

PNEUMATIC VALVES

SERIES 79-81-84-85-87 Steelspool Valves

• SOLENOID VALVES •

• MECHANICAL VALVES •

• PNEUMATIC VALVES •

• COILS & PLUG-IN SOCKETS •

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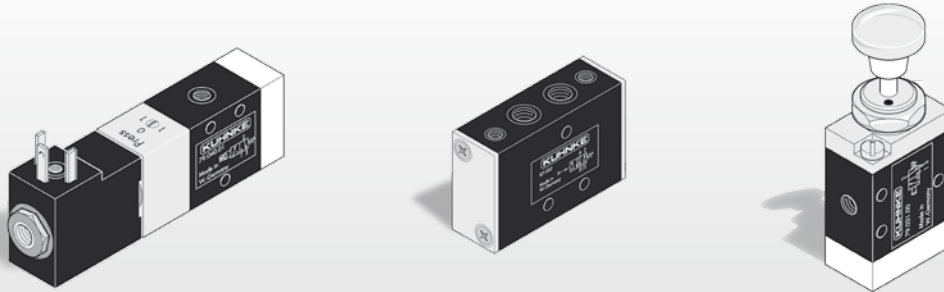
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STEELSPPOOL VALVES

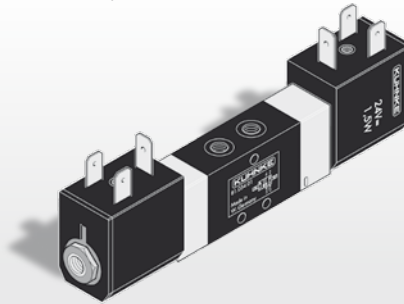
General Information

The steelspool range of valves includes electrical, mechanical and pneumatic version for single or modular use.



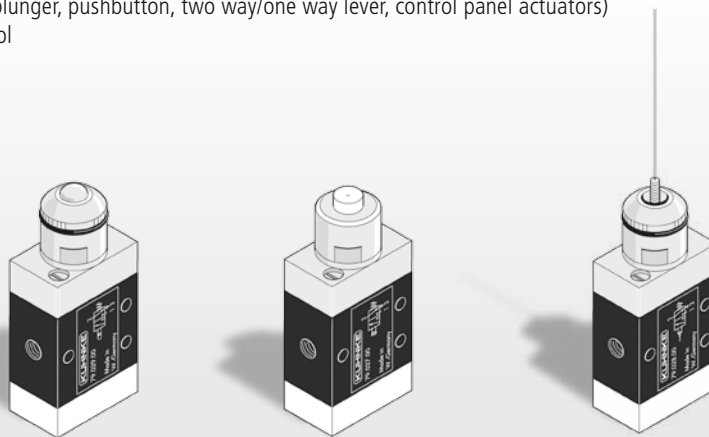
These valves can be supplied in a wide range of versions, for example:

- different plug options
- inline or sub-base mounting
- with/without manual override
- also available as a low watt version
- nominal orifice 2 mm or 4 mm

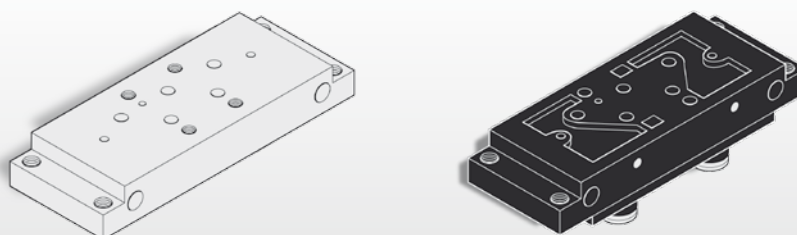


Other features:

- different actuating modes (plunger, pushbutton, two way/one way lever, control panel actuators)
- with/without pressure control



Mounting flange available.

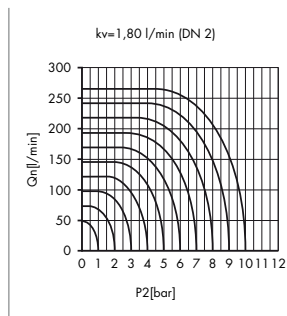
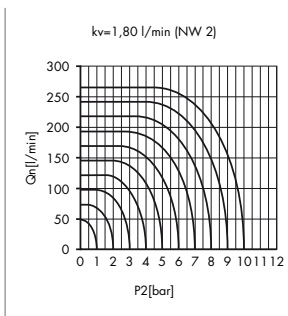


SOLENOID VALVES

General Information

| Series | Section | Function | Pressure range | Pressure connection (nominal orifice) | Ambient temperature range | Protection classification |
|-----------|---------|----------|----------------|---------------------------------------|---------------------------|---|
| Series 79 | A | 3/2-way | 2 - 8 bar | M5 (2 mm) | -10 °C +50 °C | IP 65 DIN 40050 (with plug-in socket and occupied pneumatic connections) |
| Series 85 | B | 3/2-way | 2 - 8 bar | G 1/8 (4 mm) | -10 °C +50 °C | |
| Series 81 | C | 5/2-way | 2 - 8 bar | M5 (2 mm) | -10 °C +50 °C | |
| Series 84 | D | 5/2-way | 2 - 8 bar | subplates only (2 mm) | -10 °C +50 °C | |
| Series 87 | E | 5/2-way | 2 - 8 bar | G 1/8 (4 mm) | -10 °C +50 °C | |

- Housing material:** Aluminium alloy
- Valve end cap material:** Zinc alloy or Makrolon®
- Spool and liner material:** Steel, hardened, corrosion resistant
- Duty cycle:** Continuous 100%
- Earthing contact:** Part of the standard device
- Electrical version:** According to VDE 0580/VDE 0110 insulation group C
- Electrical connections:** Plug-in socket/flying lead, flat plug receptacles 2 x 0.8 DIN 43650 or 6.3 x 0.8 DIN 46247
- Mounting:** Any position
- Lubricant:** Shell Tellus C10 or equivalent
- Operating medium:** 5 micron filtered, lubricated (or not) compressed air; also suitable for other media conforming to ISO-VG 10



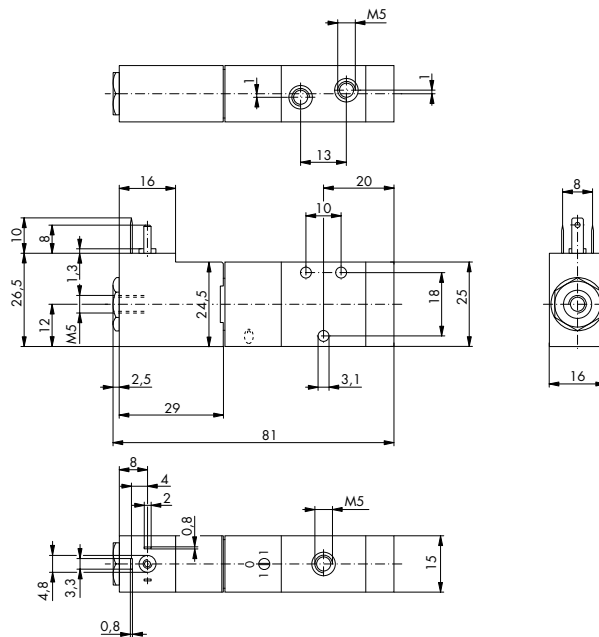
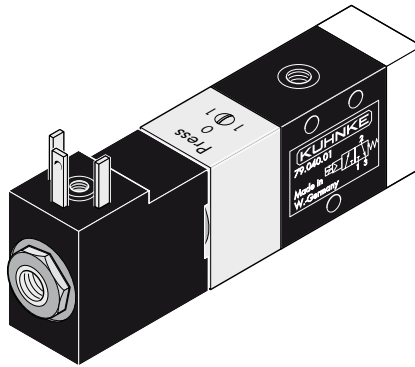
3/2-way Solenoid Steelspool Valves - M5 (D_{nom} 2 mm)

SECTION A

Actuation: Solenoid, manual override

Return: Spring

Coil Type: Type 64

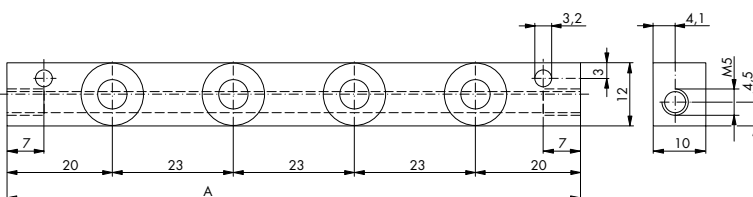


| Code | Voltage | Power | Symbol |
|--------------|---------|--------|--------|
| 79.040.01.01 | 12V DC | 1.8 W | |
| 79.040.01.02 | 24V DC | | |
| 79.040.02.12 | 24V AC | 5.5 VA | |
| 79.040.02.14 | 110V AC | | |
| 79.040.02.15 | 230V AC | | |

Accessories for Solenoid Valves - Common Input Manifolds

SECTION A

The kit includes:
 banjo screws (71.750.026.01.00)
 washers (50.001)



| Code | No. of valves | A |
|-----------|---------------|-----|
| 44.404.02 | 2 | 63 |
| 44.404.03 | 3 | 86 |
| 44.404.04 | 4 | 109 |
| 44.404.06 | 6 | 155 |
| 44.404.08 | 8 | 201 |

Note: Available until end of stock.

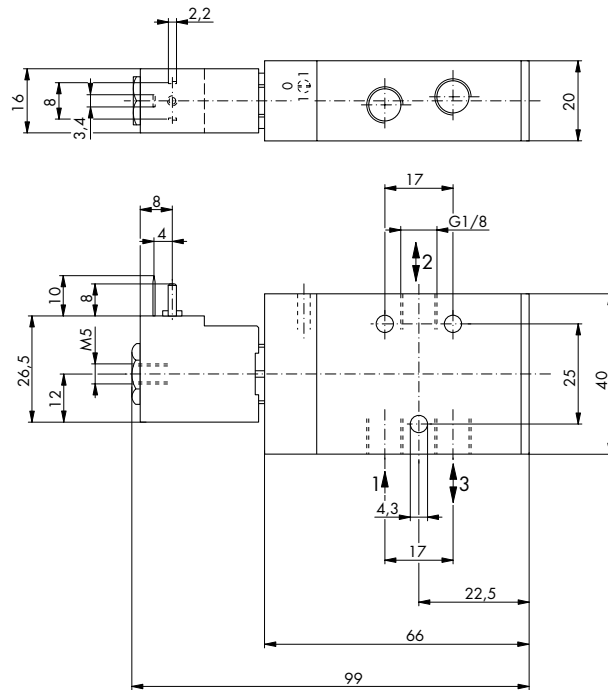
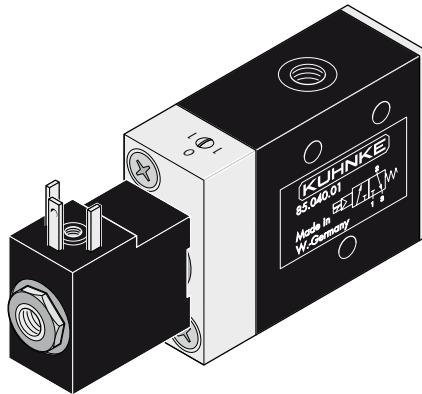
3/2-way Solenoid Steelspool Valves - G 1/8 (D_{nom} 4 mm)

SECTION B

Actuation: Solenoid, manual override

Return: Spring

Coil Type: Type 64



| Code | Voltage | Power | Symbol |
|--------------|---------|--------|--------|
| 85.040.01.01 | 12V DC | 1.8 W | |
| 85.040.01.02 | 24V DC | | |
| 85.040.02.12 | 24V AC | 5.5 VA | |
| 85.040.02.14 | 110V AC | | |
| 85.040.02.15 | 230V AC | | |

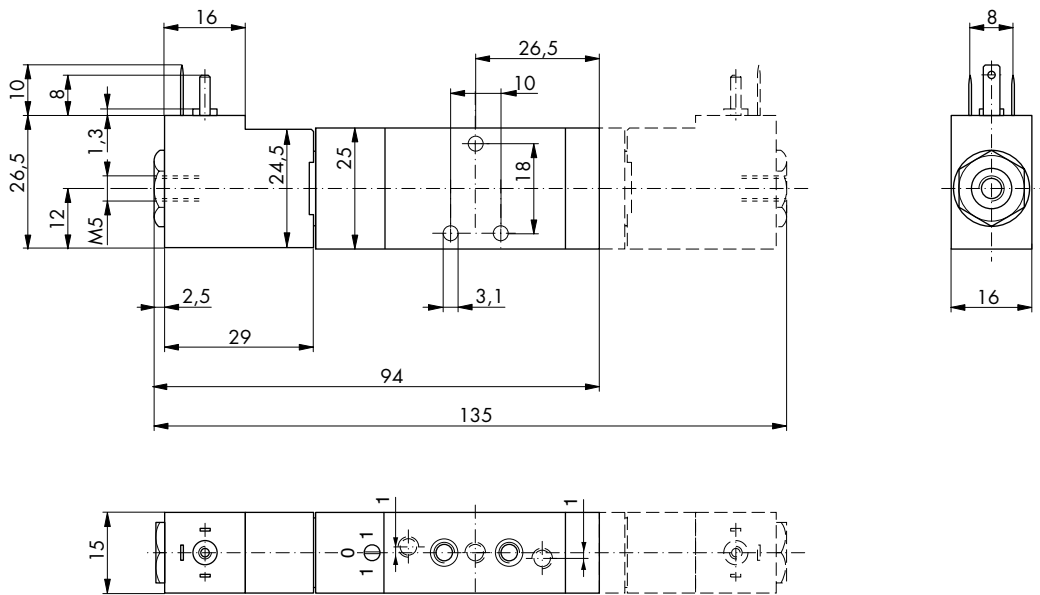
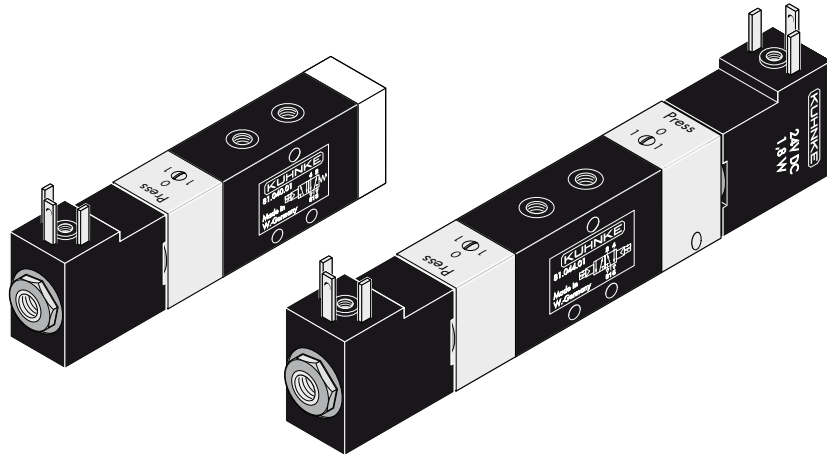
5/2-way Solenoid Steelspool Valves - M5 (D_{nom} 2 mm)

SECTION C

Actuation: Solenoid, manual override

Return: Spring

Coil Type: Type 64



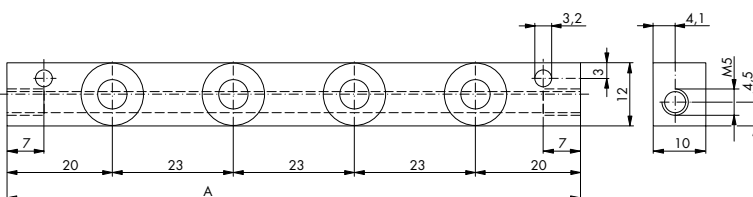
| Code | Voltage | Power | Symbol |
|--------------|---------|--------|--------|
| 81.040.01.01 | 12V DC | 1.8 W | |
| 81.040.01.02 | 24V DC | | |
| 81.040.02.12 | 24V AC | 5.5 VA | |
| 81.040.02.14 | 110V AC | | |
| 81.040.02.15 | 230V AC | | |

| Code | Voltage | Power | Symbol |
|--------------|---------|--------|--------|
| 81.044.01.01 | 12V DC | 1.8 W | |
| 81.044.01.02 | 24V DC | | |
| 81.044.02.12 | 24V AC | 5.5 VA | |
| 81.044.02.14 | 110V AC | | |
| 81.044.02.15 | 230V AC | | |

Accessories for Solenoid Valves - Common Input Manifolds

SECTION C

The kit includes:
banjo screws (71.750.026.01.00)
washers (50.001)



| Code | No. of valves | A |
|-----------|---------------|-----|
| 44.404.02 | 2 | 63 |
| 44.404.03 | 3 | 86 |
| 44.404.04 | 4 | 109 |
| 44.404.06 | 6 | 155 |
| 44.404.08 | 8 | 201 |

Note: Available until end of stock.

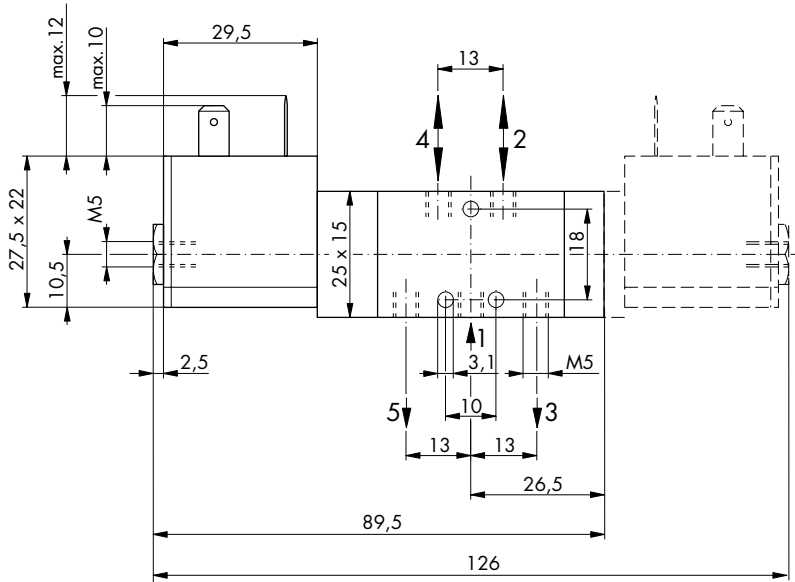
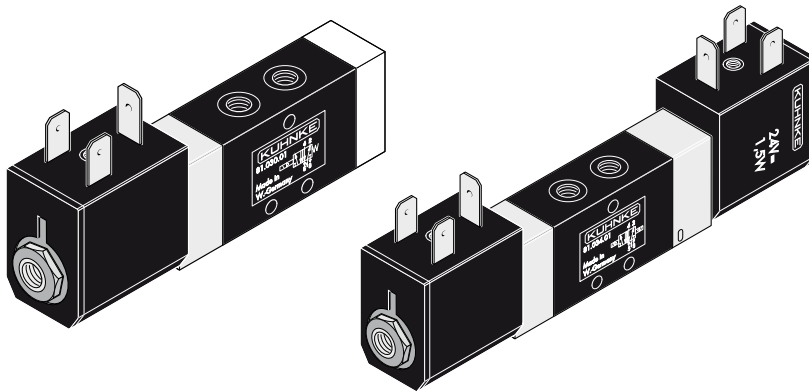
5/2-way Solenoid Steelspool Valves - M5 (D_{nom} 2 mm)

SECTION C

Actuation: Solenoid

Return: Spring

Coil Type: Type 65



| Code | Voltage | Power | Symbol |
|--------------|---------|-------|--------|
| 81.030.01.01 | 12V DC | 1.5 W | |
| 81.030.01.02 | 24V DC | | |
| 81.030.02.12 | 24V AC | 5 VA | |
| 81.030.02.14 | 110V AC | | |
| 81.030.02.15 | 230V AC | | |

| Code | Voltage | Power | Symbol |
|--------------|---------|-------|--------|
| 81.034.01.01 | 12V DC | 1.5 W | |
| 81.034.01.02 | 24V DC | | |
| 81.034.02.12 | 24V AC | 5 VA | |
| 81.034.02.14 | 110V AC | | |
| 81.034.02.15 | 230V AC | | |

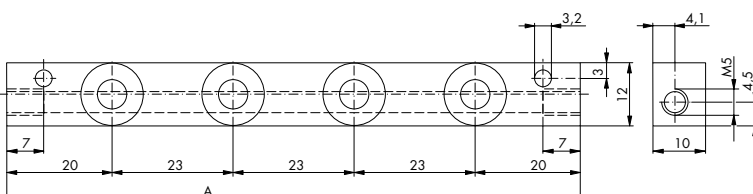
Accessories for Solenoid Valves - Common Input Manifolds

SECTION C

The kit includes:

banjo screws (71.750.026.01.00)

washers (50.001)



| Code | No. of valves | A |
|-----------|---------------|-----|
| 44.404.02 | 2 | 63 |
| 44.404.03 | 3 | 86 |
| 44.404.04 | 4 | 109 |
| 44.404.06 | 6 | 155 |
| 44.404.08 | 8 | 201 |

Note: Available until end of stock.

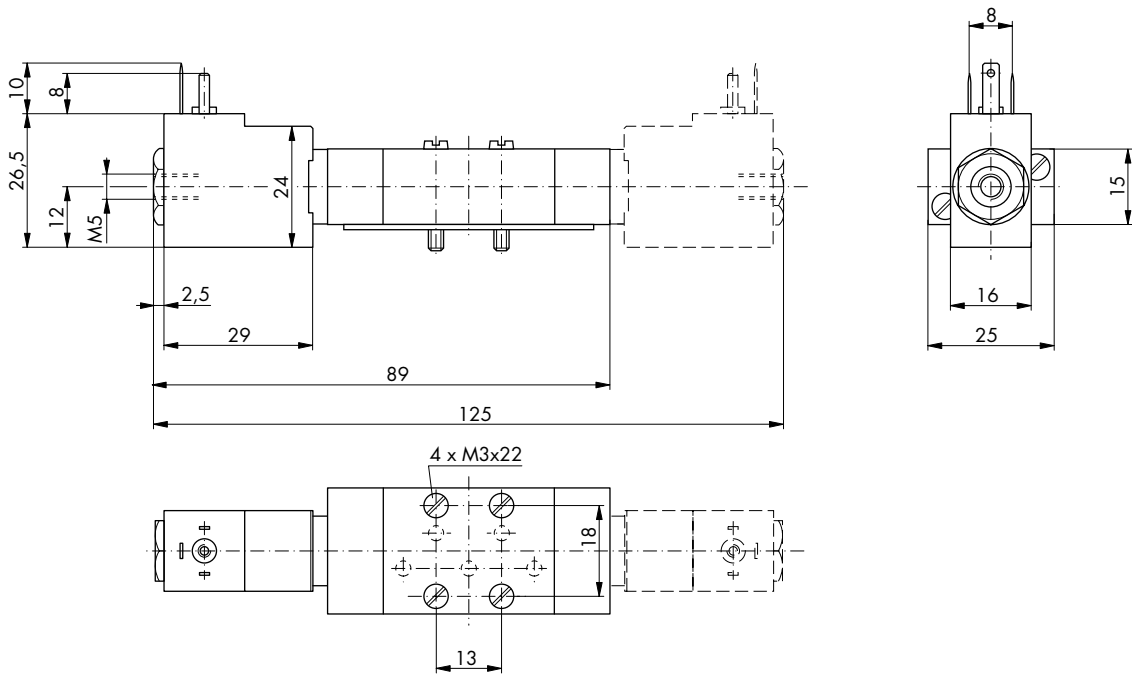
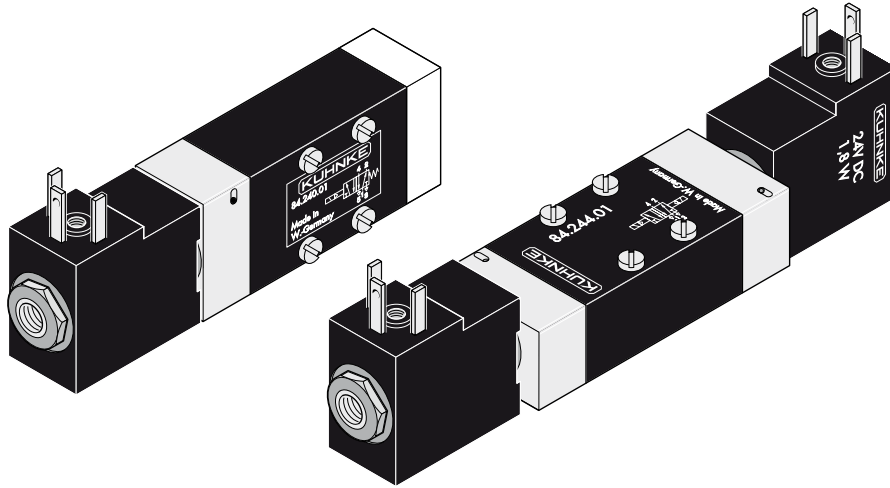
5/2-way Solenoid Steelspool Valves - Subplates (D_{nom} 2 mm)

SECTION D

Actuation: Solenoid

Return: Spring

Coil Type: Type 64



| Code | Voltage | Power | Symbol |
|--------------|---------|--------|--------|
| 84.240.01.01 | 12V DC | 1.8 W | |
| 84.240.01.02 | 24V DC | | |
| 84.240.02.12 | 24V AC | 5.5 VA | |
| 84.240.02.14 | 110V AC | | |
| 84.240.02.15 | 230V AC | | |

| Code | Voltage | Power | Symbol |
|--------------|---------|--------|--------|
| 84.244.01.01 | 12V DC | 1.8 W | |
| 84.244.01.02 | 24V DC | | |
| 84.244.02.12 | 24V AC | 5.5 VA | |
| 84.244.02.14 | 110V AC | | |
| 84.244.02.15 | 230V AC | | |

Note: Supplied with screws and gasket.

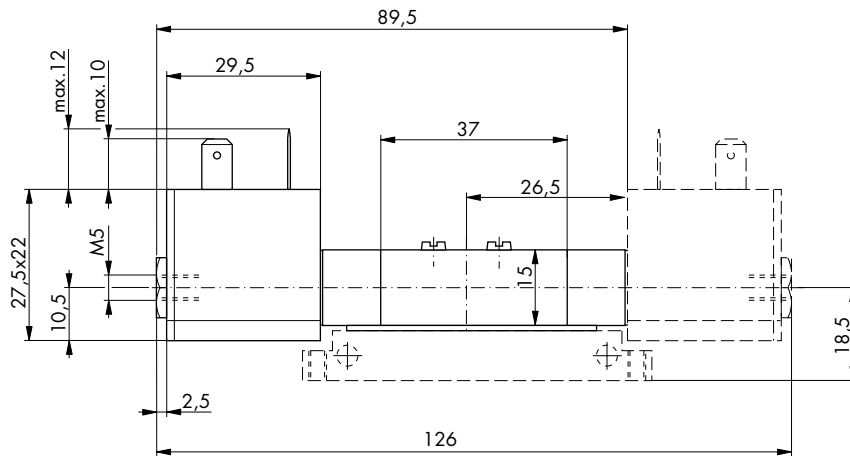
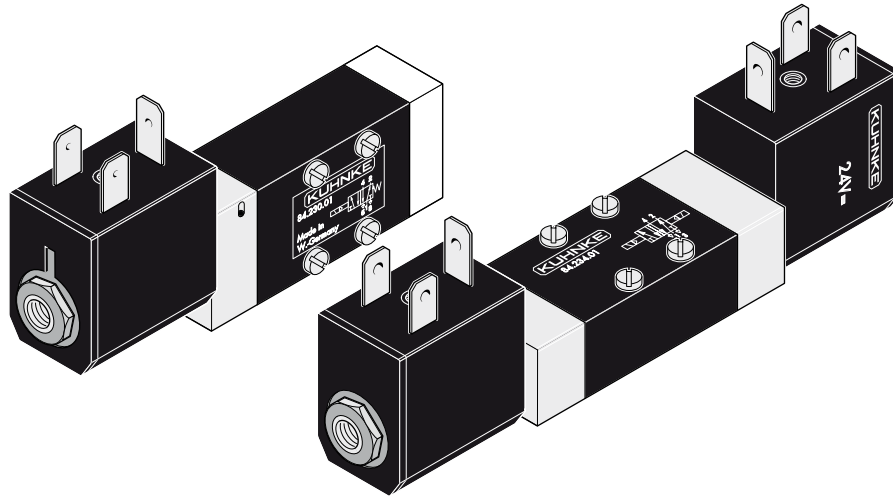
5/2-way Solenoid Steelspool Valves - Subplates (D_{nom} 2 mm)

SECTION D

Actuation: Solenoid

Return: Spring

Coil Type: Type 65



| Code | Voltage | Power | Symbol |
|--------------|---------|-------|--------|
| 84.230.01.01 | 12V DC | 1.5 W | |
| 84.230.01.02 | 24V DC | | |
| 84.230.02.12 | 24V AC | 5 VA | |
| 84.230.02.14 | 110V AC | | |
| 84.230.02.15 | 230V AC | | |

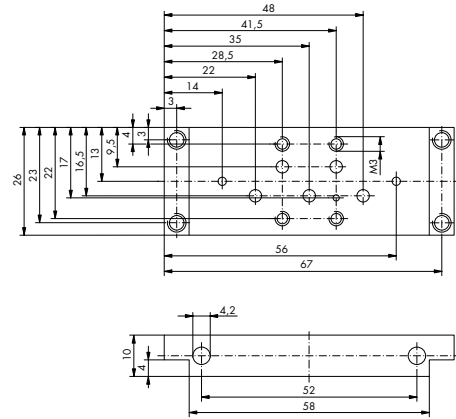
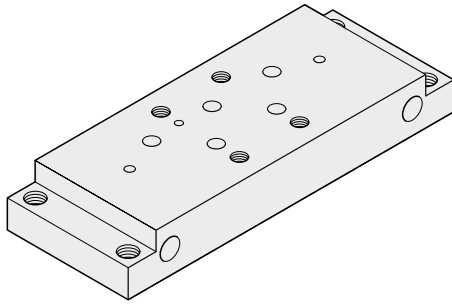
| Code | Voltage | Power | Symbol |
|--------------|---------|-------|--------|
| 84.234.01.01 | 12V DC | 1.5 W | |
| 84.234.01.02 | 24V DC | | |
| 84.234.02.12 | 24V AC | 5 VA | |
| 84.234.02.14 | 110V AC | | |
| 84.234.02.15 | 230V AC | | |

Note: Supplied with screws and gasket.

Accessories for Solenoid Valves - Single Subplate

SECTION D

With M5 connections located on the bottom side of the subplate.

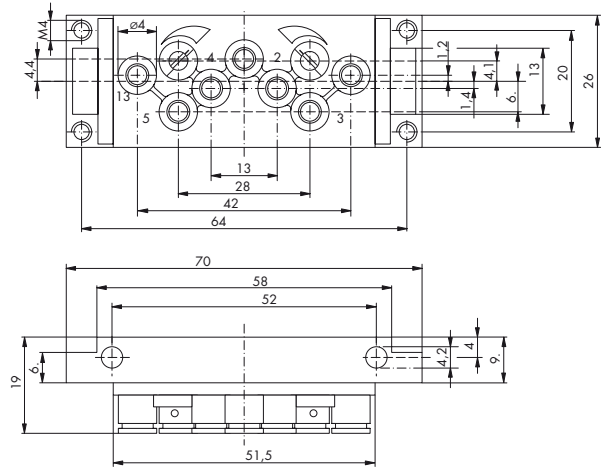
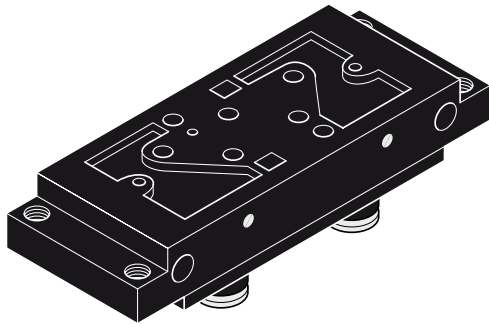


| |
|-----------|
| Code |
| 84.402.01 |

Accessories for Solenoid Valves - Single Subplate with Instant Push-in Fittings

SECTION D

With incorporated "Instant Push-in" fittings on all ports to suit 4 mm o. d. flexible tubing also includes fully adjustable exhaust flow regulators which are integrated within the subplate.



| |
|--------|
| Code |
| 83.450 |

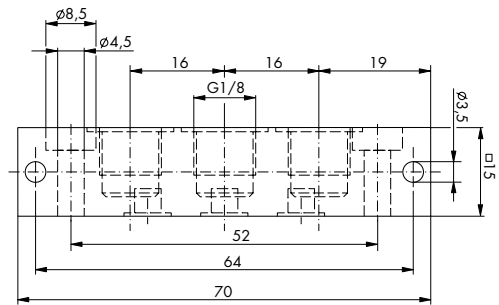
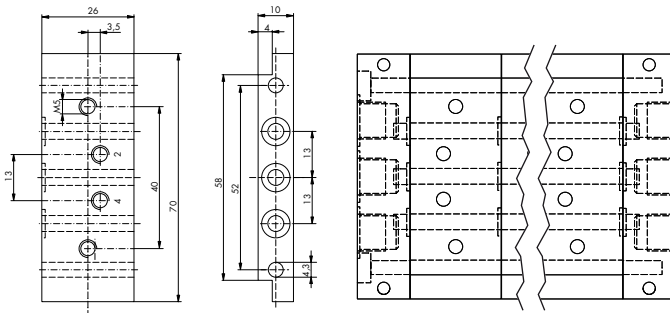
Accessories for Solenoid Valves - Modular Subplate

SECTION D

A subplate system incorporating common input and exhaust channels for use with several individual valves. To create your modular subplate are necessary two end plates and single subplates (as valves positions required).

Single Subplate for Assemblies

Universal end Plate for Subplates 84.463



| Subplates | Code |
|----------------------|--------|
| Single subplates | 84.463 |
| Universal end plate* | 84.465 |

*Note: The kit includes one end-plate, threaded rod and nuts for a maximum of 6 subplates.

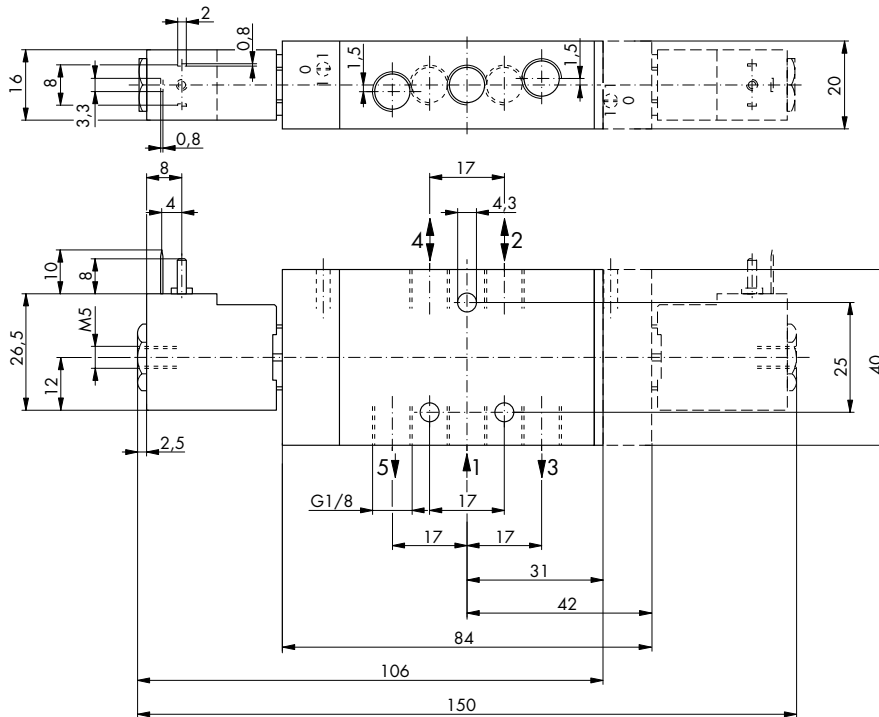
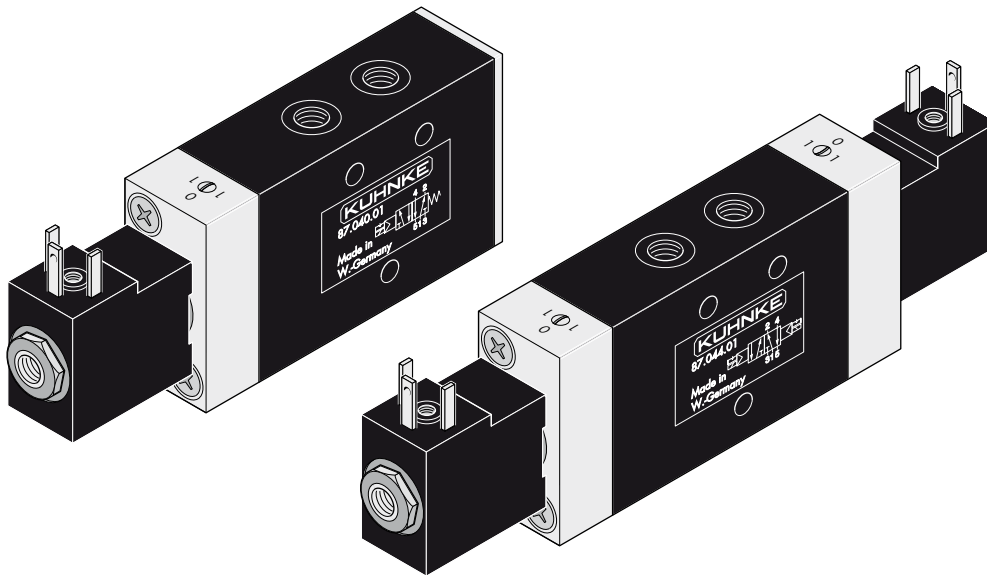
5/2-way Solenoid Steelspool Valves - G 1/8 (D_{nom} 4 mm)

SECTION E

Actuation: Solenoid, manual override

Return: Spring

Coil Type: Type 64



| Code | Voltage | Power | Symbol |
|--------------|---------|--------|--------|
| 87.040.01.01 | 12V DC | 1.8 W | |
| 87.040.01.02 | 24V DC | | |
| 87.040.02.12 | 24V AC | 5.5 VA | |
| 87.040.02.14 | 110V AC | | |
| 87.040.02.15 | 230V AC | | |

| Code | Voltage | Power | Symbol |
|--------------|---------|--------|--------|
| 87.044.01.01 | 12V DC | 1.8 W | |
| 87.044.01.02 | 24V DC | | |
| 87.044.02.12 | 24V AC | 5.5 VA | |
| 87.044.02.14 | 110V AC | | |
| 87.044.02.15 | 230V AC | | |

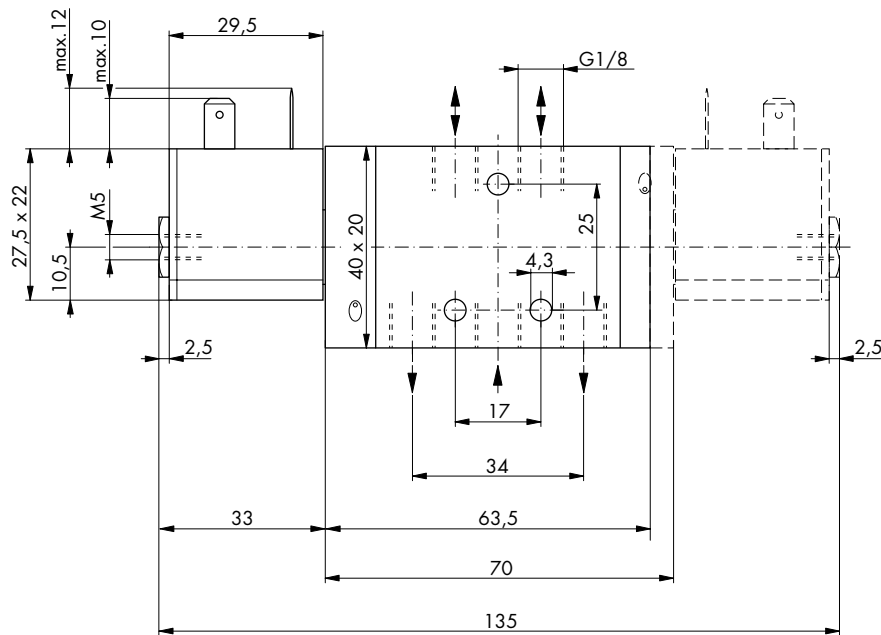
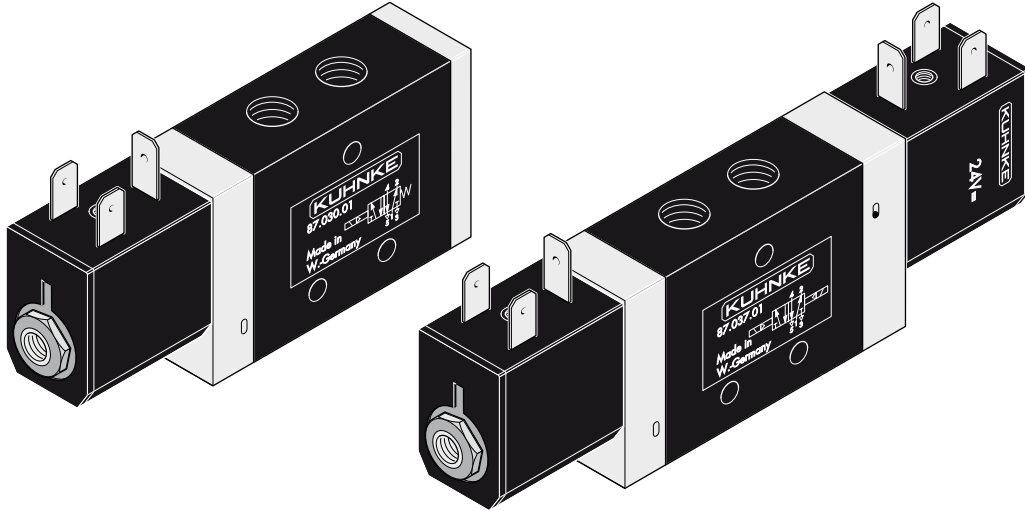
5/2-way Solenoid Steelspool Valves - G 1/8 (D_{nom} 4 mm)

SECTION E

Actuation: Solenoid

Return: Spring

Coil Type: Type 65



| Code | Voltage | Power | Symbol |
|--------------|---------|-------|--------|
| 87.030.01.01 | 12V DC | 4.5 W | |
| 87.030.01.02 | 24V DC | | |
| 87.030.02.12 | 24V AC | 5 VA | |
| 87.030.02.14 | 110V AC | | |
| 87.030.02.15 | 230V AC | | |

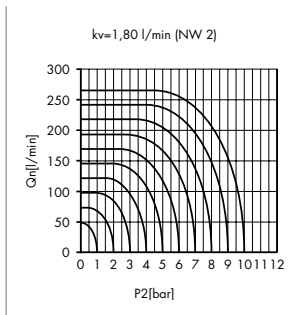
| Code | Voltage | Power | Symbol |
|--------------|---------|-------|--------|
| 87.037.01.01 | 12V DC | 4.5 W | |
| 87.037.01.02 | 24V DC | | |
| 87.037.02.12 | 24V AC | 5 VA | |
| 87.037.02.14 | 110V AC | | |
| 87.037.02.15 | 230V AC | | |

MECHANICAL VALVES

General Information

| Series | Section | Function | Pressure range | Pressure connection (nominal orifice) |
|-----------|---------|----------|----------------|---------------------------------------|
| Series 79 | A | 3/2-way | 0 - 10 bar | M5 (2 mm) |
| Series 81 | B | 5/2-way | 0 - 10 bar | M5 (2 mm) |

- Housing material:** Aluminium alloy
- Valve end cap material:** Zinc alloy or Makrolon®
- Spool and liner material:** Steel, hardened, corrosion resistant
- Ambient temperature range:** -10 °C +70 °C (for NO valves min. 0 °C)
- Mounting:** Any position
- Lubricant:** Shell Tellus C10 or equivalent
- Operating medium:** 5 micron filtered, lubricated (or not) compressed air; also suitable for other media conforming to ISO-VG 10



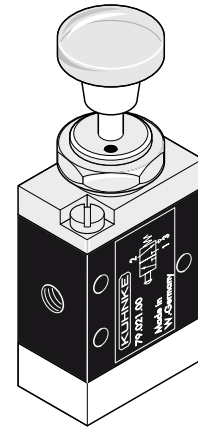
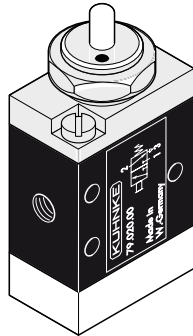
3/2-way Steelspool Valves - M5 (D_{nom} 2 mm)

SECTION A

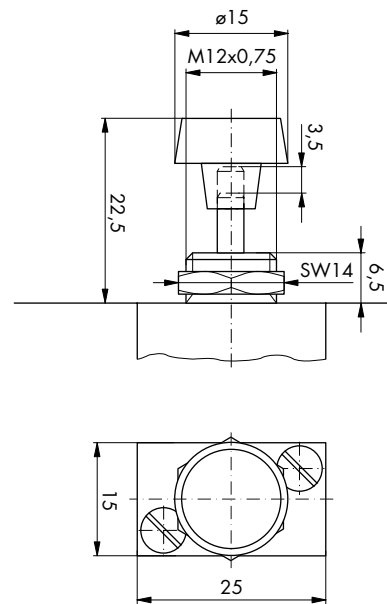
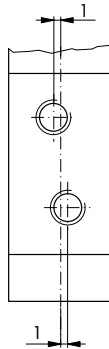
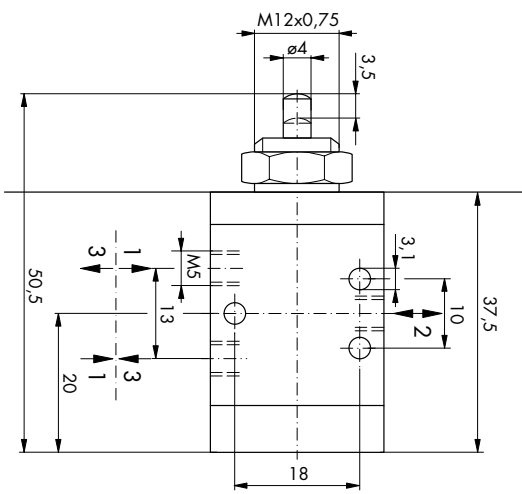
Actuation: Plunger, pushbutton

Actuation Force: 8 N (6 bar approx.)

Return: Spring



SERIES 79 - 81
MECHANICAL STEELPOOL VALVES



| Code | Type | Symbol |
|--------|------------|--------|
| 79.020 | Plunger | |
| 79.021 | Pushbutton | |

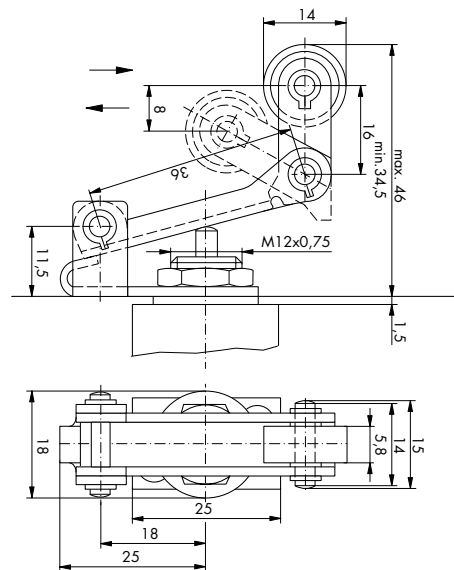
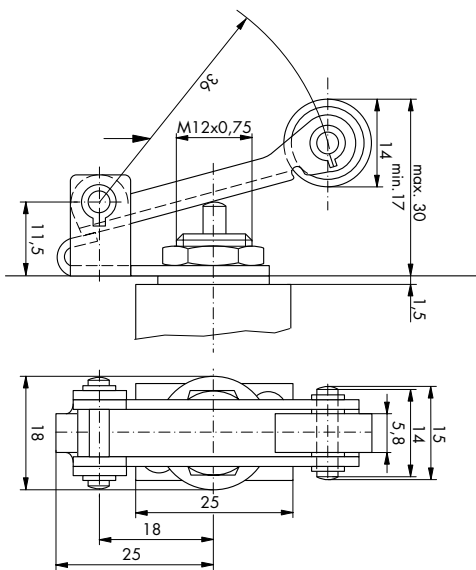
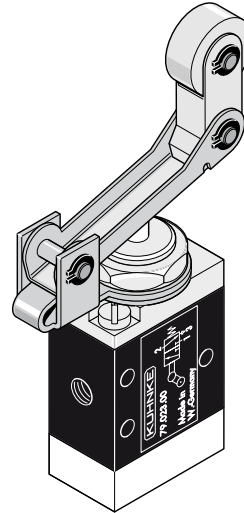
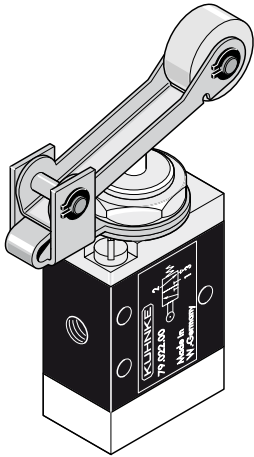
3/2-way Steelspool Valves - M5 (D_{nom} 2 mm)

SECTION A

Actuation: Roller lever (one or two way)

Actuation Force: 4 N (6 bar approx.)

Return: Spring



| Code | Type | Spare part lever | Symbol |
|--------|----------------------|------------------|--------|
| 79.022 | Two way roller lever | MM4930017 | |
| 79.023 | One way roller lever | MM4930016 | |

3/2-way Steelspool Valves - M5 (D_{nom} 2 mm)

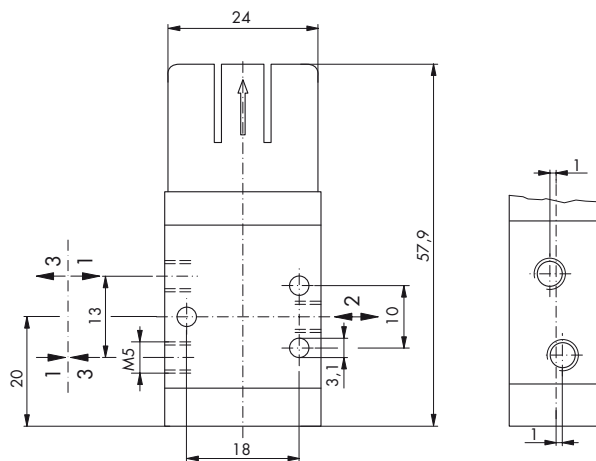
SECTION A

“Valves for control panel actuators” are fitted with a connector suitable for Moeller pushbuttons. The valve should be ordered from BSG Kuhnke Solutions and the actuator directly from Heaton-Moeller GmbH using their order number (see below). For further information visit: www.moeller.net

Actuation: Pushbutton (order separately)

Return: Spring

SERIES 79 - 81
MECHANICAL STEELSPPOOL VALVES



| Code | Symbol |
|-----------|--------|
| 79.017.03 | |

Note: Mounting depth 90 mm + 10 mm for mounting.

| Moeller Description | Moeller Series | Moeller Order No. | Symbol |
|---|----------------|-------------------|--------|
| Black pushbutton, flush | M 22 - D - S | 216590 | |
| Selector switch 2 positions with detent | M 22 S - WR | 216856 | |
| Black mushroom without detent | M 22 - DP - S | 216712 | |
| Emergency stop button non illuminated with detent | M 22 - PV | 216876 | |
| Key operated button, 2 positions | M 22 - WRS | 216887 | |

Pushbutton Assembly Instruction

Client must unscrew the brass part from the thread M12 hole of the valve, then disassemble the black interface of Moeller pushbutton, assemble the valve on the back of the panel, then assemble the black interface, screw the brass part to the M12 thread of the valve in way to fix the panel and mount the chosen pushbutton on this black part.

3/2-way Steelspool Valves - M5 (D_{nom} 2 mm)

SECTION A

Technical Data: Pressure range: 2-10 bar

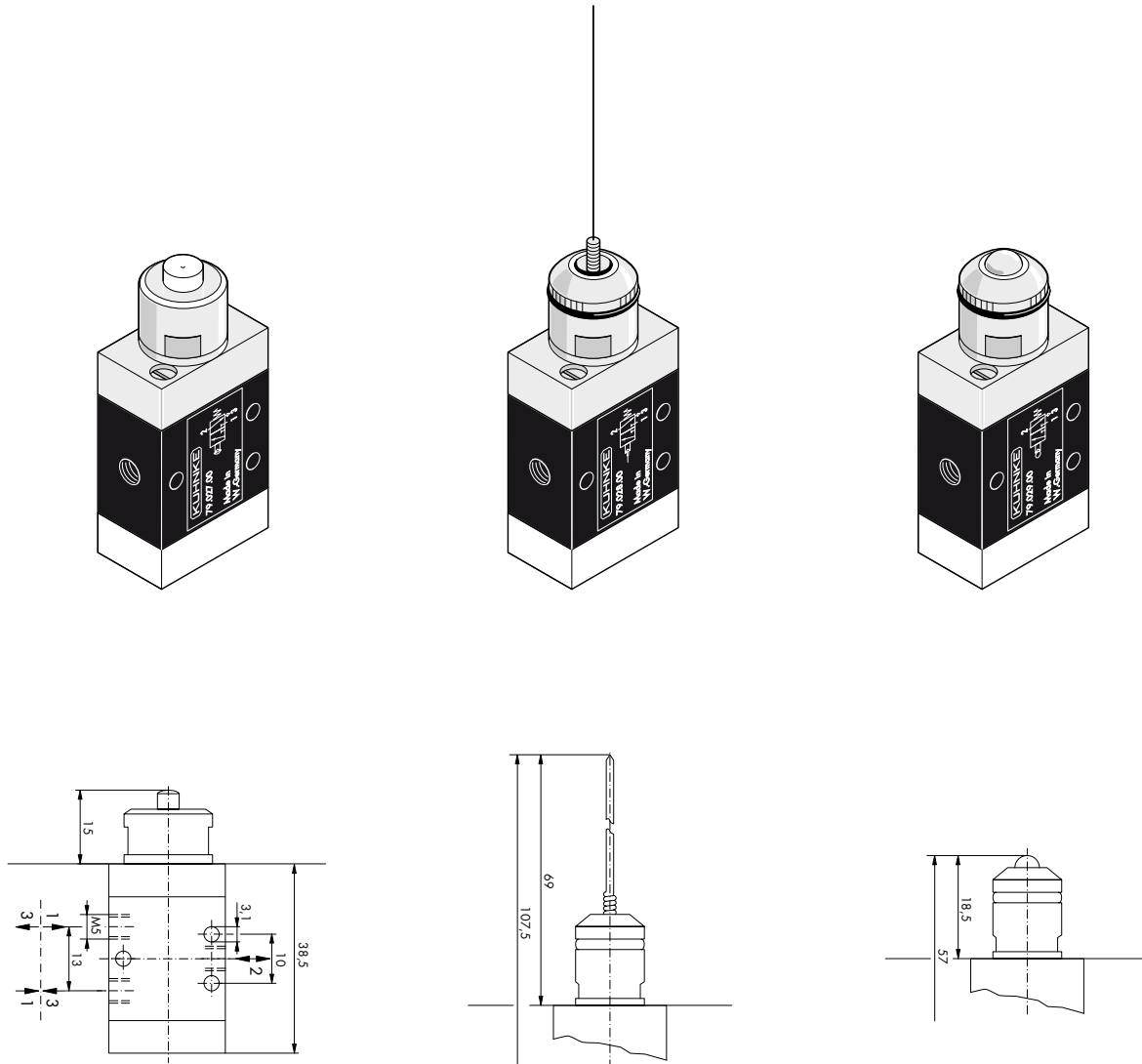
Actuation: Pushbutton

Switching time: approx. 65 ms (at 6 bar)

Air consumption: approx. 2 Nl/min (at 6 bar)

Function:

An internal connection from port 1 via a calibrated aperture bleeds to atmosphere via a nozzle. Upon actuation the nozzle is closed creating pressure within the valve changing the status of the spool.



SERIES 79 - 81
MECHANICAL STEELSPPOOL VALVES

| Code | Actuation | Return | Actuation force (6 bar) | Symbol | Note |
|--------|-----------------------------|--------|-------------------------|--------|--|
| 79.027 | Pushbutton | Spring | approx. 0.25 N | | |
| 79.028 | Deflection of a cat whisker | Spring | approx. 0.05 N | | The length of whisker can be adjusted maximum 10 mm. Spare whisker: MM4920003 |
| 79.029 | Ball | Spring | approx. 0.25 N | | Actuation stroke approx. 1 mm |

5/2-way Steelspool Valves - M5 (D_{nom} 2 mm)

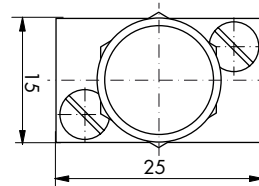
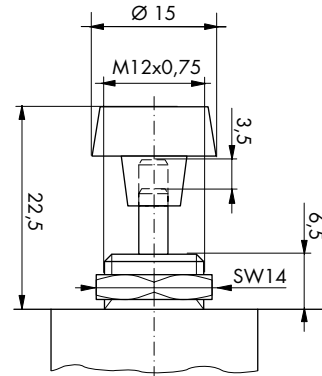
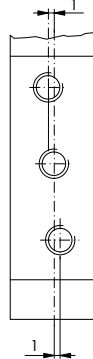
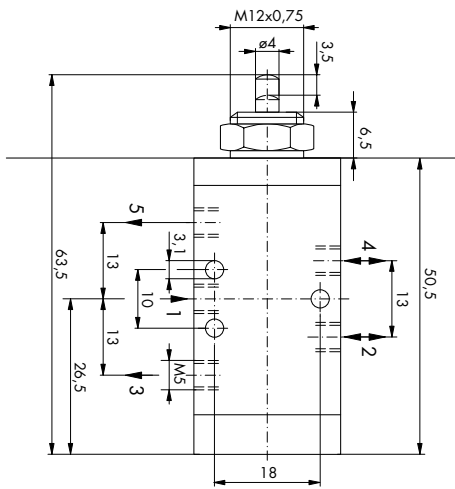
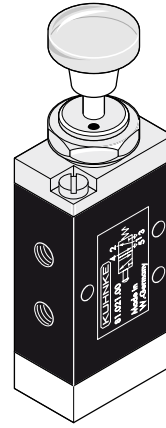
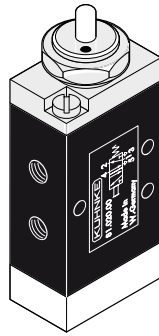
SECTION B

Actuation: Plunger, pushbutton

Actuation Force: Plunger, pushbutton 10 N (6 bar approx.)

Return: Spring

SERIES 79 - 81
MECHANICAL STEELSPPOOL VALVES



| Code | Type | Symbol |
|--------|------------|--------|
| 81.020 | Plunger | |
| 81.021 | Pushbutton | |

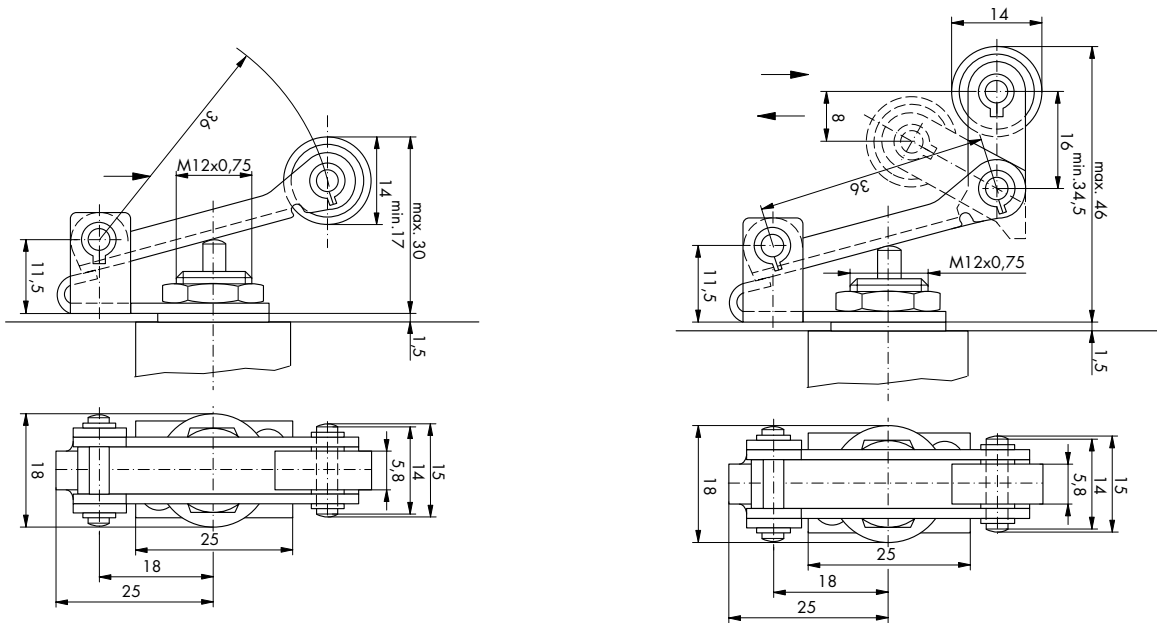
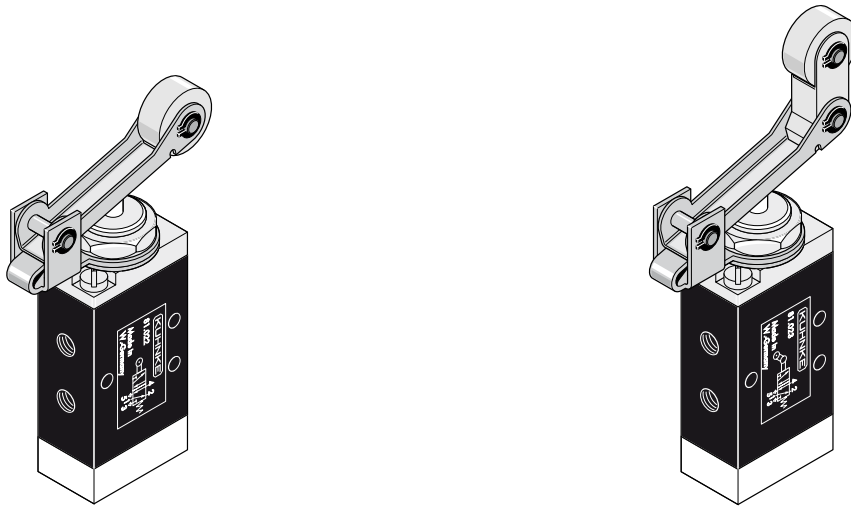
5/2-way Steelspool Valves - M5 (D_{nom} 2 mm)

SECTION B

Actuation: Roller lever (one or two way)

Actuation Force: 5 N (6 bar approx.)

Return: Spring



SERIES 79 - 81
MECHANICAL STEELSPPOOL VALVES

| Code | Type | Spare part lever | Symbol |
|--------|----------------------|------------------|--------|
| 81.022 | Two way roller lever | MM4930017 | |
| 81.023 | One way roller lever | MM4930016 | |

5/2-way Steelspool Valves - M5 (D_{nom} 2 mm)

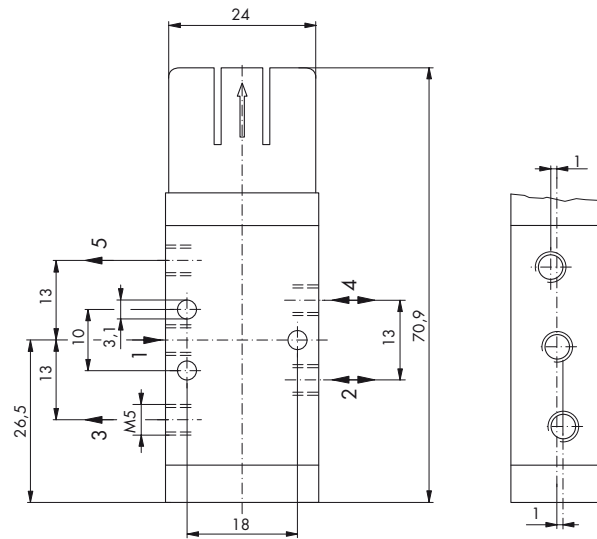
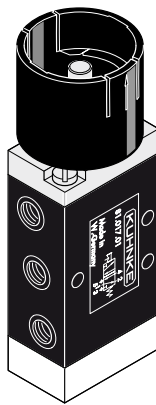
SECTION B

"Valves for control panel actuators" are fitted with a connector suitable for Moeller pushbuttons. The valve should be ordered from BSG Kuhnke Solutions and the actuator directly from Heaton-Moeller GmbH using their order number (see below). For further information visit: www.moeller.net

Actuation: Pushbutton (order separately)

Return: Spring

SERIES 79 - 81
MECHANICAL STEELSPPOOL VALVES



| Code | Symbol |
|-----------|--------|
| 81.017.03 | |

Note: Mounting depth 90 mm + 10 mm for mounting.

| Moeller Description | Moeller Series | Moeller Order No. | Symbol |
|---|----------------|-------------------|--------|
| Black pushbutton, flush | M 22 - D - S | 216590 | |
| Selector switch 2 positions with detent | M 22 S - WR | 216856 | |
| Black mushroom without detent | M 22 - DP - S | 216712 | |
| Emergency stop button non illuminated with detent | M 22 - PV | 216876 | |
| Key operated button, 2 positions | M 22 - WRS | 216887 | |

Pushbutton Assembly Instruction

Client must unscrew the brass part from the thread M12 hole of the valve, then disassemble the black interface of Moeller pushbutton, assemble the valve on the back of the panel, then assemble the black interface, screw the brass part to the M12 thread of the valve in way to fix the panel and mount the chosen pushbutton on this black part.

5/2-way Steelspool Valves - M5 (D_{nom} 2 mm)

SECTION B

Technical Data: Pressure range: 2-10 bar

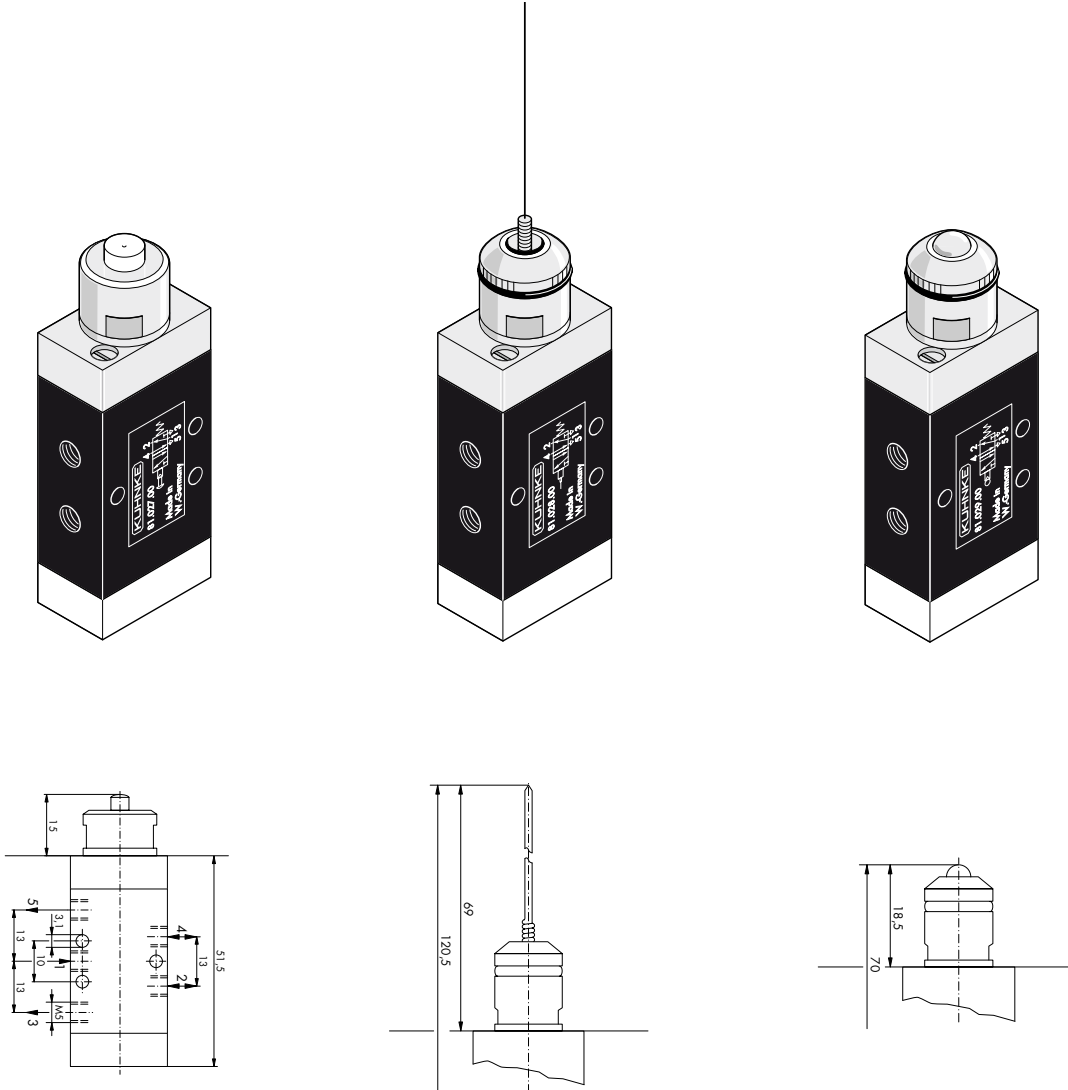
Actuation: Pushbutton

Switching time: approx. 65 ms (at 6 bar)

Air consumption: approx. 2 NI/min (at 6 bar)

Function:

An internal connection from port 1 via a calibrated aperture bleeds to atmosphere via a nozzle. Upon actuation the nozzle is closed creating pressure within the valve changing the status of the spool.



SERIES 79 - 81
MECHANICAL STEELSPPOOL VALVES

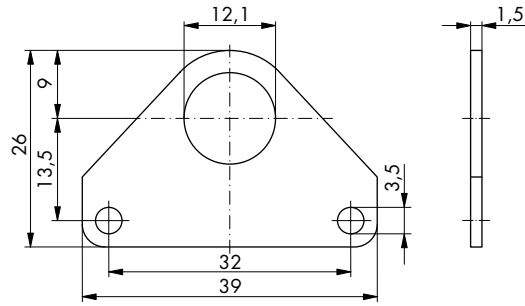
| Code | Actuation | Return | Actuation force (6 bar) | Symbol | Note |
|--------|-----------------------------|--------|-------------------------|--------|--|
| 81.027 | Pushbutton | Spring | approx. 0.25 N | | |
| 81.028 | Deflection of a cat whisker | Spring | approx. 0.05 N | | The length of whisker can be adjusted maximum 10 mm. Spare whisker: MM4920003 |
| 81.029 | Ball | Spring | approx. 0.25 N | | Actuation stroke approx. 1 mm |

Accessories for Mechanical Valves - Mounting Accessories

SECTION A & B

A mounting flange or bracket can be used as an alternative method for mounting mechanical valves utilising the M12 x 0.75 valve thread.

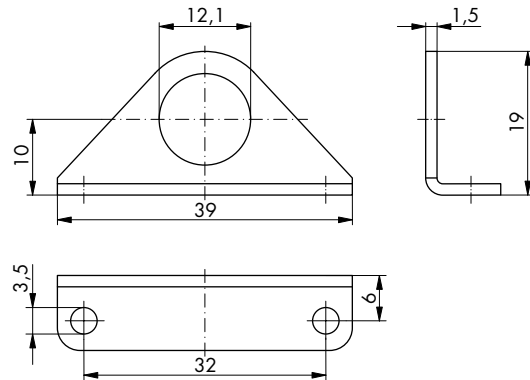
Mounting Flange



SERIES 79 - 81
MECHANICAL STEELSPPOOL VALVES

| Code |
|----------|
| 43.010.1 |

Mounting Bracket



| Code |
|----------|
| 43.010.2 |

PNEUMATIC VALVES

General Information

| Series | Section | Function | Pressure range | Pressure connection (nominal orifice) |
|-----------|---------|----------|----------------|---------------------------------------|
| Series 79 | A | 3/2-way | 0 - 10 bar | M5 (2 mm) |
| Series 85 | B | 3/2-way | 0 - 10 bar | G 1/8 (4 mm) |
| Series 81 | C | 5/2-way | 0 - 10 bar | M5 (2 mm) |
| Series 84 | D | 5/2-way | 0 - 10 bar | subplates only (2 mm) |
| Series 87 | E | 5/2-way | 0 - 10 bar | G 1/8 (4 mm) |

Housing material: Aluminium alloy

Valve end cap material: Zinc alloy or Makrolon®

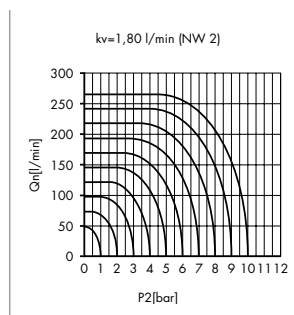
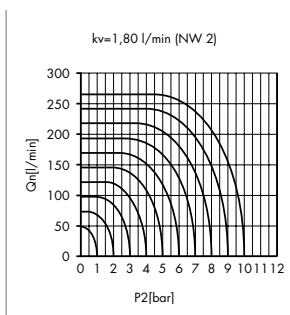
Spool and liner material: Steel, hardened, corrosion resistant

Ambient temperature range: -10 °C +70 °C (for NO valves min. 0 °C)

Mounting: Any position

Lubricant: Shell Tellus C10 or equivalent

Operating medium: 5 micron filtered, lubricated (or not) compressed air; also suitable for other media conforming to ISO-VG 10

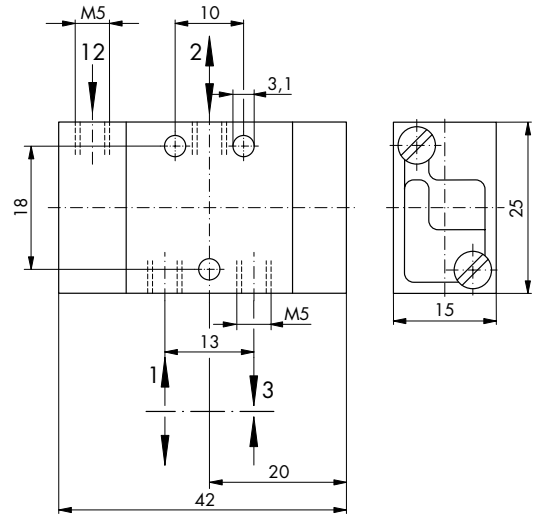
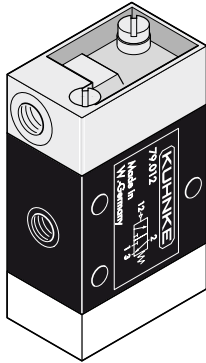


3/2-way Pneumatic Steelspool Valves - M5 (D_{nom} 2 mm)

SECTION A

Actuation: Pressure at 12

Return: Spring



| Code | Symbol |
|--------|--------|
| 79.012 | |

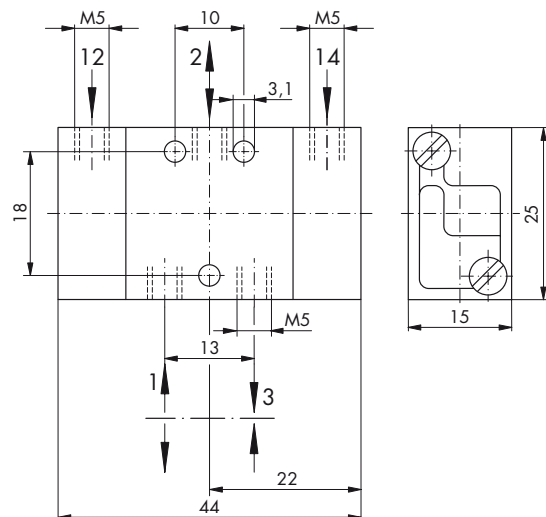
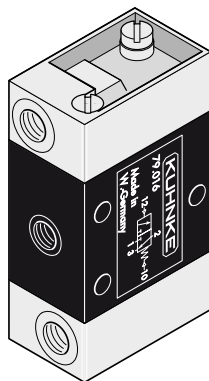
3/2-way Pneumatic Steelspool Valves - M5 (D_{nom} 2 mm)

SECTION A

Actuation: Pressure at 10 and 12

Return: Action by spring when pressure at 10 and 12 are the same

Min. control pressure: 2 bar



| Code | Symbol |
|--------|--------|
| 79.016 | |

SERIES 79 - 85 - 81 - 84 - 87
PNEUMATIC STEELPOOL VALVES

3/2-way Air Bleed Operated Steelspool Valves - M5 (D_{nom} 2 mm)

SECTION A

Switching time at 6 bar: Actuation time depends on volume of tubing

Pressure range: 2 - 10 bar

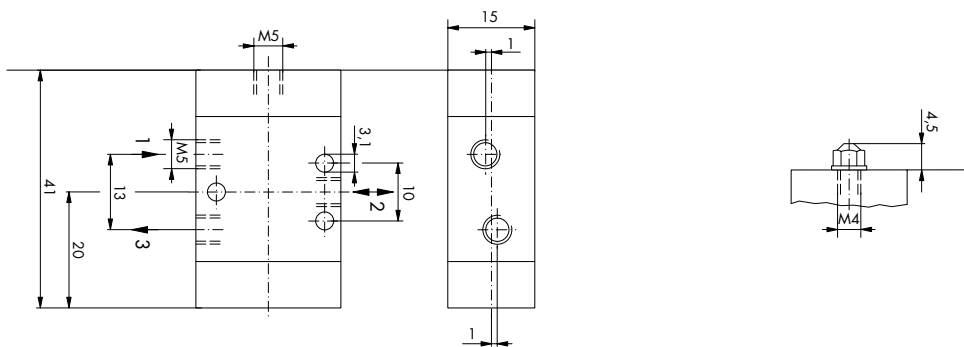
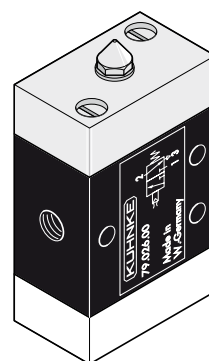
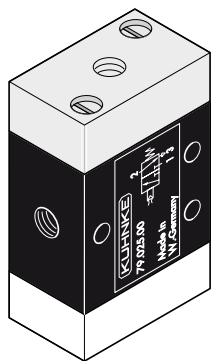
Actuation: Via nozzle with hose, via fixed nozzle

Return: Spring

Air consumption at 6 bar: Approx. 2 NI/min (0 °C 1013 mbar)

Function:

An internal connection from port 1 via a calibrated aperture bleeds to atmosphere via a nozzle. Upon actuation the nozzle is closed creating pressure within the valve changing the status of the spool.



| Code | Actuation | Symbol |
|----------|------------------|--------|
| 79.025 * | Nozzle with hose | |
| 79.026 | Fixed nozzle | |

* The necessary accessories are 1 tube nipple, 1 nozzle, 1 hose 4x1x500 length, code 43.138.

3/2-way Pneumatic Steelspool Valves - M5 (D_{nom} 2 mm)

SECTION A

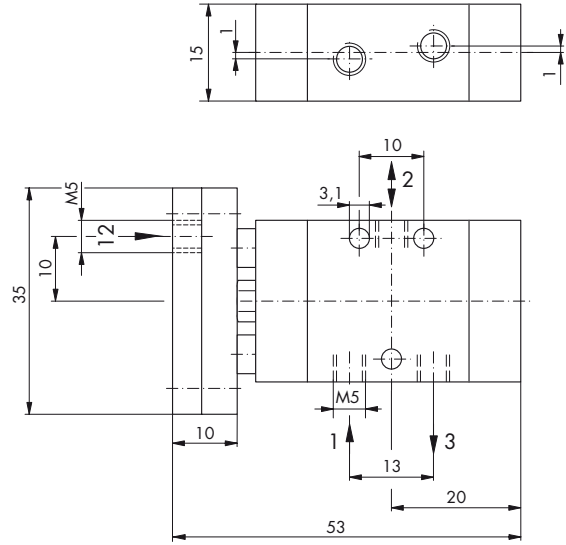
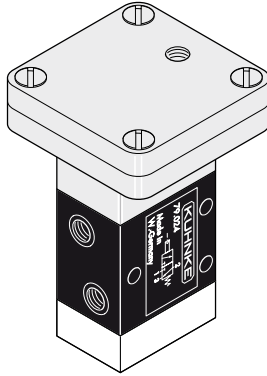
Valve type: Step-up relay (amplifier)

Pressure range: 2 - 10 bar

Return: Spring

Control pressure: 5 - 100 mbar

Air consumption: Approx. 2 Nl/min (0° C, 1013 mbar)



| Code | Symbol |
|--------|--------|
| 79.024 | |

3/2-way Pulse Shaper Steelspool Valves - M5 (D_{nom} 2 mm)

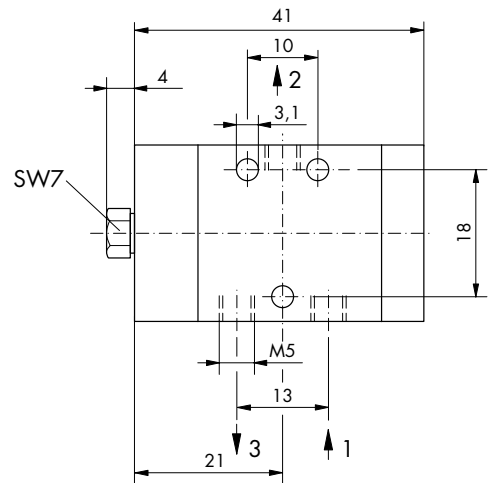
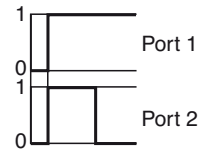
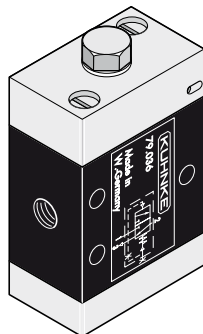
SECTION A

The pulse shaper converts one continuous input pulse into a short one. Used for example with constant pulses. The pulse can be lengthened by connecting an additional volume to 12.

Pressure range: 3 - 10 bar

Function: Input signal at 1
Output signal at 2

Pulse length: Approx. 80 - 140 ms at 8 bar (without added volume)



| Code | Symbol |
|--------|--------|
| 79.036 | |

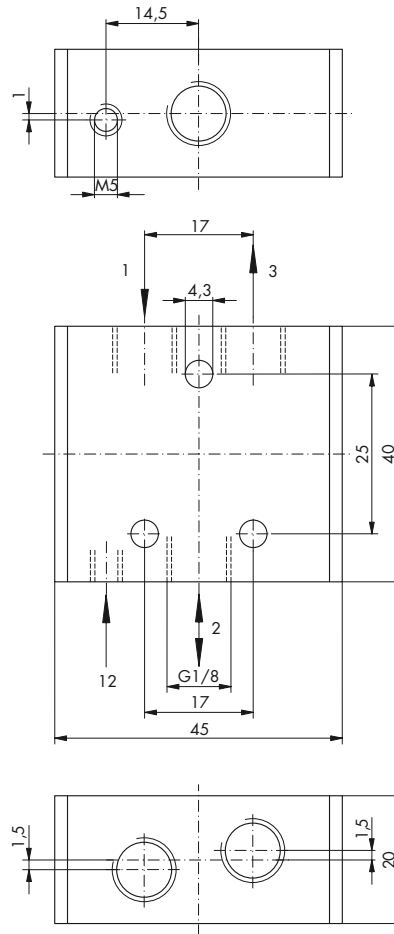
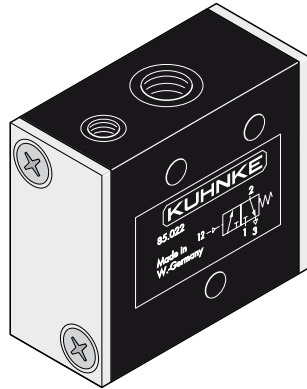
SERIES 79 - 85 - 81 - 84 - 87
PNEUMATIC STEELSPPOOL VALVES

3/2-way Pneumatic Steelspool Valves - G 1/8 (D_{nom} 4 mm)

SECTION B

Actuation: Pressure at 12

Return: Spring



| Code | Symbol |
|--------|--------|
| 85.022 | |

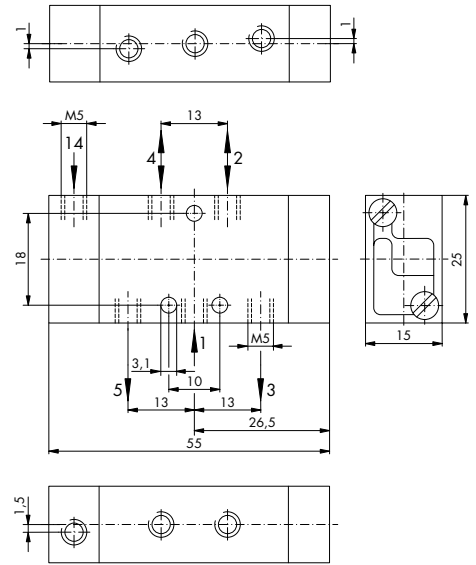
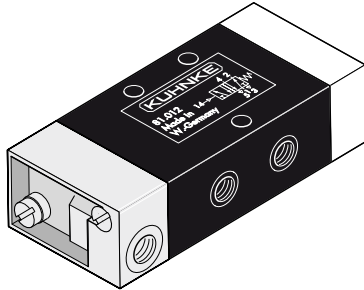
5/2-way Pneumatic Steelspool Valves - M5 (D_{nom} 2 mm)

SECTION C

Actuation: Pressure at 14

Return: Spring

Min. control pressure: 2 bar



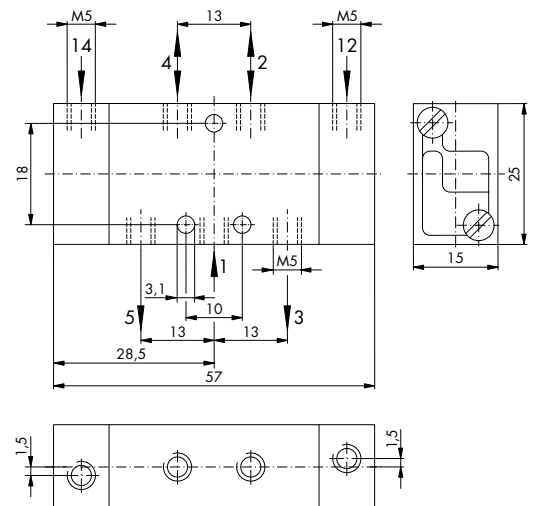
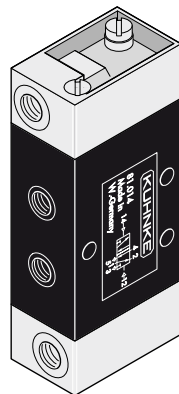
| Code | Symbol |
|--------|--------|
| 81.012 | |

5/2-way Pneumatic Steelspool Valves - M5 (D_{nom} 2 mm)

SECTION C

Actuation: Pressure at 14

Min. control pressure: 2 bar



| Code | Return | Symbol |
|----------|---|--------|
| 81.014 * | Pressure at 12 | |
| 81.016 | Actuation by spring when pressure at 14 and 12 are the same | |

*With mechanical detent.
It is strictly prohibited to remove the detent as uncontrollable switching will occur.

SERIES 79 - 85 - 81 - 84 - 87
PNEUMATIC STEELPOOL VALVES

5/2-way Pneumatic Steelspool Valves - M5 (D_{nom} 2 mm)

SECTION C

Switching time at 6 bar: Actuation time depends on volume of tubing

Pressure range: 2 - 10 bar

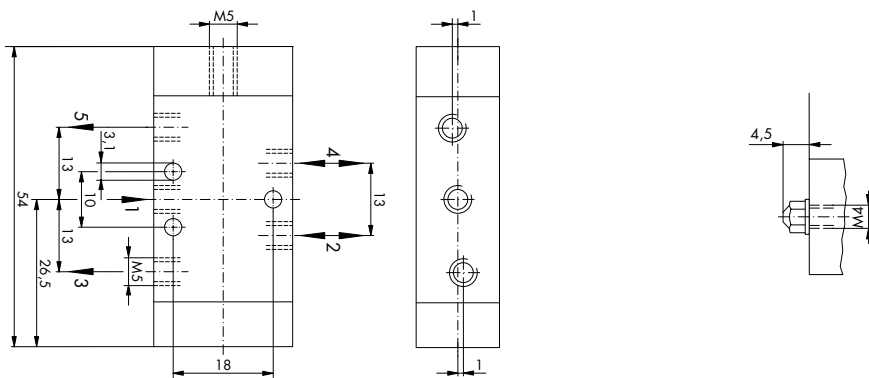
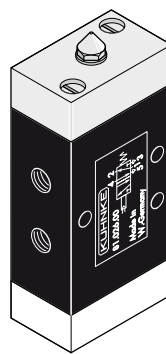
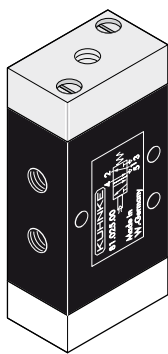
Return: Spring

Actuation: Via nozzle with hose, via fixed nozzle

Air consumption at 6 bar: Approx. 2 Nl/min (0 °C 1013 mbar)

Function:

An internal connection from port 1 via a calibrated aperture bleeds to atmosphere via a nozzle. Upon actuation the nozzle is closed creating pressure within the valve changing the status of the spool.



| Code | Actuation | Symbol |
|----------|------------------|--------|
| 81.025 * | Nozzle with hose | |
| 81.026 | Fixed nozzle | |

* The necessary accessories are 1 tube nipple, 1 nozzle, 1 hose 4x1x500 length, code 43.138.

5/2-way Pneumatic Steelspool Valves - M5 (D_{nom} 2 mm)

SECTION C

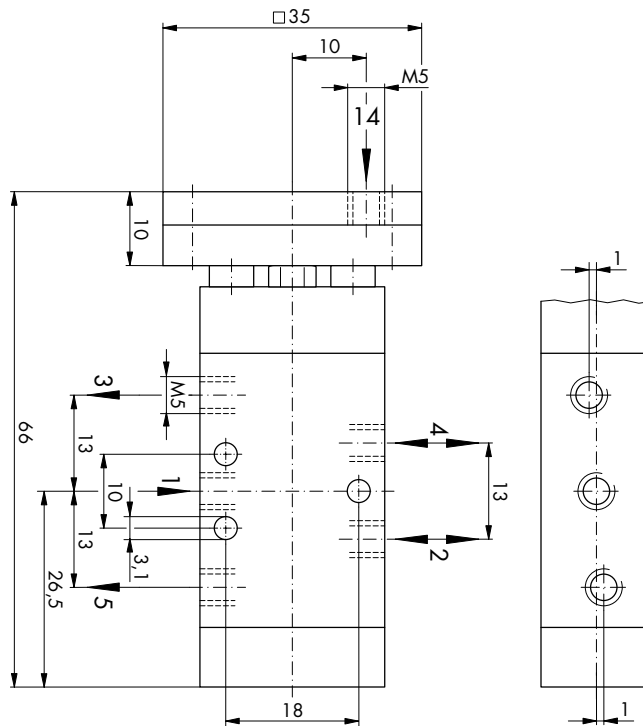
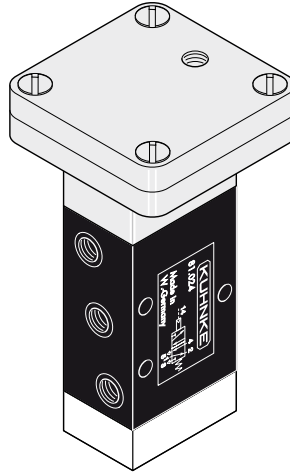
Valve type: Step-up relay (amplifier)

Pressure range: 2 - 10 bar

Return: Spring

Control pressure: 5 - 100 mbar

Air consumption: Approx. 2 Nl/min (0° C, 1013 mbar)



| Code | Symbol |
|--------|--------|
| 81.024 | |

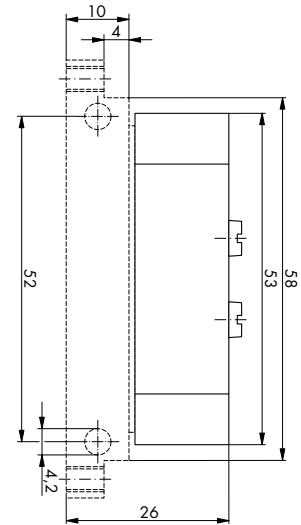
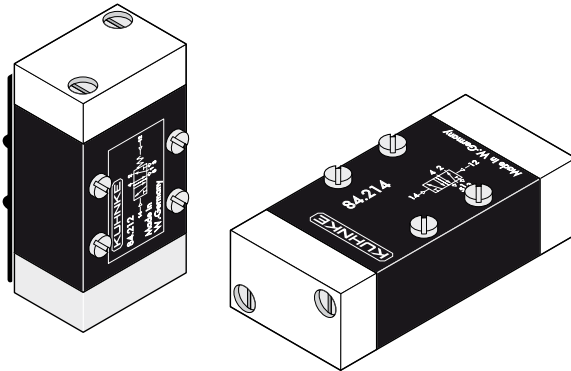
SERIES 79 - 85 - 81 - 84 - 87
PNEUMATIC STEELSPPOOL VALVES

5/2-way Pneumatic Steelspool Valves - Subplates (D_{nom} 2 mm)

SECTION D

Actuation: Pressure at 14

Min. control pressure: 2 bar



| Code | Return | Symbol |
|----------|---|--------|
| 84.212 | Spring | |
| 84.212 | Actuation by spring when pressure at 14 and 12 are the same | |
| 84.214 * | Pressure at 12 | |

*With mechanical detent.
It is strictly prohibited to remove the detent as uncontrollable switching will occur.

5/2-way Pulse Shaper Steelspool Valves - Subplates (D_{nom} 2 mm)

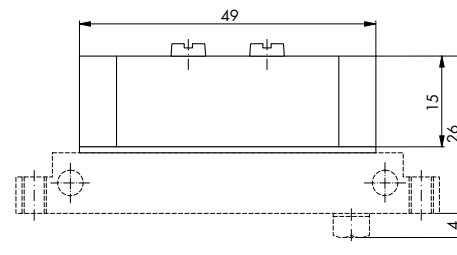
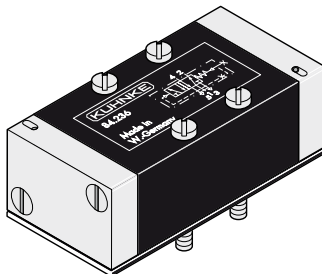
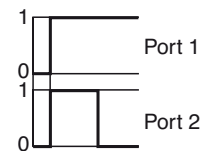
SECTION D

The pulse shaper converts one continuous input pulse into a short one. Used for example with constant pulses. The pulse can be lengthened by connecting an additional volume to 12.

Pressure range: 3 - 10 bar

Function: Input signal at 1
Output signal at 2

Pulse length: Approx. 80 - 140 ms at 8 bar (without added volume)



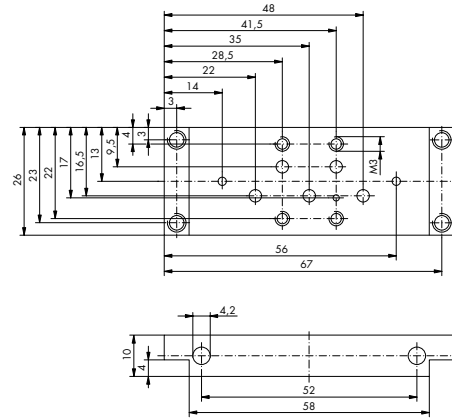
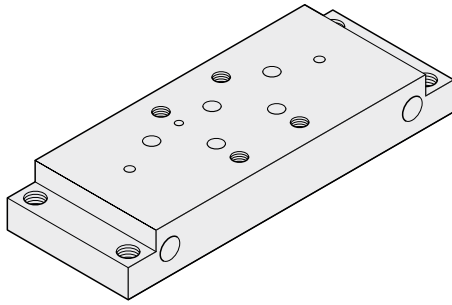
| Code | Symbol |
|--------|--------|
| 84.236 | |

Note: Approx. 80 - 140 ms at 8 bar (without added volume).

Accessories for Solenoid Valves - Single Subplate

SECTION D

With M5 connections located on the bottom side of the subplate.

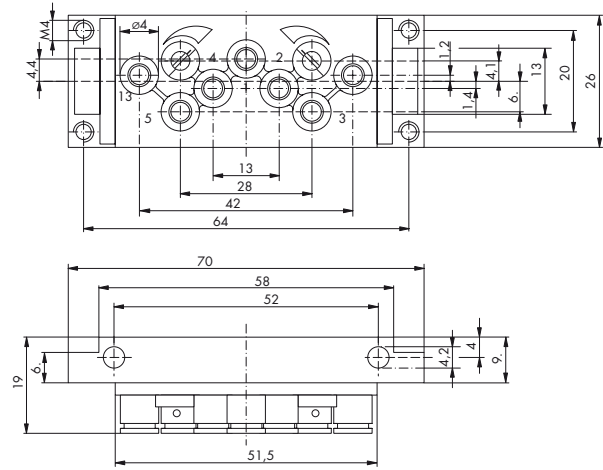
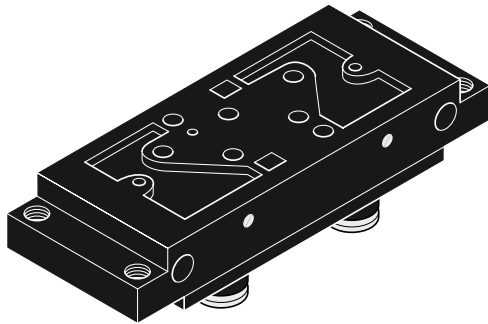


| |
|-----------|
| Code |
| 84.402.01 |

Accessories for Solenoid Valves - Single Subplate with Instant Push-in Fittings

SECTION D

With incorporated "Instant Push-in" fittings on all ports to suit 4 mm o. d. flexible tubing also includes fully adjustable exhaust flow regulators which are integrated within the subplate.



| |
|--------|
| Code |
| 83.450 |

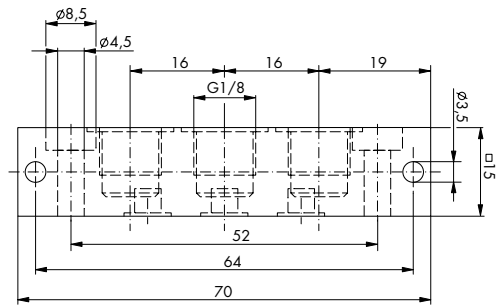
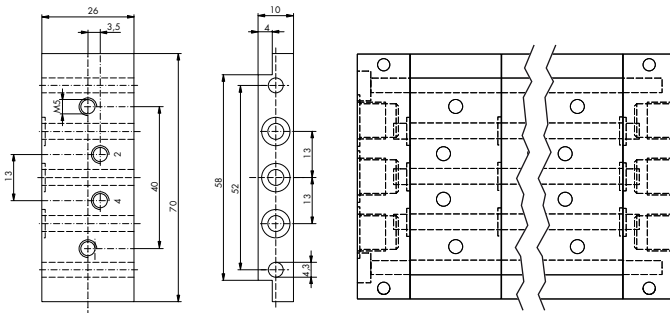
Accessories for Solenoid Valves - Modular Subplate

SECTION D

A subplate system incorporating common input and exhaust channels for use with several individual valves. To create your modular subplate are necessary two end plates and single subplates (as valves positions required).

Single Subplate for Assemblies

Universal end Plate for Subplates 84.463



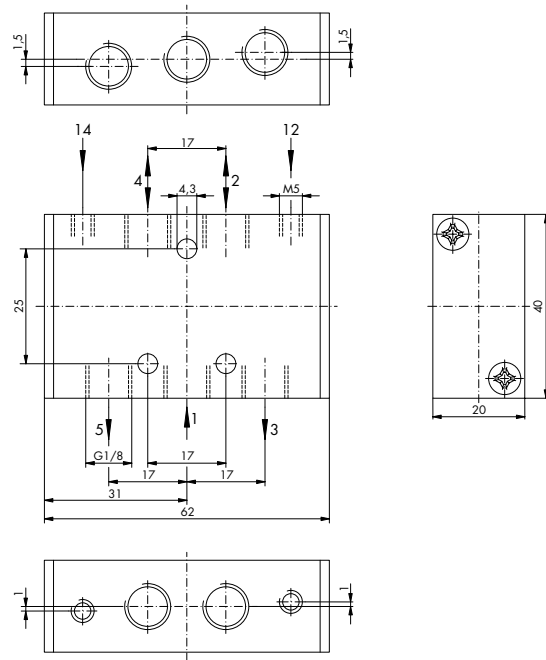
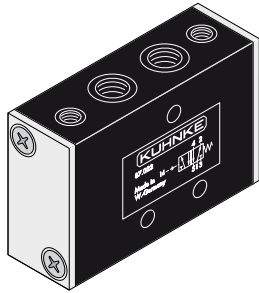
| Subplates | Code |
|----------------------|--------|
| Single subplates | 84.463 |
| Universal end plate* | 84.465 |

*Note: The kit includes one end-plate, threaded rod and nuts for a maximum of 6 subplates.

5/2-way Pneumatic Steelspool Valves - G 1/8 (D_{nom} 4 mm)

SECTION E

Actuation: Pressure at 14

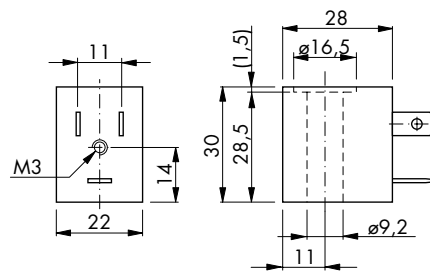


| Code | Return | Symbol |
|--------|----------------|--------|
| 87.022 | Spring | |
| 87.024 | Pressure at 12 | |

COILS & PLUG-IN SOCKETS

Coils Type 64 - DIN C

| | |
|--------------------------------|---|
| Electrical versions: | VDE 0580, VDE 0110 |
| Pull-in power: | Approx. 1.5 x nominal (AC) |
| Insulation class: | F (155 °C) |
| Duty cycle: | Continuous 100 % |
| Materials bobbin: | PA 6.6 |
| Cover: | EP |
| Electrical connections: | Plug-in socket, flying lead, flat plug receptacles 2 x 0.8 DIN 43650 type C |



Low Power Version

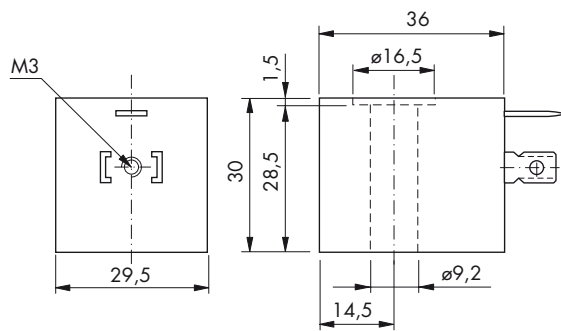
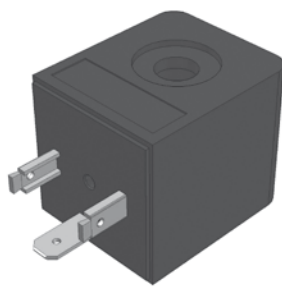
| Code | Power | Voltage | Nominal resistance | Nominal current | Return power | Pull-in time | Drop-out time |
|-----------|---|---------|--------------------|-----------------|--------------|--------------|---------------|
| JL5910008 | (DC Version) approx. 1.8 W | 12 | 93 | 129 | 0.027 W | 4-10 ms | 3-9 ms |
| JL5910001 | | 24 | 403 | 59 | | | |
| JL5910004 | (AC Version) approx. 5.5 VA (50/60Hz) | 24 | 57 | 200 | 1.4 VA | 5-10 ms | 3-5 ms |
| JL5910005 | | 110 | 1440 | 32 | | | |
| JL5910009 | | 230 | 4350 | 22 | | | |

High Power Version

| Code | Power | Voltage | Nominal resistance | Nominal current | Return power | Pull-in time | Drop-out time |
|-----------|-------------------------------|---------|--------------------|-----------------|--------------|--------------|---------------|
| JL5910024 | (DC Version) approx. 4.6 W | 12 | 31 | 386 | 0.15 W | 5-10 ms | 3-5 ms |
| JL5910022 | | 24 | 124 | 193 | | | |

Coils Type 65 - DIN B

- Electrical versions:** VDE 0580, VDE 0110
- Pull-in power:** Approx. 1.5 x nominal (AC)
- Insulation class:** F (120 °C)
- Duty cycle:** Continuous 100 %
- Materials bobbin:** PA 6.6
- Cover:** EP
- Electrical connections:** Plug-in socket, flat plug receptacles 6.3 x 0.8 DIN 46247 type B



Low Power Version

| Code | Power | Voltage | Nominal resistance | Nominal current | Return power | Pull-in time | Drop-out time |
|-----------|---|---------|--------------------|-----------------|--------------|--------------|---------------|
| JL5910013 | (DC Version) approx. 1.5 W | 12 | 93 | 129 | 0.027 W | 10-14 ms | 8-12 ms |
| JL5910002 | | 24 | 403 | 59 | | | |
| JL5910006 | (AC Version) approx. 5 VA (50/60Hz) | 24 | 57 | 200 | 1.4 VA | 4-11 ms | 5-10 ms |
| JL5910015 | | 110 | 1036 | 50 | | | |
| JL5910007 | | 230 | 4950 | 22 | | | |

High Power Version

| Code | Power | Voltage | Nominal resistance | Nominal current | Return power | Pull-in time | Drop-out time |
|-----------|-------------------------------|---------|--------------------|-----------------|--------------|--------------|---------------|
| JL5910018 | (DC Version) approx. 4.5 W | 12 | 37 | 350 | 0.15 W | 10-15 ms | 3-5 ms |
| JL5910003 | | 24 | 117 | 205 | | | |

Plug-in Socket - DIN 43650 Type B

Nominal Voltage AC/DC: 250V AC/DC

Nominal current: 10 A

Contact resistance: <= 5 mΩ

Wire cross section: max 1.5 mm² (AWG 16)

Casing: PA6 GF

LED: none

No. of poles: 2+ground (earth position H12)

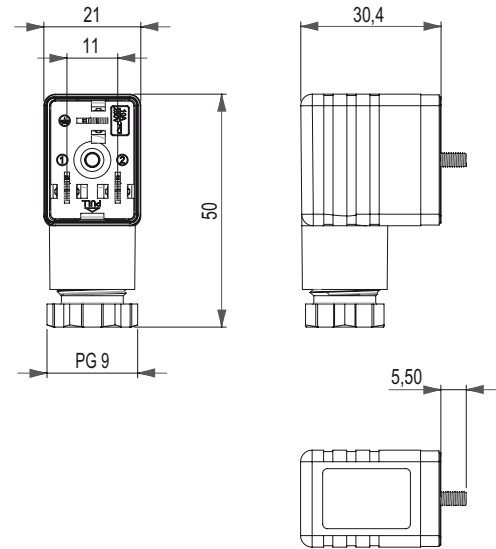
Cable screw connection: Pg 9

Protection: IP 65 (if correctly assembled)

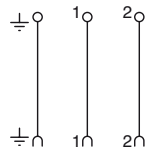
Gasket: flat

Colour: black

Ambient temperature: from -40 °C to +100 °C



| Code | Voltage |
|-------------|------------|
| PBP.00.N000 | Up to 250V |



Plug-in Socket - DIN 43650 Type B (LED)

Nominal Voltage AC/DC: see order code

Nominal current: 4 A

Contact resistance: <= 5 mΩ

Wire cross section: max 1.5 mm²

Casing: PA12

LED: yellow

No. of poles: 2+ground (earth position H12)

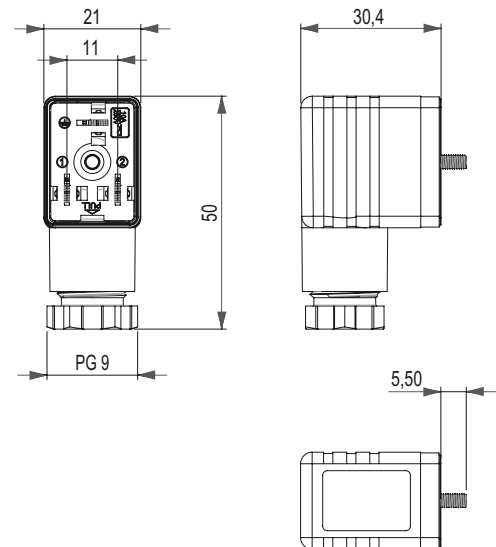
Cable screw connection: Pg 9

Protection: IP 65 (if correctly assembled)

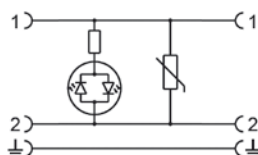
Gasket: flat

Colour: transparent

Ambient temperature: from -20 °C to +80 °C



| Code | Voltage |
|-------------|---------|
| PBP.00.Y024 | 24V |
| PBP.00.Y115 | 115V |
| PBP.00.Y230 | 230V |



Plug-in Socket - DIN 43650 Type C

Nominal Voltage AC/DC: 250V AC/DC

Nominal current: 6 A

Contact resistance: <= 5 mΩ

Wire cross section: max 1.0 mm²

Casing: PA6 GF

LED: none

No. of poles: 2+ground (earth position H6)

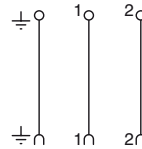
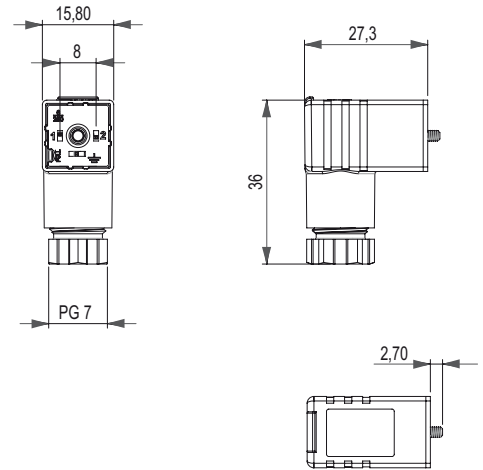
Cable screw connection: Pg 7

Protection: IP 65 (if correctly assembled)

Gasket: flat

Colour: black

Ambient temperature: from -40 °C to +100 °C



| Code | Voltage |
|-------------|------------|
| PCP.00.N000 | Up to 250V |

Plug-in Socket - DIN 43650 Type C (LED)

Nominal Voltage AC/DC: see order code

Nominal current: 4 A

Contact resistance: <= 5 mΩ

Wire cross section: max 1.0 mm²

Casing: PA12

LED: yellow

No. of poles: 2+ground (earth position H6)

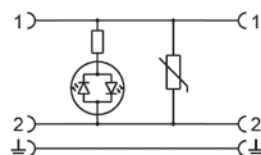
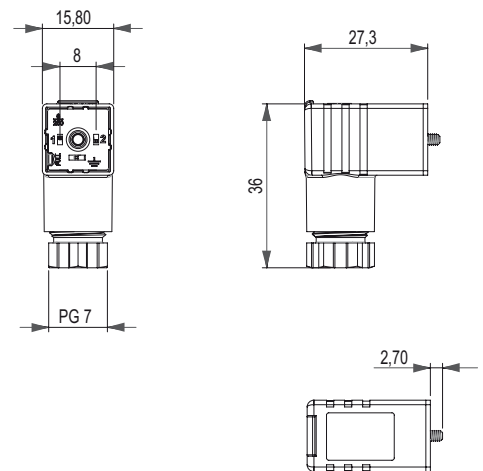
Cable screw connection: Pg 7

Protection: IP 65 (if correctly assembled)

Gasket: flat

Colour: transparent

Ambient temperature: from -20 °C to +80 °C



| Code | Voltage |
|-------------|---------|
| PCP.00.Y024 | 24V |
| PCP.00.Y115 | 115V |
| PCP.00.Y230 | 230V |

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