

- > Port size: 1/4" & 1/2" (ISO G/NPT)
- > Main application: Single and double acting actuators
- > TÜV-approval based on type examination DIN EN 161, DIN 3394 and IEC 61 508, multichannel up to SIL 3
- > Crossover-free switching
- > Suited for outdoor use under critical environment conditions
- > Variable valve solenoid combination
- > Add-on manual override



Technical features

Medium:

Filtered, non-lubricated and dried compressed air, instrument air, nitrogen and other non-flammable neutral, dry fluids

Operation:

Indirect solenoid operated spool valve

Operating pressure:

2,5 ... 8 bar (36 ... 116 psi) with internal air supply
0 ... 8 bar (0 ... 116 psi) with external air supply

Orifice:

6 mm (1/4"), 8 mm (1/2")

Port size:

G1/4, 1/4 NPT, G1/2, 1/2 NPT

Flow direction:

Fixed

Mounting position:

Optional, impulse valves preferably horizontally

Ambient/Media temperature:

NBR:

-40 ... +65°C (-40 ... +149°F)

HNBR:

-25 ... +80°C (-13 ... +176°F)

Depending on solenoid system

Air supply must be dry enough

to avoid ice formation at

temperatures below +2°C.

For outdoor installations must be

protected all connections against

the penetration of moisture and

a solenoid with IP66 protection

must be used!

Material:

Body: Aluminium anodized (suitable for high humidity, sulphuric, sodium chloride or ammonia environments), brass 2.0401 (Ms 58) or stainless steel 1.4404 (316 L)
Seals: NBR or HNBR

Flow conversion:

Cv US Gallon/min (water) =

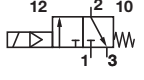
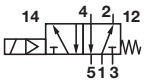
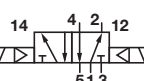
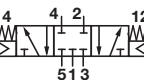
l/min (air) x 0,001

Kv m³/h (water) =

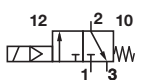
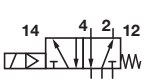
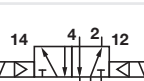
l/min (air) x 0,000906

Technical data

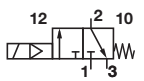
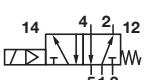
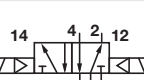
Housing: Aluminium anodized, Seals: NBR -40 ... +65°C (-40 ... +149°F) / IEC 61508: -40 ... +40°C (-40 ... +104°F)

Symbol	Port size	Orifice (mm)	Actuation/return	Flow (l/min)	Operating pressure (bar)	Test certificate IEC 61508	Weight (kg)	Dimension No.	Model *1)
	G1/4	6	Solenoid/spring	1300	2,5 ... 8	x	0,5	1	9713535
	1/4 NPT	6	Solenoid/spring	1300	2,5 ... 8	x	0,5	1	9713545
	G1/2	8	Solenoid/spring	2600	2,5 ... 8	—	0,5	2	9713555
	1/2 NPT	8	Solenoid/spring	2600	2,5 ... 8	—	0,5	2	9713565
	G1/4	6	Solenoid/spring	1300	2,5 ... 8	x	0,7	3	9710535
	1/4 NPT	6	Solenoid/spring	1300	2,5 ... 8	x	0,7	3	9710545
	G1/2	8	Solenoid/spring	2600	2,5 ... 8	—	0,7	4	9710555
	1/2 NPT	8	Solenoid/spring	2600	2,5 ... 8	—	0,7	4	9710565
	G1/4	6	Solenoid/solenoid	1300	2,5 ... 8	—	0,7	5	9711535
	1/4 NPT	6	Solenoid/solenoid	1300	2,5 ... 8	—	0,7	5	9711545
	G1/2	8	Solenoid/solenoid	2600	2,5 ... 8	—	0,8	6	9711555
	1/2 NPT	8	Solenoid/solenoid	2600	2,5 ... 8	—	0,8	6	9711565
	G1/4	6	Solenoid/solenoid	950	2,5 ... 8	—	0,7	7	9712535
	1/4 NPT	6	Solenoid/solenoid	950	2,5 ... 8	—	0,7	7	9712545

Housing: Brass, Seals: NBR -40 ... +65°C (-40 ... +149°F) / IEC 61508: -40 ... +40°C (-40 ... +104°F)

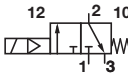
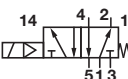

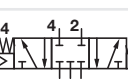
Symbol	Port size	Orifice (mm)	Actuation/return	Flow (l/min)	Operating pressure (bar)	Test certificate IEC 61508	Weight (kg)	Dimension No.	Model *1)
	G1/4	6	Solenoid/spring	1300	2,5 ... 8	x	1	1	9713635
	1/4 NPT	6	Solenoid/spring	1300	2,5 ... 8	x	1	1	9713645
	G1/2	8	Solenoid/spring	2600	2,5 ... 8	—	1	2	9713655
	1/2 NPT	8	Solenoid/spring	2600	2,5 ... 8	—	1	2	9713665
	G1/4	6	Solenoid/spring	1300	2,5 ... 8	x	1,7	3	9710635
	1/4 NPT	6	Solenoid/spring	1300	2,5 ... 8	x	1,7	3	9710645
	G1/2	8	Solenoid/spring	2600	2,5 ... 8	—	1,7	4	9710655
	1/2 NPT	8	Solenoid/spring	2600	2,5 ... 8	—	1,7	4	9710665
	G1/4	6	Solenoid/solenoid	1300	2,5 ... 8	—	1,7	5	9711635
	1/4 NPT	6	Solenoid/solenoid	1300	2,5 ... 8	—	1,7	5	9711645
	G1/2	8	Solenoid/solenoid	2600	2,5 ... 8	—	1,9	6	9711655
	1/2 NPT	8	Solenoid/solenoid	2600	2,5 ... 8	—	1,9	6	9711665

Housing: Stainless steel, Seals: NBR -40 ... +65°C (-40 ... +149°F) / IEC 61508: -40 ... +40°C (-40 ... +104°F)

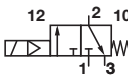
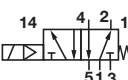
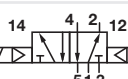
Symbol	Port size	Orifice (mm)	Actuation/return	Flow (l/min)	Operating pressure (bar)	Test certificate IEC 61508	Weight (kg)	Dimension No.	Model *1)
	G1/4	6	Solenoid/spring	1300	2,5 ... 8	x	1,1	1	9713735
	1/4 NPT	6	Solenoid/spring	1300	2,5 ... 8	x	1,1	1	9713745
	G1/2	8	Solenoid/spring	2600	2,5 ... 8	—	1,1	2	9713755
	1/2 NPT	8	Solenoid/spring	2600	2,5 ... 8	—	1,1	2	9713765
	G1/4	6	Solenoid/spring	1300	2,5 ... 8	x	1,8	3	9710735
	1/4 NPT	6	Solenoid/spring	1300	2,5 ... 8	x	1,8	3	9710745
	G1/2	8	Solenoid/spring	2600	2,5 ... 8	—	1,8	4	9710755
	1/2 NPT	8	Solenoid/spring	2600	2,5 ... 8	—	1,8	4	9710765
	G1/4	6	Solenoid/solenoid	1300	2,5 ... 8	—	1,8	5	9711735
	1/4 NPT	6	Solenoid/solenoid	1300	2,5 ... 8	—	1,8	5	9711745
	G1/2	8	Solenoid/solenoid	2600	2,5 ... 8	—	1,9	6	9711755
	1/2 NPT	8	Solenoid/solenoid	2600	2,5 ... 8	—	1,9	6	9711765

*1) When ordering please indicate solenoid, voltage and current type (frequency)

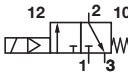
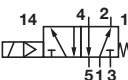
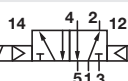
**Housing: Aluminium anodized, Seals: HNBR -25 ... +80°C (-13 ... +176°F) /
IEC 61508: -25 ... +65°C (-13 ... +149°F) or 0 ... +80°C (0 ... +176°F)**

Symbol	Port size	Orifice (mm)	Actuation/return	Flow (l/min)	Operating pressure (bar)	Test certificate IEC 61508	Weight (kg)	Dimension No.	Model *1)
	G1/4	6	Solenoid/spring	1300	2,5 ... 8	x	0,5	1	9713235
	1/4 NPT	6	Solenoid/spring	1300	2,5 ... 8	x	0,5	1	9713245
	G1/2	8	Solenoid/spring	2600	2,5 ... 8	x	0,5	2	9713255
	1/2 NPT	8	Solenoid/spring	2600	2,5 ... 8	x	0,5	2	9713265
	G1/4	6	Solenoid/spring	1300	2,5 ... 8	x	0,7	3	9710235
	1/4 NPT	6	Solenoid/spring	1300	2,5 ... 8	x	0,7	3	9710245
	G1/2	8	Solenoid/spring	2600	2,5 ... 8	x	0,7	4	9710255
	1/2 NPT	8	Solenoid/spring	2600	2,5 ... 8	x	0,7	4	9710265
	G1/4	6	Solenoid/solenoid	1300	2,5 ... 8	—	0,7	5	9711235
	1/4 NPT	6	Solenoid/solenoid	1300	2,5 ... 8	—	0,7	5	9711245
	G1/2	8	Solenoid/solenoid	2600	2,5 ... 8	—	0,8	6	9711255
	1/2 NPT	8	Solenoid/solenoid	2600	2,5 ... 8	—	0,8	6	9711265
	G1/4	6	Solenoid/solenoid	950	2,5 ... 8	—	0,7	7	9712235
	1/4 NPT	6	Solenoid/solenoid	950	2,5 ... 8	—	0,7	7	9712245

**Housing: Brass, Seals: HNBR -25 ... +80°C (-13 ... +176°F) /
IEC 61508: -25 ... +65°C (-13 ... +149°F) or 0 ... +80°C (0 ... +176°F)**

Symbol	Port size	Orifice (mm)	Actuation/return	Flow (l/min)	Operating pressure (bar)	Test certificate IEC 61508	Weight (kg)	Dimension No.	Model *1)
	G1/4	6	Solenoid/spring	1300	2,5 ... 8	x	1	1	9713335
	1/4 NPT	6	Solenoid/spring	1300	2,5 ... 8	x	1	1	9713345
	G1/2	8	Solenoid/spring	2600	2,5 ... 8	x	1	2	9713355
	1/2 NPT	8	Solenoid/spring	2600	2,5 ... 8	x	1	2	9713365
	G1/4	6	Solenoid/spring	1300	2,5 ... 8	x	1,7	3	9710335
	1/4 NPT	6	Solenoid/spring	1300	2,5 ... 8	x	1,7	3	9710345
	G1/2	8	Solenoid/spring	2600	2,5 ... 8	x	1,7	4	9710355
	1/2 NPT	8	Solenoid/spring	2600	2,5 ... 8	x	1,7	4	9710365
	G1/4	6	Solenoid/solenoid	1300	2,5 ... 8	—	1,7	5	9711335
	1/4 NPT	6	Solenoid/solenoid	1300	2,5 ... 8	—	1,7	5	9711345

**Housing: Stainless steel, Seals: HNBR -25 ... +80°C (-13 ... +176°F) /
IEC 61508: -25 ... +65°C (-13 ... +149°F) or 0 ... +80°C (0 ... +176°F)**

Symbol	Port size	Orifice (mm)	Actuation/return	Flow (l/min)	Operating pressure (bar)	Test certificate IEC 61508	Weight (kg)	Dimension No.	Model *1)
	G1/4	6	Solenoid/spring	1300	2,5 ... 8	x	1,1	1	9713435
	1/4 NPT	6	Solenoid/spring	1300	2,5 ... 8	x	1,1	1	9713445
	G1/2	8	Solenoid/spring	2600	2,5 ... 8	x	1,1	2	9713455
	1/2 NPT	8	Solenoid/spring	2600	2,5 ... 8	x	1,1	2	9713465
	G1/4	6	Solenoid/spring	1300	2,5 ... 8	x	1,8	3	9710435
	1/4 NPT	6	Solenoid/spring	1300	2,5 ... 8	x	1,8	3	9710445
	G1/2	8	Solenoid/spring	2600	2,5 ... 8	x	1,8	4	9710455
	1/2 NPT	8	Solenoid/spring	2600	2,5 ... 8	x	1,8	4	9710465
	G1/4	6	Solenoid/solenoid	1300	2,5 ... 8	—	1,8	5	9711435
	1/4 NPT	6	Solenoid/solenoid	1300	2,5 ... 8	—	1,8	5	9711445

*1) When ordering please indicate solenoid, voltage and current type (frequency)

Solenoids, standard voltages

	Power consumption		Rated current		Protection class IP/NEMA	Ex-Protection (ATEX-Category)	Temperature Ambient/ Media (°C)	Electrical connection	Weight (kg)	Drawing No.	Circuit diagram No.	Model
	24 V d.c. (W)	230 V a.c. (VA)	24 V d.c. (m A)	230 V a.c. (m A)								
	1,9	2,1 *2)	78	11	IP65 (with connector)	—	-25 ... +60	Connector DIN EN 175301-803, form A *1)	0,3	3	1/5	0763
	3,6	—	150	—	IP66	II 2 G Ex mb IIC T4 Gb II 2 D Ex mb IIIC T110°C Db	-20 ... +70	Cable length 3 m	0,4	5	4	0298
	—	4,6	—	18	IP66	II 2 G Ex mb IIC T4 Gb II 2 D Ex mb IIIC T110°C Db	-20 ... +70	Cable length 3 m	0,4	5	4	0299
	0,8	—	38	—	IP66 (with cable gland)	II 2 G Ex mb IIC T5/T6 Gb II 2 D Ex tb IIIC T130°C Db IP66	T5: -40 ... +80 T6: -40 ... +70 -40 ... +80	M20 x 1,5 *1)	0,6	6	4	4200
	—	1,3	—	6	IP66 (with cable gland)	II 2 G Ex mb IIC T5/T6 Gb II 2 D Ex tb IIIC T130°C Db IP66	T5: -40 ... +80 T6: -40 ... +70 -40 ... +80	M20 x 1,5 *1)	0,6	6	7	4201
	0,8	—	33	—	IP66 (with cable gland)	II 2 G Ex d mb IIC T5/T6 Gb II 2 G Ex e mb IIC T5/T6 Gb II 2 D Ex tb IIIC T130°C Db	T5: -40 ... +80 T6: -40 ... +70 -40 ... +80	1/2 NPT *1)	0,8	7	20	4600
	—	1,3	—	6	IP66 (with cable gland)	II 2 G Ex d mb IIC T5/T6 Gb II 2 G Ex e mb IIC T5/T6 Gb II 2 D Ex tb IIIC T130°C Db	T5: -40 ... +80 T6: -40 ... +70 -40 ... +80	1/2 NPT *1)	0,8	7	21	4601
	0,8	—	33	—	IP66 (with cable gland)	II 2 G Ex d mb IIC T5/T6 Gb II 2 G Ex e mb IIC T5/T6 Gb II 2 D Ex tb IIIC T130°C Db	T5: -40 ... +80 T6: -40 ... +70 -40 ... +80	M20 x 1,5 *1)	0,8	7	20	4602
	—	1,3	—	6	IP66 (with cable gland)	III 2 G Ex d mb IIC T5/T6 Gb II 2 G Ex e mb IIC T5/T6 Gb II 2 D Ex tb IIIC T130°C Db	T5: -40 ... +80 T6: -40 ... +70 -40 ... +80	M20 x 1,5 *1)	0,8	7	21	4603
	0,8	—	33	—	IP66 (with cable gland)	II 2 G Ex mb d IIC T4/T6 Gb II 2 G Ex mb e II T4/T6 Gb	T4: -40 ... +80 T6: -40 ... +70	M20 x 1,5 *1)	1,2	10	4	4802
	—	1,3	—	6	IP66 (with cable gland)	II 2 G Ex mb d IIC T4/T6 Gb II 2 G Ex mb e II T4/T6 Gb	T4: -40 ... +50 T6: -40 ... +40	M20 x 1,5 *1)	1,2	10	7	4803
	5,5	—	228	—	NEMA 4, 4X, 6, 6P, 7, 9	XP/DIP, Div. 1 & 2 Cl. I, Gr. A-D Cl. II/III, Gr. E-G T3 (160°C)	-20 ... +60	Flying leads 450 mm long	0,4	8	1	3720

Standard voltages (±10%) 24 V d.c., 230 V a.c., other voltages on request. Design according to VDE 0580, EN 50014/50028. 100% duty cycle.

*1) Connector/cable gland is not scope of delivery, see table »Accessories«

*2) Required connector: type 0570275 for d.c.; type 0663303 for a.c., 200 V d.c. solenoid voltage must be ordered!


Attention: The protection class for coil series 46xx and 48xx is determined by the choice of cable gland.

Example: if an ATEX-certified cable gland is used that has Ex d type of protection, the solenoid will have the protection class Ex d mb; if a cable gland with Ex e type of protection is used, the solenoid will have protection class Ex e mb.

Approvals

Model	Approvals ATEX	IECEX	FM	Datasheet
029x	KEMA 02 ATEX 1347 X	IECEX DEK 13.0014X	—	N/en 7.1.505
372x, 382x	—	—	CSA-LR 57643-6	N/en 7.1.575
42xx	KEMA 98 ATEX 4452 X	IECEX KEM 09.0068X	—	N/en 7.1.580
46xx	PTB 02 ATEX 2085 X	IECEX PTB 11.0094X	—	N/en 7.1.585
48xx	PTB 06 ATEX 2054 X	IECEX PTB 07.0039X	—	N/en 7.1.590

Solenoid actuators for intrinsically-safe circuits

	Nominal resistance RN coil (Ω)	Min. required switching current (mA)	Resistance Rw 60 coil (Ω)	Required voltage at terminal Rw 60 (V)	IP Protection class	Ex-Protection (ATEX-Category)	Temperature Ambient/Media (°C)	Weight (kg)	Drawing No.	Circuit diagram No.	Model
	200	33	240	8	IP66 (with cable gland)	II 2 G Ex ia IIC T4/T6 Gb II 2 D Ex ia IIC T80°C Db II 2 D Ex ia IIC T100°C Db	T4: -40 ... +80 T6: -40 ... +60 -40 ... +60 -40 ... +80	0,85	17	10	2050
	391	24	460	11	IP66 (with cable gland)	II 2 G Ex ia IIC T4/T6 Gb II 2 D Ex ia IIC T80°C Db II 2 D Ex ia IIC T100°C Db	T4: -40 ... +80 T6: -40 ... +60 -40 ... +60 -40 ... +80	0,85	17	10	2051
	736	17	880	15	IP66 (with cable gland)	II 2 G Ex ia IIC T4/T6 Gb II 2 D Ex ia IIC T80°C Db II 2 D Ex ia IIC T100°C Db	T4: -40 ... +80 T6: -40 ... +60 -40 ... +60 -40 ... +80	0,85	17	10	2052
	1220	13	1460	19	IP66 (with cable gland)	II 2 G Ex ia IIC T4/T6 Gb II 2 D Ex ia IIC T80°C Db II 2 D Ex ia IIC T100°C Db	T4: -40 ... +80 T6: -40 ... +60 -40 ... +60 -40 ... +80	0,85	17	10	2053

Cable gland (cable Ø 5 ... 10 mm) is in scope of delivery

When selecting an intrinsically safe power supply, the permissible maximum values according to the Certificate of Conformity should be taken into account.

Ui = 45 V, Ii = 500 mA according to Tab. A. 1, EN 60079-11

Pi = 2,0 W, Li and Ci can be ignored.

Approvals

Model	Approvals ATEX	IECEX	Datasheet
205x	PTB 07 ATEX 2019	IECEX PTB 07.0017	N/en 7.1.535

Valves using low-power pilot system (Page 8)

Housing: Aluminium anodized, Seals: NBR -40 ... +65°C (-40 ... +149°F)

Symbol	Port size	Orifice (mm)	Actuation/return	Flow (l/min)	Operating pressure (bar)	Test certificate IEC 61508	Weight (kg)	Dimension No.	Model *1)
	G1/4	6	Solenoid/spring	1300	2,5 ... 8	—	0,5	8	9713539
	1/4 NPT	6	Solenoid/spring	1300	2,5 ... 8	—	0,5	8	9713549
	G1/2	8	Solenoid/spring	2600	2,5 ... 8	—	0,5	9	9713559
	1/2 NPT	8	Solenoid/spring	2600	2,5 ... 8	—	0,5	9	9713569
	G1/4	6	Solenoid/spring	1300	2,5 ... 8	—	0,7	10	9710539
	1/4 NPT	6	Solenoid/spring	1300	2,5 ... 8	—	0,7	10	9710549
	G1/2	8	Solenoid/spring	2600	2,5 ... 8	—	0,7	11	9710559
	1/2 NPT	8	Solenoid/spring	2600	2,5 ... 8	—	0,7	11	9710569
	G1/4	6	Solenoid/solenoid	1300	2,5 ... 8	—	0,7	12	9711539
	1/4 NPT	6	Solenoid/solenoid	1300	2,5 ... 8	—	0,7	12	9711549
	G1/2	8	Solenoid/solenoid	2600	2,5 ... 8	—	0,8	13	9711559
	1/2 NPT	8	Solenoid/solenoid	2600	2,5 ... 8	—	0,8	13	9711569
	G1/4	6	Solenoid/solenoid	950	2,5 ... 8	—	0,7	14	9712539
	1/4 NPT	6	Solenoid/solenoid	950	2,5 ... 8	—	0,7	14	9712549

Housing: Brass, Seals: NBR -40 ... +65°C (-40 ... +149°F)

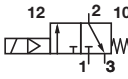
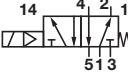
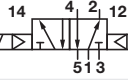
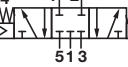
Symbol	Port size	Orifice (mm)	Actuation/return	Flow (l/min)	Operating pressure (bar)	Test certificate IEC 61508	Weight (kg)	Dimension No.	Model *1)
	G1/4	6	Solenoid/spring	1300	2,5 ... 8	—	0,5	8	9713639
	1/4 NPT	6	Solenoid/spring	1300	2,5 ... 8	—	0,5	8	9713649
	G1/2	8	Solenoid/spring	2600	2,5 ... 8	—	0,5	9	9713659
	1/2 NPT	8	Solenoid/spring	2600	2,5 ... 8	—	0,5	9	9713669
	G1/4	6	Solenoid/spring	1300	2,5 ... 8	—	0,7	10	9710639
	1/4 NPT	6	Solenoid/spring	1300	2,5 ... 8	—	0,7	10	9710649
	G1/2	8	Solenoid/spring	2600	2,5 ... 8	—	0,7	11	9710659
	1/2 NPT	8	Solenoid/spring	2600	2,5 ... 8	—	0,7	11	9710669
	G1/4	6	Solenoid/solenoid	1300	2,5 ... 8	—	0,7	12	9711639
	1/4 NPT	6	Solenoid/solenoid	1300	2,5 ... 8	—	0,7	12	9711649

Housing: Stainless steel, Seals: NBR -40 ... +65°C (-40 ... +149°F)

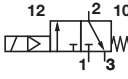
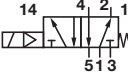
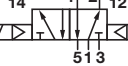
Symbol	Port size	Orifice (mm)	Actuation/return	Flow (l/min)	Operating pressure (bar)	Test certificate IEC 61508	Weight (kg)	Dimension No.	Model *1)
	G1/4	6	Solenoid/spring	1300	2,5 ... 8	—	0,5	8	9713739
	1/4 NPT	6	Solenoid/spring	1300	2,5 ... 8	—	0,5	8	9713749
	G1/2	8	Solenoid/spring	2600	2,5 ... 8	—	0,5	9	9713759
	1/2 NPT	8	Solenoid/spring	2600	2,5 ... 8	—	0,5	9	9713769
	G1/4	6	Solenoid/spring	1300	2,5 ... 8	—	0,7	10	9710739
	1/4 NPT	6	Solenoid/spring	1300	2,5 ... 8	—	0,7	10	9710749
	G1/2	8	Solenoid/spring	2600	2,5 ... 8	—	0,7	11	9710759
	1/2 NPT	8	Solenoid/spring	2600	2,5 ... 8	—	0,7	11	9710769
	G1/4	6	Solenoid/solenoid	1300	2,5 ... 8	—	0,7	12	9711739
	1/4 NPT	6	Solenoid/solenoid	1300	2,5 ... 8	—	0,7	12	9711749

*1) When ordering please indicate solenoid, voltage and current type (frequency)

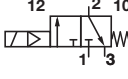
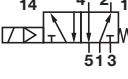
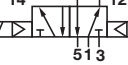
Housing: Aluminium anodized, Seals: HNBR -25 ... +80°C (-13 ... +176°F)

Symbol	Port size	Orifice (mm)	Actuation/return	Flow (l/min)	Operating pressure (bar)	Test certificate IEC 61508	Weight (kg)	Dimension No.	Model *1)
	G1/4	6	Solenoid/spring	1300	2,5 ... 8	—	0,5	8	9713239
	1/4 NPT	6	Solenoid/spring	1300	2,5 ... 8	—	0,5	8	9713249
	G1/2	8	Solenoid/spring	2600	2,5 ... 8	—	0,5	9	9713259
	1/2 NPT	8	Solenoid/spring	2600	2,5 ... 8	—	0,5	9	9713269
	G1/4	6	Solenoid/spring	1300	2,5 ... 8	—	0,7	10	9710239
	1/4 NPT	6	Solenoid/spring	1300	2,5 ... 8	—	0,7	10	9710249
	G1/2	8	Solenoid/spring	2600	2,5 ... 8	—	0,7	11	9710259
	1/2 NPT	8	Solenoid/spring	2600	2,5 ... 8	—	0,7	11	9710269
	G1/4	6	Solenoid/solenoid	1300	2,5 ... 8	—	0,7	12	9711239
	1/4 NPT	6	Solenoid/solenoid	1300	2,5 ... 8	—	0,7	12	9711249
	G1/4	6	Solenoid/solenoid	950	2,5 ... 8	—	0,7	14	9712239
	1/4 NPT	6	Solenoid/solenoid	950	2,5 ... 8	—	0,7	14	9712249

Housing: Brass, Seals: HNBR -25 ... +80°C (-13 ... +176°F)


Symbol	Port size	Orifice (mm)	Actuation/return	Flow (l/min)	Operating pressure (bar)	Test certificate IEC 61508	Weight (kg)	Dimension No.	Model *1)
	G1/4	6	Solenoid/spring	1300	2,5 ... 8	—	0,5	8	9713339
	1/4 NPT	6	Solenoid/spring	1300	2,5 ... 8	—	0,5	8	9713349
	G1/2	8	Solenoid/spring	2600	2,5 ... 8	—	0,5	9	9713359
	1/2 NPT	8	Solenoid/spring	2600	2,5 ... 8	—	0,5	9	9713369
	G1/4	6	Solenoid/spring	1300	2,5 ... 8	—	0,7	10	9710339
	1/4 NPT	6	Solenoid/spring	1300	2,5 ... 8	—	0,7	10	9710349
	G1/2	8	Solenoid/spring	2600	2,5 ... 8	—	0,7	11	9710359
	1/2 NPT	8	Solenoid/spring	2600	2,5 ... 8	—	0,7	11	9710369
	G1/4	6	Solenoid/solenoid	1300	2,5 ... 8	—	0,7	12	9711339
	1/4 NPT	6	Solenoid/solenoid	1300	2,5 ... 8	—	0,7	12	9711349

Housing: Stainless steel, Seals: HNBR -25 ... +80°C (-13 ... +176°F)

Symbol	Port size	Orifice (mm)	Actuation/return	Flow (l/min)	Operating pressure (bar)	Test certificate IEC 61508	Weight (kg)	Dimension No.	Model *1)
	G1/4	6	Solenoid/spring	1300	2,5 ... 8	—	0,5	8	9713739
	1/4 NPT	6	Solenoid/spring	1300	2,5 ... 8	—	0,5	8	9713749
	G1/2	8	Solenoid/spring	2600	2,5 ... 8	—	0,5	9	9713759
	1/2 NPT	8	Solenoid/spring	2600	2,5 ... 8	—	0,5	9	9713769
	G1/4	6	Solenoid/spring	1300	2,5 ... 8	—	0,7	10	9710739
	1/4 NPT	6	Solenoid/spring	1300	2,5 ... 8	—	0,7	10	9710749
	G1/2	8	Solenoid/spring	2600	2,5 ... 8	—	0,7	11	9710759
	1/2 NPT	8	Solenoid/spring	2600	2,5 ... 8	—	0,7	11	9710769
	G1/4	6	Solenoid/solenoid	1300	2,5 ... 8	—	0,7	12	9711739
	1/4 NPT	6	Solenoid/solenoid	1300	2,5 ... 8	—	0,7	12	9711749

*1) When ordering please indicate solenoid, voltage and current type (frequency)

Low-power pilot system in protection class II 2 G Ex ia IIC T4/T6
Suitable for valves see page 6 and 7

	Power P (mW)	Switch-on voltage U on (V)	Switch-off voltage U off (V)	Rated current I on (mA)	Resistance coil R (Ω)	IP Protection class	Ex-Protection (ATEX-Category)	Temperature Ambient/Media (°C)	Circuit diagram No.	Model
	6,3 (+20°C)	≥ 4,3 (+20°C) ≥ 5,2 (+80°C)	≤ 1,44 (+20°C) ≤ 1,2 (-25°C)	≥ 1,45	2800	IP65 (with cable gland)	II 2 G Ex ia IIC T4/T6	T4: -40 ... +80°C T6: -40 ... +60°C	11	2085
	23,2 (+20°C)	≥ 16 (+20°C) ≥ 16,8 (+80°C)	≤ 5,4 (+20°C) ≤ 4,7 (-25°C)	≥ 1,45	10900	IP65 (with cable gland)	II 2 G Ex ia IIC T4/T6	T4: -40 ... +80°C T6: -40 ... +60°C	11	2086

Cable gland (cable Ø 5 ... 10 mm) is in scope of delivery

Approvals

Typ	Approvals ATEX	Datasheet
208x	PTB 06 ATEX 2001U	N/en 7.1.540

Ordering example

9802509	2085	005	00
Valve	Pilot 6,3 mW	Electrical connection	00 internal air supply
Valve	Pilot 6,3 mW	005 M16 x 1,5 cable gland	0Z external air supply

Max. values Ex i

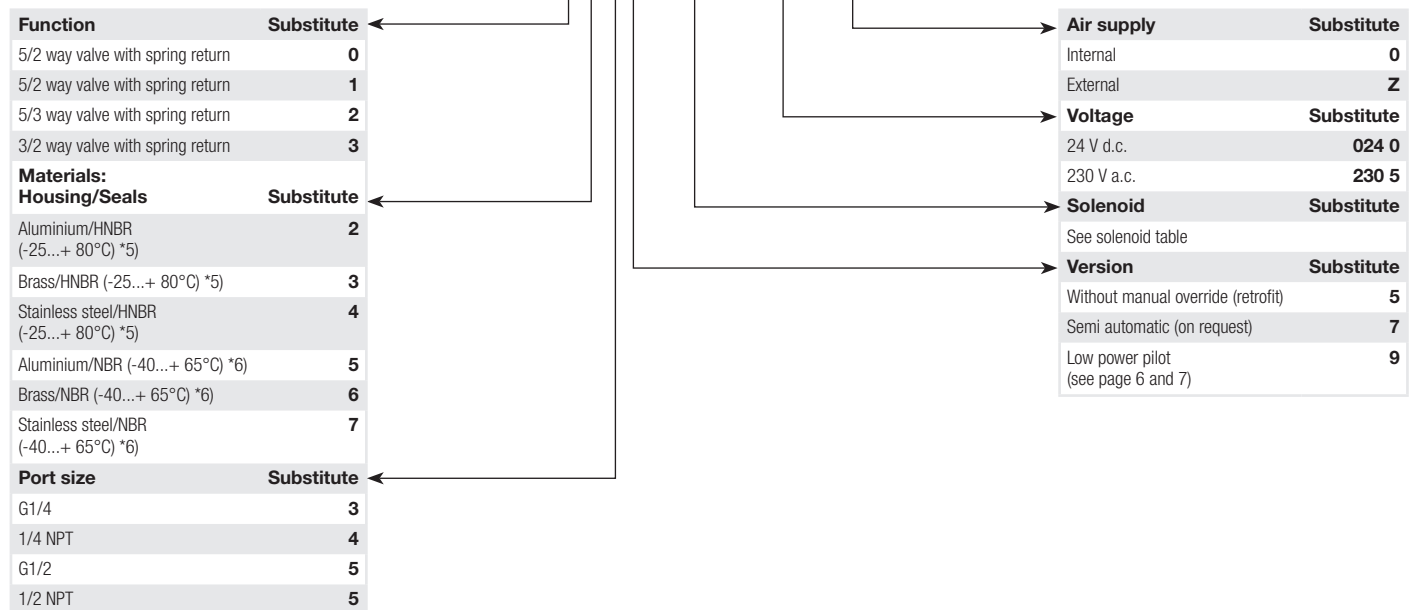
Ui (V)	Ii (mA)	Pi *1) (mW)
25	150	250
27	125	250
28	115	250
30	100	250
32	85	250

Air consumption: home position ≤ 60 l/h,
operating position ≤ 15 l/h

*1) Model 2086 without Pi limiting. Ci and Li can be ignored.

Option selector

971★★★★★★★★★★

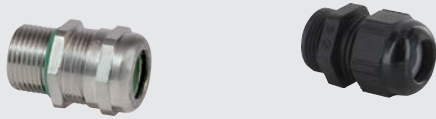


*5) IEC 61508: -25...+65°C or 0...+80°C
*6) IEC 61508: -40 ... +40°C

Accessories

Electrical connection

Cable gland
Protection class
Ex e, Ex d



Page 17

Thread	Cable Ø (mm)	Materials	Protection class (ATEX)	Model
M20 x 1,5	5 ... 8	Nickel plated brass	II 2 GD Ex e	0588819
M20 x 1,5	10 ... 14	Nickel plated brass	II 2 GD Ex d	0588851
1/2 NPT	7,5 ... 11,9	Nickel plated brass	II 2 GD Ex d	0588925
M20 x 1,5	9 ... 13	Stainless steel 1.4571 (316 Ti)	II 2 GD Ex e	0589385
M20 x 1,5	7 ... 12	Stainless steel 1.4404 (316 L)	II 2 GD Ex d	0589395
M20 x 1,5	10 ... 14	Stainless steel 1.4404 (316 L)	II 2 GD Ex d	0589387
M20 x 1,5	5 ... 9	Plastic (PA)	—	0110854
M20 x 1,5	6 ... 12	Plastic (PA)	—	0110855

Connector
DIN EN 175301-803



0570275 (form A)

0663303 (with rectifier)

Valve

Adaptor complete
(Adaptor, inlet filter and seal ring)



Page 18

0613487 (G1/4)

Inlet filter



Page 18

0681173 (G1/4, 1/4 NPT)

Silencer (plastic) *1)



Page 18

M/S2 (G1/4)

C/S2 (1/4 NPT)

M/S4 (G1/2)

C/S4 (1/2 NPT)

Silencer (stainless steel) *1)



Page 18

0014613 (G 1/4)

0613678 (1/4 NPT)

0014813 (G 1/2)

0613679 (1/2 NPT)

Silencer (brass) *1)



Page 18

T40C2800 (G 1/4)

MS002A (1/4 NPT)

T40C4800 (G 1/2)

MS004A (1/2 NPT)

Exhaust guard *2)



Page 18

0613422 (G1/4, 1/4 NPT)

0613423 (G1/2, 1/2 NPT)

*1) For indoors use only

*2) For outdoors use, opening pressure ~ 0,2 bar

Manual override
(without detent)



Page 18

0553886

Manual override
(with detent, return at pressure fails)



Page 18

0553887

Manual override
(with detent) *3)



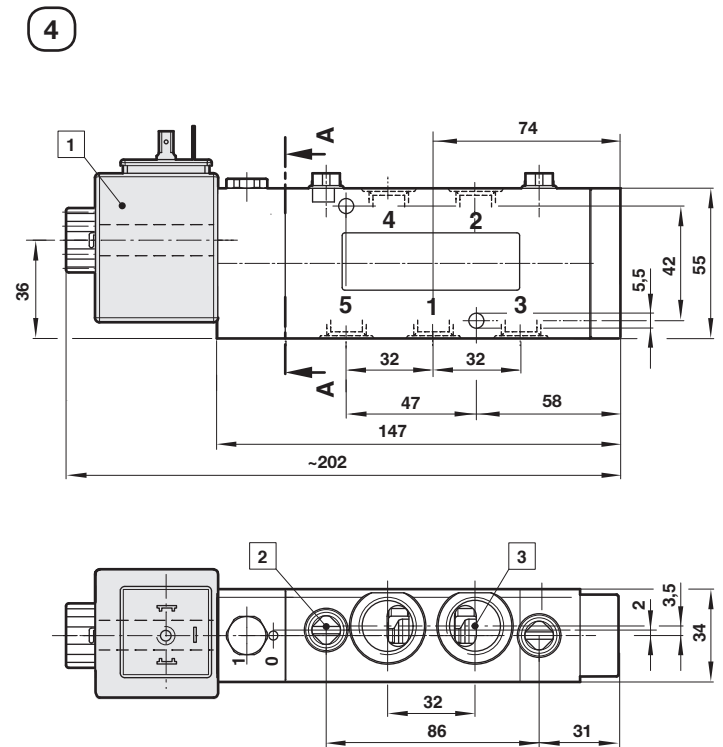
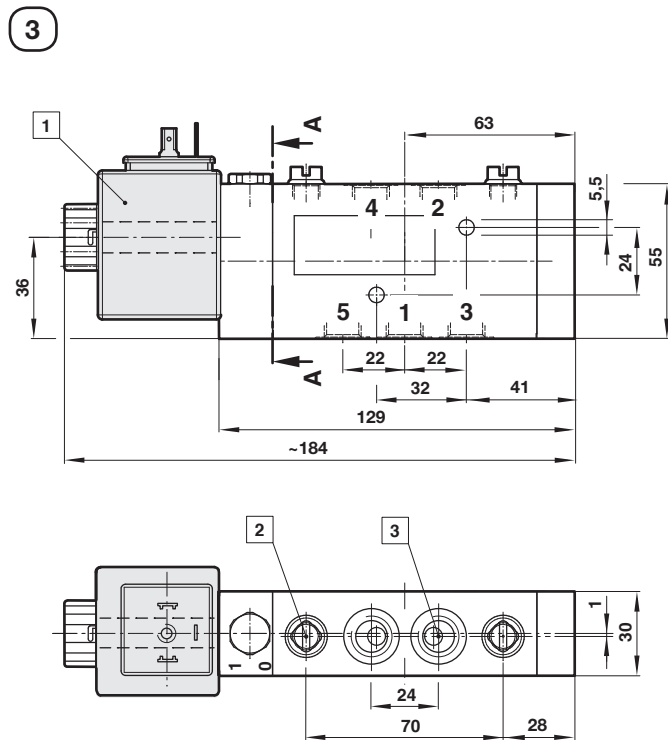
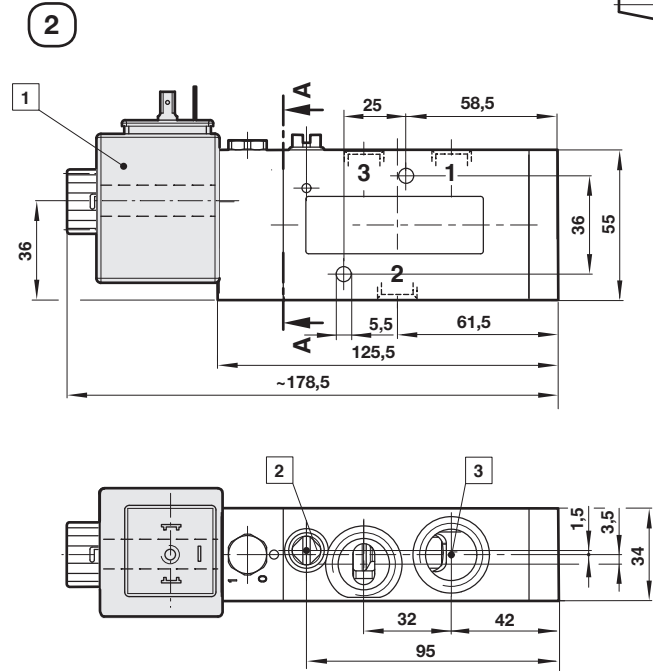
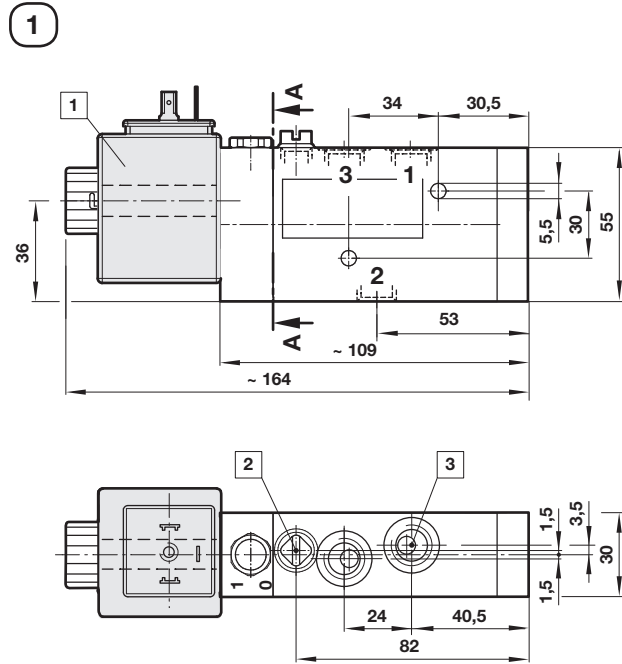
Page 18

0614084

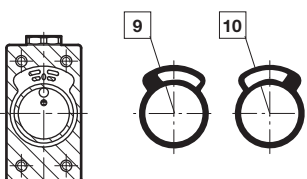
*3) Use function description 75036430

Drawings
Valves

Dimensions in mm
Projection/First angle



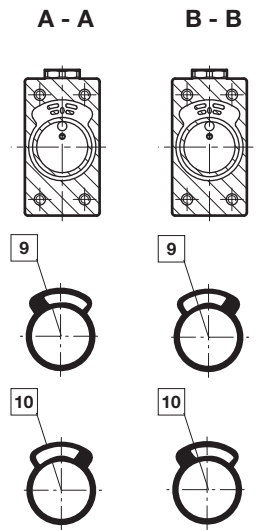
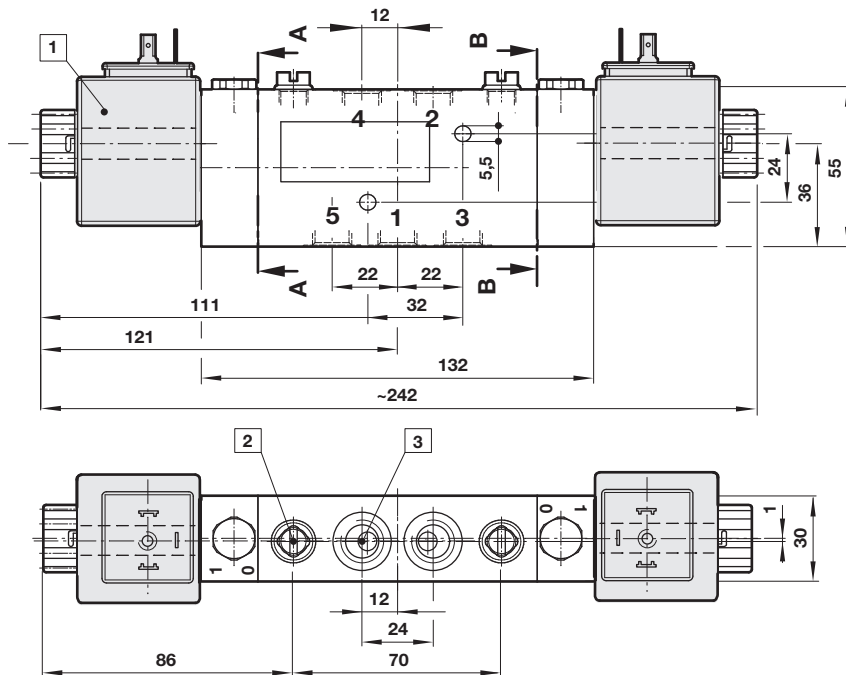
A - A



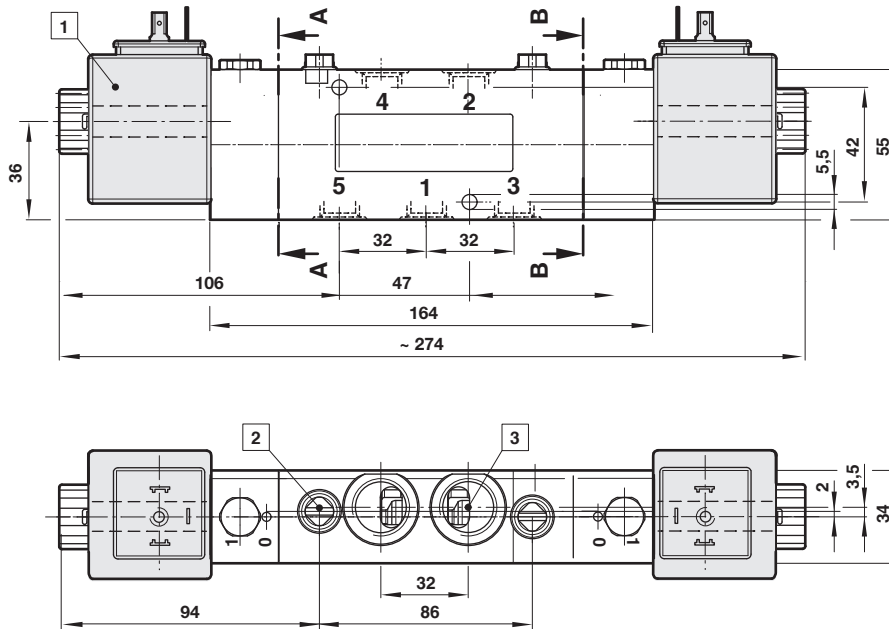
- 1 Solenoid dimensions see page 14
- 2 External control pressure connection G1/8, 1/8 NPT
- 3 Working port G1/4, G1/2 or 1/4 NPT, 1/2 NPT
- 9 Position of gasket internal pilot air
- 10 Position of gasket external pilot air

5

Dimensions in mm
Projection/First angle



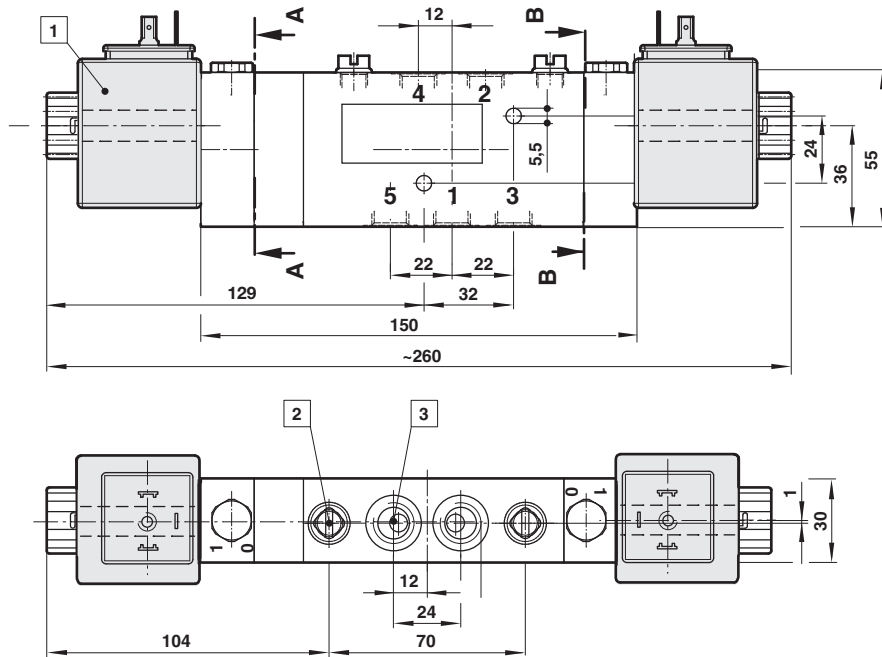
6



- 1 Solenoid dimensions see page 14
- 2 External control pressure connection G1/8, 1/8 NPT
- 3 Working port G1/4, G1/2 or 1/4 NPT, 1/2 NPT
- 9 Position of gasket internal pilot air
- 10 Position of gasket external pilot air

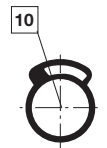
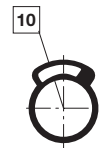
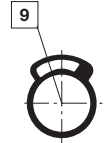
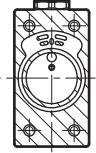
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Dimensions in mm
Projection/First angle



A - A

B - B

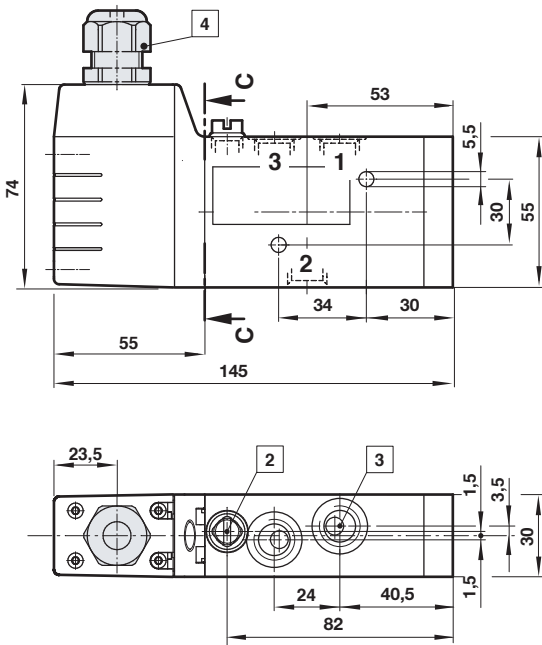


- 1 Solenoid dimensions see page 14
- 2 External control pressure connection G1/8, 1/8 NPT
- 3 Working port G1/4, G1/2 or 1/4 NPT, 1/2 NPT
- 9 Position of gasket internal pilot air
- 10 Position of gasket external pilot air

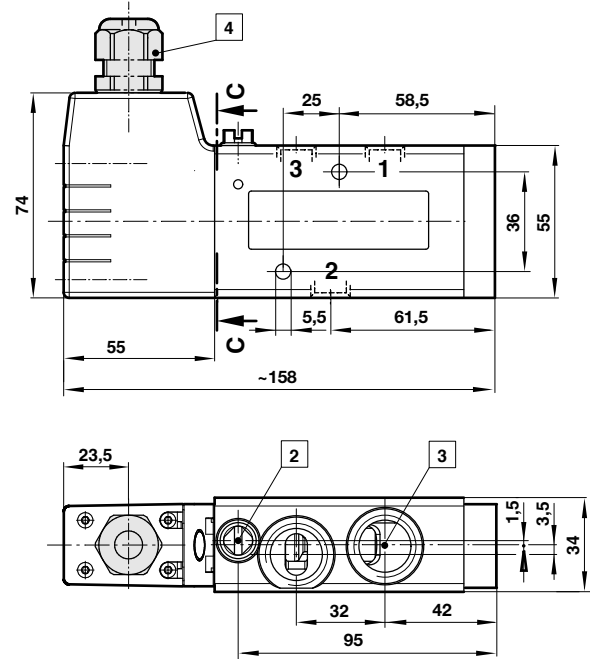
Dimensions in mm
Projection/First angle



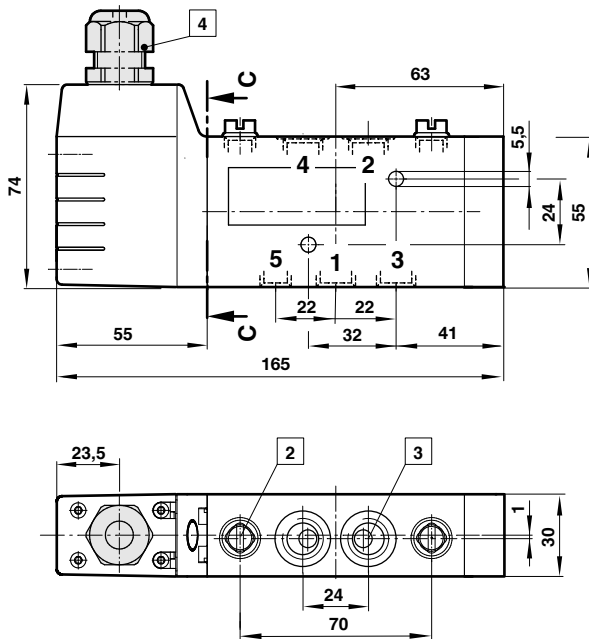
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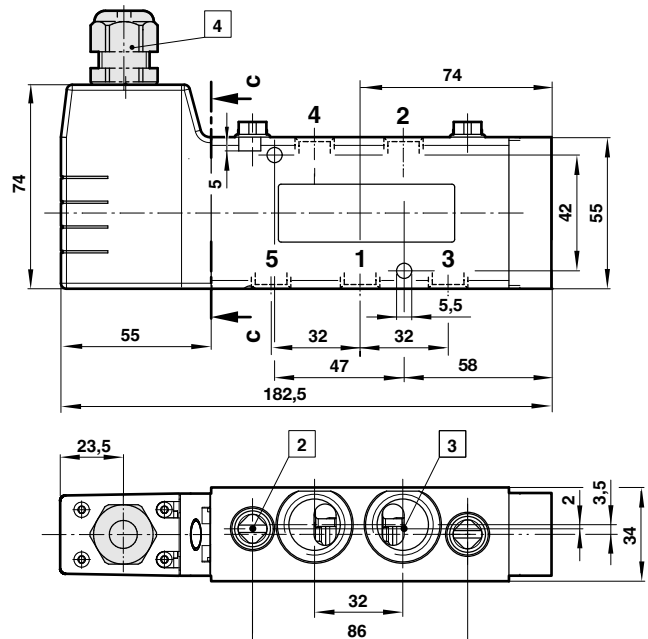
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10

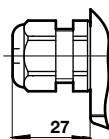
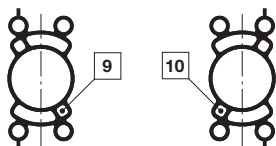
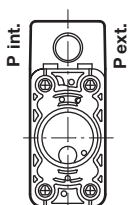


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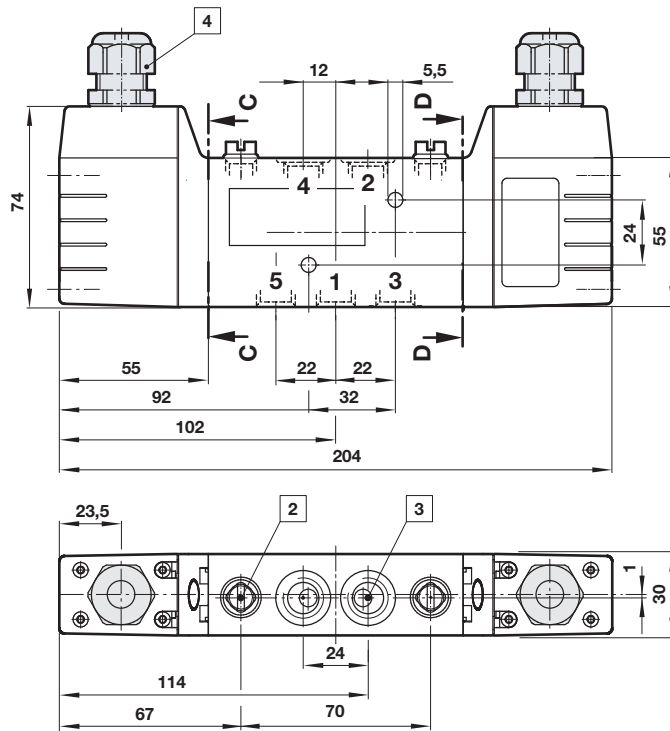
C-C

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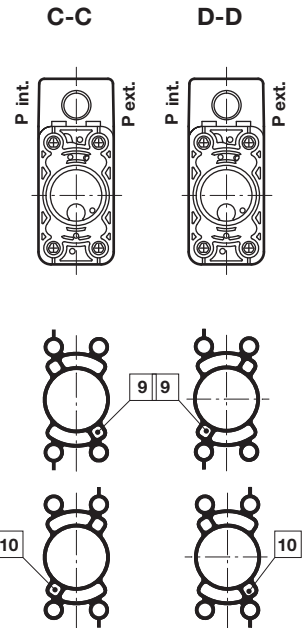


- 1 Solenoid dimensions see page 14
- 2 External control pressure connection G1/8, 1/8 NPT
- 3 Working port G1/4, G1/2 or 1/4 NPT, 1/2 NPT
- 9 Position of gasket internal pilot air
- 10 Position of gasket external pilot air

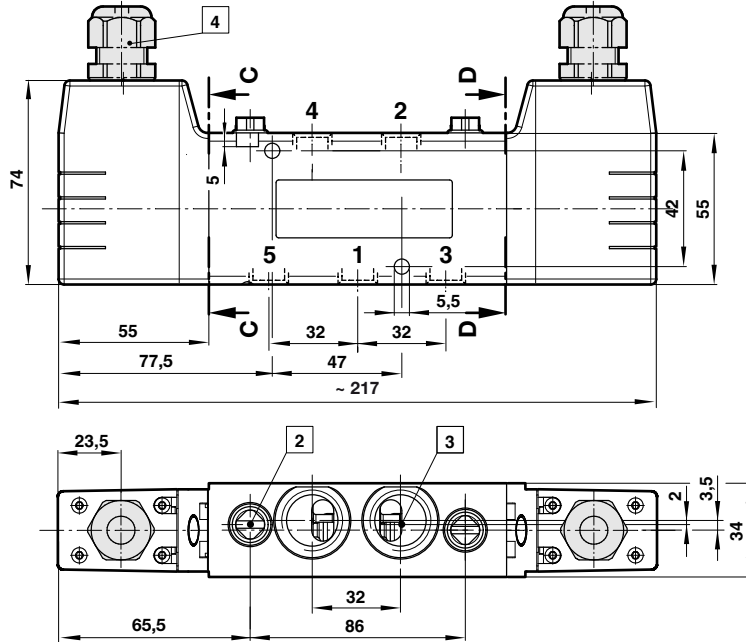
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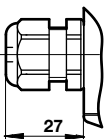
Dimensions in mm
Projection/First angle



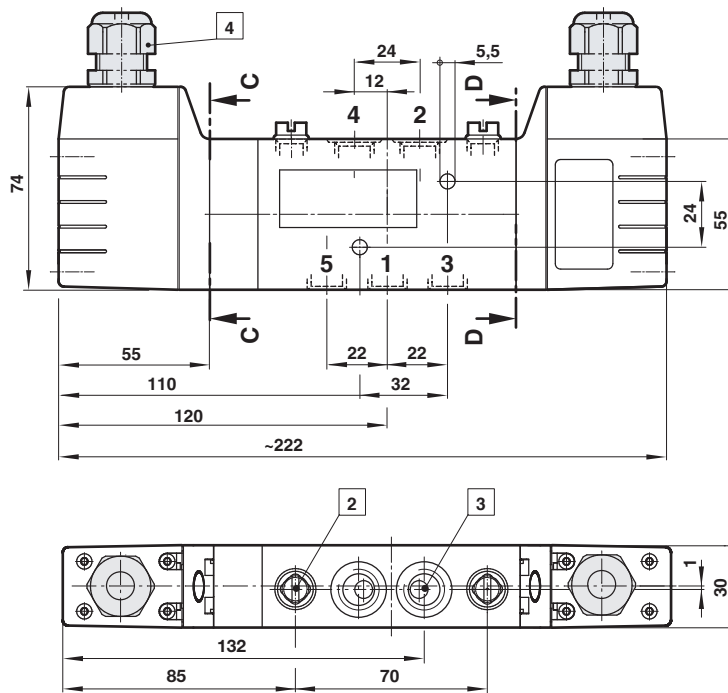
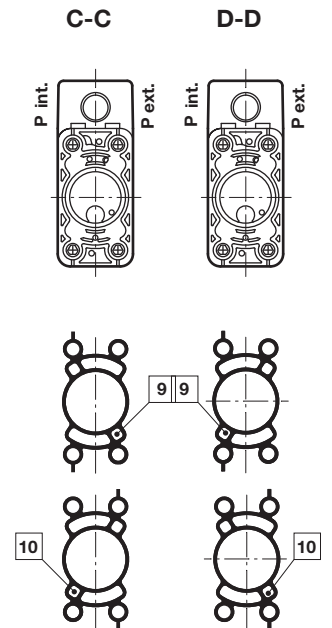
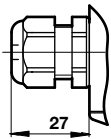
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005



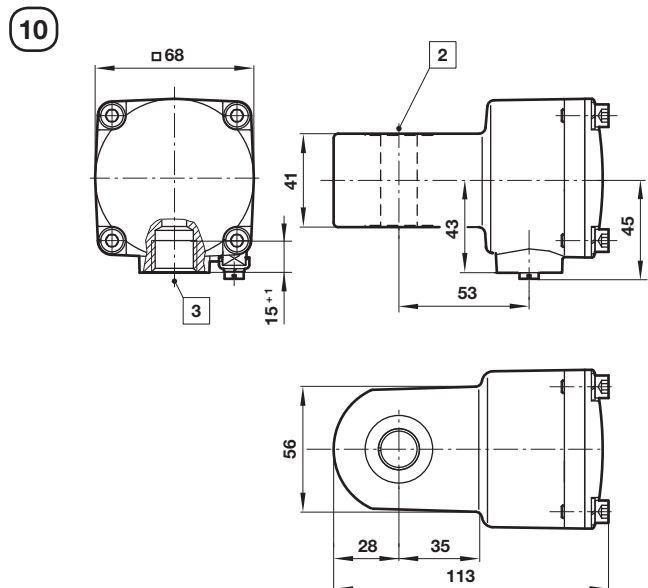
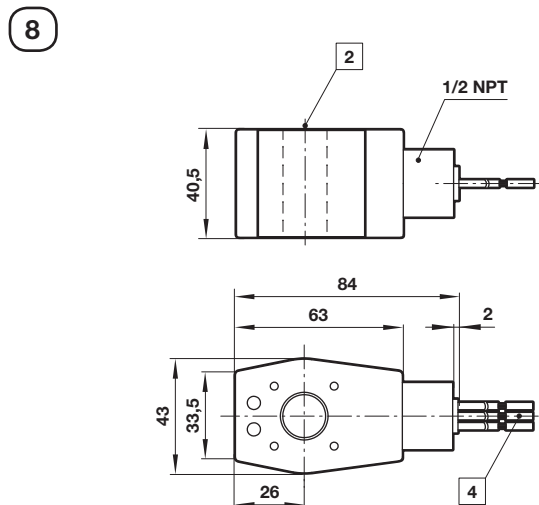
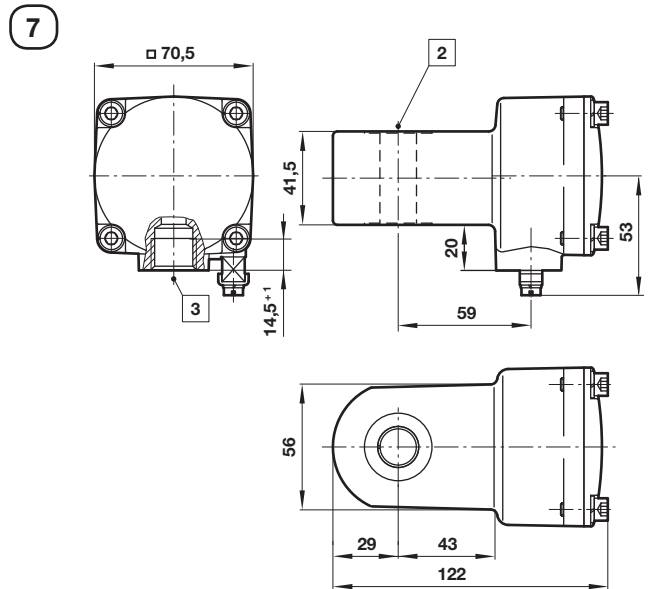
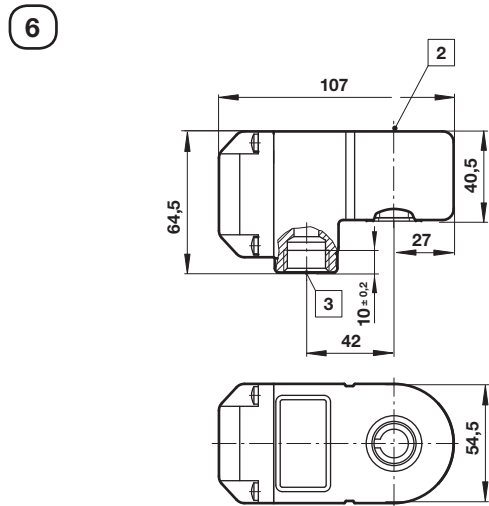
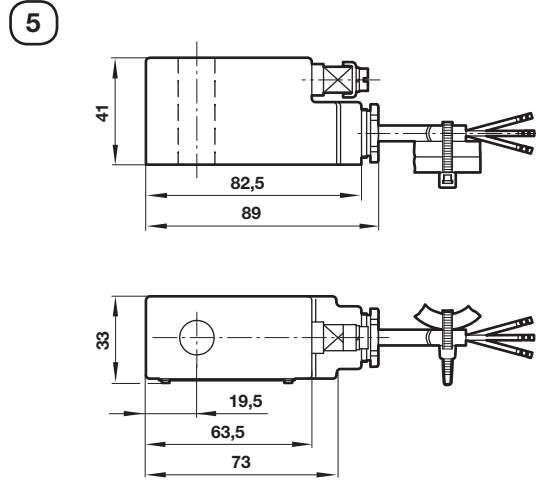
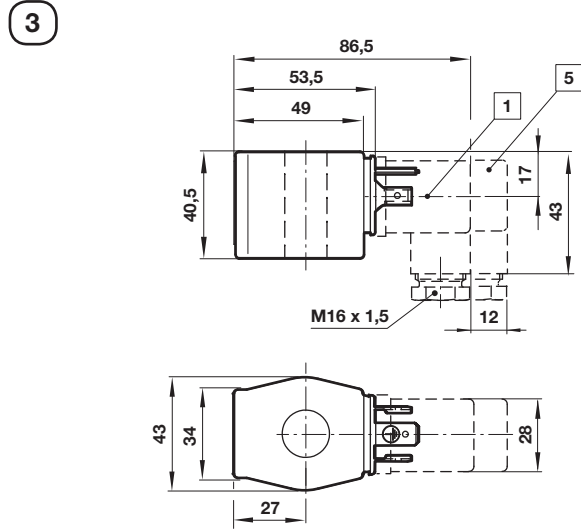
- 1 Solenoid dimensions see page 14
- 2 External control pressure connection G1/8, 1/8 NPT
- 3 Working port G1/4, G1/2 or 1/4 NPT, 1/2 NPT
- 9 Position of gasket internal pilot air
- 10 Position of gasket external pilot air

14

 Dimensions in mm
Projection/First angle

005


- 1** Solenoid dimensions see page 14
- 2** External control pressure connection G1/8, 1/8 NPT
- 3** Working port G1/4, G1/2 or 1/4 NPT, 1/2 NPT
- 9** Position of gasket internal pilot air
- 10** Position of gasket external pilot air

Drawings
Solenoids

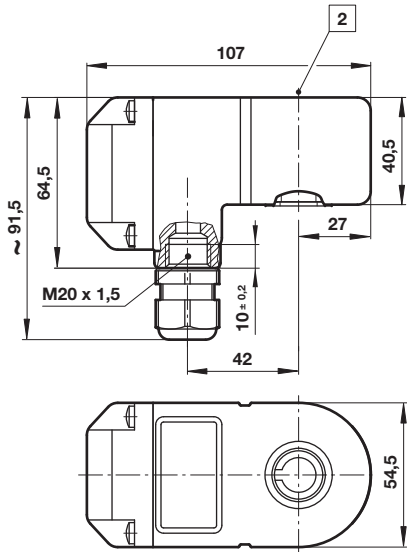
Dimensions in mm
Projection/First angle



- 1** Connector 4 x 90° turnable
- 2** Ø 13 (with spacer tube)
- 3** M20 x 1,5 or 1/2 NPT
- 4** Flying leads 450 mm long
- 5** Connector with rectifier(0663303)

17

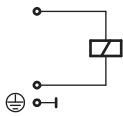
Dimensions in mm
Projection/First angle



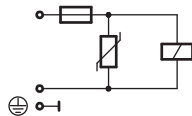
2 Ø 13 (with spacer tube)

Circuit diagrams

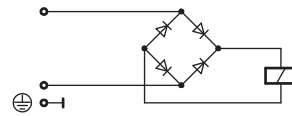
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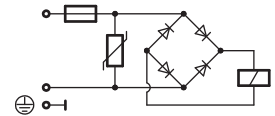
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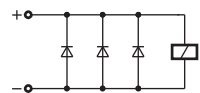
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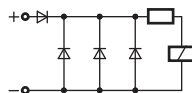
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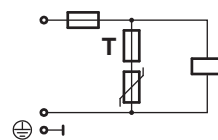
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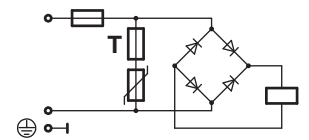
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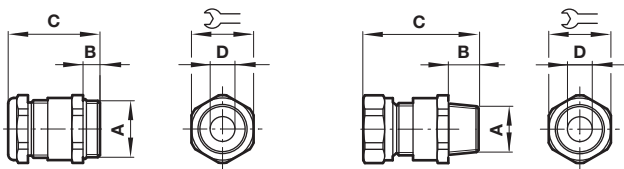
20



21



Cable gland

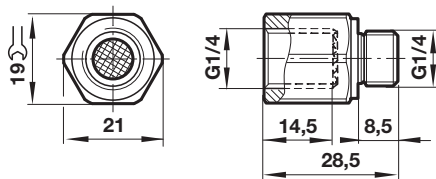


0588925 only

A	B	C	ø D		Model
M20 x 1,5	9	36	5 ... 8	22	0588819
M20 x 1,5	6,5	27,5	9 ... 13	22	0589385
M20 x 1,5	14	39	10 ... 14	24	0588851
1/2 NPT	15	58	7,5 ... 11,9	24	0588925
M20 x 1,5	14	39	7 ... 12	24	0589395
M20 x 1,5	10	34	10 ... 14	24	0589387
M20 x 1,5	9	36	5 ... 9	24	0110854
M20 x 1,5	9	36	6 ... 12	24	0110855

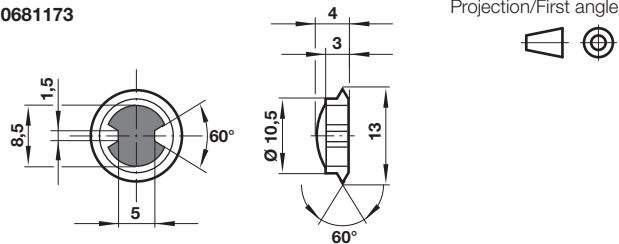
Adaptor complete

Model: 0613487



Inlet filter

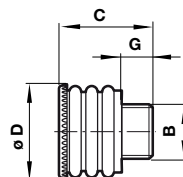
Model: 0681173



Thread pitch diameter max. 11,85 mm

Exhaust guard

Model: 0613422 & 0613423



Silencer (plastic)

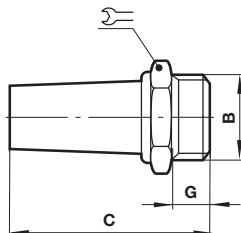
Model: M/S2, M/S4, C/S2 & C/S4



B	G	C	Ø D	Weight (g)	Model
G1/4	7	35,5	15,5	2,9	M/S2
1/4 NPT	7	35,5	15,5	2,9	C/S2
G1/2	12	67	23	11,5	M/S4
1/2 NPT	12	67	23	11,5	C/S4

B	Suitable for	G	C	Ø D	Weight (g)	Model
1/4"	G1/4, 1/4 NPT	10	26,5	21	5	0613422
1/2"	G1/2, 1/2 NPT	12	33,5	29	11	0613423

Silencer (brass or stainless steel)



B	C	G	Symbol	Weight (g)	Model
G1/4	33	8	17	18	T40C2800
1/4 NPT	35	8	9/16	18	MS002A
G1/4	36	8	16	23	0014613 *1)
1/4 NPT	36	8	16	67	0613678 *1)
G1/2	56	12	27	63	T40C4800
1/2 NPT	48	12	7/8	63	MS004A
G1/2	49	12	24	81	0014813 *1)
1/2 NPT	49	12	24	235	0613679 *1)

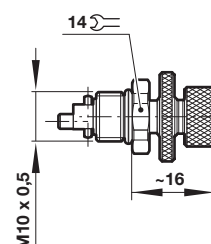
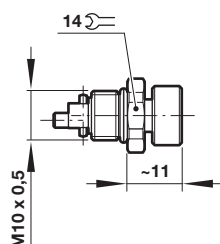
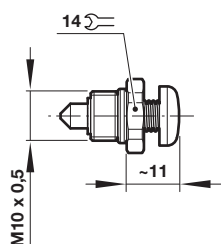
*1) Stainless steel

Manual override

Model: 0553886

Model: 0553887

Model: 0614084



Warning

These products are intended for use in industrial compressed air and fluid systems only. Do not use these products where pressures and temperatures can exceed those listed under »**Technical features/data**«. Before using these products with fluids other than those specified, for non-industrial applications, life-support systems, or other applications not within published specifications, consult NORGREN.

Through misuse, age, or malfunction, components used in fluid power systems can fail in various modes. The system designer is warned to consider the failure modes of all component parts used in fluid power systems and to provide adequate safeguards to prevent personal injury or damage to equipment in the

event of such failure. System designers must provide a warning to end users in the system instructional manual if protection against a failure mode cannot be adequately provided. System designers and end users are cautioned to review specific warnings found in instruction sheets packed and shipped with these products.

Functional safety (SIL): Suitable for certain applications can only be evaluated through examination of each safety-related overall system with regard to the requirements of IEC 61508/61511.