

2/2 Directional Control Valves
Actuation: Electromagnetic
Solenoid direct operated poppet valves
Port size G 1/4, G 1/2 or 1/4 NPT

- Working from 0 bar up
- Short switching times
- Suited for fine vacuum $1.33 \cdot 10^{-3}$ mbar
- Assembled oil and grease-free
- Free of substances which impair paint wetting
- For AC solenoid systems with integrated rectifier (40 to 60 Hz)



Technical data

Fluid:

For neutral gaseous and liquid fluids ¹⁾

Actuation:

Solenoid direct operated poppet valves

Mounting position:

Optional, preferably with solenoid on top

Nominal size:

1,5 to 12 mm

Port size:

G 1/4, G 1/2, 1/4 NPT

Operating pressure:

0 to 50 bar

Temperature:

-25 °C to +80 °C

Material:

Housing: Brass

Seal: NBR (Perbunan)

Inner parts: Steel 1.4104, brass

1) With contaminated fluids, upstream installation of a dirt trap is recommended.

Ordering example

See information on next page.

Further versions upon request

Solenoid with small power consumption

Solenoid for higher temperatures

Solenoid in protection class EEx m

Solenoid for outdoor application

Solenoid with FM-/CSA-certification

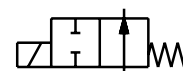
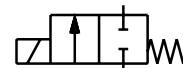
(NEMA 4, 4X, 7 und 9)

For fluid temperatures from -50 °C to +180 °C

Seat seals FKM, EPDM, FFKM, PTFE, Rubin

Connectors

See data sheet 7503364





Type key

950X*X*.*.*.*.*.*.*.*.*.*

| Nominal size | Number code | Frequency (Hz) | Number code |
|----------------------------|------------------------|---------------------|-------------|
| 1,5; 2; 3; 4; 5; 6; 8; 12 | 1, 2, 3, 4, 5, 6, 8, 7 | at DC | 00 |
| | | at AC (40 to 60 Hz) | 50 |
| Material Seat seal | Number code | Voltage (V) | |
| NBR (Perbunan) | 0 | 24 | 024 |
| EPDM | 1 | 230 | 230 |
| FKM (Viton) | 2 | | |
| PTFE (Teflon) *(DN1,5 - 4) | 3 | | |
| FFKM (Kalrez) | 4 | | |
| Rubin (DN2 + 3) | 5 | | |
| Solenoid | Number code | | |
| see solenoids | | | |

* Possible only with series 9500XXX

Ordering example

2/2 directional control valve, Nominal size 2, normally closed, port size G 1/4, Protection class IP 00, current draw 16 W, voltage 24 V DC

Part No.: 9500200.0700.024.00

General information

Series 9500XXX and 9503XXX

Switching function: Normally closed

| Symbol | Type * | Port size | Nominal size | k_v -value (C_v (US) $\approx k_v \times 1,2$) | Dimensional drawing | Weight without solenoid (kg) |
|--------|----------------|-----------|--------------|---------------------------------------------------------|---------------------|------------------------------|
| | 9500100 | G 1/4 | 1,5 | 0,07 | M01 | 0,21 |
| | 9503100 | 1/4 NPT | | | | |
| | 9500200 | G 1/4 | 2 | 0,12 | M01 | 0,21 |
| | 9503200 | 1/4 NPT | | | | |
| | 9500300 | G 1/4 | 3 | 0,20 | M01 | 0,21 |
| | 9503300 | 1/4 NPT | | | | |
| | 9500400 | G 1/4 | 4 | 0,35 | M01 | 0,21 |
| | 9503400 | 1/4 NPT | | | | |

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

Solenoids and operating pressures

| Protection class | Solenoid type / Solenoid power | | | | | | | |
|------------------------------------------|--------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| | DC | | AC | | DC | | AC | |
| IP 00 without conn. DIN 43650 form A | 0700 | 3703 | 0712 | 3705 | 0200 | 3204 | 0246 | 3206 |
| | 16 W | 18 VA | 7 W | 10 VA | 12 W | 12 VA | 7 W | 8 VA |
| IP 65 with connector DIN 43650 form A | 0701 | 3704 | 0716 | 3706 | 0201 | 3205 | 0247 | 3207 |
| | 16 W | 18 VA | 7 W | 10 VA | 12 W | 12 VA | 7 W | 8 VA |
| EEx m II T5 with 3 m cable | | | | | 0270 | 0271 | 0272 | 0273 |
| | | | | | 11 W | 13 VA | 7 W | 9 VA |
| EEx me II T4/T5/T6 with terminal box | 3930 | 3931 | 3920 | 3921 | 3920 | 3921 | 3910 | 3911 |
| | 12 W | 13 VA | 8 W | 9 VA | 8 W | 9 VA | 4 W | 5 VA |
| Nom. size / Pressures | | | | | | | | |
| 1,5 mm | 50 bar | 50 bar | 50 bar | 50 bar | 50 bar | 50 bar | 40 bar | 40 bar |
| 2 mm | 50 bar | 50 bar | 50 bar | 50 bar | 40 bar | 40 bar | 35 bar | 35 bar |
| 3 mm | 35 bar | 35 bar | 16 bar | 16 bar | 10 bar | 10 bar | 8 bar | 8 bar |
| 4 mm | 12 bar | 12 bar | 5 bar | 5 bar | 4 bar | 4 bar | 3 bar | 3 bar |

The solenoid systems which appear in a given column are all suitable for the specified operating pressure even if their power ratings vary.



Series 9501XXX and 9504XXX

Switching function: Normally closed

| Symbol | Type * | Port size | Nominal size | Operating pressure (bar) | k _v -value (C _v (US) ≈ k _v x 1,2) | Dimensional drawing | Weight without solenoid (kg) |
|--------|----------------|-----------|--------------|--------------------------|--------------------------------------------------------------------|---------------------|------------------------------|
| | 9501400 | G 1/4 | 4 | see solenoids | 0,35 | M02 | 0,25 |
| | 9504400 | 1/4 NPT | | | | | |
| | 9501500 | G 1/4 | 5 | see solenoids | 0,45 | M02 | 0,25 |
| | 9504500 | 1/4 NPT | | | | | |
| | 9501600 | G 1/4 | 6 | see solenoids | 0,55 | M02 | 0,25 |
| | 9504600 | 1/4 NPT | | | | | |
| | 9501800 | G 1/2 | 8 | see solenoids | 1,20 | M04 | 0,80 |
| | 9501700 | G 1/2 | | | 1,70 | | |

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

Solenoids and operating pressures

| Protection class | Solenoid type / Solenoid power | | | |
|------------------------------------------|--------------------------------|----------------------|--------------------|----------------------|
| | DC | AC | DC | AC |
| IP 00 without conn. DIN 43650 form A | 0800 16 W | 3803 18 VA | 0827 7 W | 3805 10 VA |
| IP 65 with connector DIN 43650 form A | 0801 16 W | 3804 18 VA | 0813 7 W | 3806 10 VA |
| EEx me II T5/T6 with terminal box | 3980 12 W | 3981 13 VA | 3970 7 W | 3971 9 VA |
| Nom. size / Pressures | | | | |
| 4 mm | 14 bar | 14 bar | 8 bar | 8 bar |
| 5 mm | 7 bar | 7 bar | 3,5 bar | 3,5 bar |
| 6 mm | 5 bar | 5 bar | 2 bar | 2 bar |
| 8 mm | 2,5 bar | 2,5 bar | 1 bar | 1 bar |
| 12 mm | 1 bar | 1 bar | – | – |

The solenoid systems which appear in a given column are all suitable for the specified operating pressure even if their power ratings vary.

Series 9502XXX and 9505XXX

Switching function: Normally open

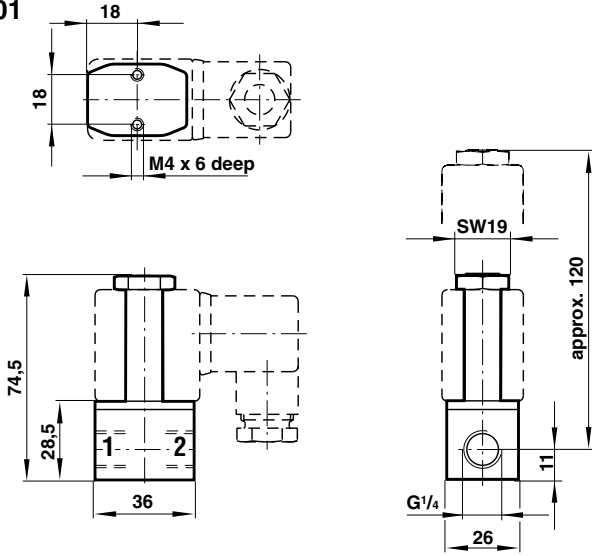
| Symbol | Type * | Solenoid type | | Port size | Nominal size | Operating pressure (bar) | | k _v -value (C _v (US) ≈ k _v x 1,2) | Dimensional drawing | Weight without solenoid (kg) |
|--------|----------------|---------------|-------------|-----------|--------------|--------------------------|------|--------------------------------------------------------------------|---------------------|------------------------------|
| | | DC | AC | | | Min. | Max. | | | |
| | 9502210 | 0246 | 3206 | G 1/4 | 2 | 0 | 20 | 0,10 | M03 | 0,21 |
| | 9505210 | 0246 | 3206 | 1/4 NPT | | | | | | |
| | 9502310 | 0246 | 3206 | G 1/4 | 3 | 0 | 10 | 0,16 | M03 | 0,21 |
| | 9505310 | 0246 | 3206 | 1/4 NPT | | | | | | |
| | 9502430 | 0827 | 3805 | G 1/4 | 4 | 0 | 6 | 0,30 | M03 | 0,25 |
| | 9505430 | 0827 | 3805 | 1/4 NPT | | | | | | |

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

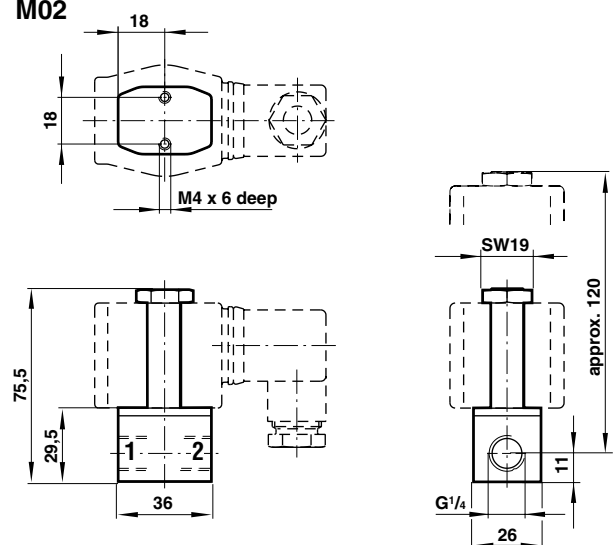


Dimensional drawings: Valves

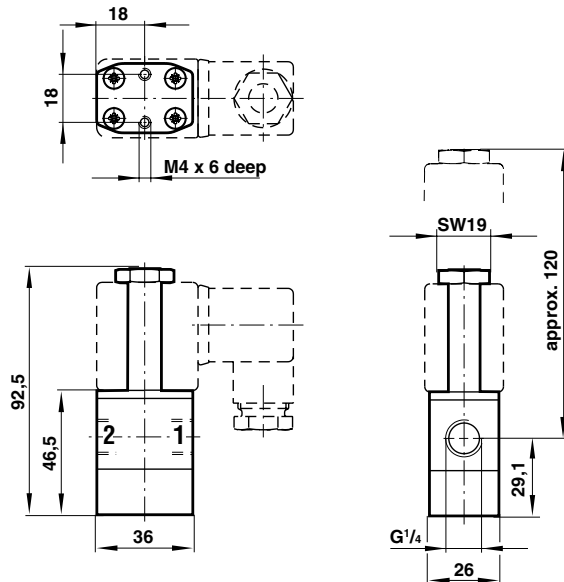
M01



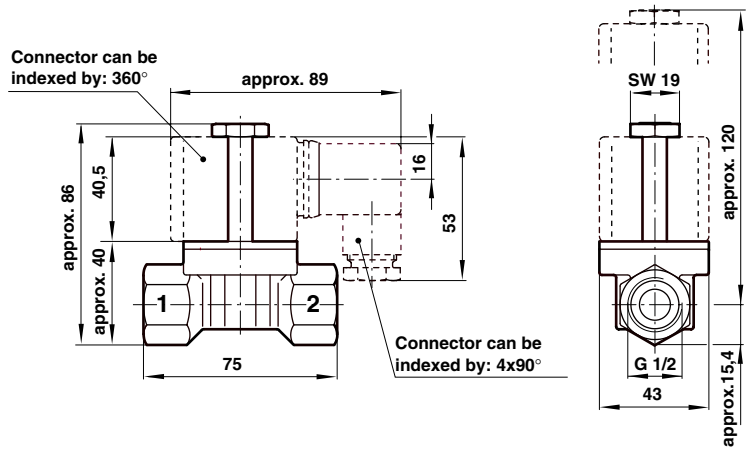
M02



M03

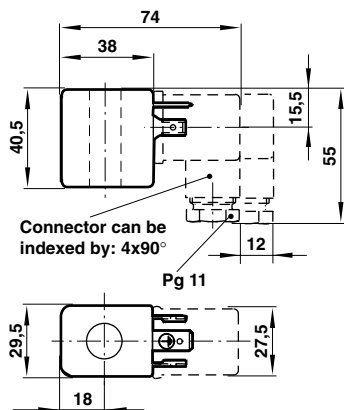


M04

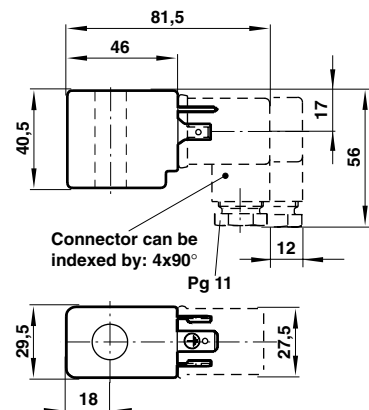


Dimensional drawings: Solenoids

Type: 020X, 024X



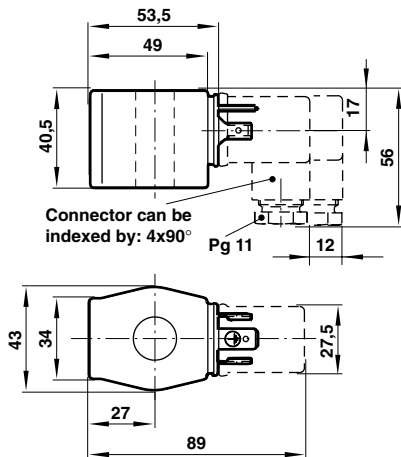
Type: 320X



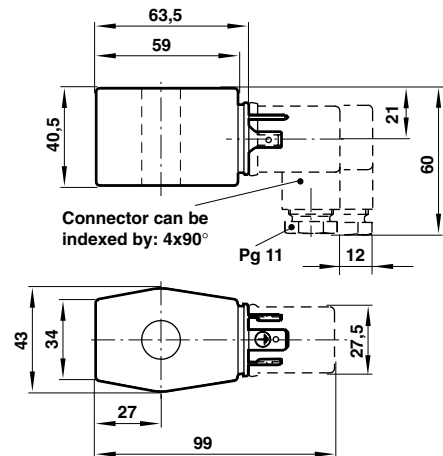


Dimensional drawings: Solenoids

Type: 07XX, 08XX

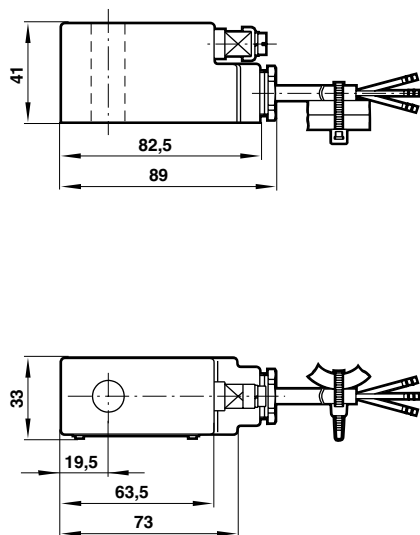


Type: 37XX, 38XX



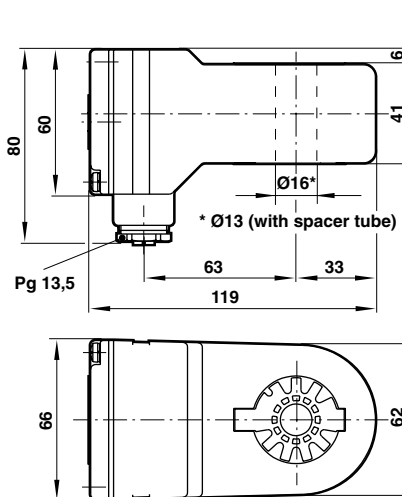
Protection class EEx m

Type: 027X



Protection class EEx me

Type: 39XX



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.





