

For single and double operated actuators

Exhaust air recirculation (3 way function)

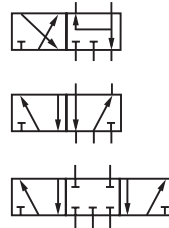
Crossover-free switching, switch-over function guaranteed even with small cross section air supply

Valve switches at power failure into starting position (mechanical return spring, monostable design)

Manual override with detent standard

The solenoid valves are applicable in the protection class

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



Approval depends on magnetic system, see pages 2 and 3!

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:

1: G 1/4, 1/4 NPT
3 and 5: G 1/8, 1/8-NPT

Electrical connection:

See solenoid table

Operating pressure:

2 ... 8 bar (29 ... 116psi)

Fluid/Ambient temperature:

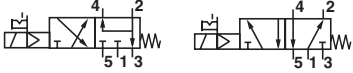

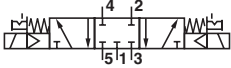
-15 ... +60°C (-5 ... +140°F),
Depending on solenoid system
Air supply must be dry enough to avoid ice formation at temperatures below +2°C (+35°F).

Materials:

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






Technical data

Standard version, 5/2 or 3/2 indirect acting valves (conversion instructions see page 6)

Symbol	Por size			Actuation	Operating pressure (bar)	Flow (l/min)	Weight (kg)	Dimension No.	Model *1)
	1	3, 5	2, 4						
	G 1/4	G 1/8	Flange	Solenoid/spring	2 ... 8	750	0,25	1	9710000
	1/4 NPT	1/8 NPT	Flange	Solenoid/spring	2 ... 8	750	0,25	1	9710010
	G 1/4	G 1/8	Flange	Solenoid/solenoid	2 ... 8	750	0,35	2	9711000
	1/4 NPT	1/8 NPT	Flange	Solenoid/solenoid	2 ... 8	750	0,35	2	9711010
	G 1/4	G 1/8	Flange	Solenoid/solenoid mid position APB	2 ... 8	500	0,40	3	9712000
	1/4 NPT	1/8 NPT	Flange	Solenoid/solenoid mid position APB	2 ... 8	500	0,40	3	9712010

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

Solenoid operators for standard version 971xxx0 only

Image	Power consumption		Rated current		Ex-Protection (ATEX-Category)	Protection class *7)	Temperature Ambient/Fluid (°C)	Weight (kg)	Dimension No.	Circuit diagram No.	Model
	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
	1,6	3,5	-	-	-	IP 65 (with connector DIN EN 175301-803 Form A) *6)	-15 ... +50	0,1	5	1	3036
	2	-	85	-	I13G I13D	Ex nA II T5 Ex tDA22 IP65 T95° with special connector DIN EN 175301-803 Form A	-15 ... +50	0,3	5	1	3046
	-	2,0	-	-	I13G I13D	Ex nA II T5 Ex tDA22 IP65 T95° with special connector DIN EN 175301-803 Form A	-15 ... +50	0,3	5	1	3047
	2,7	-	115	-	I12G I12D	Ex mb II T5 Ex tDA21 IP65 T95° with 3 m cable	-20 ... +50	0,3	6	14	3062 *3)
	-	2,1	-	9	I12G I12D	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

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.

*3) EG-Type-Examination-Certificate PTB 03 ATEX 2015X

*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

**Valves for minimal electrical power, incl. Ex i,
5/2 or 3/2 indirect acting valves (conversation intructions see page 6)**

Symbol	Port size		Actuation	Operating pressure (bar)	Flow (l/min)	Weight (kg)	Dimension No.	Model *1)	
	1	3, 5							2, 4
	G 1/4	G 1/8	Flange	Solenoid/spring	2 ... 8	750	0,25	1	9710002
	1/4 NPT	1/8 NPT	Flange	Solenoid/spring	2 ... 8	750	0,25	1	9710012
	G 1/4	G 1/8	Flange	Solenoid/solenoid	2 ... 8	750	0,35	2	9711002
	1/4 NPT	1/8 NPT	Flange	Solenoid/solenoid	2 ... 8	750	0,35	2	9711012
	G 1/4	G 1/8	Flange	Solenoid/solenoid mid position APB	2 ... 8	500	0,40	3	9712002
	1/4 NPT	1/8 NPT	Flange	Solenoid/solenoid mid position APB	2 ... 8	500	0,40	3	9712012

*1) When ordering please indicate solenoid, voltage and current type (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
	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	-	85	-	II3G II3D	Ex nA II T5 Ex tDA21 IP65 T95° with special connector DIN EN 175301-803 Form A	-15 ... +50	0,3	5	1	3046
	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	0,3	7	17	3071

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)**

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
		275	37	345	13,8	T6 -40 ... +50 T4 -40 ... +85	0,83	8	13

*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 PTP 03 IEC 2166, 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







Options selector

971★0★.★.★.★.★.★.★.★.★0

Function	Substitute
5/2 way valve, spring return (3/2 way valve by swapping enclosed adaptor plate)	0
5/2 way impuls valve (3/2 way valve by swapping enclosed adaptor plate)	1
5/3 way valve, APB (all ports blocked)	2
Port size	Substitute
G 1/4	0
1/4 NPT	1

Voltage	Substitute
24 V d.c.	024.0
230 V a.c.	230.5
Solenoids	Substitute
see table	
Manual override	Substitute
Push and lock	0
Push and lock, Ex i version only	2

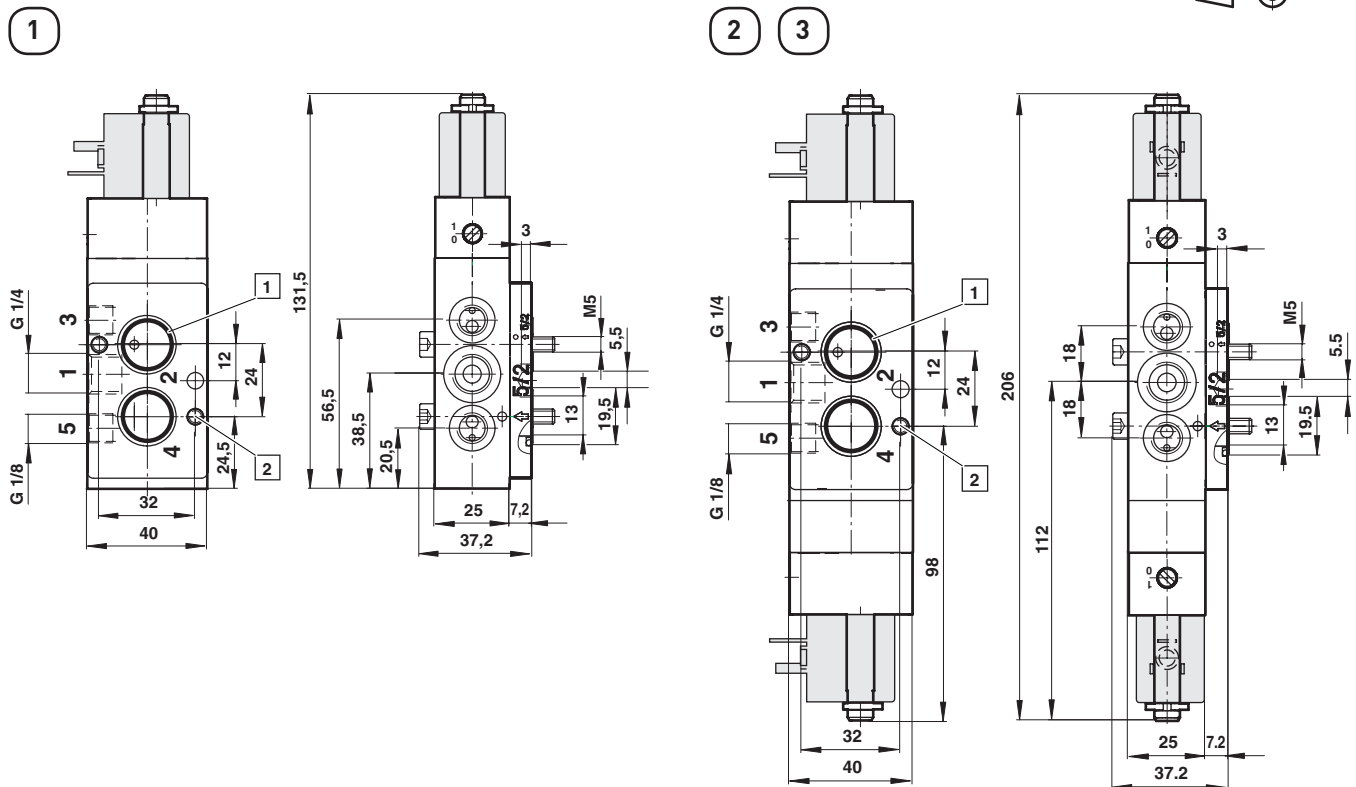
Accessories

Connector DIN EN 175301-803	Connector M12 x 1	M12 x 1	Silencer	Flange plate	Yoke
					
0570275 Form A	0523055 (without cable)	0523056 (90°, without cable)	C/S1 (1/8 NPT)	0612790 (NAMUR single connection plate)	0540593
0663303 Form A (with rectifier)	0523057 (2 m cable)	0523058 (90°, 2 m cable length)	M/S1 (G 1/8)	0612791 (NAMUR-rip use in combination with 0612790, Alu)	
0680003 Form B	0523052 (5 m cable)	0523053 (90°, 5 m cable length)			

**Dimensions
Valves**

Dimensions shown in mm

Projection/First angle



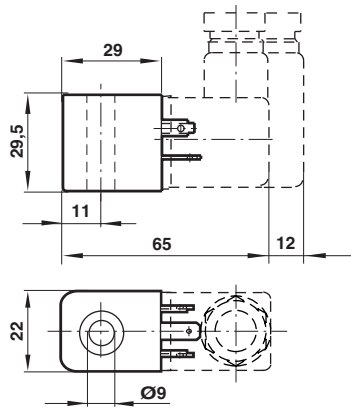
**Dimensions
Solenoid operators**

Dimensions shown in mm

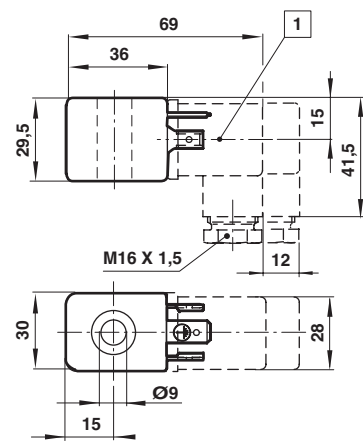
Projection/First angle



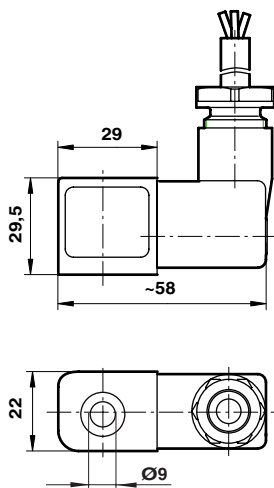
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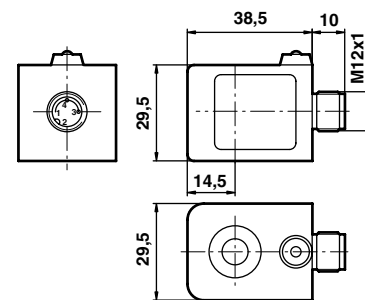
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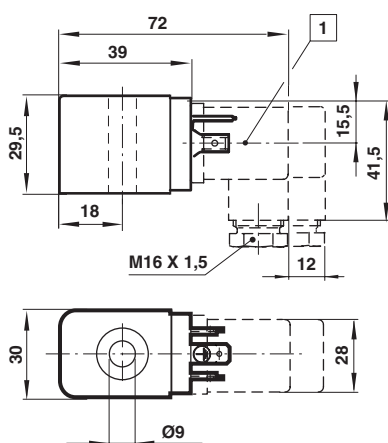
6



7



8



Electrical connection M 12 x 1

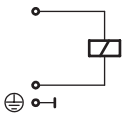


Pin	Signal	Cable
1	+ UB	brown
2	Out 2 (PNP) / analogue 4 to 20 mA	white
3	0 Volt	blue
4	Out 1 (PNP)	black

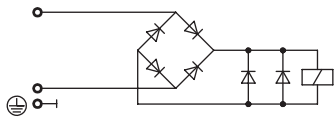
1 Connector 4 x 90° turnable

Circuit diagrams

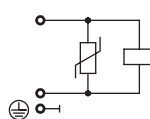
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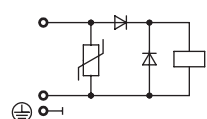
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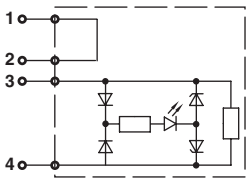
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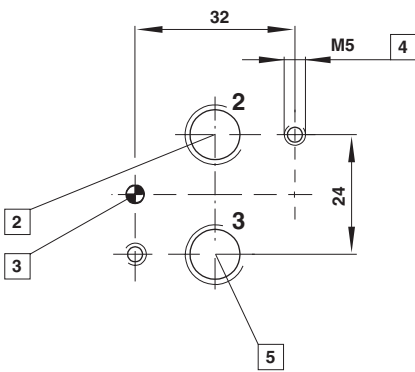
15



17



NAMUR hole pattern (driving side)



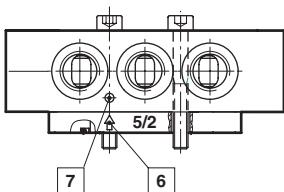
- 2 Port 2 (A)
- 3 Coding stud threaded
- 4 M5 & M6 (10 deep)
- 5 Port 3 (R)

NAMUR quick exhaust module for a better kv-value by exhaust see data sheet 5.4.820

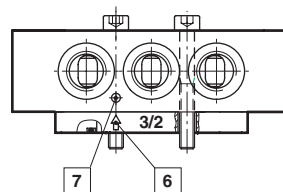
NAMUR interlinking plates in redundancy design for »safety exhausting« and »safety ventilating« see data sheet 5.4.830

Conversion instructions of 5/2 into 3/2 way function

5/2 way function (original mode of supply)



3/2 way function



3/2 resp. 5/2 way function according to version by swapping or turning enclosed adaptor plates. Make sure Marker and Arrow do match as shown on above drawing. Original mode of supply: 5/2 function.

- 6 Arrow
- 7 Marker

Dimensions

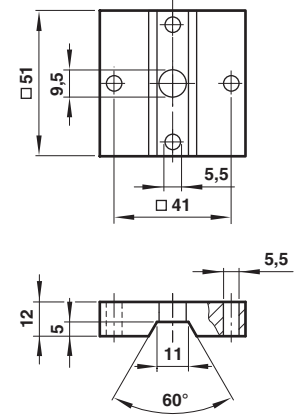
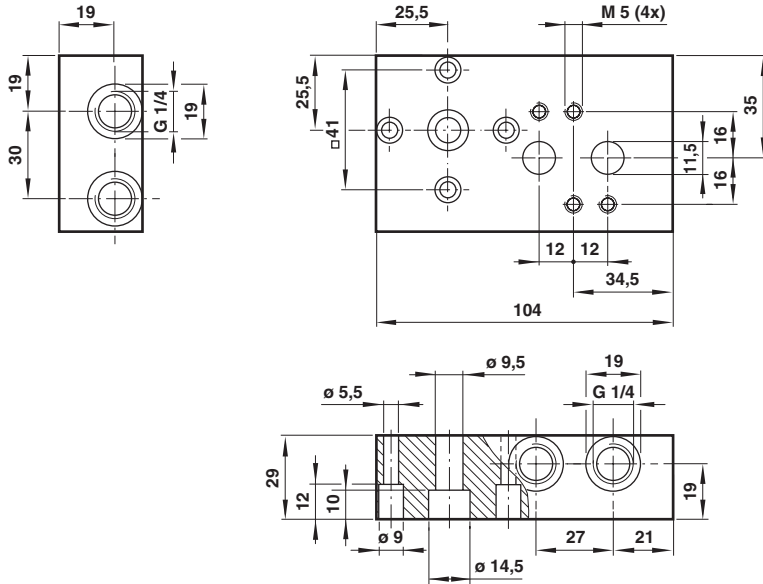
Dimensions shown in mm

Projection/First angle

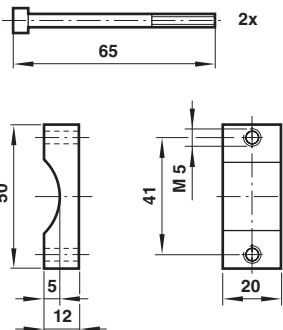


Single connection plate
Model: 0612790

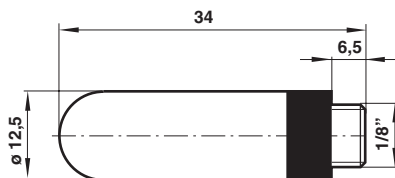
NAMUR slot
Model: 0612791



Yoke
Model: 0540593



Silencer
Model: M/S1, C/S1



Warning

These products are intended for use in industrial compressed air 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.