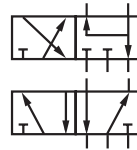


- For single and double acting actuators
- Exhaust air recirculation at 3 way function
- 3/2 or 5/2 way function in one valve
- Easily interchangeable solenoid
- Crossover-free switching, switch-over function guaranteed even with small cross section air supply
- Manual override with detent
- Solenoids certified to ATEX, Ex ia and Ex m.
- Solenoids approved to IEC Ex, FM etc available on request



Approval depends on magnetic system, see page 2 & 3!

Technical features

Medium:
Filtered, lubricated or non-lubricated and dry compressed air

Operation:
Indirect solenoid operated spool valves

Flow direction:
Fixed

Mounting position:
Optional

Port size:
G1/4, 1/4 NPT

Electrical connection:
See solenoid table

Operating pressure:
2 ... 8 bar (29 ... 116 psi) [below -10°C (14°F) must be > 2,5 bar(36 psi)]

Fluid/Ambient temperature:
-15 ... +50°C (-5 ... +122°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 anodized
Pilot flange: Plastic (PBT)
Flange plate: Aluminium
Seals: NBR

Technical data

3/2 & 5/2 way indirect solenoid operated spool valves, standard design
Conversion instructions of 5/2 into 3/2 way function see page 5)

Symbol	Port size	Actuation	Operating pressure (bar) *2)	Flow (l/min)	Weight (kg)	Dimension No.	Model *1)
	G 1/4	Flange	2 ... 8	1230	0,42	1	9730000
	1/4 NPT	Flange					9730010
	G 1/4	Flange	2 ... 8	1250	0,50	2	9731000
	1/4 NPT	Flange					9731010

*1) When ordering please indicate solenoid, voltage and current type (frequency).
*2) Below -10°C must be > 2,5 bar






Option selector

973★0★0.★★★★.★★★★.★★

Function	Substitute
5/2 way, spring return (3/2 way spare adaptor plate supplied)	0
5/2 way, solenoid return (3/2 way spare adaptor plate supplied)	1
Ports size	Substitute
G 1/4	0
1/4 NPT	1

Voltage	Substitute
24 V d.c.	024.00
230 V a.c.	230.50
Solenoid actuators	Substitute see table

Solenoid actuators

	Power consumption 24 V d.c. (W)	230 V a.c. (VA)	Ex-Protection category	Protection class	Temperature Ambient/Fluid (°C)	Weight (kg)	Dimension No.	Circuit diagram	Model
	1,7	4,3	-	IP 65 (with connector) DIN EN 175301-803 Form B *3)	-15 ... +50	0,054	4	1	3050
	1,6	3,5	-	IP 65 (with connector) DIN EN 175301-803 Form A *3)	-15 ... +50	0,090	5	1	3036
	2	-	I13G I13D	Ex nA II T5 Ex tD A22 IP65 T 95°C with special connector design DIN EN 175301-803 Form A	-15 ... +50	0,300	5	1	3046
	-	4,0	I13G I13D	Ex nA II T5 Ex tD A22 IP65 T 95°C with special connector design DIN EN 175301-803 Form A	-15 ... +50	0,300	5	1	3047
	2,7	-	I12G I12D	Ex mb II T5 Ex tD A21 IP65 T 95°C Standard wire, 3 m	-20 ... +50	0,300	6	14	3062 *4)
	-	2,1	I12G I12D	Ex mb II T5 Ex tD A21 IP65 T 95°C Standard wire, 3 m	-20 ... +50	0,300	6	15	3063 *4)
	2,7	-	-	IP 66 in combination with Connector M12x1 (yellow LED) DIN IEC 61076-2-101 *5)	-10 ... +50	0,300	7	16	3071


Standard voltages 24 V d.c., 230 V a.c. Other voltages on request.

*3) Connector is not included in delivery; Required connectors 0680003 form B or 0570275 form A

*4) Certificate of Conformity PTB No. PTB 03 ATEX 2015X

*5) Connector acc. DIN IEC 61076-2-101 not included in delivery

**For intrinsically safe circuits,
Protection class Ex ia IIC T6/T4 (cat. II 2G)**

	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	42 *7)	345	13,8	T6 -40 ... +50 T4 -40 ... +85	0,83	8	13	3039 *6)




*6) 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«






*7) This series has a inrush current of 42 mA. Please check for compatibility.

Please note - when ordering the intrinsically safe coil please use default voltage code 00000

When selecting an intrinsically safe power supply, the permissible maximum values according to the Certificate of Conformity should be taken in account.
On the other hand, the low effective inductivity and capacity can be ignored.

Accessories

Connector DIN EN 175301-803	M12 x 1	M12 x 1
		
0570275, form A	0523055 (without cable)	0523056 (90°, without cable)
0680003, form B	0523057 (2 m cable)	0523058 (90°, 2 m cable)
	0523052 (5 m cable)	0523053 (90°, 5 m cable)

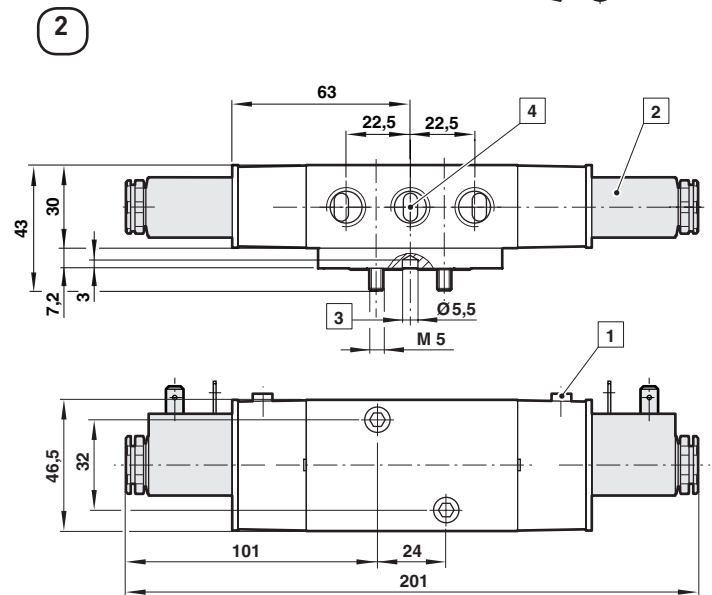
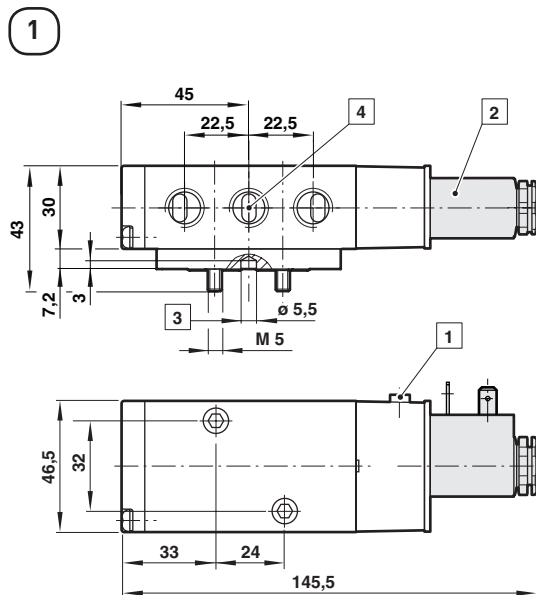
Silencerr *1)	Exhaust guard *2)	Throttle control plate	Flange plate	Yoke
				
Seite 6	Page 6	Page 6	Page 6	Page 6
C/S2 1/4 NPT	0613422 (G1/4, 1/4 NPT)	4040239	0612790 (NAMUR single connection plate)	0540593
M/S2 G 1/4			0612791 (NAMUR-rip use in combination with 0612790)	

*1) For indoor use
*2) For outdoor use

Dimensions

Valves

Dimensions shown in mm
Projection/First angle



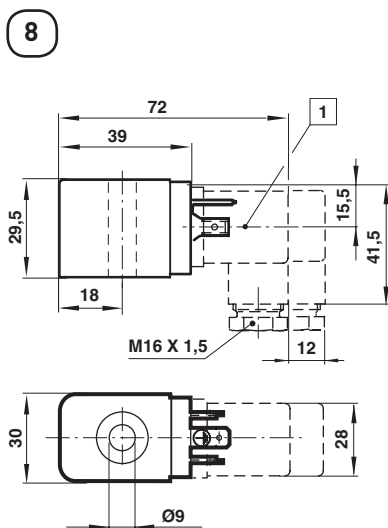
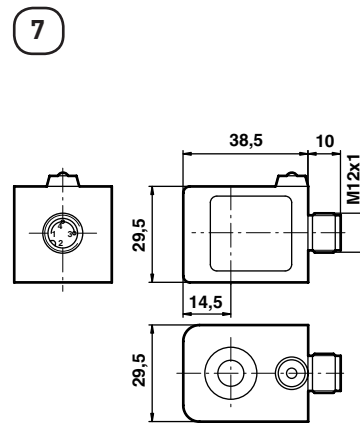
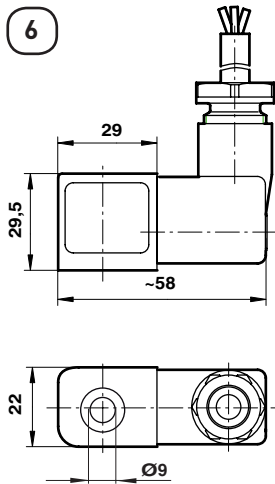
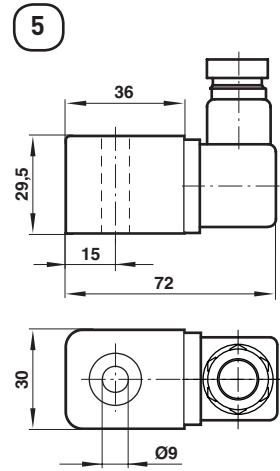
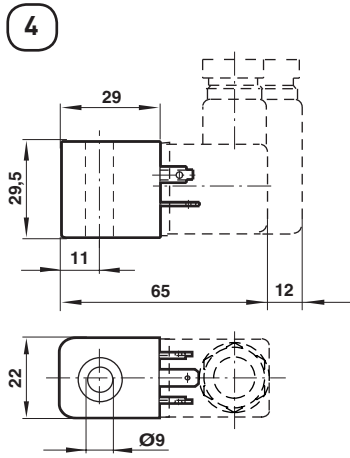
- ① Manual override
- ② Solenoid operator
- ③ Coding stud
- ④ Port size G1/4 or 1/4 NPT

Dimensions

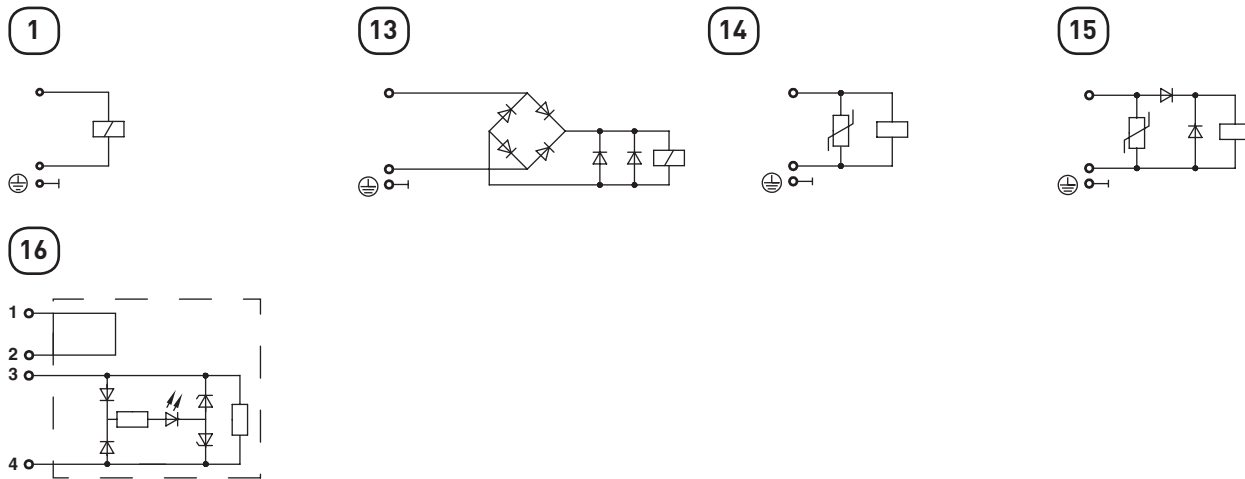
Solenoid operators

Dimensions shown in mm

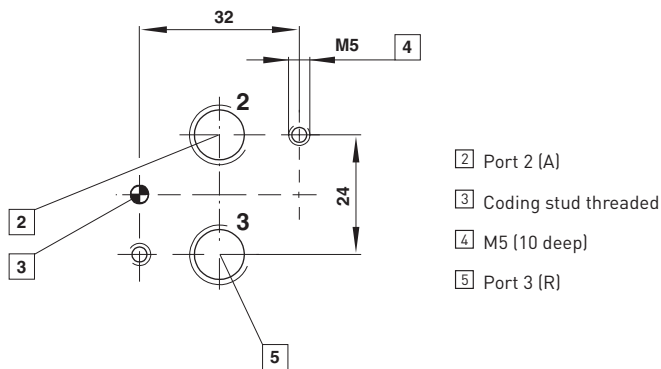
Projection/First angle



Circuit diagrams



NAMUR hole pattern (driving side)

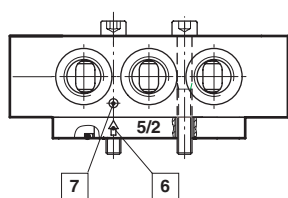


NAMUR quick exhaust module for a better kv-value by exhaust see data sheet 5.4.820

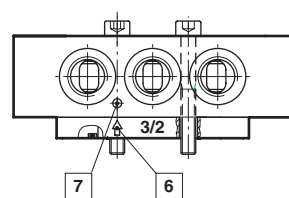
NAMUR interlinking plates in redundancy design for »safety exhausting« and »safety ventilating« see data sheet 5.4.830

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

5/2 way function



3/2 way function



3/2 resp. 5/2 way function can be achieved just by swapping enclosed adaptor plates. Make sure marker and arrow do match as shown on above drawing. Original mode of supply: 5/2 function.

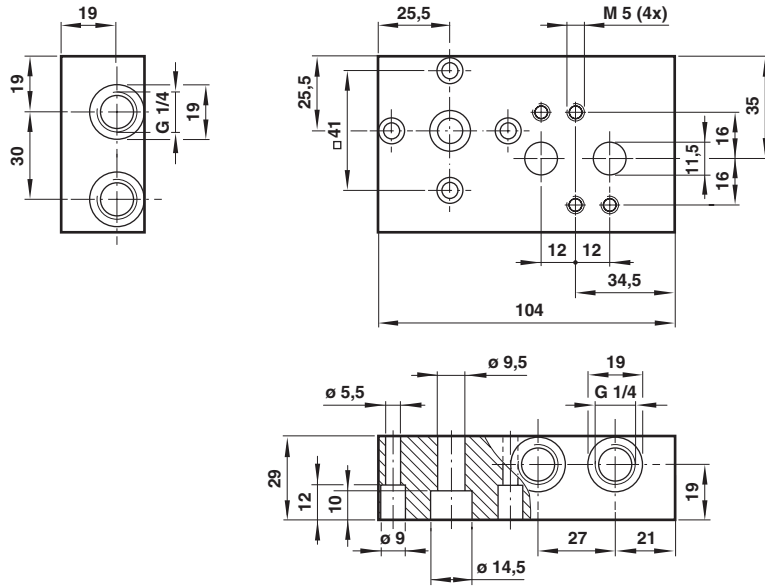
- 6 Arrow
- 7 Marker

Single connection plate

Model: 0612790

Dimensions shown in mm

Projection/First angle



NAMUR slot

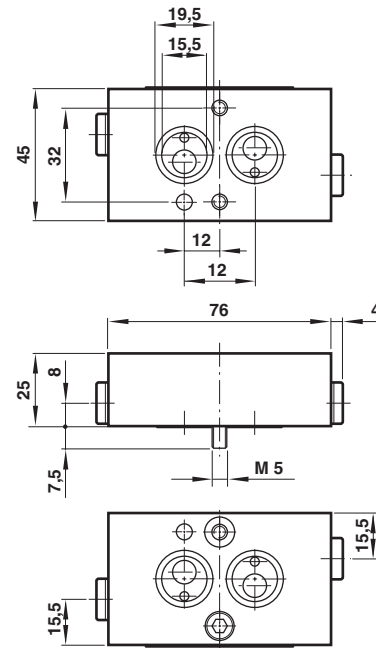
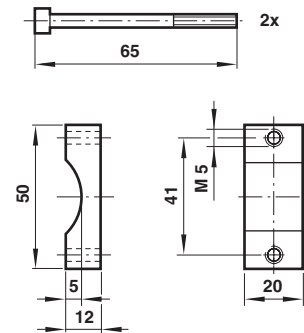
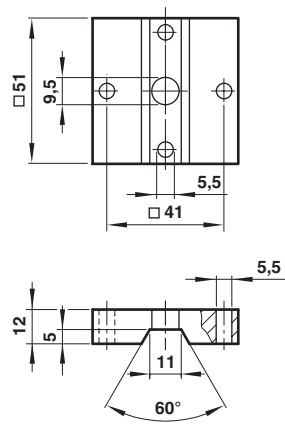
Model: 0612791

Yoke

Model: 0540593

Throttle control plate

Model: 4040239

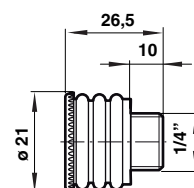
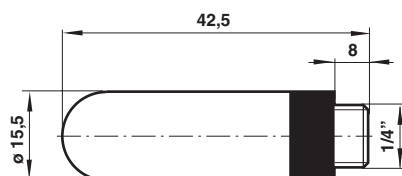


Silencer

Model: M/S2, C/S2

Exhaust guard

Model: 0613422



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 pneumatic 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.