

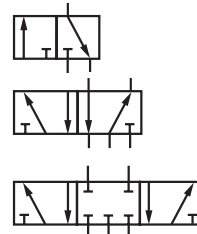
97100 Inline 3/2, 5/2 & 5/3 spool valves electromagnetic actuated, indirectly controlled G 1/4, 1/4 NPT

For single and double operated actuators
Crossover-free switching, switch-over function guaranteed even with small cross section air supply

Manual override with detent standard

The solenoid valves are applicable in the protection class

- Ex m and Ex ia, for zones 1, 2, 21, 22 (gases and dusts) ATEX cat.II 2GD,
- Ex nA, for zones 2, 22 (gases and dusts) ATEX cat.II 3 GD



Approval depends on magnetic system, see page 2!

Technical features

Medium:
Filtered, non-lubricated or dry compressed air

Operation:
Indirectly solenoid operated soft seal valves

Mounting position:
Optional

Flow direction:
Fixed

Orifice:
6 mm

Port size:
G 1/4, 1/4 NPT

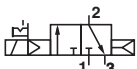

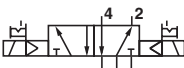
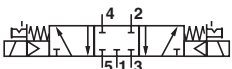
Electrical connection:
See solenoid table

Operating pressure:
2 ... 8 bar

Fluid/Ambient temperature:
Valve: -15 ... +60°C
Depending on solenoid system
Air supply must be dry enough to avoid ice formation at temperatures below +2°C.

Materials:
Housing: Aluminium 3.0615 anodized
Pilot flange: Plastic (PBT)
Seals: NBR (Perbunan)

Technical data

Symbol	Port size	Function	Actuation	Operating pressure (bar)	Flow (l/min)	Weight (kg)	Dimension No.	Model *1)
	G 1/4	3/2	Solenoid/ air spring	2 ... 8	750	0,25	1	9713032
	1/4 NPT	3/2	Solenoid/ air spring	2 ... 8	750	0,25	1	9713042
	G 1/4	5/2	Solenoid/ air spring	2 ... 8	750	0,25	2	9710032
	1/4 NPT	5/2	Solenoid/ air spring	2 ... 8	750	0,25	2	9710042
	G 1/4	5/2	Solenoid/Solenoid	2 ... 8	750	0,35	3	9711032
	1/4 NPT	5/2	Solenoid/Solenoid	2 ... 8	750	0,35	3	9711042
	G 1/4	5/3 APB	Solenoid/Solenoid, APB	2 ... 8	500	0,40	4	9712032
	1/4 NPT	5/3 APB	Solenoid/ Solenoid, APB	2 ... 8	500	0,40	4	9712042

*1) When ordering, please indicate solenoid, voltage and current (frequency).
 Valve function: APB = All Ports Blocked

Solenoid operators

Image	Power consumption		Rated current		Ex-Protection (ATEX-Category)	Protection class *7)	Temperature Ambient/ Fluid [°C]	Weight (kg)	Dimension No.	Circuit diagram No.	Model *1)
	24 V d.c. (W)	230 V a.c. (VA)	24 V d.c. (mA)	230 V a.c. (mA)							
	1,7	-	70	-		IP 65 (with connector DIN EN 175301-803, Form B) *6)	-15 ... +50	0,1	4	1	3050
	0,7	2,0 *2)	29	4		IP 65 (with connector DIN EN 175301-803, Form A) *6)	-15 ... +50	0,1	5	1	3034
	2,7	-	115	-	II2G II2D	Ex mb II T5 Ex tDA21 IP65 T95° with 3 m cable	-20 ... +50	0,3	6	14	3062 *3)
	-	2,1	-	9	II2G II2D	Ex mb II T5 Ex tDA21 IP65 T95° with 3 m cable	-20 ... +50	0,3	6	15	3063 *3)
	2,7	-	115	-	-	IP 66 with connector M12x1 DIN IEC 61076-2-101 *8) with yellow LED	-10 ... +50	0,1	7	17	3071

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

For intrinsically safe circuits, Protection class Ex ia IIC T6/T4 (cat. II 2G) and Ex tD A21 IP65 T80°CT130°C (cat. II2D)

Image	Nominal resistance R _n coil [Ω]	Required switching current min. (mA)	Resistance R _w 50 coil [Ω]	Required voltage at terminal R _w 50 [V]	Temperature Ambient/ Fluid [°C]	Weight (kg)	Dimension No.	Circuit diagram No.	Model *1)
	275	37	345	13,8	T6 -40 ... +50/+70 T4 -40 ... +85/+80	0,83	8	13	3039 *4), *6)

- *2) Valves can be operated with DC only. For 230V AC application please use 206V DC coil together with recifier plug 0663303
- *3) EG-Type-Examination-Certificate PTB 03 ATEX 2015X
- *4) Certificate of Conformity PTB 03 Atex 2134, CSA - Certificate No. LR 51090-4, FM approved.
Required connector acc. to DIN EN 17031-801 form A or ISO 4400. Installation acc. to requirements of FM and CSA.
Connector cable gland not supplied, see table »Accessories«
- *6) Connector not supplied, required connector: type 0680003 Form B, type 0570275 Form A.
- *7) IP-Protection class according to EN60529
- *8) Connector according to DIN IEC 61076-2-101 not supplied

Option selector

971★0★2.★★★.★★★.★0

Function	Substitute	Voltage	Substitute
5/2 way valve with spring return	0	24 V d.c.	024.0
5/2 way impuls	1	230 V a.c.	230.5
5/3 way valve with spring return (APB)	2	Solenoid	Substitute
3/2 way valve with spring return	3	see table	
Port size	Substitute		
6 1/4	3		
1/4 NPT	4		

Accessories

Connectors
DIN EN 175301-803



Connectors
M12 x 1



M12 x 1



Silencer *1)



Page 7

0570275 Form A	0523055 (without cable)	0523056 (90°, without cable)	M/S2 (G1/4)
0663303 Form A (with rectifier)	0523057 (2 m cable)	0523058 (90°, 2 m cable length)	C/S2 (1/4 NPT)
0680003 Form B	0523052 (5 m cable)	0523053 (90°, 5 m cable length)	

Manifold plates



Page 5
2 stations

3 stations

4 stations

6 stations

12 stations

2221102	2221103	2221104	2221106	2221112
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Accessories for manifold plates

Blanking plate



0100563

Blanking plug for
2 station and 3
station manifolds



0701209

Pressure shut-off part
for 4 station up to
20 station manifolds



0100569

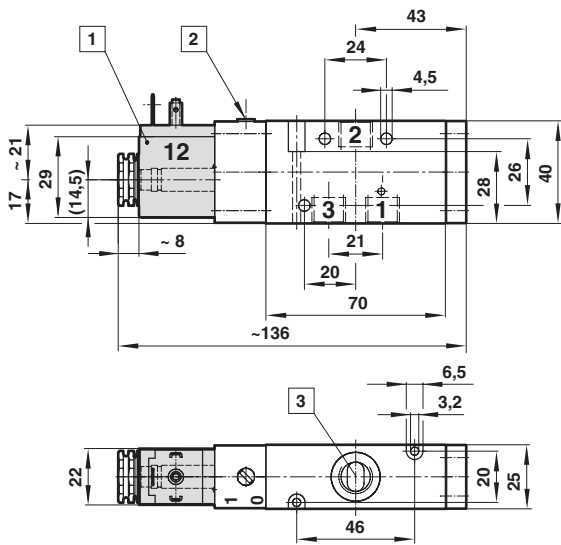
DIN mounting kit



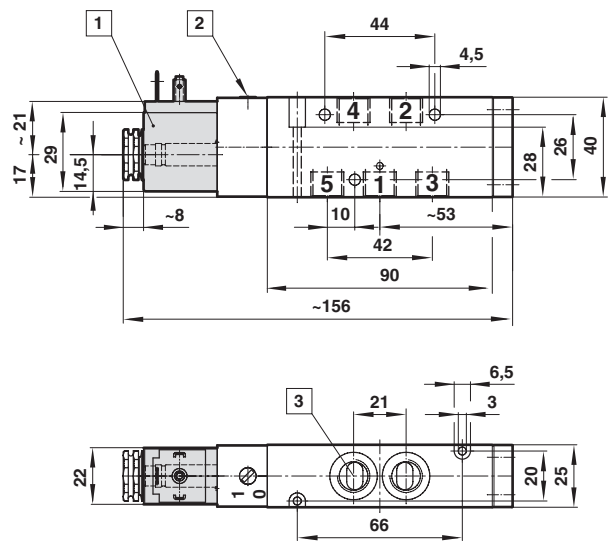
0101796

Dimensions
Valves

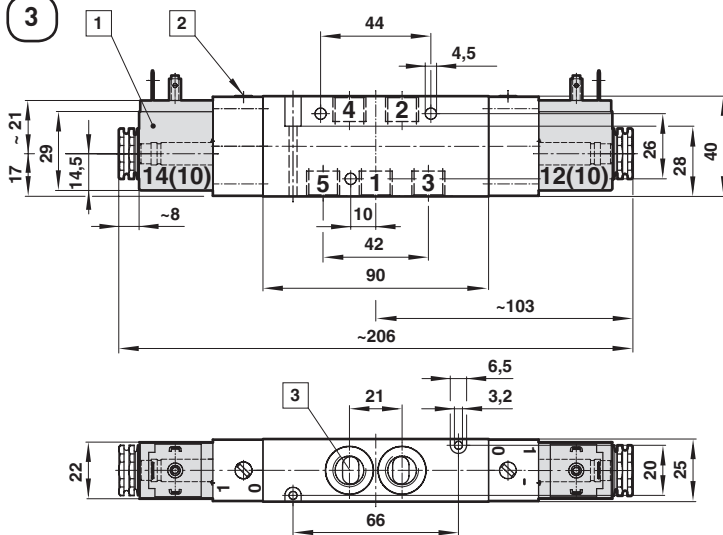
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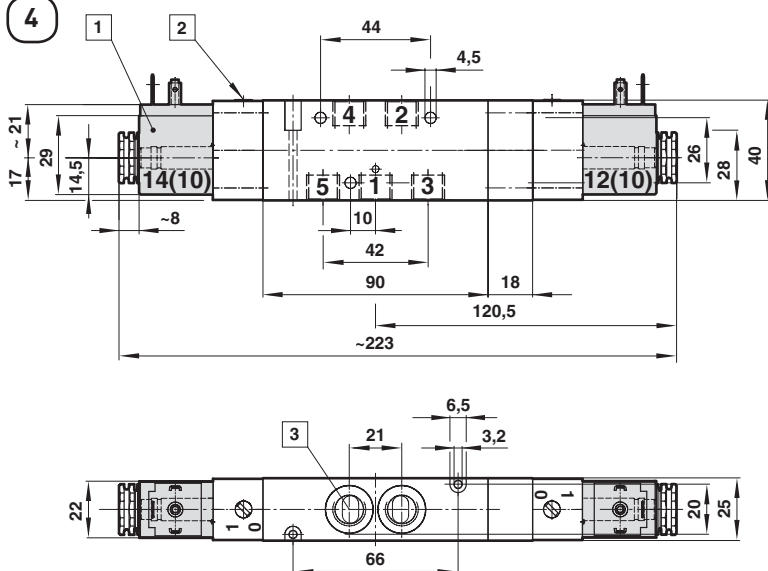
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3



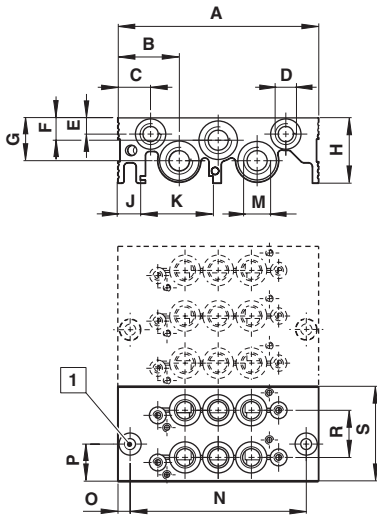
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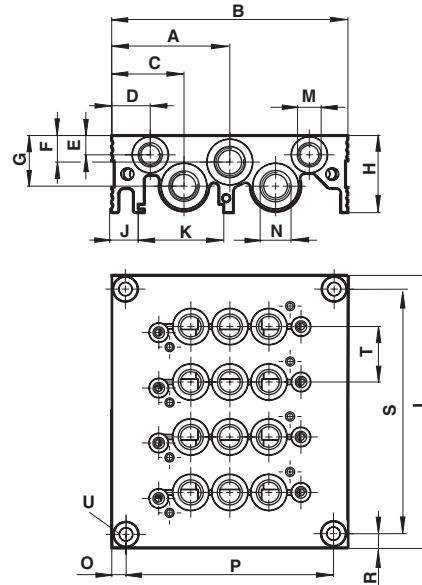
- 1 Solenoid 90° turnable
- 2 Manual override
- 3 Port size G1/4 or 1/4 NPT

Dimensions

Manifold plate 2 and 3 stations



Manifold plate 4 ... 12 stations

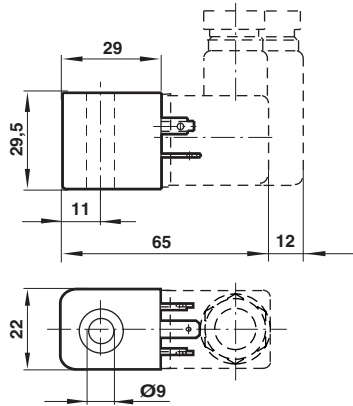


Model	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	R	S	T	U
2er	52	104	26	9	8	13	20	33	10	35,5	52	G 1/8	G 3/8	40	24	26	-	26	for M5
3er	52	104	26	9	8	13	20	33	10	35,5	78	G 1/8	G 3/8	40	24	52	-	26	for M5
4-12er	52	104	26	9	8	13	20	33	10	35,5	$(x-26)+23$	G 1/8	G 3/8	40	24	6,5	$(x-26)+10$	26	for M5

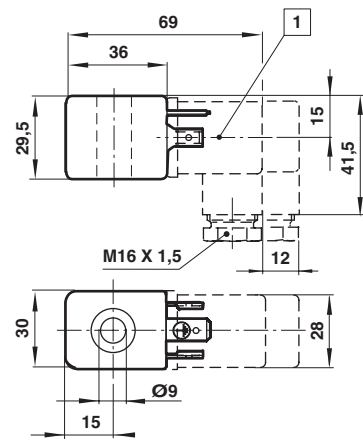
Dimensions

Solenoid operators

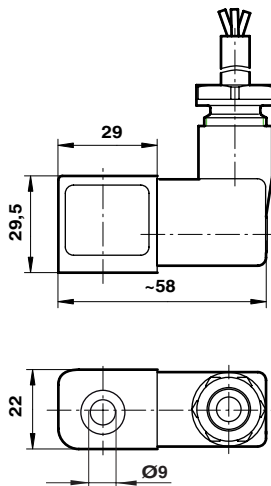
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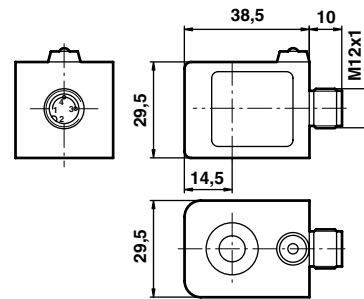
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6



7

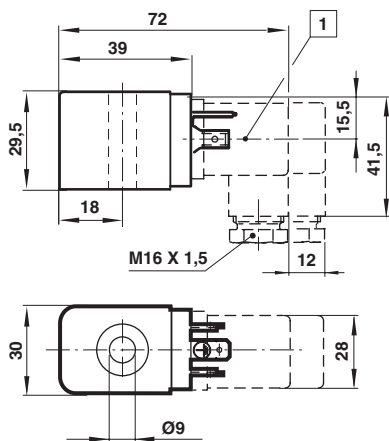


Electrical connection M 12 x 1



Pin	Signal	Cable
1	+ UB	brown
2	Out 2 (PNP) / analogue 4 to 20 mA	white
3	0 Volt	blue
4	Out 1 (PNP)	black

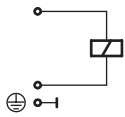
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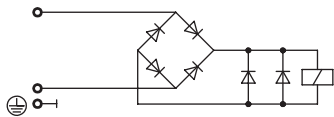
1 Connector 4 x 90° turnable

Circuit diagrams

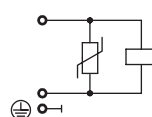
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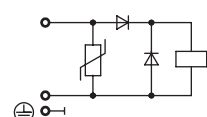
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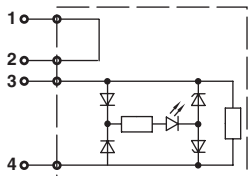
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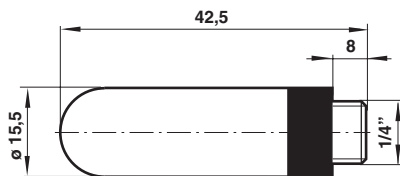


17



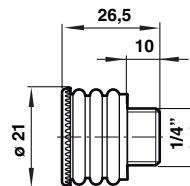
Silencer

Model: M/S2, C/S2



Exhaust guard

Model: 0613422



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**«.

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.