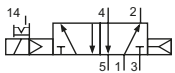


Technical details

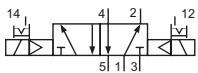
| | |
|--------------------------|---|
| Connection | Sub-base mounting |
| Nominal size | 3 mm |
| Temperature range | -10°C ... +70°C |
| Medium | Filtered, oil-free and dried compressed air according to ISO 8573-1:2010, Class 7:2:4, instrument air, free of aggressive additives. Alternatively the pressure dew point must be at least 10°C below lowest occurring ambient temperature. |
| Materials | Body: Al (anodized), plastic, seals: NBR, inner parts: Al, steel and plastic |
| Protection | IP 65 according to EN 60529 |



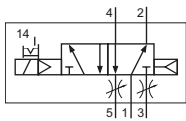
Electrically operated spool valve. The manual override is detent and is operated by screw driver. Gaskets and screws are part of delivery.

5/2-way-valves


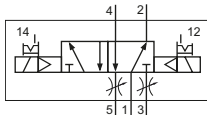
MC-20-510-HN-xxx
5/2-way, single solenoid, air spring return



MC-20-520-HN-xxx
5/2-way, double solenoid

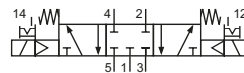


MD-20-510-HN-xxx
5/2-way, single solenoid, air spring return, with exhaust throttles

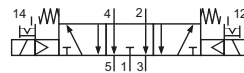


MD-20-520-HN-xxx
5/2-way, double solenoid, with exhaust throttles

Please complete: xxx = electrical option

5/3-way-valves


MC-20-530-HN-xxx
5/3-way, center position closed



MC-20-533-HN-xxx
5/3-way, center position exhausted

Electrical options

| Nominal voltage | Power consumption | Specifics | Plug connection* ¹ | -xxx Plug connections | |
|-----------------|-------------------|-----------|-------------------------------|--------------------------|--------------|
| | | | | opposite 1,2,3,4,5 | at 1,2,3,4,5 |
| 12 V DC | 1 W | | Form C industrial norm | -411 | -441 |
| 24 V DC | 1 W | | Form C industrial norm | -412 | -442 |

*¹ Plug socket not included, suitable plug sockets see page 03.

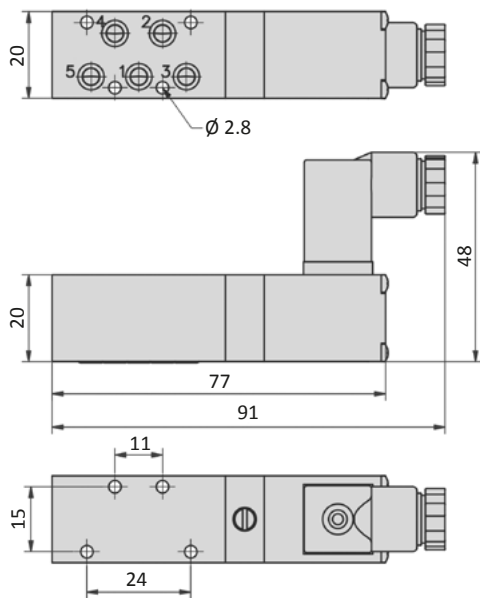
Series MC-20 and MD-20

Technical data

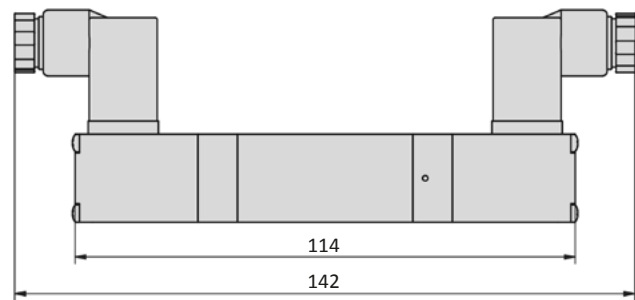
| Model-no.: | MC-20-510 MD-20-510 | MC-20-520 MD-20-520 | MC-20-530 | MC-20-533 |
|--------------------------------|------------------------|------------------------|-------------------|-------------------|
| Operating pressure (bar) | 2.5 ... 8 | 2.5 ... 8 | 3 ... 8 | 3 ... 8 |
| Pilot pressure (bar) | 2.5 ... 8 | 2.5 ... 8 | 3 ... 8 | 3 ... 8 |
| Flow rate (NI/min) | 220 | 220 | 220 | 220 |
| Response time (ms) at 6 bar | on: 12 off: 12 | on: 11 off: 11 | on: 15 off: 22 | on: 15 off: 22 |
| Weight (kg) | 0.100 | 0.156 | 0.162 | 0.162 |

Dimensions

MC-20-510-HN



MC-20-520-HN, MC-20-53x-HN



Form C Industriennorm

| | |
|-----------------------------|---|
| Baubreite | 15 mm |
| Kontaktabstand | 9,4 mm |
| Kontakte | 2P + E |
| Schutzart | IP 65 nach EN 60529 in Verbindung mit Flachdichtung |
| Einsatz für Baureihe | M-20, MC-20, MD-20, MS-20 |

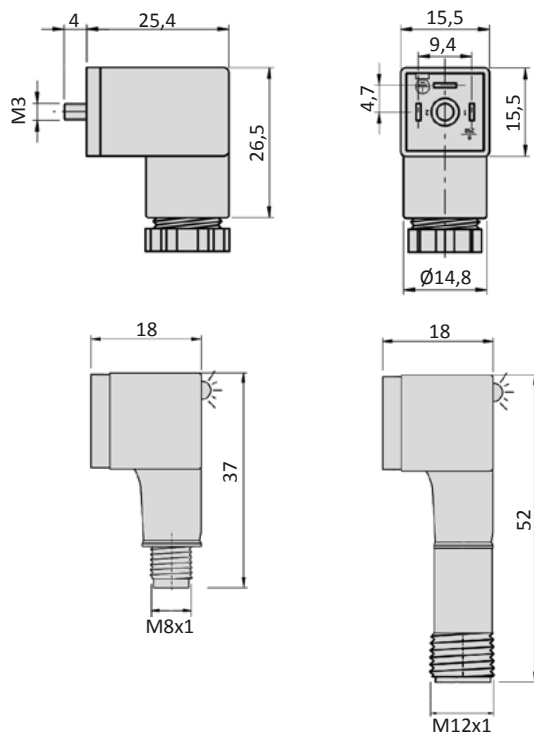


| | | | | | | |
|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|-------------------------|
| Model-no.: | 28-ST-02-01 | 28-ST-09-112 | 28-ST-09-127 | 28-ST-10-112 | 28-ST-10-127 | 28-ST-10-K3-112 * |
| Voltage (AC/DC) | 0 - 250 V | 10 - 50 V | 70 - 250 V | 24 V | 230 V | 24 V |
| Status indicator | no | yes | yes | yes | yes | yes |
| Protective circuit | no | no | no | yes (varistor) | yes (varistor) | yes (varistor) |
| Connecting cable | without | without | without | without | without | 3 m |
| Wire cross section | max. 0.75 mm ² | max. 0.75 mm ² | max. 0.75 mm ² | max. 0.75 mm ² | max. 0.75 mm ² | 3 x 0.5 mm ² |
| Ø Connecting cable | 4 - 6 mm | 4 - 6 mm | 4 - 6 mm | 4 - 6 mm | 4 - 6 mm | |

| | | |
|---------------------------|----------------|----------------|
| Model-no.: | 28-ST-02-2-05 | 28-ST-02-2-07 |
| Voltage (AC/DC) | 24 V | 24 V |
| Status indicator | yes | yes |
| Protective circuit | yes (varistor) | yes (varistor) |
| Connection | M8 | M12 |



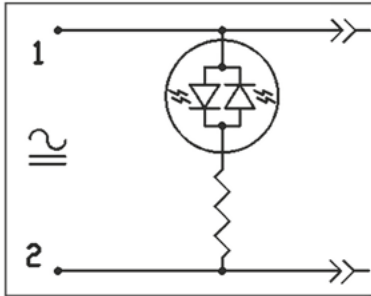
* These plug sockets are fitted with integrated flat gaskets.

Abmessungen
Form C Industriennorm


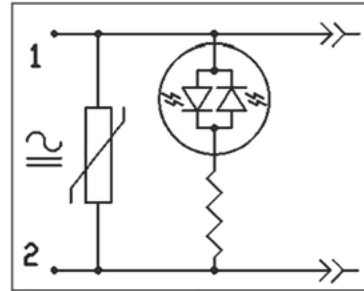
Plug sockets

Electrically circuits

Status indicator (LED)

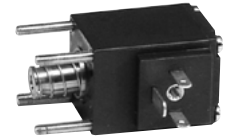


Status indicator (LED) and protective circuit (varistor)



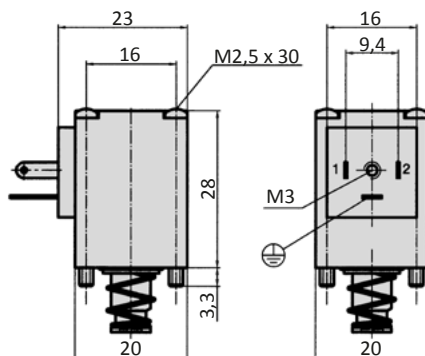
Form C industrial norm

| | |
|----------------------------|--|
| Overall width | 20 mm |
| Contact distance | 9,4 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-20, MS-20, MC-20, MD-20 |



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

| | | |
|-----------------------------|-------------|-------------|
| Model-no.: | 23-M-20-411 | 23-M-20-412 |
| Voltage | 12 V DC | 24 V DC |
| Power consumption DC | 2 W | 2 W |
| Power consumption AC | - | - |

Dimensions
Form C industrial norm


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