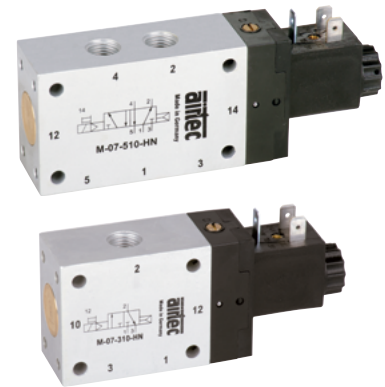


## Technical details

<b>Connection</b>	G1/4
<b>Nominal size</b>	9 mm
<b>Temperature range</b>	-10°C ... +70°C
<b>Medium</b>	Filtered, oil-free and dried compressed air according to ISO 8573-1:2010, Class 7:2:4, instrument air, free of aggressive additives. Alternatively the pressure dew point must be at least 10°C below lowest occurring ambient temperature.
<b>Materials</b>	Body: Al (anodized), plastic, seals: NBR, inner parts: Al, steel and plastic
<b>Protection</b>	IP 65 according to EN 60529
	Valves in accordance with 2014/34/EU (ATEX) available. (Chapter 13)



Electrically operated spool valve. The manual override is detent and is operated by screw driver.

## 3/2-way-valves

	<b>M-07-310-HN-xxx</b> 3/2-way, single solenoid, air spring return, NC
	<b>MO-07-310-HN-xxx</b> 3/2-way, single solenoid, air spring return, NO
	<b>M-07-311-HN-xxx</b> 3/2-way, single solenoid, mechanical spring return, NC
	<b>MO-07-311-HN-xxx</b> 3/2-way, single solenoid, mechanical spring return, NO
	<b>ME-07-311-HN-xxx</b> 3/2-way, single solenoid, external pilot pressure, mechanical spring return
	<b>M-07-320-HN-xxx</b> 3/2-way, double solenoid
	<b>ME-07-320-HN-xxx</b> 3/2-way, double solenoid, external pilot pressure

Please complete: xxx = electrical option

## 5/2- and 5/3-way-valves

	<b>M-07-510-HN-xxx</b> 5/2-way, single solenoid, air spring return
	<b>M-07-511-HN-xxx</b> 5/2-way, single solenoid, mechanical spring return
	<b>ME-07-511-HN-xxx</b> 5/2-way, single solenoid, external pilot pressure, mechanical spring return
	<b>M-07-520-HN-xxx</b> 5/2-way, double solenoid
	<b>ME-07-520-HN-xxx</b> 5/2-way, double solenoid, external pilot pressure
	<b>M-07-530-HN-xxx</b> 5/3-way, center position closed
	<b>M-07-532-HN-xxx</b> 5/3-way, center position safety
	<b>M-07-533-HN-xxx</b> 5/3-way, center position exhausted
	<b>M-07-534-HN-xxx</b> 5/3-way, center position pressurized

## Electrical options

Nominal voltage	Power consumption	Specifics	Plug connection*1	-XXX Manual override on same side of ports	
				2 or 2 and 4	1, 3 or 1, 3 and 5
12 V DC	4.2 W		Form B industrial norm	-411	-441
12 V DC	2.2 W	max. 8 bar	Form B industrial norm	-431	-461
24 V DC	4.2 W		Form B industrial norm	-412	-442
24 V DC	4.8 W		M 12	-O12	-O42
24 V DC	2.2 W	max. 8 bar	Form B industrial norm	-432	-462
24 V DC	2.5 W	max. 8 bar	M 12	-O32	-O62
24 V AC	7/4 VA		Form B industrial norm	-422	-452
115 V AC	7/4 VA		Form B industrial norm	-426	-456
230 V AC	7/4 VA		Form B industrial norm	-427	-457

\*1 Plug socket not included, suitable plug sockets see page 05.

## Series M-07

### Technical data

Model-no.:	M-07-310	MO-07-310	M-07-311	MO-07-311	ME-07-311	M-07-320	ME-07-320
Operating pressure* (bar)	1.5 ... 10	1.5 ... 10	2.5 ... 10	2.5 ... 10	0 ... 10	1.5 ... 10	0 ... 10
Pilot pressure* (bar)	1.5 ... 10	1.5 ... 10	2.5 ... 10	2.5 ... 10	2.5 ... 10	1.5 ... 10	1.5 ... 10
Flow rate (NI/min)	1580	1580	1580	1580	1580	1580	1580
Response time (ms) at 6 bar	on: 15 off: 19	on: 15 off: 19	on: 15 off: 19	on: 15 off: 19	on: 15 off: 22	on: 14 off: 14	on: 14 off: 14
Weight (kg)	0.375	0.375	0.380	0.380	0.450	0.520	0.578

Model-no.:	M-07-510	M-07-511	ME-07-511	M-07-520	ME-07-520
Operating pressure* (bar)	1.5 ... 10	2.5 ... 10	0 ... 10	2 ... 10	0 ... 10
Pilot pressure* (bar)	1.5 ... 10	2.5 ... 10	2.5 ... 10	2 ... 10	2 ... 10
Flow rate (NI/min)	1580	1580	1580	1580	1580
Response time (ms) at 6 bar	on: 15 off: 19	on: 15 off: 22	on: 15 off: 19	on: 14 off: 14	on: 14 off: 14
Weight (kg)	0.455	0.465	0.530	0.620	0.650

Model-no.:	M-07-530	M-07-532	M-07-533	M-07-534
Operating pressure* (bar)	3 ... 8	3 ... 8	3 ... 8	3 ... 8
Pilot pressure* (bar)	3 ... 8	3 ... 8	3 ... 8	3 ... 8
Flow rate (NI/min)	1300	1280	1300	1300
Response time (ms) at 6 bar	on: 15 off: 22	on: 35 off: 42	on: 15 off: 22	on: 15 off: 22
Weight (kg)	0.620	0.620	0.620	0.620

\* max. 8 bar at 2.2 W and 2.5 W

Model-no.:	M-07-310	MO-07-310	M-07-311	MO-07-311	ME-07-311	M-07-320	ME-07-320
Operating pressure* (bar)	1.5 ... 10	1.5 ... 10	2.5 ... 10	2.5 ... 10	0 ... 10	1.5 ... 10	0 ... 10
Pilot pressure* (bar)	1.5 ... 10	1.5 ... 10	2.5 ... 10	2.5 ... 10	2.5 ... 10	1.5 ... 10	1.5 ... 10
Flow rate (NI/min)	1580	1580	1580	1580	1580	1580	1580
Response time (ms) at 6 bar	on: 15 off: 19	on: 15 off: 19	on: 15 off: 19	on: 15 off: 19	on: 15 off: 22	on: 14 off: 14	on: 14 off: 14
Weight (kg)	0.375	0.375	0.380	0.380	0.450	0.520	0.578

Model-no.:	M-07-510	M-07-511	ME-07-511	M-07-520	ME-07-520	M-07-530	M-07-533	M-07-534
Operating pressure* (bar)	1.5 ... 10	2.5 ... 10	0 ... 10	2 ... 10	0 ... 10	3 ... 10	3 ... 10	3 ... 10
Pilot pressure* (bar)	1.5 ... 10	2.5 ... 10	2.5 ... 10	2 ... 10	2 ... 10	3 ... 10	3 ... 10	3 ... 10
Flow rate (NI/min)	1580	1580	1580	1580	1580	1300	1300	1300
Response time (ms) at 6 bar	on: 15 off: 19	on: 15 off: 22	on: 15 off: 19	on: 14 off: 14	on: 14 off: 14	on: 15 off: 22	on: 15 off: 22	on: 15 off: 22
Weight (kg)	0.455	0.465	0.530	0.620	0.650	0.620	0.620	0.620

\* max. 8 bar at 2.2 W and 2.5 W

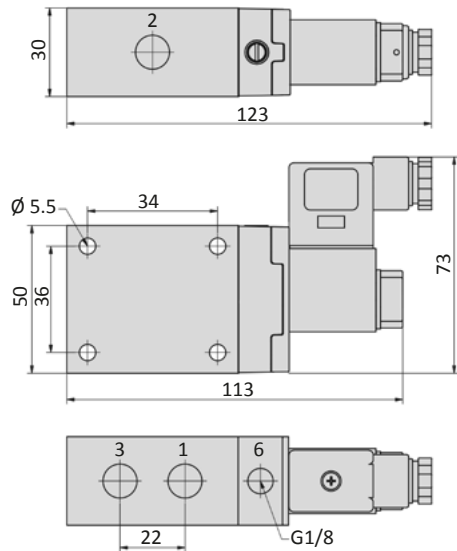
### Accessories



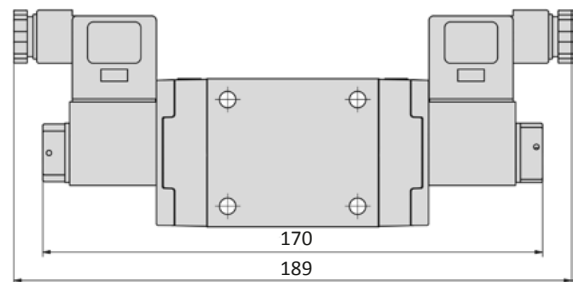
Plug sockets: page 05



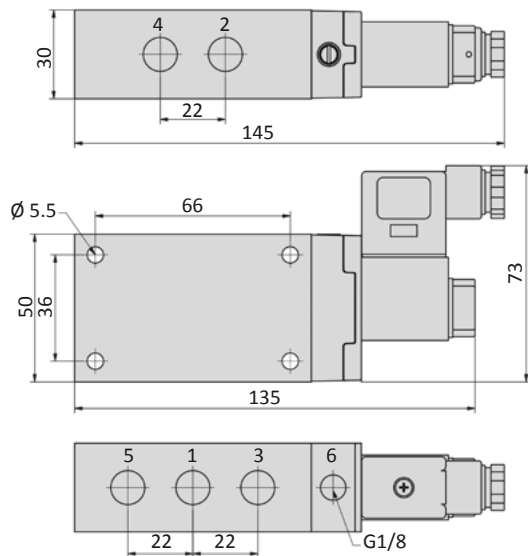
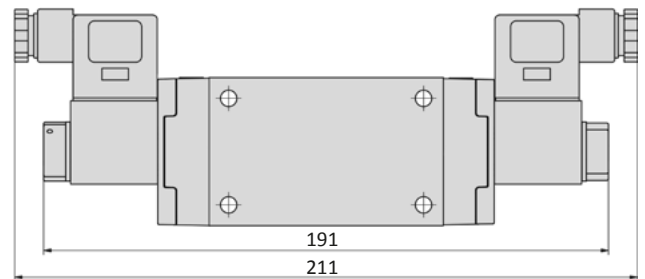
Manifolds: page 4-14

**Dimensions**
**M-07-31x-HN, MO-07-31x-HN\*, ME-07-31x-HN**


\*For the NO version MO-07 the ports 1 and 3 are inverted.

**M-07-320-HN, ME-07-320**


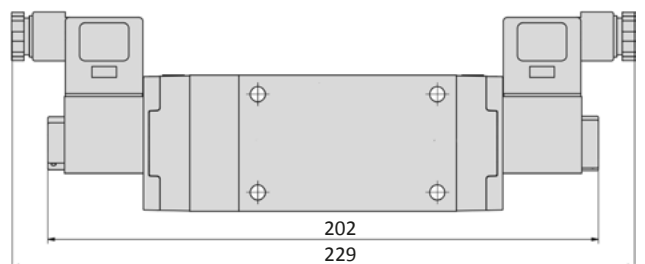
4

**M-07-51x-HN, ME-07-511-HN**

**M-07-520-HN, ME-07-520-HN, M-07-53x-HN**


- 1 = pressure inlet
- 2,4 = outlets
- 3,5 = exhausts
- 6 = external pilot pressure supply (only at ME-valves)

Plug socket (not included in scope of delivery) can be repositioned by 180°.

Solenoid coil can be repositioned by 4 x 90°.

**M-07-532-HN**


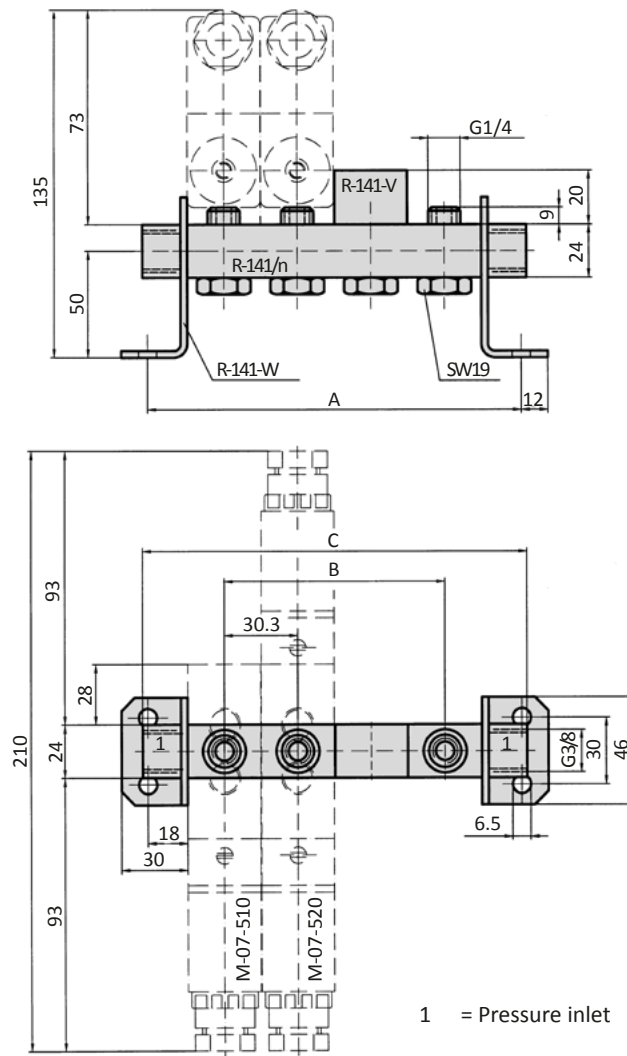
## Series M-07

### General information

The R-141/n manifold is suitable for the M-07 valve series. As well available are blind plates R-141-V for blank stations and mounting brackets R-141-W (pair). Hollow bolts and gaskets are included. The manifold is as well suitable for the pneumatically operated valve series P-07.



### Dimensions



Model-no.:	A	B	C	Weight (kg)
R-141/2	96.6	30.3	100	0.165
R-141/3	126.9	60.6	130	0.227
R-141/4	157.2	90.9	160	0.287
R-141/5	187.5	121.2	190	0.349
R-141/6	217.8	151.5	220	0.412
R-141/8	248.1	181.8	250	0.473
R-141/12	399.6	333.3	400	0.781

**Form A according to DIN EN 175301-803**

Overall width	27 mm
Contact distance	18 mm
Contacts	2P + E
Protection	IP 65 according to EN 60529 requires a profile gasket
For use with series	



Model-no.:	28-ST-03	28-ST-11-112
Voltage (AC/DC)	0 - 250 V	24 V
Status indicator	no	yes
Protective circuit	no	yes (Varistor)
Connecting cable	without	without
Wire cross section	max. 1.5 mm <sup>2</sup>	max. 1.5 mm <sup>2</sup>
Ø Connecting cable	6 - 8 mm	6 - 8 mm

**Form B according to DIN EN 175301-803**

Overall width	22 mm
Contact distance	10 mm
Contacts	2P + E
Protection	IP 65 according to EN 60529 requires a flat gasket
For use with series	



Model-no.:	28-ST-01-G
Voltage (AC/DC)	0 - 250 V
Status indicator	no
Protective circuit	no
Connecting cable	without
Wire cross section	max. 1.5 mm <sup>2</sup>
Ø Connecting cable	6 - 8 mm

**Form B industrial norm**

Overall width	22 mm
Contact distance	11 mm
Contacts	2P + E
Protection	IP 65 according to EN 60529 requires a flat gasket
For use with series	M-04, M-05, M-07, M-22, KM-09, KM-10, MS-18, KN-05, MN-06, MI-01, MI-02, MI-03

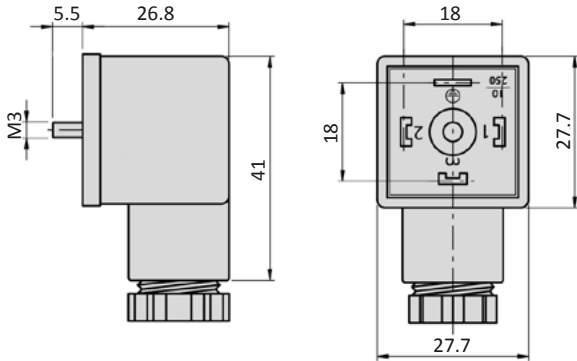


Model-no.:	28-ST-01	28-ST-04-112	28-ST-04-127	28-ST-06-112	28-ST-06-127	28-ST-06-K3-112	28-ST-06-K3-127
Voltage (AC/DC)	0 - 250 V	10 - 50 V	70 - 250 V	24 V	230 V	24 V	230 V
Status indicator	no	yes	yes	yes	yes	yes	yes
Protective circuit	no	no	no	yes (Varistor)	yes (Varistor)	yes (Varistor)	yes (Varistor)
Connecting cable	without	without	without	without	without	3 m	3 m
Wire cross section	max. 1.5 mm <sup>2</sup>	max. 1.5 mm <sup>2</sup>	max. 1.5 mm <sup>2</sup>	max. 1.5 mm <sup>2</sup>	max. 1.5 mm <sup>2</sup>	3 x 0.75 mm <sup>2</sup>	3 x 0.75 mm <sup>2</sup>
Ø Connecting cable	6 - 8 mm	6 - 8 mm	6 - 8 mm	6 - 8 mm	6 - 8 mm		

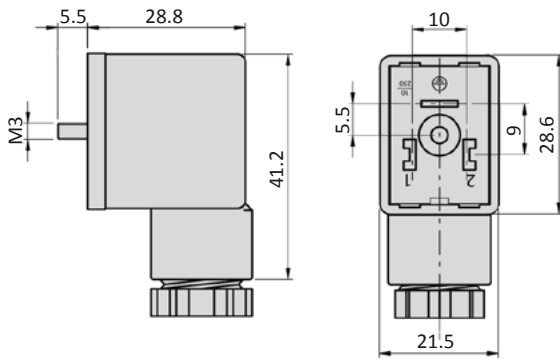
# Plug sockets

## Dimensions

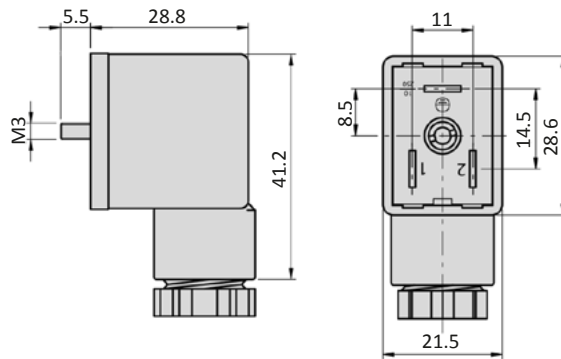
### Form A according to DIN EN 175301-803



### Form B according to DIN EN 175301-803



### Form B industrial norm



## Form A according to DIN EN 175301-803

Overall width	30 mm
Contact distance	18 mm
Contacts	2P + E
Protection	IP 65 according to EN 60529 with connected plug socket
Duty cycle	100 %
Temperature range*	-20°C ... +50°C
Voltage tolerance	± 10 %
For use with series	



\* The max. applicable operating temperature, depends on the temperature specification of the used valve.

Model-no.:	23-SP-016-712	23-SP-016-722	23-SP-016-726	23-SP-016-727
Voltage	24 V DC	24 V AC	110/115 V AC	230 V AC/ 110 V DC
Power consumption DC	4.5 W	-	-	5.3 W
Power consumption AC	-	8.0 VA	7.6 VA/ 8.6 VA	7.9 VA
Specifics	Enhanced humidity resistance.			

## Form B according to DIN EN 175301-803

Overall width	22 mm
Contact distance	10 mm
Contacts	2P + E
Protection	IP 65 according to EN 60529 with connected plug socket
Duty cycle	100 %
Temperature range*	-20°C ... +50°C
Voltage tolerance	± 10 %
For use with series	



\* The max. applicable operating temperature, depends on the temperature specification of the used valve.

Model-no.:	23-SP-011-G-412	23-SP-011-G-427
Voltage	24 V DC	230 V AC
Power consumption DC	4.2 W	-
Power consumption AC	-	4.0 VA

## Solenoid coils

### Form B industrial norm

Overall width	22 mm
Contact distance	11 mm
Contacts	2P + E
Protection	IP 65 according to EN 60529 with connected plug socket
Duty cycle	100 %
Temperature range*	-20°C ... +50°C
Voltage tolerance	± 10 %
For use with series	M-04, M-05, M-07, M-22, KM-09, KM-10, MS-18, KN-05, MN-06, MI-01, MI-02, MI-03



\* The max. applicable operating temperature, depends on the temperature specification of the used valve.

Model-no.:	23-SP-011-411	23-SP-011-412	23-SP-011-422	23-SP-011-426	23-SP-011-427	23-SP-012-431	43-SP-012-432
Voltage	12 V DC	24 V DC	24 V AC	115 V AC	230 V AC	12 V DC	24 V DC
Power consumption DC	4.2 W	4.2 W	-	-	-	2.2 W	2.2 W
Power consumption AC	-	-	4 VA	4 VA	4 VA	-	-

Model-no.:	23-SP-011-1-711	23-SP-011-1-712	23-SP-011-1-725	23-SP-011-1-727	23-SP-011-1-732
Voltage	12 V DC/ 24V AC	24 V DC/ 48 V AC	110/115 V AC	230 V AC	24 V DC
Power consumption DC	4.6 W	4.8 W	-	-	2.5 W
Power consumption AC	7.1 VA	7.7 VA	6.0 VA/ 7.6 VA	7.9 VA	-
Specifics	Enhanced humidity resistance.				

### M12 connection

Overall width	22 mm
Contact distance	-
Contacts	2P
Protection	IP 65 according to EN 60529 with connected plug socket
Duty cycle	100 %
Temperature range*	-20°C ... +50°C
Voltage tolerance	± 10 %
For use with series	



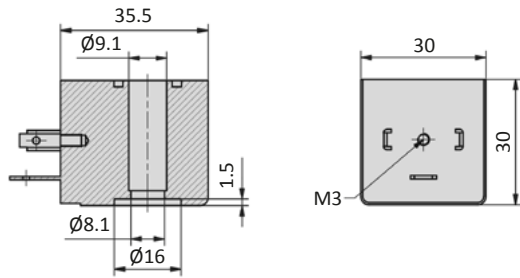
\* The max. applicable operating temperature, depends on the temperature specification of the used valve.

Model-no.:	23-SP-011-5-012	23-SP-012-5-032
Voltage	24 V DC	24 V DC
Power consumption DC	4.8 W	2.5 W
Power consumption AC	-	-
Specifics	Mounting on manifold not allowed. With integrated LED and protective circuit.	Min. mounting distance for manifold mounting is 20 mm. With integrated LED and protective circuit.

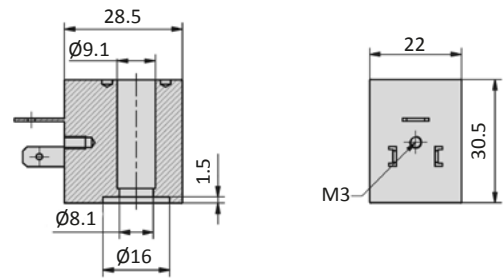


Dimensions

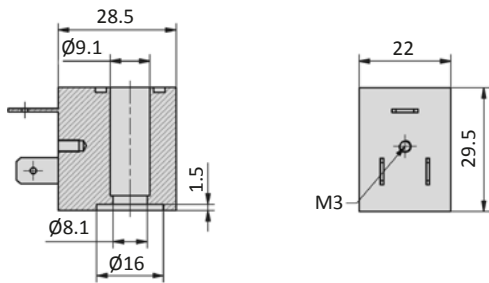
Form A according to DIN EN 175301-803



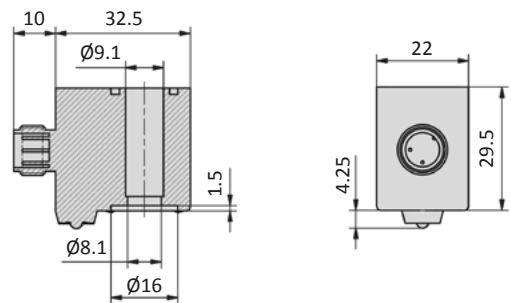
Form B according to DIN EN 175301-803



Form B industrial norm



M12 connection



## Voltage code

- HN * - * * *				
Manual override	Coil and plug options	Coil type	Manual override position on side of	Voltage
HN detent	0 ATEX 2GD, encapsulated with casting compound width 30 mm	23-SP-037	0 without indication ports 1/3/(5)	0 without indication
HNR detent	1 with coil and plug	according to valve	1 DC ports 1/3/(5)	1 12 V
HNT non-detent	2		2 AC ports 1/3/(5)	2 24 V
	3		3 AC ports 1/3/(5)	3 42 V
	4 with coil, without plug	according to valve	4 DC, low power consumption ports 1/3/(5)	4 48 V
	5 without coil	no	5 DC ports 2/(4)	5 110 V
	6 without pilot valve	no	6 AC ports 2/(4)	6 115 V
	7 with coil, with enhanced humidity resistance, without plug	according to valve	7 DC, low power consumption ports 2/(4)	7 230 V
	8 with coil, with enhanced humidity resistance, with plug	according to valve	8 without indication ports 2/(4)	8 240 V
	9 ATEX 2GD, intrinsically safe, with plug width 30 mm	23-SP-038		9
	A ATEX 3GD, without plug, width 30 mm	23-SP-040		A 4 V
	B ATEX 3GD, with plug, width 30 mm	23-SP-040		B 6 V
	C ATEX 3GD, without plug, width 22 mm	23-SP-041		C 8 V
	D			D 61 V
	E ATEX 2GD, encapsulated with casting compound width 22 mm	23-SP-036		E 36 V
	F with coil, with enhanced humidity resistance, without plug, low temperature version	23-SP-060-1		F 9 V
	G			
	H with coil shape B according to DIN EN 175301-803, with plug	23-SP-011-G		
	I with coil shape B according to DIN EN 175301-803, without plug	23-SP-011-G		
	J with coil shape A according to DIN EN 175301-803, without plug (if not standard)	23-SP-016		
	K with coil shape A according to DIN EN 175301-803, with plug (if not standard)	23-SP-016		
	L with coil, with plug with LED and protective circuit	according to valve		
	M with coil, with plug with LED, without protective circuit	according to valve		
	N with coil with M12 connection	according to valve		
	O with coil with M12 connection with LED and protective circuit	according to valve		
	P without connector bridge, without plug			
	Q with coil with with cable	according to valve		
	R with cable up to 1 m length	according to valve		
	S with connector bridge, without plug			
	T			
	U ATEX 2GD, without coil (for coil 23-SP-036)	no		
	V ATEX 2GD, Flame proof enclosures and encapsulated with casting compound	23-SP-045		
	W ATEX 2GD / 3GD, without coil (for coil 23-SP-041 and 23-SP-045)	no		
	X ATEX 3GD, without coil (for coil 23-SP-040 in 230V AC and 115V AC)	no		
	Y ATEX 2GD, without coil (for coil 23-SP-038)	no		
	Z ATEX 2GD / 3GD, without coil (for coil 23-SP-040 in 24V DC and 23-SP-037)	no		

Not all options are suitable for all valve series