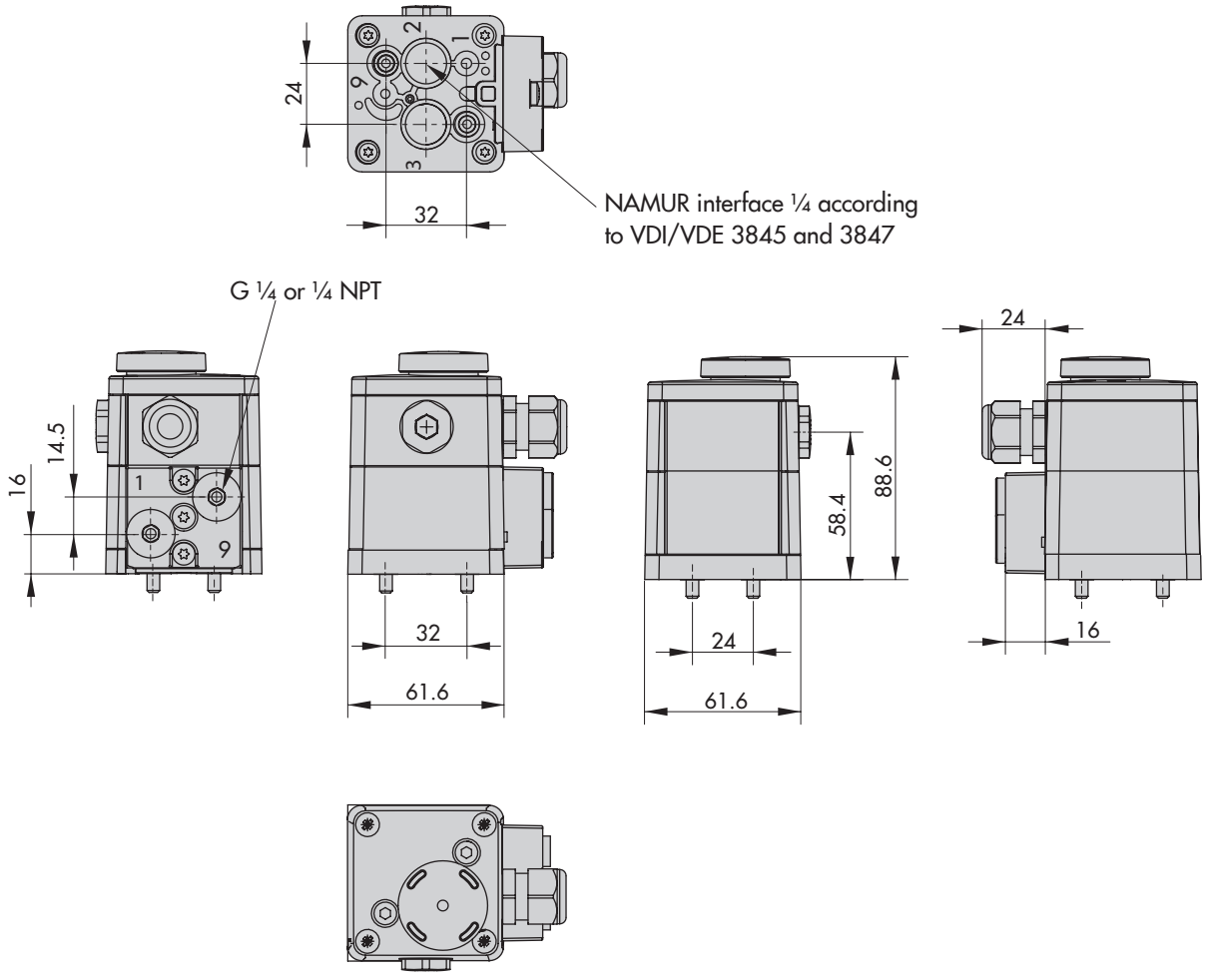
1) The air flow rate when p_1 = 2.4 bar and p_2 = 1.0 bar is calculated using the following formula: Q = K_{VS} x 36.22 in m³/h.
2) The permissible ambient temperature of the solenoid valve depends on the permissible ambient temperature of the components, type of protection and temperature class.
3) NAMUR interface according to VDI/VDE 3845

Booster valve with NAMUR interface, K_{VS} 2.0 or 4.3, actuated on one side			
Switching function		3/2-way function	
K_{VS} [1] (direction of flow)		1.1 (4»3) 2.0 (3»5)	1.9 (4»3) 4.3 (3»5)
Safety approval		SIL [2]	
Design		Poppet valve with diaphragm actuator, soft seated, with return spring	
Material	Enclosure	Aluminum, powder coated, gray beige RAL 1019 or stainless steel 1.4404	
	Diaphragms	Chloroprene rubber (–20 to +80 °C) or silicone rubber (–45 to +80 °C)	
	Seals	Chloroprene rubber (–20 to +80 °C) or silicone rubber (–45 to +80 °C)	
	Screws	Stainless steel 1.4571	
	Springs	Stainless steel 1.4310	
Operating medium		Instrument air (free from corrosive substances) or nitrogen, air containing oil or non-corrosive gases	
Compressed air quality according to ISO 8573-1		Max. particle size and density: Class 4 · Oil content: Class 3 · Pressure dew point: Class 3 or at least 10 K below the lowest ambient temperature to be expected	
Actuation		Type 3967 Solenoid Valve	
Pilot supply		1.4 to 6 bar	
Max. operating pressure		10.0 bar	
Ambient temperature [3]		–20 to +80 °C –45 to +80 °C	
Connection	Supply air	G ¼ or ¼ NPT and NAMUR interface ¼ [4] with G (NPT) ⅜	G ½ or ½ NPT and NAMUR interface ½ [4]
	Exhaust air	G ½ or ½ NPT and NAMUR interface ¼ [4] with G (NPT) ⅜	G ½ or ½ NPT and NAMUR interface ½ [4]
Approx. weight		1.38 kg	1.5 kg

1) The air flow rate when p_1 = 2.4 bar and p_2 = 1.0 bar is calculated using the following formula:
Q = K_{VS} x 36.22 in m³/h.
2) SIL according to IEC 61508
3) The permissible ambient temperature depends on the permissible ambient temperature of the components, type of protection and temperature class.
4) NAMUR interface according to VDI/VDE 3845

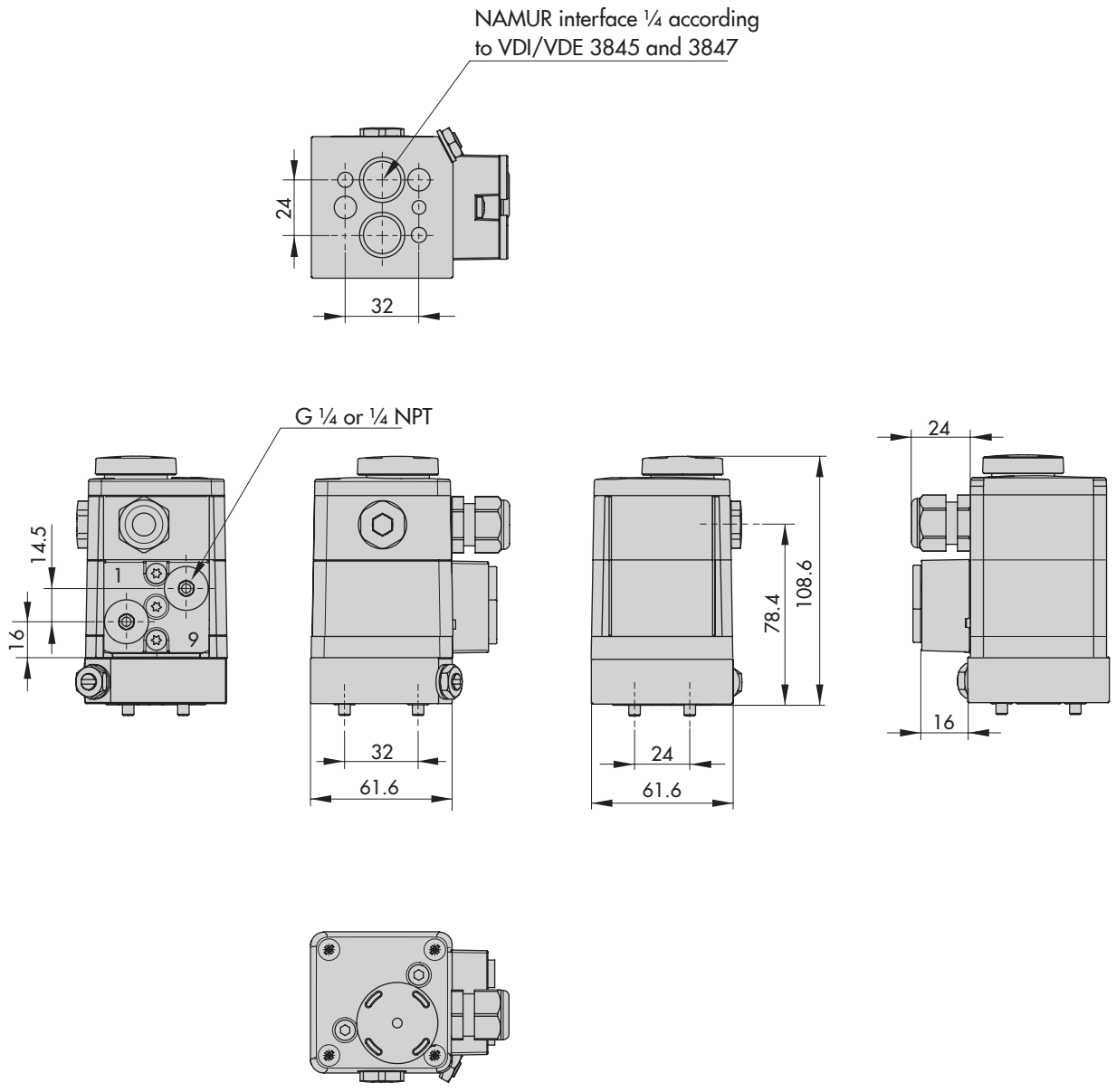
Dimensions (in mm)

Version with NAMUR interface ¼ according to VDI/VDE 3845 and direct attachment according to VDI/VDE 3847



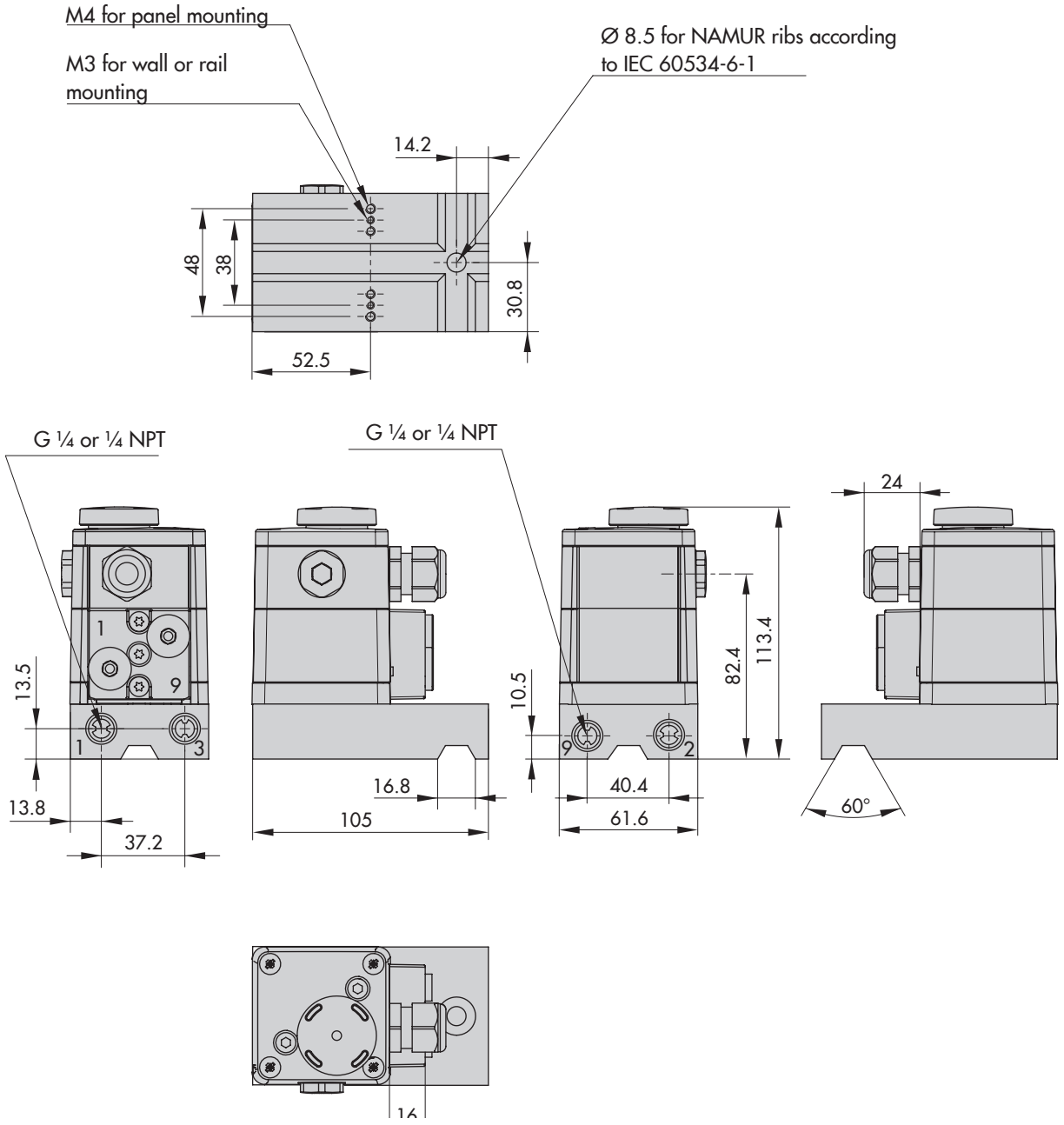
Dimensions (in mm)

Version with NAMUR interface ¼ according to VDI/VDE 3845 and direct attachment according to VDI/VDE 3847 and restrictor plate

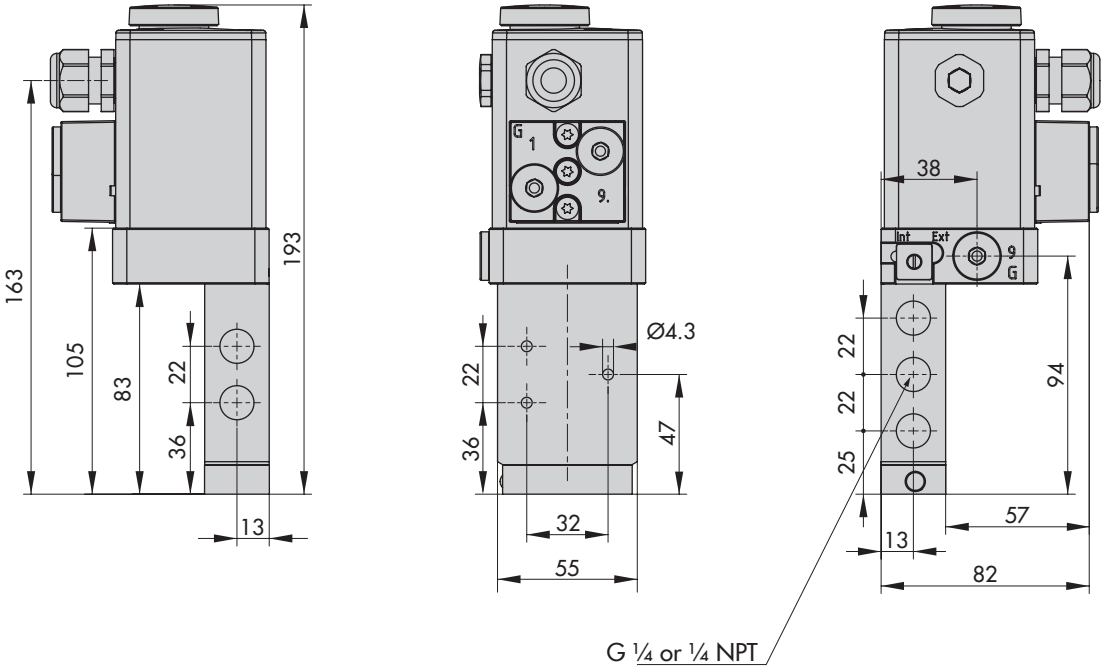


Dimensions (in mm)

Version with adapter plate for linear actuators with NAMUR rib according to IEC 60534-6-1

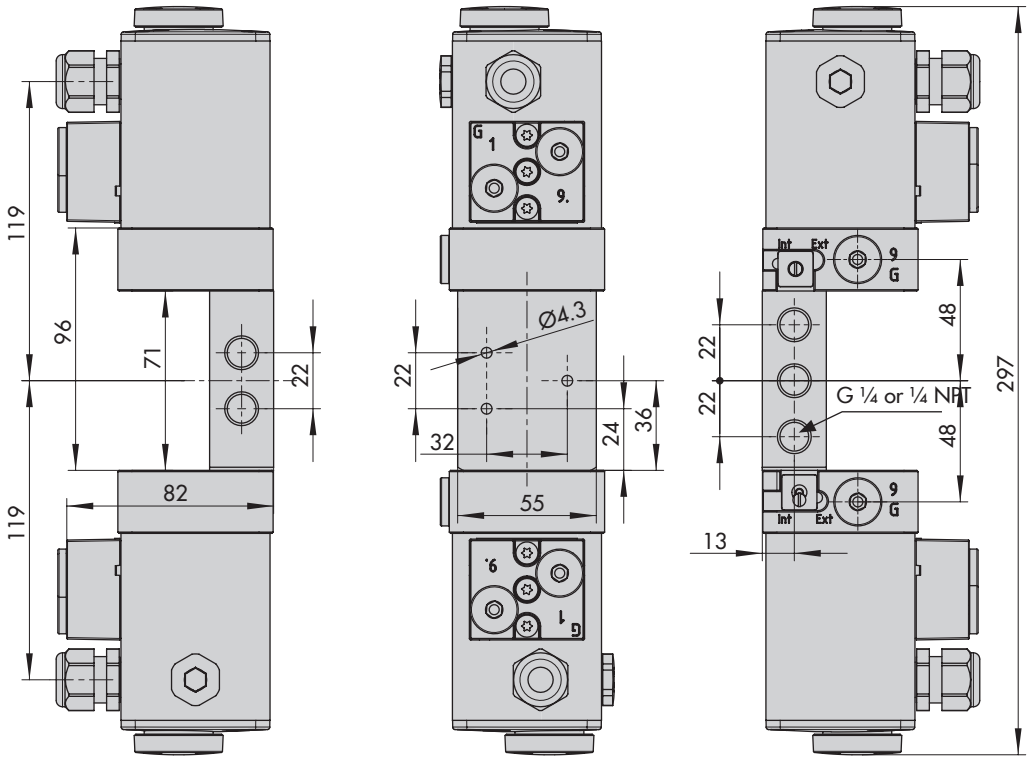


Version with booster valve (K_{VS} 1.4)



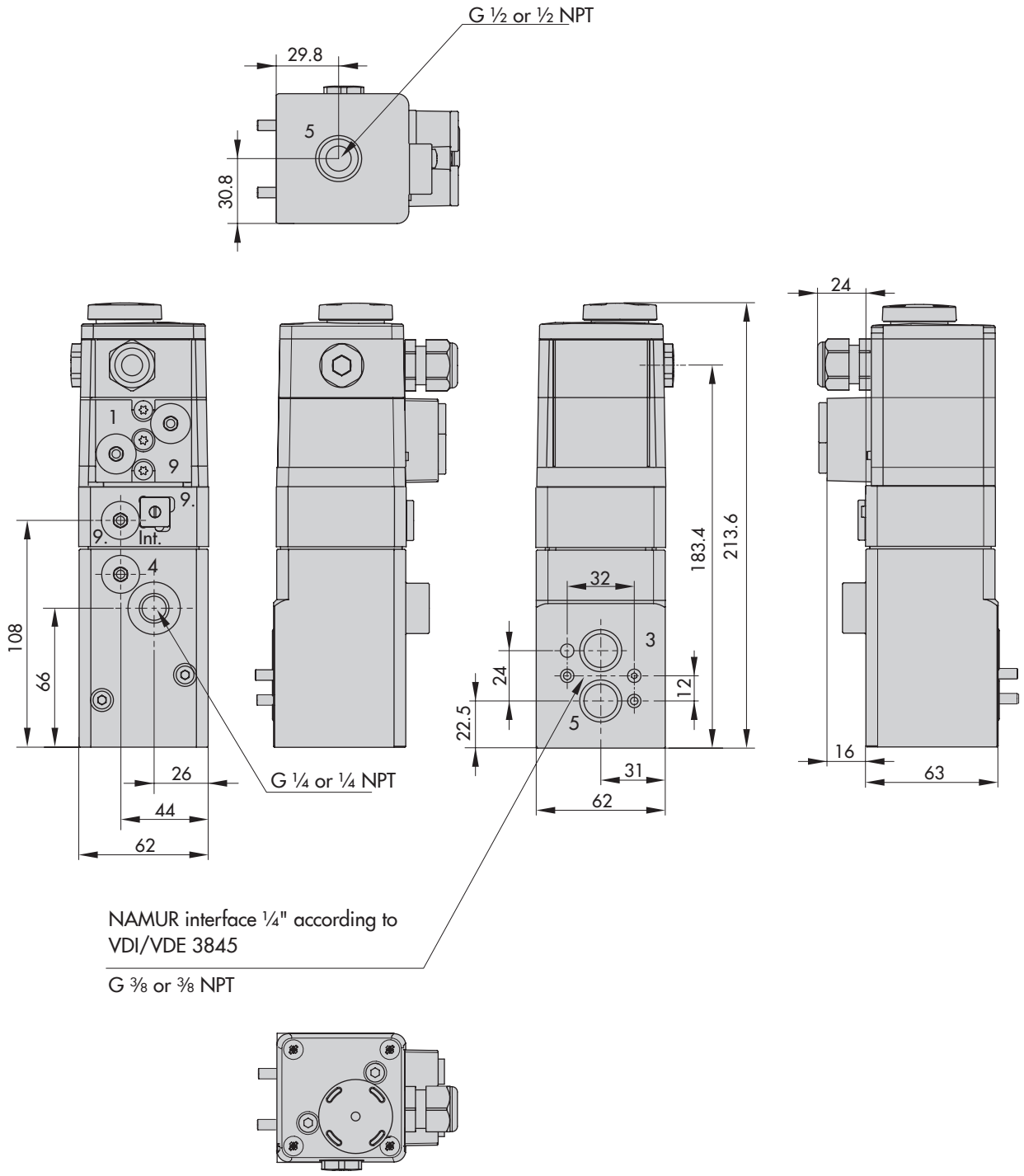
Dimensions (in mm)

Version with booster valve (K_{VS} 1.4, actuated on both sides)



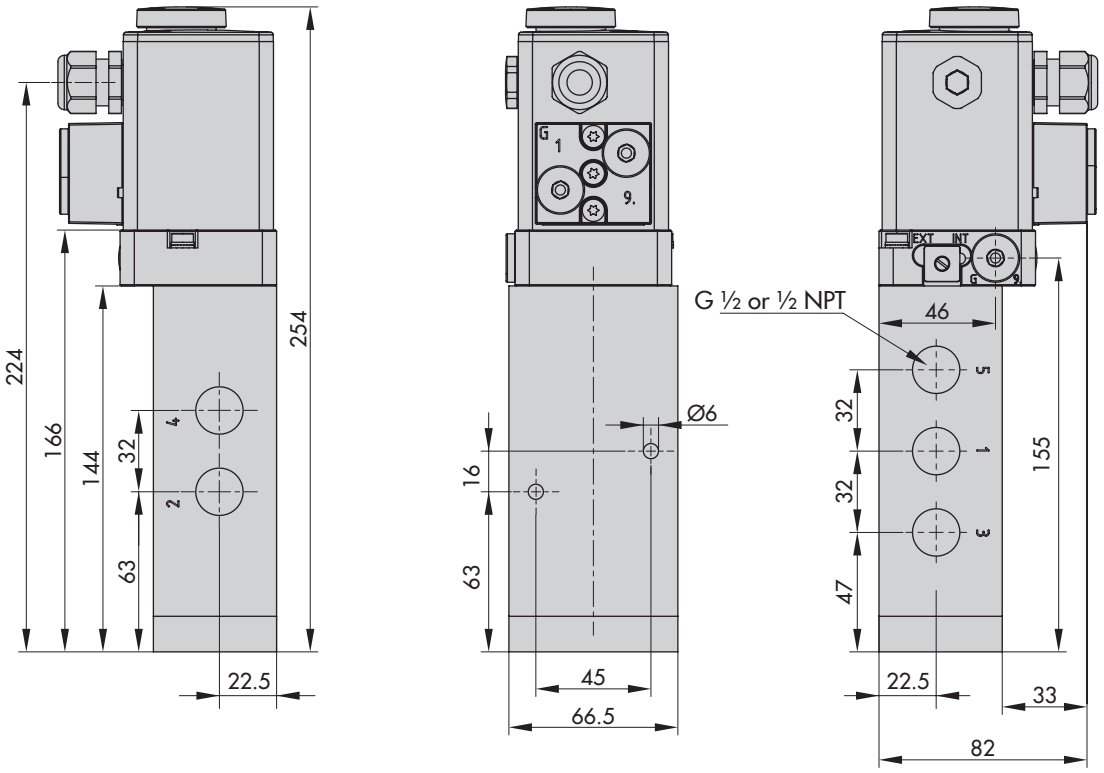
Dimensions (in mm)

Version with booster valve (K_{VS} 2.0)



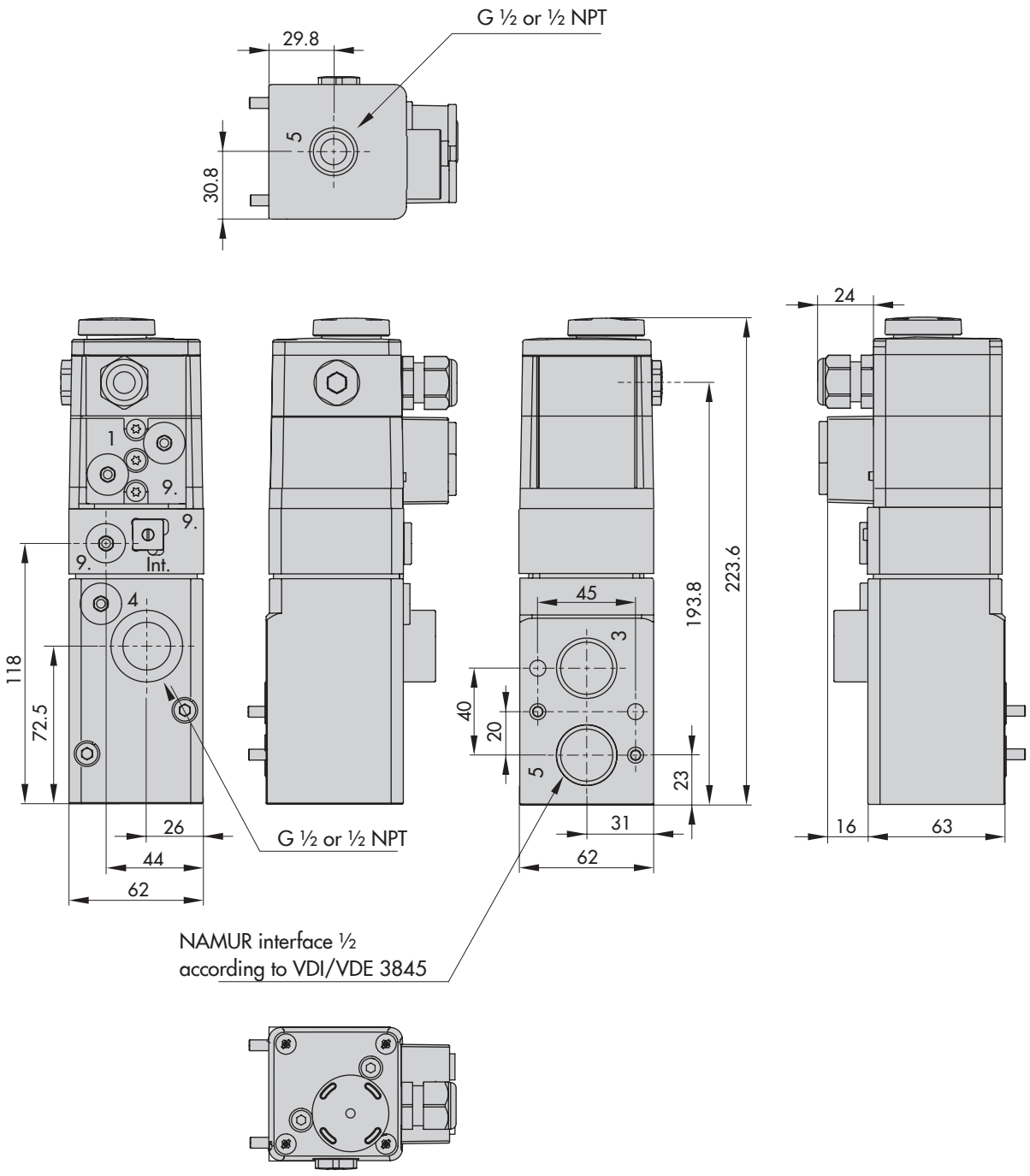
Dimensions (in mm)

Version with booster valve (K_{VS} 2.9)



Dimensions (in mm)

Version with booster valve (K_{VS} 4.3)



i ***Note***

*The versions "*NAMUR rib according to IEC 60534 for linear actuators/threaded connection*" (Type 3967-xxxxxxx**2**x…) and "*NAMUR interface ¼ according to VDI/VDE 3845 for rotary actuators with adapter plate for external air connections*" (Type 3967-xxxxxxx**5**x…) have an **Ematal** coating.*

Solenoid valve	**Type 3967-**	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Type of protection																						
No explosion protection		**0**	**0**	**0**																		
ATEX	II 2G Ex ia IIC T6 Gb, II 2D Ex ia IIIC T80°C Db	**1**	**1**	**0**																		
CCC Ex	Ex ia IIC T4...T6 Gb, Ex ia IIIC T80 °C Db	**1**	**1**	**1**																		
IECEx	Ex ia IIC T6...T4 Gb, Ex ia IIIC T80°C Db	**1**	**1**	**2**																		
EAC	1Ex ia IIC T6...T4 Gb, Ex ia IIIC T80 °C Db	**1**	**1**	**3**																		
TR CMU 1055	II 2G Ex ia IIC T6...T4 Gb, II 2D Ex ia IIIC T80 °C Db	**1**	**1**	**6**																		
ATEX	II 3G Ex nA II T6, II 3G Ex ic IIC T6, II 3D Ex tc IIIC T80°C IP65	**8**	**1**	**0**																		
IECEx	Ex nA II T6, Ex nL IIC T6, Ex tD A22 IP65 T80°C	**8**	**1**	**2**																		
EAC	2Ex nA IIC T6...T4 Gc X, 2Ex ic IIC T6...T4 Gc, Ex tc IIIC T80 °C Dc	**8**	**1**	**3**																		
TR CMU 1055	II 3G Ex nA II T6 Gc, II 3G Ex ic IIC T6 Gc, II 3D Ex tc IIIC T80 °C Dc IP65	**8**	**1**	**6**																		
Nominal signal																						
6 V DC					**1**																	
12 V DC					**2**																	
24 V DC					**3**																	
Manual override																						
Pushbutton underneath the enclosure cover						**0**																
Pushbutton in the enclosure cover						**1**																
Switch in the enclosure cover						**2**																
Without						**3**																
Switching function																						
3/2-way function with spring-return mechanism **SIL** (all K_{VS} coefficients except K_{VS} 1.4 and 2.9)							**0**	**0**														
5/2-way function with spring-return mechanism (K_{VS} 1.4 and 2.9)							**0**	**1**														
5/2-way function with two detent positions (K_{VS} 1.4 and 2.9)							**0**	**2**														
5/3-way function with spring-centered mid-position (ports 2 and 4 closed, K_{VS} 1.4)							**0**	**3**														
5/3-way function with spring-centered mid-position (ports 2 and 4 vented, K_{VS} 1.4)							**0**	**5**														
Mounting																						
NAMUR interface ¼ according to VDI/VDE 3845 for rotary actuators									**0**													
NAMUR rib according to IEC 60534 for linear actuators/threaded connection [1]									**2**													
Direct attachment to mounting block with positioner according to VDI/VDE 3847									**3**													
NAMUR interface ½ according to VDI/VDE 3845 for rotary actuators									**4**													
NAMUR interface ¼ according to VDI/VDE 3845 for rotary actuators with adapter plate for external air connections [1]									**5**													
K_{VS} coefficient [2]																						
0.32										**0**												
1.4										**1**												
2.0										**2**												
2.9										**3**												
4.3										**4**												

Solenoid valve	Type 3967-	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Material																					
Aluminum											**1**										
Stainless steel											**2**										
Pneumatic connection																					
G ¼												**1**									
¼ NPT												**2**									
G ½												**3**									
½ NPT												**4**									
Pilot valve connection																					
Without (ports sealed by two blanking plugs)													**0**								
1 (with internal pilot supply)													**1**								
2 (with external pilot supply)													**2**								
Without (with dummy plate: no connections on the pilot head)													**4**								
Pilot supply																					
Internal pilot supply for actuators for on/off service														**0**							
External pilot supply for actuators for throttling service														**1**							
Electrical connection																					
Without cable gland															**0**	**0**					
M16x1.5 cable gland, black polyamide															**0**	**1**					
M16x1.5 cable gland, blue polyamide															**1**	**1**					
M16x1.5 cable gland made of black polyamide (Ex e, CEAG)															**1**	**3**					
M16x1.5 cable gland, nickel-plated brass															**1**	**4**					
M16x1.5 cable gland, brass, blue															**1**	**5**					
Degree of protection																					
IP 65																	**0**				
Ambient temperature [3]																					
–20 to +80 °C																		**0**			
–45 to +80 °C																		**1**			
Safety function																					
Without																			**0**		
SIL [4]																			**1**		
Special version																					
Without																				**0**	**0**	**0**
With exhaust air restrictor plate																				**0**	**0**	**1**
With supply air restrictor plate																				**0**	**0**	**2**
With exhaust air and supply air restrictor plates																				**0**	**0**	**3**

1) Version with Ematal coating
2) The air flow rate when p_1 = 2.4 bar and p_2 = 1.0 bar is calculated using the following formula:
$Q = K_{VS} \times 36.22$ in m³/h.
3) The permissible ambient temperature depends on the permissible ambient temperature of the components, type of protection and temperature class.
4) SIL according to IEC 61508

Spare parts and accessories

Spare parts	
Designation	**Order no.**
Enclosure cover with pushbutton	1089-1527
Enclosure cover with switch	1089-1528
Enclosure cover	1099-6236
Gasket (for enclosure cover)	0430-1941
Blanking plug G ¼, stainless steel 1.4571 (for threaded connections)	0070-0858
Blanking plug ¼ NPT, stainless steel 1.4571 (for threaded connections)	0070-0862
O-ring 14x1.5 made of nitrile butadiene rubber (for blanking plug)	8421-0070
Turnable gasket (for connecting plate)	0430-1884
Screw DIN 7964, 5x20 (for connecting plate)	8336-1108
Filter ¼ (for connecting plate)	0550-0213
Molded seal (for NAMUR interface ¼, K_{VS} 0.32)	0430-1883
O-ring 13x3.5, –45 to +80 °C (for booster valves with NAMUR interface ¼, K_{VS} 1.4)	8421-9002
O-ring 16x2, –20 to +80 °C (for booster valves with NAMUR interface ¼, K_{VS} 2.0)	8421-0364
O-ring 16x2, –45 to +80 °C (for booster valves with NAMUR interface ¼, K_{VS} 2.0)	8421-0368
O-ring 28x2, –45 to +80 °C (for booster valves with NAMUR interface ½, K_{VS} 2.9)	8421-0419
O-ring 30x2, –45 to +80 °C (for booster valves with K_{VS} 2.9)	8421-0439
O-ring 24x2, –20 to +80 °C (for booster valves with NAMUR interface ½, K_{VS} 4.3)	8421-1077
O-ring 24x2, –45 to +80 °C (for booster valves with NAMUR interface ½, K_{VS} 4.3)	8421-0425
O-ring 36x2, –20 to +80 °C (for booster valves with K_{VS} 2.0, 2.9 and 4.3)	8421-0102
Screw M5x60 A4 (for booster valves with NAMUR interface, K_{VS} 2.0)	8333-1303
Spring washer A5-A4 (for booster valves with NAMUR interface, K_{VS} 2.0)	8392-0651
Screw M5x60 A4 (for booster valves with NAMUR interface, K_{VS} 4.3)	8333-0538
Spring washer A5-A4 (for booster valves with NAMUR interface, K_{VS} 4.3)	8392-0658

Accessories	
Designation	**Order no.**
M16x1.5 cable gland made of black polyamide, 5 to 10 mm cable diameter	8808-1010
Cable gland M16x1.5 made of black polyamide, 5.5 to 10 mm cable diameter (Ex e, CEAG)	8808-2007
Cable gland M16x1.5 made of blue polyamide, 4 to 8 mm cable diameter	8808-2008
Cable gland M16x1.5, nickel-plated brass, 4 to 8 mm cable diameter	8808-2009
Cable gland M16x1.5, brass, blue, 4 to 8 mm cable diameter	1991-6471
Extension cable gland M16x1.5 on M20, black polyamide, 5.5 to 13 mm cable diameter (–20 to +70 °C) (Ex e)	8808-2011
Blanking plug M16x1.5, black polyamide (for cable entry)	8808-1024
O-ring 14x1.5 made of nitrile butadiene rubber (for cable gland and blanking plug)	8421-0070
Cover for start-up	1402-1378

Accessories for K_{VS} 0.32	
Designation	**Order no.**
Adapter plate for NAMUR rib according to IEC 60534-6-1, panel, wall or rail mounting, including fastening screw	
Aluminum with Ematal coating, G ¼ connection	1400-9598
Aluminum, powder coated, gray beige RAL 1019, ¼ NPT connection	1400-9599
Stainless steel 1.4404, G ¼ connection	1400-9600
Stainless steel 1.4404, ¼ NPT connection	1400-9601
Mounting base according to EN 60715	
G-profile rail 32 (2 pcs. required)	1400-5930
For 35 mm rail mounting (2 pcs. required)	1400-5931
Mounting plate for wall mounting including fastening screws	1400-6726

Accessories for K_{VS} 0.32	
Designation	**Order no.**
Restrictor plate	
With exhaust air restrictor and safety plate, K_{VS} 0 to 0.27, adjustable; made of aluminum with Ematal coating	**100088769**
With exhaust air restrictor and safety plate, K_{VS} 0.002 to 0.27, adjustable; made of aluminum with Ematal coating **SIL**	**100087311**
With exhaust air restrictor and lock nut, K_{VS} 0 to 0.28, adjustable; made of aluminum, powder coated, gray beige	100200794
With exhaust air restrictor and lock nut, K_{VS} 0.01 to 0.28, adjustable; made of aluminum, powder coated, gray beige **SIL**	100200795
With exhaust air restrictor and lock nut, K_{VS} 0 to 0.28, adjustable; made of stainless steel 1.4404	100200796
With exhaust air restrictor and lock nut, K_{VS} 0.01 to 0.28, adjustable; made of stainless steel 1.4404 **SIL**	100200797
With supply air restrictor and safety plate, K_{VS} 0 to 0.27, adjustable; made of aluminum with Ematal coating	**100084937**
With supply air restrictor and safety plate, K_{VS} 0.002 to 0.27, adjustable; made of aluminum with Ematal coating **SIL**	**100084935**
With supply air restrictor and lock nut, K_{VS} 0 to 0.28, adjustable; made of aluminum, powder coated, gray beige	100200790
With supply air restrictor and lock nut, K_{VS} 0.01 to 0.28, adjustable; made of aluminum, powder coated, gray beige **SIL**	100200791
With supply air restrictor and lock nut, K_{VS} 0 to 0.28, adjustable; made of stainless steel 1.4404	100200792
With supply air restrictor and lock nut, K_{VS} 0.01 to 0.28, adjustable; made of stainless steel 1.4404 **SIL**	100200793
Adapter plate for NAMUR interface ¼ on NAMUR rib ¼ with external connections	
Aluminum with Ematal coating, G ¼ connection	1402-0695
Aluminum, powder coated, gray beige RAL 1019, ¼ NPT connection	1402-0697
Stainless steel 1.4404, G ¼ connection	1402-0696
Stainless steel 1.4404, ¼ NPT connection	1402-0698
Double-axial adapter	
90°, aluminum, powder coated, gray beige RAL 1019	1993-0089
270°, aluminum, powder coated, gray beige RAL 1019	1993-0220
180°, aluminum, powder coated, gray beige RAL 1019	1402-0280
Adapter plate for NAMUR interface ¼ on NAMUR rib ½	
Aluminum with Ematal coating	1380-1652
Stainless steel 1.4404	1380-1797
Adapter plate with NAMUR interface ¼	
For SAMSON Type 3351	1402-0095
For SAMSON Type 3353 and Type 3354	1409-3001
Hex socket head screw M5x6 (required in addition to 1409-3001)	8333-1237
M5 seal (required in addition to 1409-3001)	0790-6118
Mounting block for SAMSON Type 3277 Pneumatic Actuator	
G ¼ connection	1400-8817
¼ NPT connection	1400-8818
Pressure gauge mounting block, 1x Output and 1x Supply, made of stainless steel/brass (for mounting block)	1400-6950
Piping for actuator with fail-safe action "stem retracts"	
240 cm² actuator area, zinc-plated steel	1400-6444
240 cm² actuator area, CrNiMo steel	1400-6445
350 cm² actuator area, zinc-plated steel	1400-6446
350 cm² actuator area, CrNiMo steel	1400-6447
700 cm² actuator area, zinc-plated steel	1400-6448
700 cm² actuator area, CrNiMo steel	1400-6449

Accessories for K_{VS} 1.4 and 2.0	
Designation	**Order no.**
Adapter plate for NAMUR rib acc. to IEC 60534-6-1	
Aluminum, powder coated, gray beige RAL 1019, G ¼ connection	1400-6751
Aluminum with Ematal coating, ¼ NPT connection	1400-9924
Adapter plate for NAMUR interface ¼ on NAMUR rib ½	
Aluminum, powder coated, gray beige RAL 1019	1380-1652
Stainless steel 1.4404	1380-1797
Distance plate with NAMUR interface ¼ on rotary actuators ¼ (K_{VS} 1.4 only)	
Aluminum with Ematal coating, G ¼ connection	1400-9741
Stainless steel 1.4404, G ¼ connection	1402-0234

Accessories for K_{VS} 4.3 and 2.9	
Designation	**Order no.**
Adapter plate for NAMUR interface ½ to thread ½	
Aluminum, powder coated, gray beige RAL 1019, G ½ connection	0360-3945
Aluminum, powder coated, gray beige RAL 1019, ½ NPT connection	0360-3946
Stainless steel 1.4404, G ½ connection	0360-3947
Stainless steel 1.4404, ½ NPT connection	0360-3948
Adapter plate for NAMUR interface ½ on NAMUR rib ½	
Aluminum with Ematal coating	1380-1795
Stainless steel 1.4404	1380-1796
Adapter plate for NAMUR rib acc. to IEC 60534-6-1	
Aluminum, powder coated, gray beige RAL 1019, G ½ connection	1402-0827
Aluminum, powder coated, gray beige RAL 1019, ½ NPT connection	1402-0829
Stainless steel 1.4404, G ½ connection	1402-0828
Stainless steel 1.4404, ½ NPT connection	1402-0830
Double-axial adapter	
90°, aluminum, powder coated, gray beige RAL 1019	1402-0602
90°, stainless steel 1.4404	1402-0603