

HERION 97100 SERIES Indirect solenoid actuated spool valves for single and double acting actuators with NAMUR interface

6 mm orifice (ND) - 3/2, 5/2, 5/3, NC/APB, G1/4



Alternative models - NPT Ports

- 3/2 or 5/2 way function via adapter plates
- Exhaust air recirculation
- Crossover-free switching, switchover function guaranteed even with small cross section air supply
- Rest position in the event of power failure (monostable design)
- Manual override with detent
- Compact design
- Simple design soft seal spool system
- Easily interchangeable solenoid

TECHNICAL DATA

Medium:

Compressed air, filtered, lubricated and non-lubricated

Mounting position:

Optional

Operating pressure:

2 ... 8 bar

Flow direction:

Fixed

Ambient temperature:

Valve: -25°C ... +50°C

Solenoid: See solenoid table

With minus temperatures, use conditioned dry air. If installed in the open protect all connections against the penetration of moisture. Consult our Technical Service for use below +2°C.

Electrical connection:

Acc. to DIN 175301-803 form A

MATERIALS

Housing: aluminium anodized

Pilot flange: plastic (PBT)

Seals: NBR (Perbunan)

3/2, 5/2 & 5/3 VALVES

Symbol	Port size	3 (5)	2, 4	Function	Actuation	Flow l/m	kg	Drawing no.	MODELS
	G1/4	G1/8	Flange	NC	Sol/Spring	750	0,25	1	9710000xxxx*****
	G1/4	G1/8	Flange	NC	Sol/Sol	750	0,35	2	9711000xxxx*****
	G1/4	G1/8	Flange	APB	Sol/Sol	500	0,40	3	9712000xxxx*****





xxxx Insert solenoid codes from table on next page.
 ***** Insert voltage codes from table on page 3-194.
 APB = All Ports Blocked.
 Exterior free of non-ferrous metals.

For further information



www.norgren.com/info/en3-192

SOLENOID ACTUATORS 3/2, 5/2 & 5/3 valves

	Power consumption		Ex protection category	Protection class	Temperature ambient/fluid °C	Drawing no.	Circuit diagram no.	Solenoid codes
	24 V d.c. (W)	230 V a.c. (VA)						
	1,6	3,5	-	IP 65 (with connector) DIN EN 175301-803 Form A ^{d)}	-40 ... +50	5	1	3036
	2	-	II3G II3D	EEx nA II T5 IP65 T 95°C with connector DIN EN 175301-803 Form A	-15 ... +50	5	1	3046
	-	4,0	II3G II3D	EEx nA II T5 IP65 T 95°C with connector DIN EN 175301-803 Form A	-15 ... +50	5	8	3047
	2,7	-	II2G	EEx m II T5 Stranded wire, 3 m long	-20 ... +50	6	1	3062 ^{*3)}
	-	2,1	II2G	EEx m II T5 Stranded wire, 3 m long	-20 ... +50	6	8	3063 ^{*3)}
	2,7	-	-	IP 66 Connection M12x1 DIN EN 60947-5-2	-10 ... +50	7	8	3071

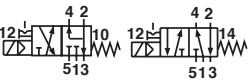
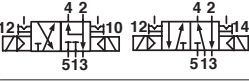
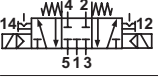
Standard voltages 24 V DC, 230 V AC. Other voltages on request.

For intrinsically safe circuits, protection class EEx ia IIC T6.

^{*3)} Certificate of Conformity PTB No. PTB 03 ATEX 2015X.

^{d)} Connector is not included in delivery; Required connector 0570275.

3/2, 5/2 & 5/3 VALVES for minimal electrical power, incl. EEx i

Symbol	Port size			Function	Actuation	Flow l/m	kg	Drawing no.	MODELS
	1	3 (5)	2, 4						
	G1/4	G1/8	Flange	NC	Sol/Spring	750	0,25	1	9710002xxxx*****
	G1/4	G1/8	Flange	NC	Sol/Sol	750	0,35	2	9711002xxxx*****
	G1/4	G1/8	Flange	APB	Sol/Sol	500	0,40	3	9712002xxxx*****

xxxx Insert solenoid codes from table on next page.

***** Insert voltage codes from table on next page.

APB = All Ports Blocked.

Exterior free of non-ferrous metals.

HERION 97100 SERIES Indirect solenoid actuated spool valves for single and double acting actuators with NAMUR interface

6 mm orifice (ND) - 3/2, 5/2, 5/3, NC/APB, G1/4

SOLENOID ACTUATORS 3/2, 5/2 & 5/3 valves for minimal electrical power

	Power consumption		Rated current at		Ex Protection category	Protection class	Temperature ambient/fluid °C	Drawing no.	Circuit diagram no.	Solenoid codes
	24 V d.c. (W)	230 V a.c. (VA)	24 V d.c. (W)	230 V a.c. (VA)						
	1,7	-	-	-	-	IP 65 (with connector) DIN EN 175301-803 Form B *6)	-40 ... +50	4	1	3050
	0,7	0,7 *2)	-	-	-	IP 65 (with connector) *6) DIN EN 175301-803 Form A *6)	-40 ... +50	5	1	3034
	2	-	-	-	I13G I13D	EEx nA II T5 IP65 T 95°C with connector	-15 ... +50	5	1	3046
	2,7	-	115	-	I12G	EEx m II T5 Connector with 3 m cable	-20 ... +50	6	1	3062 *3)
	-	2,1 *2)	-	9 *2)	I12G	EEx m II T5 Connector with 3 m cable	-20 ... +50	6	8	3063 *3)
	2,7	-	115	-	-	IP 66 Connection M12x1 DIN EN 60947-5-2	-10 ... +50	7	8	3071

Standard voltages 24 V DC, 230 V AC. Other voltages on request. Design acc. to VDE 0580, EN 50014/50028. 100% duty cycle.

For intrinsically safe circuits, protection class EEx ia IIC T6/T4

	Nom. resistance R _N coil (▲)	Required switching current (mA)	Resistance R _{w 50}	Required voltage at terminal R _{w 50}	Ambient temperature °C	Fluid temperature max. °C	Drawing no.	Circuit diagram no.	Solenoid codes
	275	37	330	12,3	T6 -40 ... +80 T4 -40 ... +80	T6 +70 T4 +85	8	13	3039 *4)

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.

*2) Valves can be operated with DC only. For 230V AC application please use 206V DC coil together with rectifier plug 0663303

*3) Certificate of Conformity PTB No. 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.

*6) Connector is not included in delivery; required connector for DC: type 0680003 Form B, type 0570275 Form A.

Voltage codes

Voltage	Code
24 V d.c.	02400
24 V a.c.	02450
230 V a.c.	23050

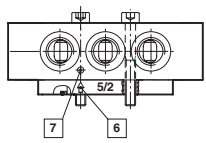
ACCESSORIES

Silencer	Connectors	Flange plate	Yoke
0014500 (G1/8)*	0570275 Form A 0663303 with rectifier 0680003 Form B	0612790 NAMUR single connection plate 0612791 NAMUR-slot use in combination with 0612790 (Alu)	0540593

* For indoor use

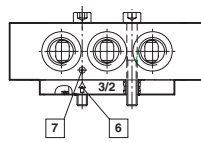
CONVERSION INSTRUCTIONS OF 5/2 INTO 3/2 WAY FUNCTION

5/2 way function
(original mode of supply)



6 Arrow
7 Marker

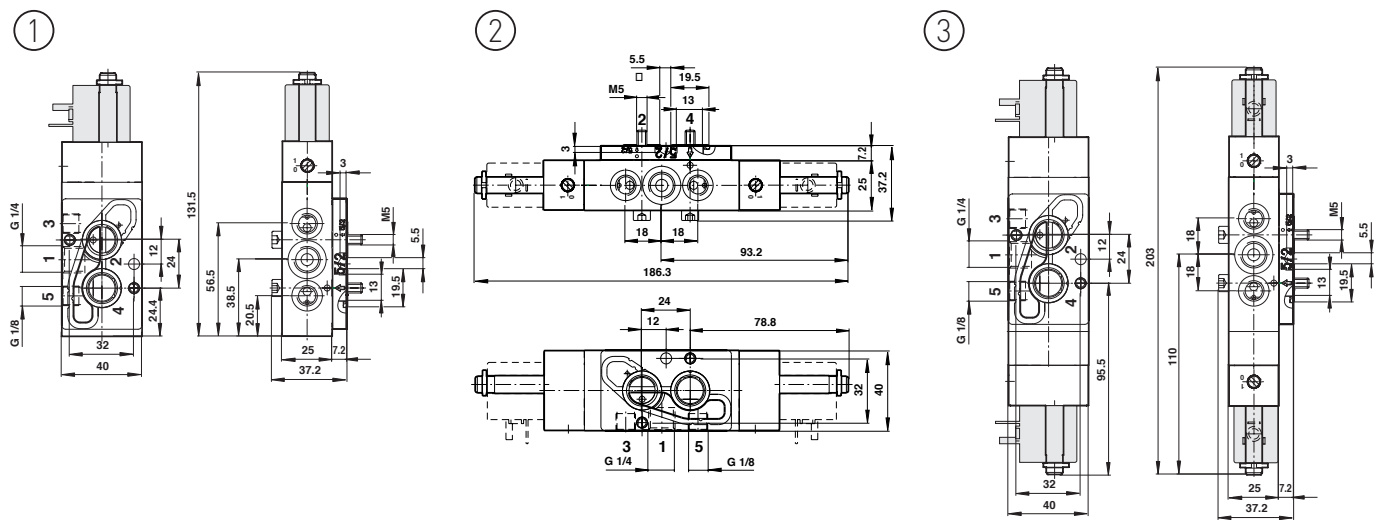
3/2 way function



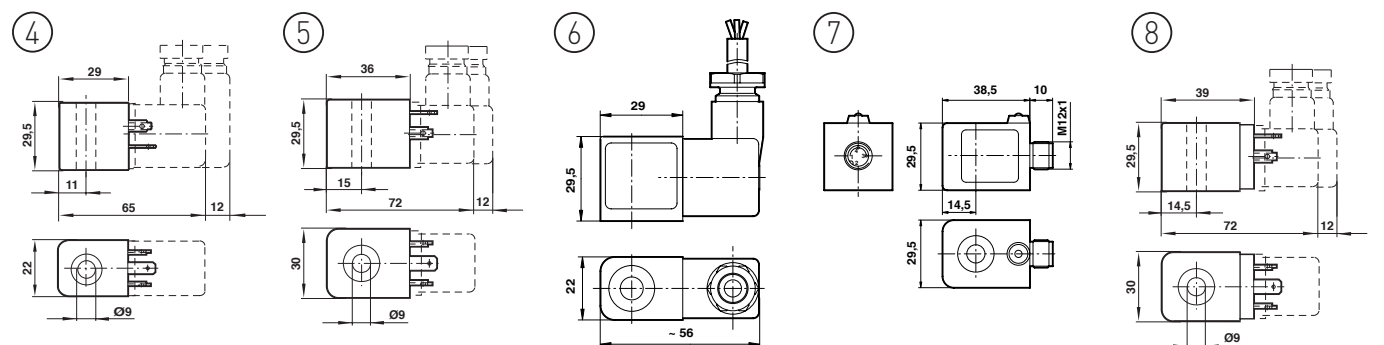
3/2 resp. 5/2 way function can be achieved just by swapping enclosed adaptor plates. Make sure Marker and Arrow do match as shown on above drawing. Original mode of supply: 5/2 function.

DIMENSIONS

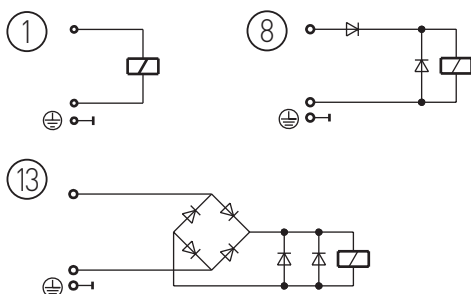
Valve dimensions



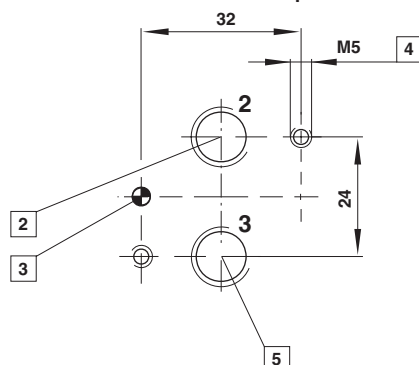
Solenoid dimensions



Circuit diagrams



NAMUR hole pattern



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

HERION 97300 SERIES Indirect solenoid actuated soft seal spool valves with NAMUR interface

3/2, 5/2 - G1/4



For single and double acting actuators

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

Rest position in the event of power failure provided (monostable design)

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

Manual override with detent

Compact design

Solenoid valves are applicable in protection class EEx m and EEx ia, for zones 1, 2 (gases) ATEX cat.II 2 G, EEx nA, for zones 2 (gases), 22 (dust) ATEX cat.II 3 GD

Flow direction:

Fixed

Mounting position:

Optional

Port size:

G1/4, 1/4 NPT

Electrical connection:

See solenoid table

Operating pressure:

2 ... 8 bar

Temperature:

Valve: -5°C* ... +50°C

*Consult our Technical Service for use below +2°C.

Solenoid:

See solenoid table

TECHNICAL DATA

Medium:

Filtered, lubricated or non-lubricated and dry compressed air *1)

Operation:

Solenoid, indirectly controlled

MATERIALS

Housing: Aluminium anodized

Pilot flange: Plastic (PBT)

Flange plate: Aluminium

Seals: NBR (Perbunan)

*1) Oil recommendation: Shell Hydrol DO 32, ESSO Febis K 32 (as of July 1992) or comparable oils with DVI-values < 8 (DIN 53521) and ISO viscosity class 32-46 (DIN 51519).

3/2, 5/2 directional valves

5/2 way or 3/2 way function (see conversion instructions page 3-198)

Symbol	Port size *1)	3,5		2,4		Actuation	Operating pressure (bar)	Flow (l/min)	Drawing no.	MODELS
	G1/4 1/4 NPT	G1/4 1/4 NPT	Flange Flange	Solenoid/Spring	2 ... 8	1300	1		9730000 9730010	
	G1/4 1/4 NPT	G1/4 1/4 NPT	Flange Flange	Solenoid/Solenoid	2 ... 8	1300	2		9731000 9731010	






*1) When ordering please indicate solenoid, voltage and current type (frequency).
Outside free of nonferrous metals.

For further information



www.norgren.com/info/en3-196

SOLENOID ACTUATORS

	Power consumption		Ex protection category	Protection class	Temperature ambient/fluid °C	Drawing no.	Circuit diagram no.	Solenoid codes
	24 V d.c. (W)	230 V a.c. (VA)						
	1,7	4,3	-	IP 65 (with connector) DIN EN 175301-803 Form B * ⁶⁾	-40 ... +50	4	1	3050
	1,6	3,5	-	IP 65 (with connector) DIN EN 175301-803 Form A * ⁶⁾	-40 ... +50	5	1	3036
	2	-	I13G I13D	EEx nA II T5 IP65 T 95°C with connector DIN EN 175301-803 Form A	-15 ... +50	5	1	3046
	-	4,0	I13G I13D	EEx nA II T5 IP65 T 95°C with connector DIN EN 175301-803 Form A	-15 ... +50	5	8	3047
	2,7	-	I12G	EEx m II T5 Stranded wire, 3 m long	-20 ... +50	6	1	3062 * ³⁾
	-	2,1	I12G	EEx m II T5 Stranded wire, 3 m long	-20 ... +50	6	8	3063 * ³⁾
	2,7	-	-	IP 66 Connection M12x1 DIN EN 60947-5-2	-10 ... +50	7	8	3071

Standard voltages 24 V DC, 230 V AC. Other voltages on request.

*³⁾ Certificate of Conformity PTB No. PTB 03 ATEX 2015X.

*⁶⁾ Connector is not included in delivery; Required connectors 068003 form B or 0570275 form A.

OPTIONS SELECTOR


973★0★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
		Solenoid actuators	Substitute
		See table	
Port size	Substitute		
G1/4	0		
1/4 NPT	1		

HERION 97300 SERIES Indirect solenoid actuated soft seal spool valves with NAMUR interface

3/2, 5/2 - G1/4

For intrinsically safe circuits, protection class EEx ia IIC T6/T4



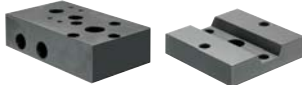

	Nom. resistance R _N coil (▲)	Required switching current (mA)	Resistance R _{w 50}	Required voltage at terminal R _{w 50}	Ambient temperature °C	Fluid temperature max. °C	Drawing no.	Circuite diagram no.	Solenoid codes
	275	42	330	12,3	T6 -40 ... +80 T4 -40 ... +80	T6 +70 T4 +85	8	13	3039 ^{*4)}

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 to account. On the other hand, the low effective inductivity and capacity can be ignored.

^{*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 is not included in delivery; required connector: type 0570275 form A.

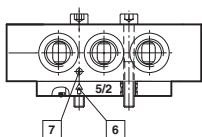
ACCESSORIES

Silencer	Connectors	Flange plate	Yoke
			
0014600 (G1/4)*	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

* For indoor use

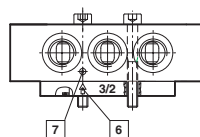
CONVERSION INSTRUCTIONS OF 5/2 INTO 3/2 WAY FUNCTION

5/2 way function
(original mode of supply)



6 Arrow
7 Marker

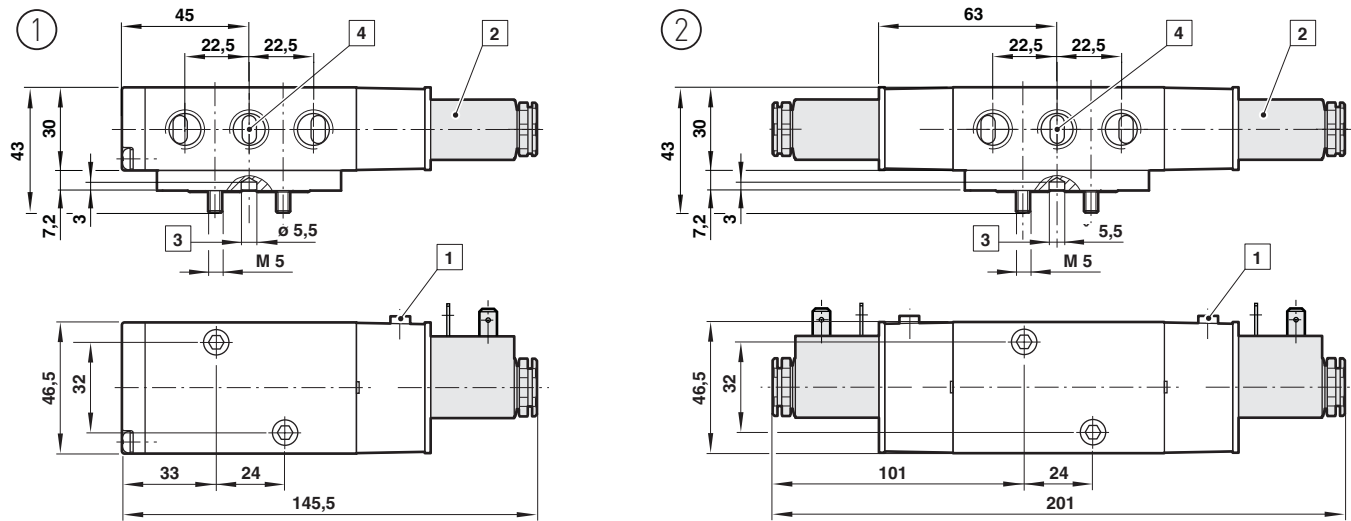
3/2 way function



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.

DIMENSIONS

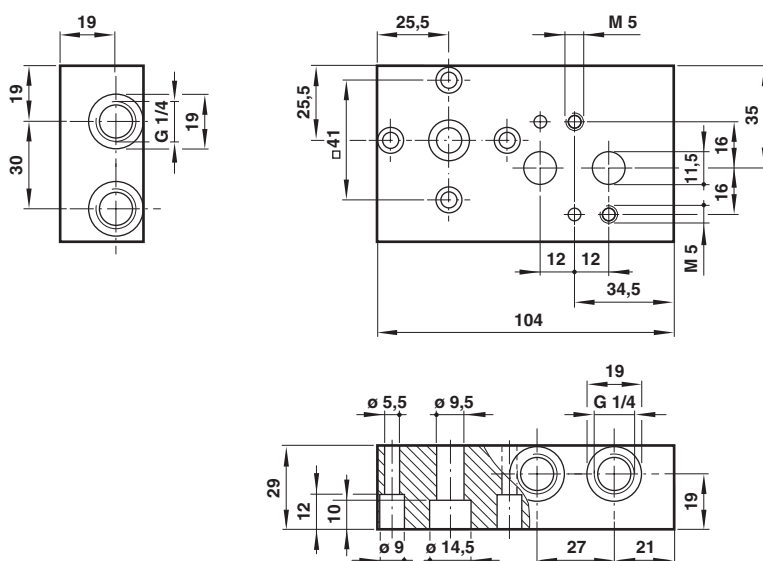
Valve dimensions



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

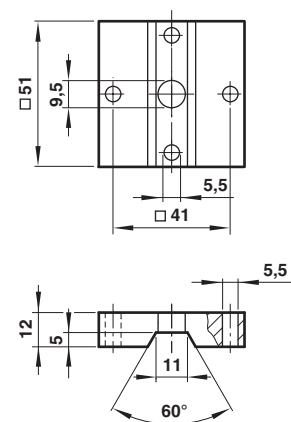
Single connection plate

Type: 0612790



NAMUR slot

Type: 0612791

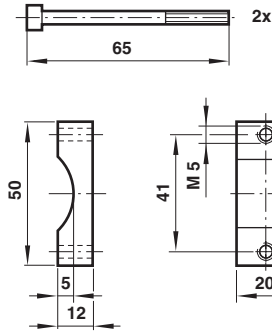


HERION 97300 SERIES Indirect solenoid actuated soft seal spool valves with NAMUR interface

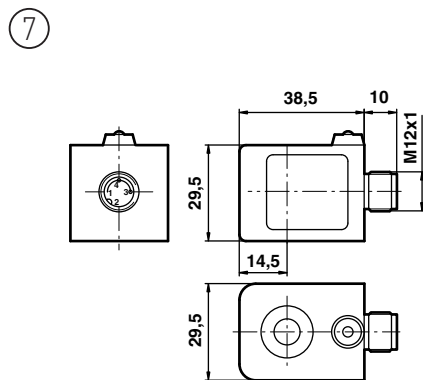
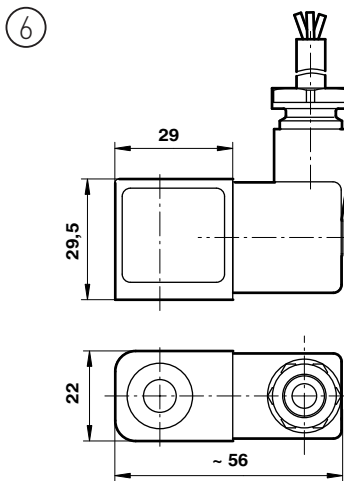
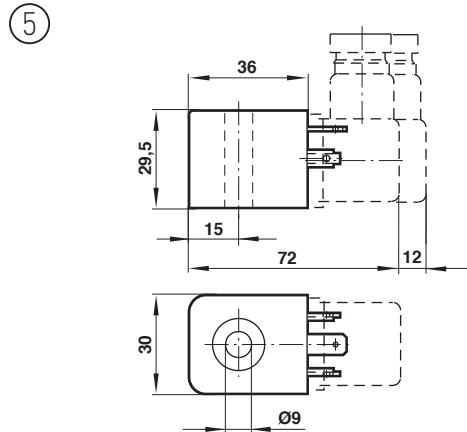
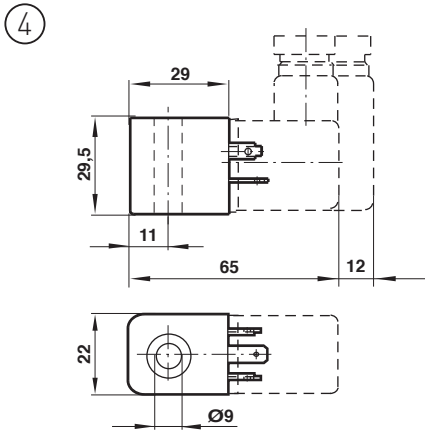
3/2, 5/2 - G1/4

Yoke

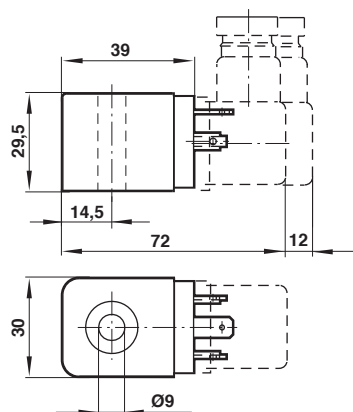
Type: 0540593



Solenoid dimensions

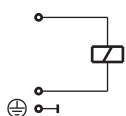


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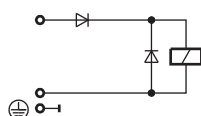


Circuit diagrams

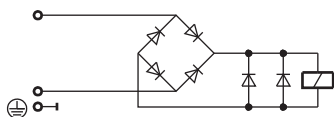
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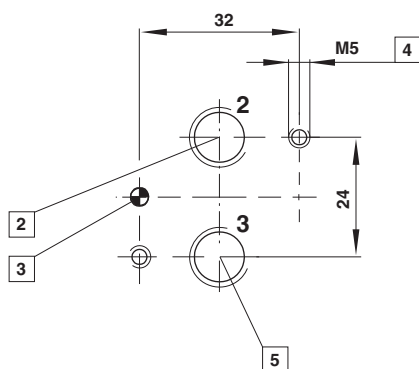
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NAMUR hole pattern



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