

3/2 and 5/2 directional control valves
Actuation: electromagnetic
Indirectly controlled soft seal spool valves
Port size: G 1/4, 1/4 NPT
NAMUR Interface

For single and double acting actuators

3/2 or 5/2 way function in one valve

Easily interchangeable solenoid

Compact design

Monostable (fail close) & Bistable (fail last position) versions

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.
For details refer to solenoid information pages 2 & 3

Solenoids approved to IEC Ex, UL, FM etc available on request



Technical data

Medium:

Filtered, lubricated or non-lubricated and dry compressed air

Operation:

Solenoid, indirectly acting

Flow direction:

Fixed

Mounting position:

Optional

Port size:

G1/4, 1/4 NPT

Electrical connection:

See solenoid table

Operating pressure:

2 ... 8 bar (below -10°C must be > 2,5 bar)

Temperature:

Valve: -15 to +50°C

Check the air quality for applications below +2°C

Solenoid: see solenoid table

Materials:

Housing: Aluminium anodized

Pilot flange: Plastic (PBT)

Flange plate: Aluminium

Seals: NBR (Perbunan)

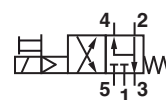
Ordering example

5/2 solenoid/spring control valve, port size G 1/4, solenoid 24 V d.c., with connector DIN EN 175 301-803 form B, protection class IP 65

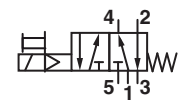
Type: 9730000.3050.02400

connector: 0680003

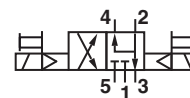
3/2



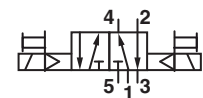
5/2



3/2

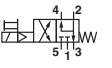
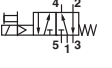
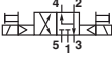
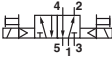
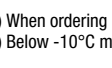


5/2



3/2, 5/2 directional valves, standard design





5/2 way or 3/2 way function (see conversion instructions page 6)

Symbol	Type *1)	port size			Actuation	Operation pressure (bar) *2)	Flow (l/min)	Weight (kg)	Dimensions No.
		1	3, 5	2, 4					
	9730000	G 1/4	G 1/4	Flange	Solenoid/Spring	2 ... 8	1230	0,42	1
	9730010	1/4 NPT	1/4 NPT	Flange					
	Ex ia version, solenoid 3039 only				Solenoid/Spring	2 ... 8	1230	0,42	1
	9730002	G 1/4	G 1/4	Flange					
	9731000	G 1/4	G 1/4	Flange	Solenoid/Solenoid	2 ... 8	1250	0,50	2
	9731010	1/4 NPT	1/4 NPT	Flange					
	Ex ia version, solenoid 3039 only				Solenoid/Solenoid	2 ... 8	1250	0,50	2
	9731002	G 1/4	G 1/4	Flange					
	9731012	1/4 NPT	1/4 NPT	Flange	Solenoid/Solenoid	2 ... 8	1250	0,50	2
	9731012	1/4 NPT	1/4 NPT	Flange					

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

*2) Below -10°C must be > 2,5 bar)

Solenoid actuators

	Type	Power consumption		Ex Protection Category	Protection class	Temperature Ambient Fluid (°C)	Weight (kg)	Dimensions No.	Circuit diagram No.
		24 V DC (W)	230 V AC (VA)						
	3050	1,7	4,3	-	IP 65 (with connector) DIN EN 175301-803 Form B *3)	-15 ... +50	0,054	4	1
	3036	1,6	3,5	-	IP 65 (with connector) DIN EN 175301-803 Form A *3)	-15 ... +50	0,090	5	1
	3046	2	-	II3G II3D	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	-	4,0	II3G II3D	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
	3062 *4)	2,7	-	II2G II2D	Ex mb II T5 Ex tD A21 IP65 T 95°C Standard wire, 3 m long	-20 ... +50	0,300	6	14
	3063 *4)	-	2,1	II2G II2D	Ex mb II T5 Ex tD A21 IP65 T 95°C Standard wire, 3 m long	-20 ... +50	0,300	6	15
	3071	2,7	-	-	IP 66 in combination with Connector M12x1 (yellow LED) DIN IEC 61076-2-101 *5)	-10 ... +50	0,300	7	16


Standard voltages 24 V DC, 230 V AC. 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




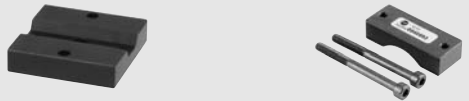
For intrinsically safe circuits, protection class Ex ia IIC T6/T4 (cat. II2G) and Ex tD A21 IP65 T80°C/T130°C (cat. II2D)

Type	Nom. resistance R _N coil (Ω)	Required switching current (mA)	Resistance R _{w 50} coil (Ω)	Required voltage at terminal R _{w 50}	Ambient temperature (°C)	Fluid temperature max. (°C)	Weight (kg)	Dimensions No.	Circuit diagram No.
 3039 *6)	275	42	345	14,5	T6 -40 ... +50	T6 +70	0,83	8	13
					T4 -40 ... +85	T4 +80			

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.

*6) 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 is not indicated in delivery.
Connector is not included in delivery; required connector: type 0570275 form A.
Protection class IP65 acc. 60529 with connector

Accessories

Silencer	Connectors	Flange plate	Yoke
			
0014600 (G1/4) *1)	0570275 form A 0663303 form A with rectifier 0680003 form B	0612790 Single connection plate 0612791 NAMUR-slot use in combination with 0612790 (Alu)	0540593

*1) For indoors use

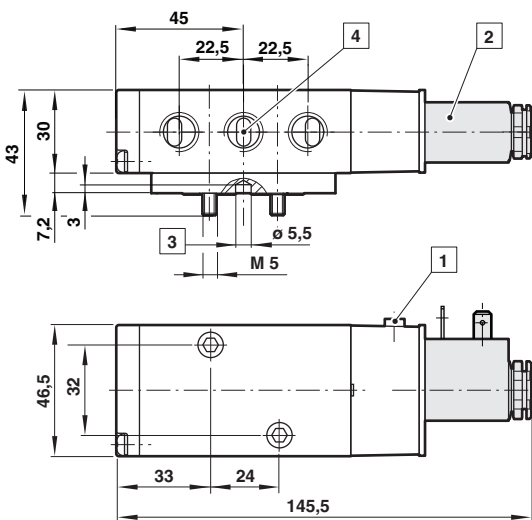
Option selector

973★0★.★.★.★.★.★.★.★.★.★

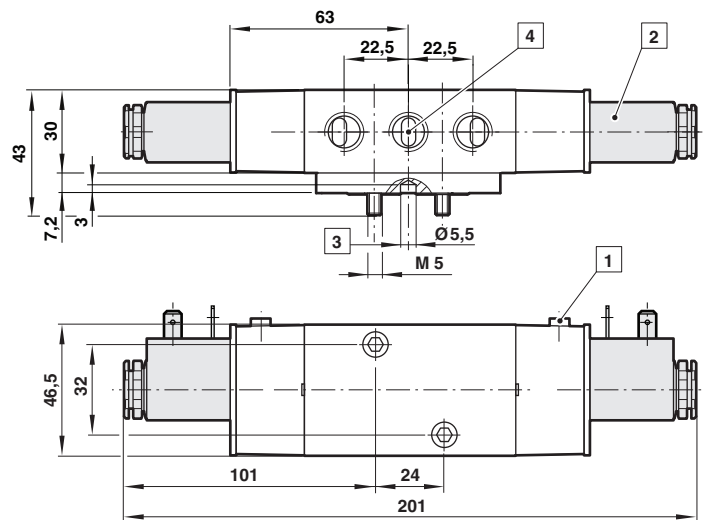
Function	Substitute	Voltage	Substitute
5/2 way, spring return (3/2 way spare adaptor plate supplied)	0	24 V d.c.	024.00
5/2 way, solenoid return (3/2 way spare adaptor plate supplied)	1	230 V a.c.	230.50
Ports size	Substitute	Solenoid actuators	Substitute
G 1/4	0	see table	
1/4 NPT	1	Ex ia version	Substitute
		Ex ia version, solenoid 3039 only	2

Basic dimensions for valves

①



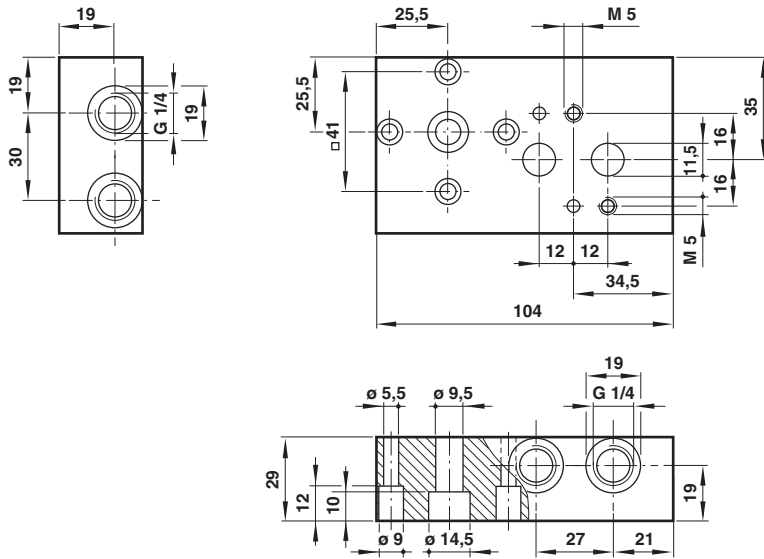
②



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

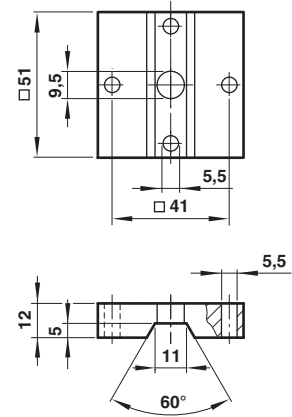
Single connection plate

Type: 0612790



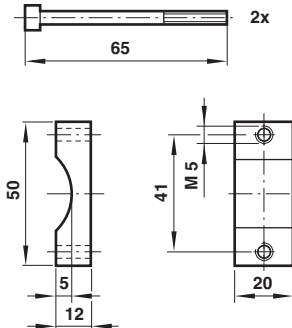
NAMUR slot

Type: 0612791



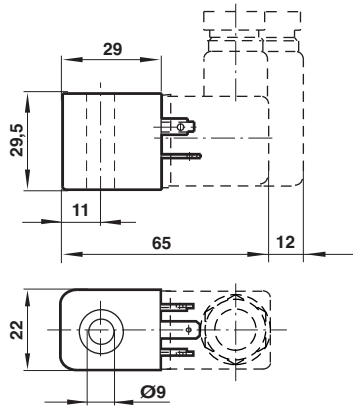
Yoke

Type: 0540593

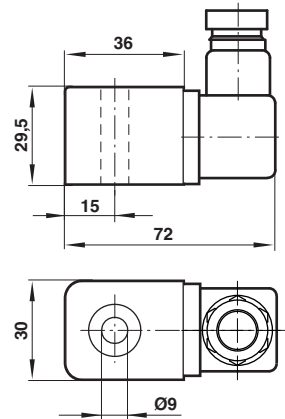


Basic dimensions for solenoid operators

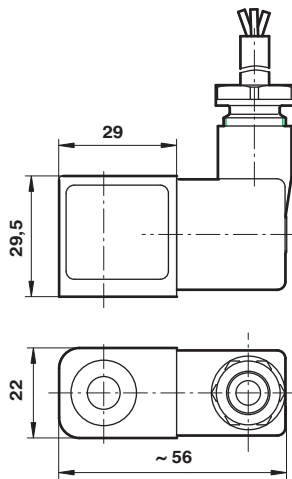
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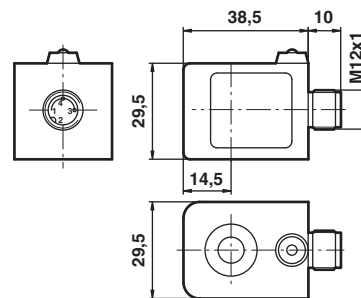
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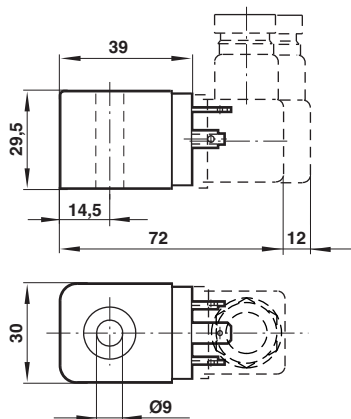
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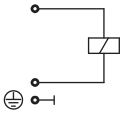


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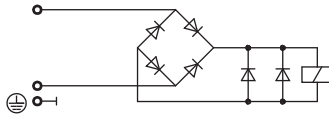


Circuit diagrams

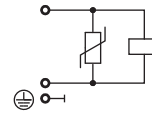
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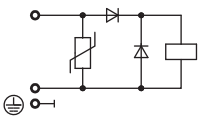
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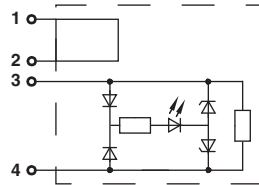
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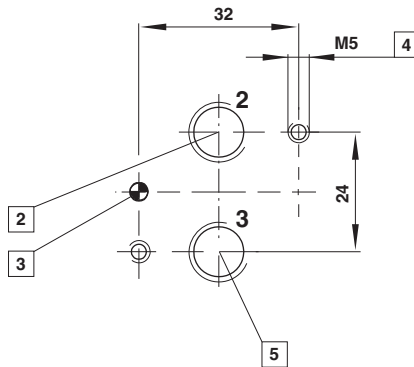
⑮



⑯



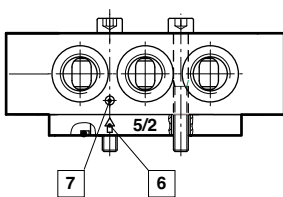
NAMUR hole pattern



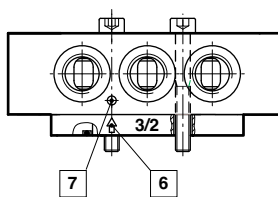
- ② Port 2 (A)
- ③ Coding stud threaded
- ④ M5 (10 deep)
- ⑤ Port 3 (R)

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

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 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 where applicable.