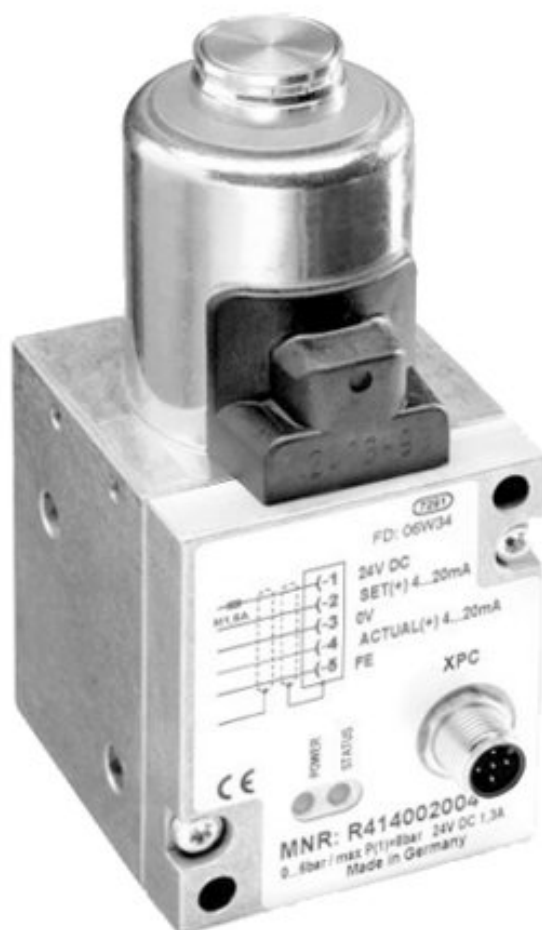


Series ED05

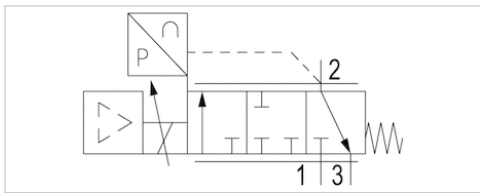


AVENTICS™ Series ED05



E/P pressure regulator, Series ED05

- $Q_n = 1000 \text{ l/min}$
- Compressed air connection output G 1/4
- Electr. connection via signal connection
- Signal connection input and output, Plug, M12, 5-pin



Version	Poppet valve
Mounting orientation	$\alpha = 0-90^\circ \beta = 0-90^\circ$
Certificates	CE declaration of conformity
Working pressure max	11 bar
Ambient temperature min./max.	0 ... 70 °C
Medium temperature min./max.	0 ... 70 °C
Compressed air connection input	G 1/4
Compressed air connection output	G 1/4
Compressed air connection, exhaust	G 1/4
Medium	Compressed air
Max. particle size	50 μm
Oil content of compressed air	0 ... 1 mg/m^3
Nominal flow Q_n	1000 l/min
Control	Analog
DC operating voltage	24 V
Voltage tolerance DC	-20% / +20%
Hysteresis	0.06 bar
Permissible ripple	5%
Protection class	IP65
Weight	0.95 kg
	Nominal flow Q_n with working pressure 7 bar , with secondary pressure 6 bar and $\Delta p = 0.2 \text{ bar}$

Technical data

Part No.	Pressure setting range min./max.	Nominal input value	Actual output value	Control
		Min./max.	Min./max.	
R414002003	0 ... 6 bar	0 ... 20 mA	0 ... 20 mA	Analog
R414002004	0 ... 6 bar	4 ... 20 mA	4 ... 20 mA	Analog
R414002005	0 ... 6 bar	0 ... 10 V	0 ... 10 V	Analog
R414002006	0 ... 6 bar	0 ... 20 mA	-	Analog
R414002294	0 ... 6 bar	4 ... 20 mA	-	Analog
R414002295	0 ... 6 bar	0 ... 10 V	-	Analog
R414002007	0 ... 10 bar	0 ... 20 mA	0 ... 20 mA	Analog
R414002008	0 ... 10 bar	4 ... 20 mA	4 ... 20 mA	Analog
R414002009	0 ... 10 bar	0 ... 10 V	0 ... 10 V	Analog
R414002010	0 ... 10 bar	0 ... 20 mA	-	Analog
R414002296	0 ... 10 bar	4 ... 20 mA	-	Analog
R414002297	0 ... 10 bar	0 ... 10 V	-	Analog

Part No.	Fig.	
R414002003	Fig. 1	-

Part No.	Fig.	
R414002004	Fig. 1	-
R414002005	Fig. 2	-
R414002006	Fig. 3	1)
R414002294	Fig. 3	1)
R414002295	Fig. 3	1)
R414002007	Fig. 1	-
R414002008	Fig. 1	-
R414002009	Fig. 2	-
R414002010	Fig. 3	1)
R414002296	Fig. 3	1)
R414002297	Fig. 3	1)

1) Acknowledge signal - output from + Ub, if the outlet pressure corresponds to the setpoint +/- 200 mbar

Technical information

The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!
 The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .
 The oil content of compressed air must remain constant during the life cycle.
 Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in the MediaCentre).

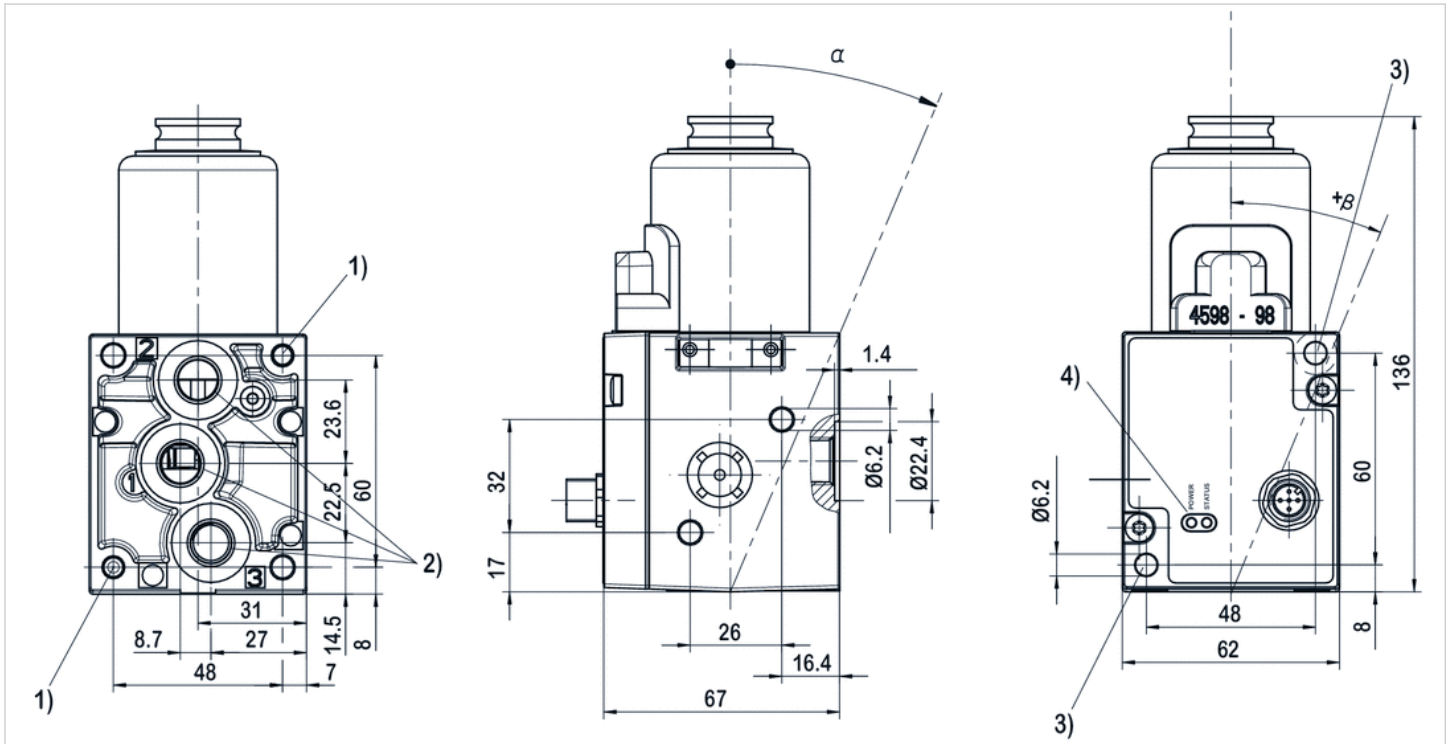
With oil-free, dry air, other installation positions are possible on request.
 The protection class is only ensured when the plug is mounted properly. For detailed information, see operating instructions.

Technical information

Material	
Housing	Die-cast aluminum Steel
Seals	Hydrogenated acrylonitrile butadiene rubber

Dimensions

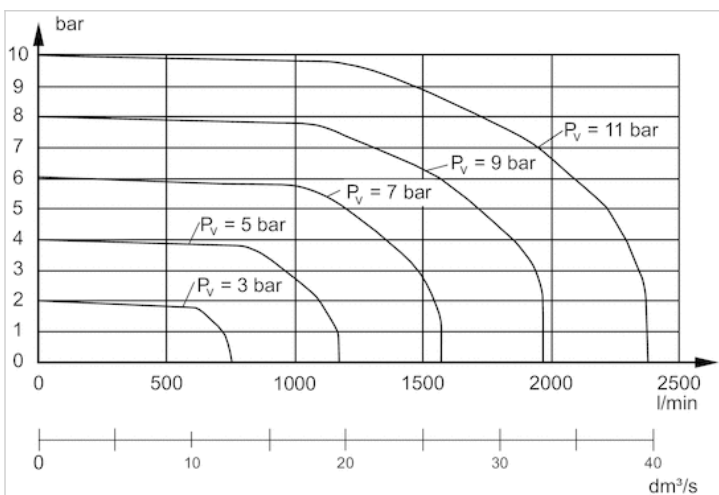
Dimensions



- 1) Core hole 15 mm deep for self-tapping screws M6
- 2) Universal threaded connection, suitable for G1/4 according to ISO 228/1:2000 and 1/4-27 NPTF
- 3) Through hole
- 4)

Diagrams

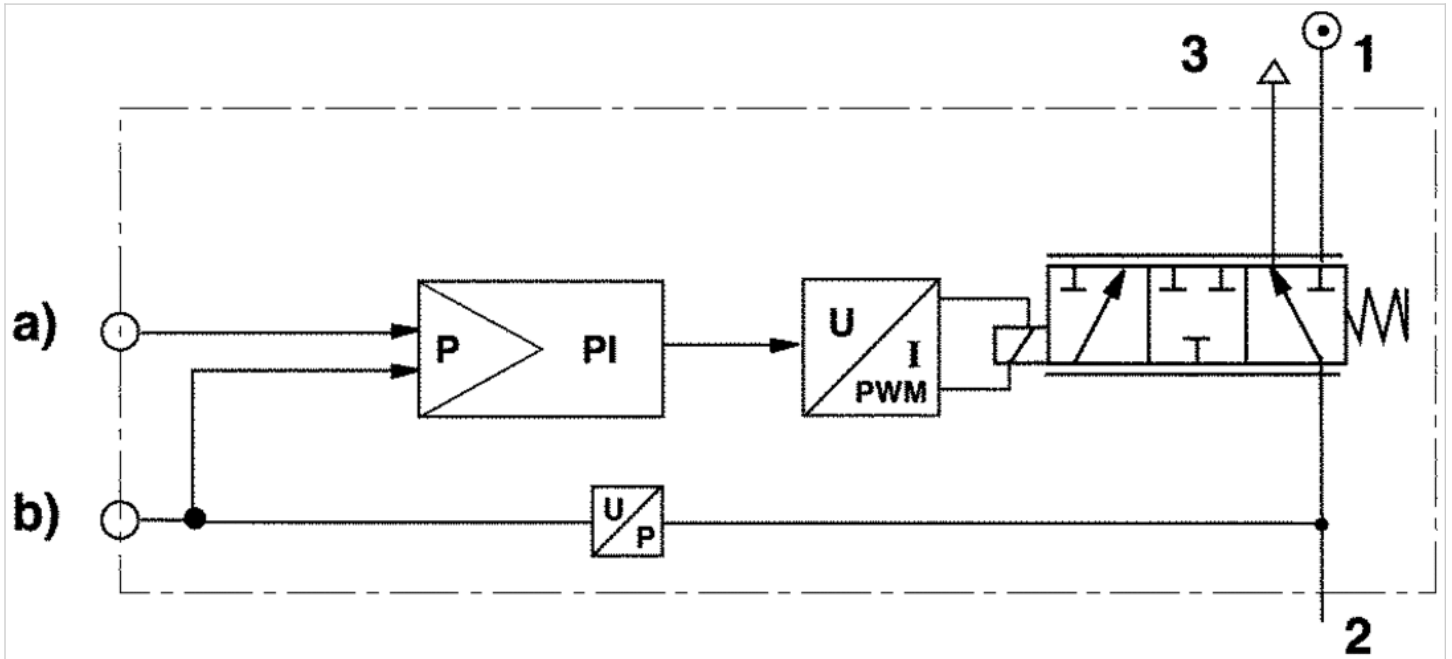
Flow diagram



Connect the plug via a shielded cable to ensure EMC

Circuit diagram

Functional diagram

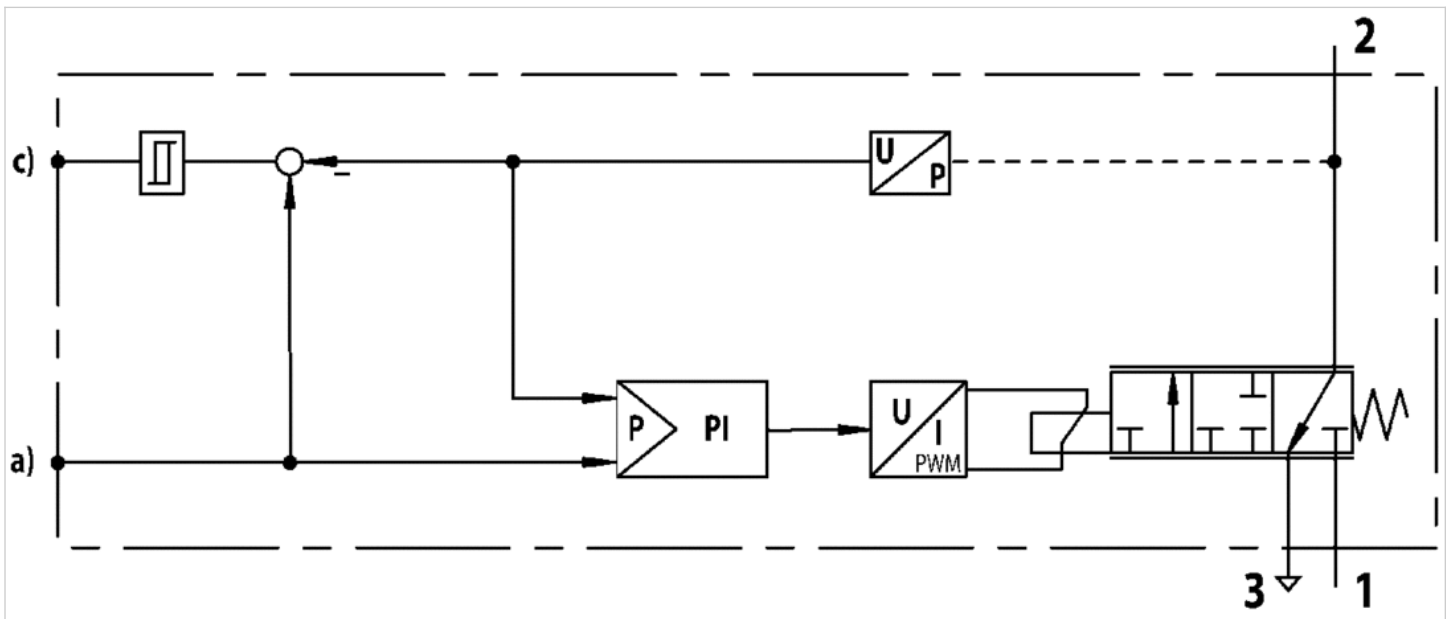


a) Nominal input value b) Actual output value

The E/P pressure control valve modulates the pressure corresponding to an analog electrical nominal input value.

- 1) Operating pressure
- 2) Working pressure
- 3) Exhaust

Functional diagram for switch output (acknowledge signal)



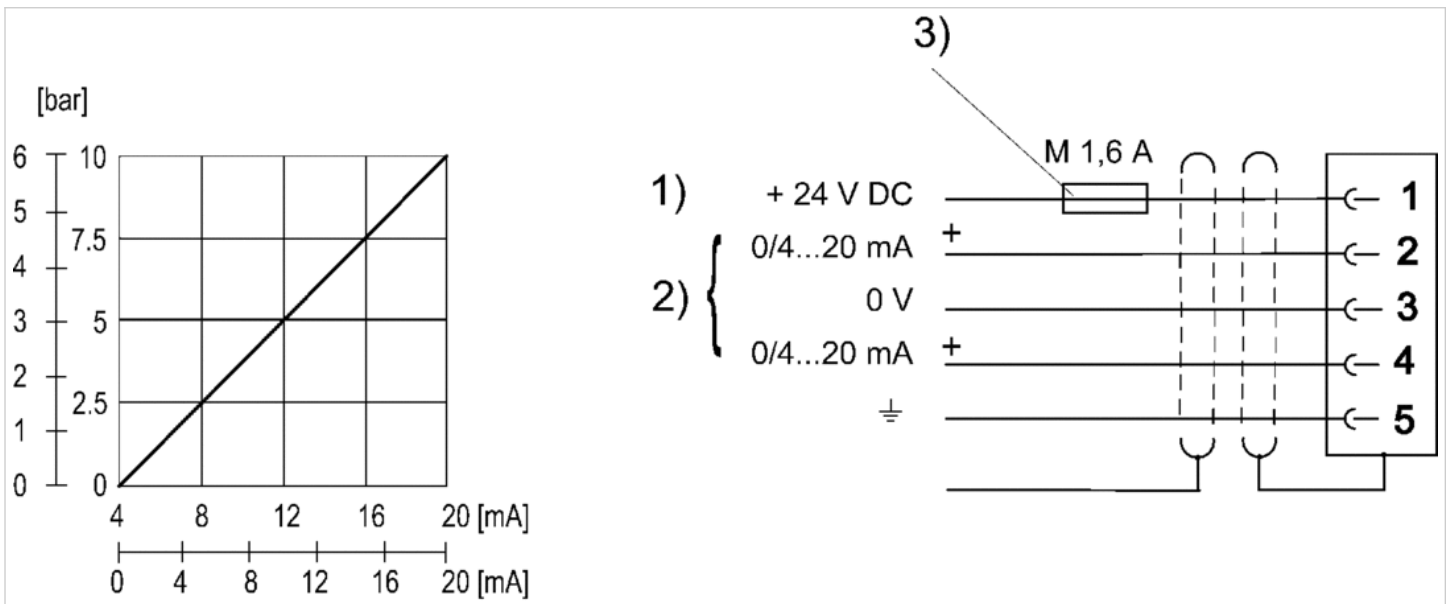
a) Nominal input value

c) Switch output (acknowledge signal)

The E/P pressure control valve modulates the pressure corresponding to an analog electrical nominal input value.

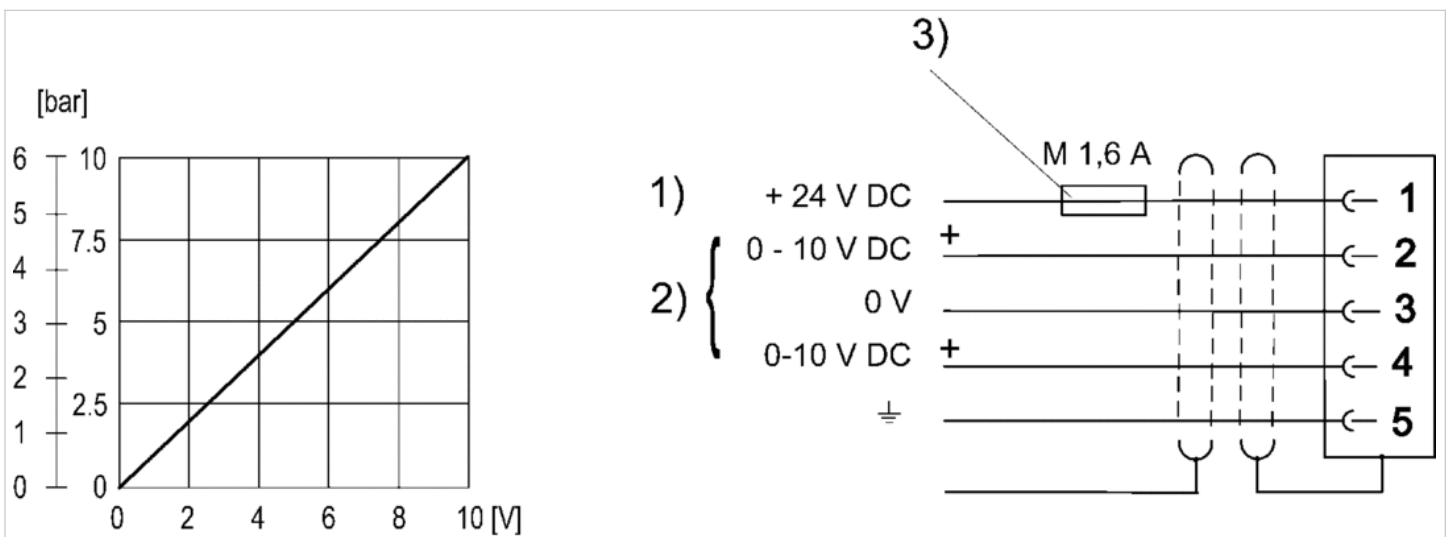
- 1) Operating pressure
- 2) Working pressure
- 3) Exhaust

Fig. 1, Characteristic and pin assignment for current control with actual output value



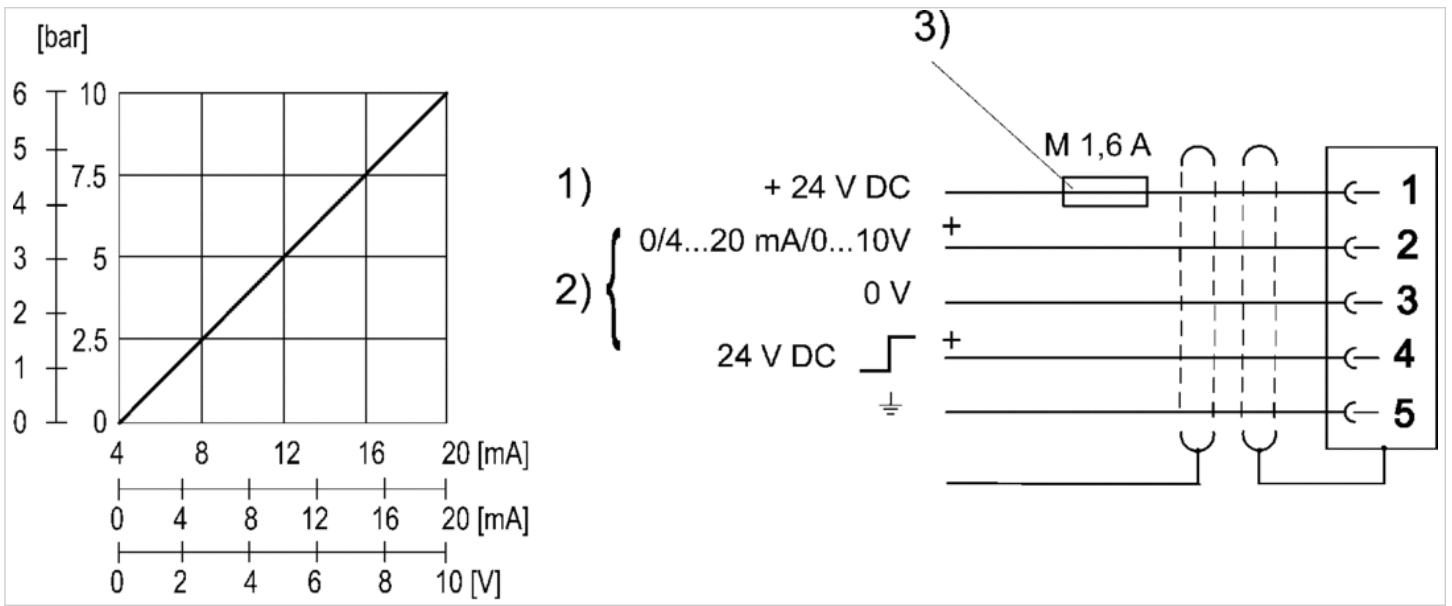
- 1) Operational voltage
- 2) Actual value (pin 4) and nominal value (pin 2) are related to 0 V (control voltage).
Nominal input value current (ohmic load 100 Ω). Actual output value (max. total resistance of downstream devices 300 Ω).
- 3) The operating voltage must be protected by an external M 1.6 A fuse.
Connect plug 2 via a shielded cable to ensure EMC.

Fig. 2, Characteristic and pin assignment for voltage control with actual output value



- 1) Operational voltage
- 2) Actual value (pin 4) and nominal value (pin 2) are related to 0 V (control voltage).
- 3) The operating voltage must be protected by an external M 1.6 A fuse.
Connect plug 2 via a shielded cable to ensure EMC.

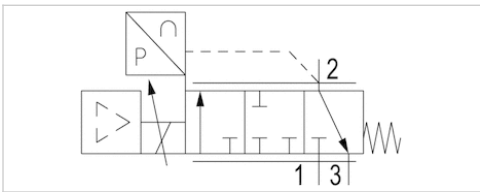
Fig. 3, Characteristic and pin assignment for current and voltage control with actual output value



- 1) Operational voltage
- 2) Nominal value (pin 2) and switch output (pin 4) are related to 0 V. Acknowledge signal
- 3) The operating voltage must be protected by an external M 1.6 A fuse.

E/P pressure regulator, Series ED05

- Qn = 1000 l/min
- Compressed air connection output G 1/4
- Electr. connection Plug, ISO 15217, form C
- Signal connection input and output, Plug, ISO 15217, form C



Version	Poppet valve
Mounting orientation	$\alpha = 0-90^\circ \beta = 0-90^\circ$
Certificates	CE declaration of conformity
Working pressure max	11 bar
Ambient temperature min./max.	0 ... 70 °C
Medium temperature min./max.	0 ... 70 °C
Compressed air connection input	G 1/4
Compressed air connection output	G 1/4
Compressed air connection, exhaust	G 1/4
Medium	Compressed air
Max. particle size	50 μm
Oil content of compressed air	0 ... 1 mg/m ³
Nominal flow Qn	1000 l/min
Control	Analog
DC operating voltage	24 V
Voltage tolerance DC	-20% / +20%
Hysteresis	0.06 bar
Permissible ripple	5%
Protection class	IP65
Weight	1.1 kg
	Nominal flow Qn with working pressure 7 bar , with secondary pressure 6 bar and $\Delta p = 0.2$ bar

Technical data

Part No.	Pressure setting range min./max.	Nominal input value	Actual output value	Control
		Min./max.	Min./max.	
5610141300	0 ... 6 bar	0 ... 20 mA	0 ... 20 mA	Analog
5610141310	0 ... 6 bar	4 ... 20 mA	4 ... 20 mA	Analog
5610141330	0 ... 6 bar	0 ... 10 V	0 ... 10 V	Analog
5610141320	0 ... 6 bar	0 ... 10 V	-	Analog
5610141500	0 ... 10 bar	0 ... 20 mA	0 ... 20 mA	Analog
5610141510	0 ... 10 bar	4 ... 20 mA	4 ... 20 mA	Analog
5610141530	0 ... 10 bar	0 ... 10 V	0 ... 10 V	Analog
5610141520	0 ... 10 bar	0 ... 10 V	-	Analog

Part No.	Fig.	
5610141300	Fig. 1	-
5610141310	Fig. 1	-
5610141330	Fig. 2	-
5610141320	Fig. 3	1)
5610141500	Fig. 1	-

Part No.	Fig.	
5610141510	Fig. 1	-
5610141530	Fig. 2	-
5610141520	Fig. 3	1)

Minimum working pressure = 0.5 bar + max. required secondary pressure, Additional pressure setting ranges available on request

1) Output 10V constant to supply a set point potentiometer.

Technical information

The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!

The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .

The oil content of compressed air must remain constant during the life cycle.

Use only the approved oils from AVENTICS. Further information can be found in the “Technical information” document (available in the MediaCentre).

With oil-free, dry air, other installation positions are possible on request.

The protection class is only ensured when the plug is mounted properly. For detailed information, see operating instructions.

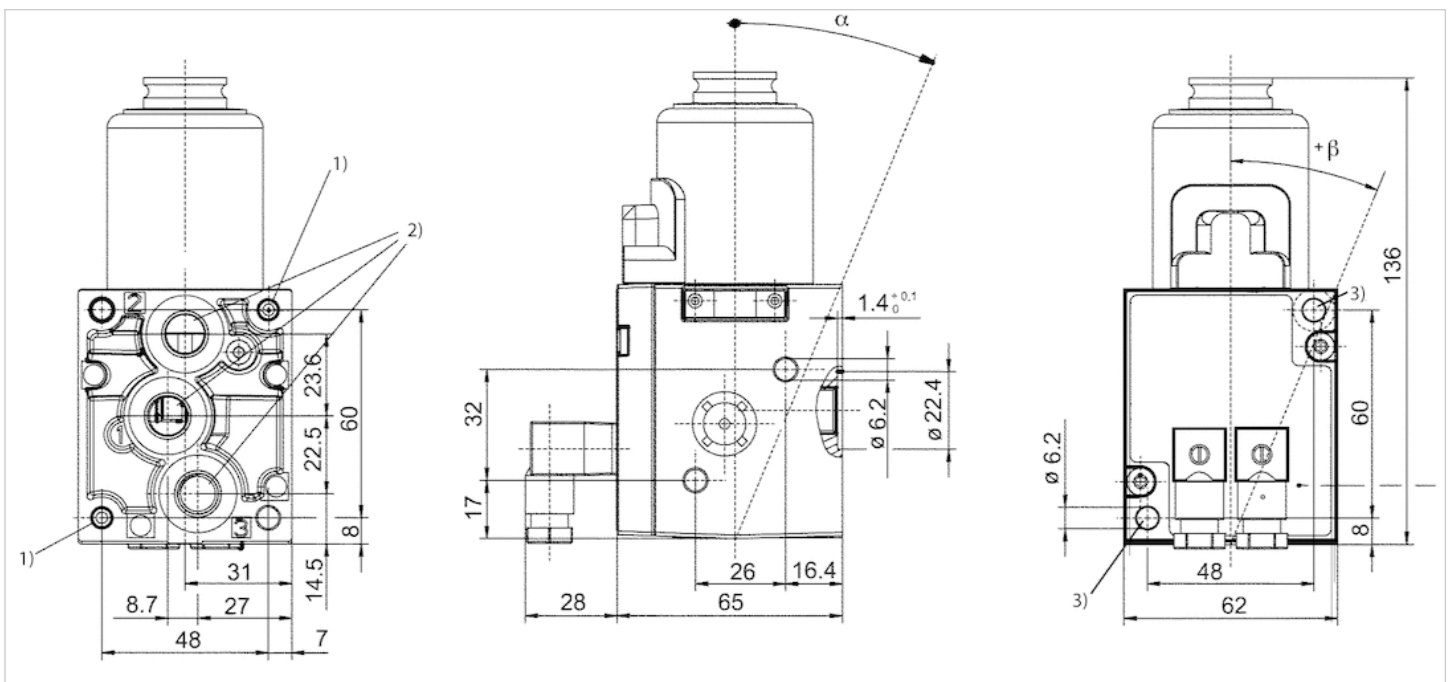
Technical information

Material

Housing	Die-cast aluminum Steel
Seals	Hydrogenated acrylonitrile butadiene rubber

Dimensions

Dimensions



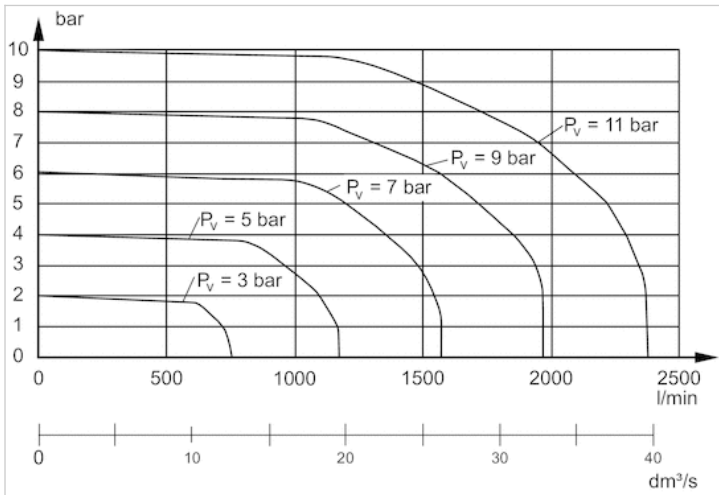
1) Core hole 15 mm deep for self-tapping screws M6

2) Universal threaded connection, suitable for G1/4 according to ISO 228/1:2000 and 1/4-27 NPTF

3) Through hole

Diagrams

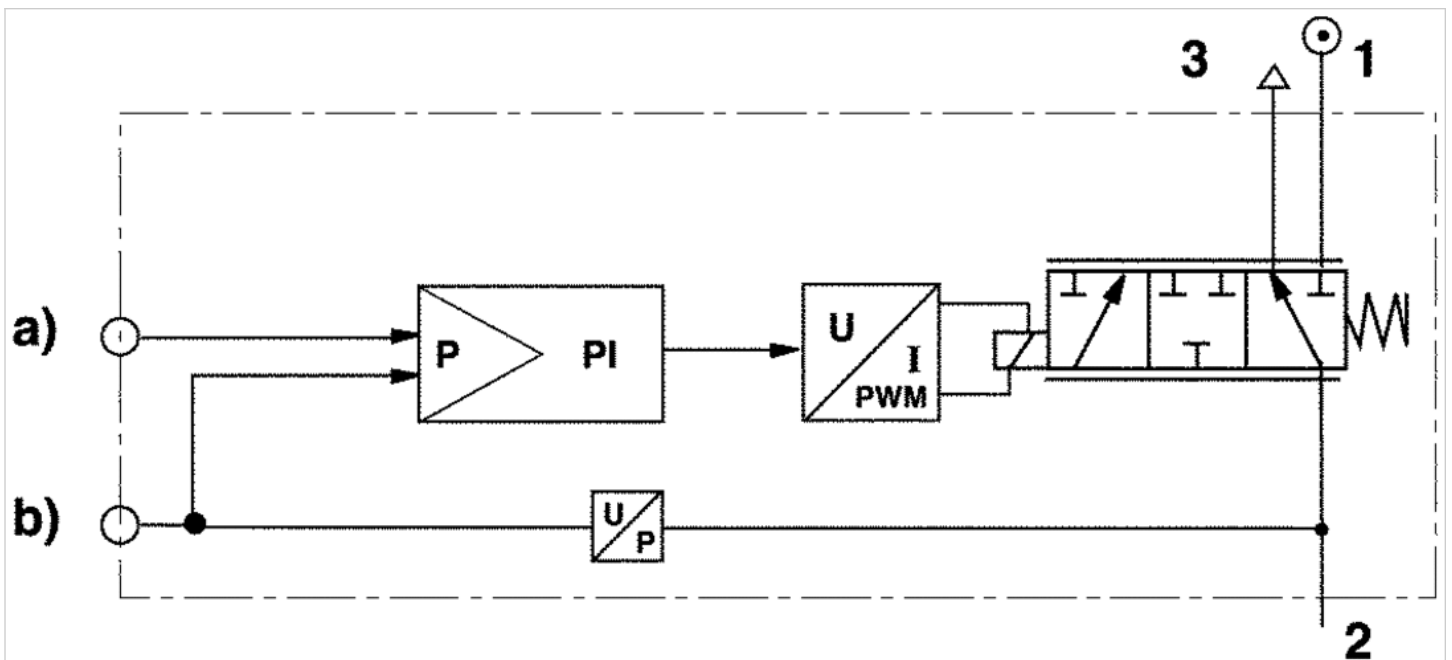
Flow diagram



Connect the plug via a shielded cable to ensure EMC

Circuit diagram

Functional diagram

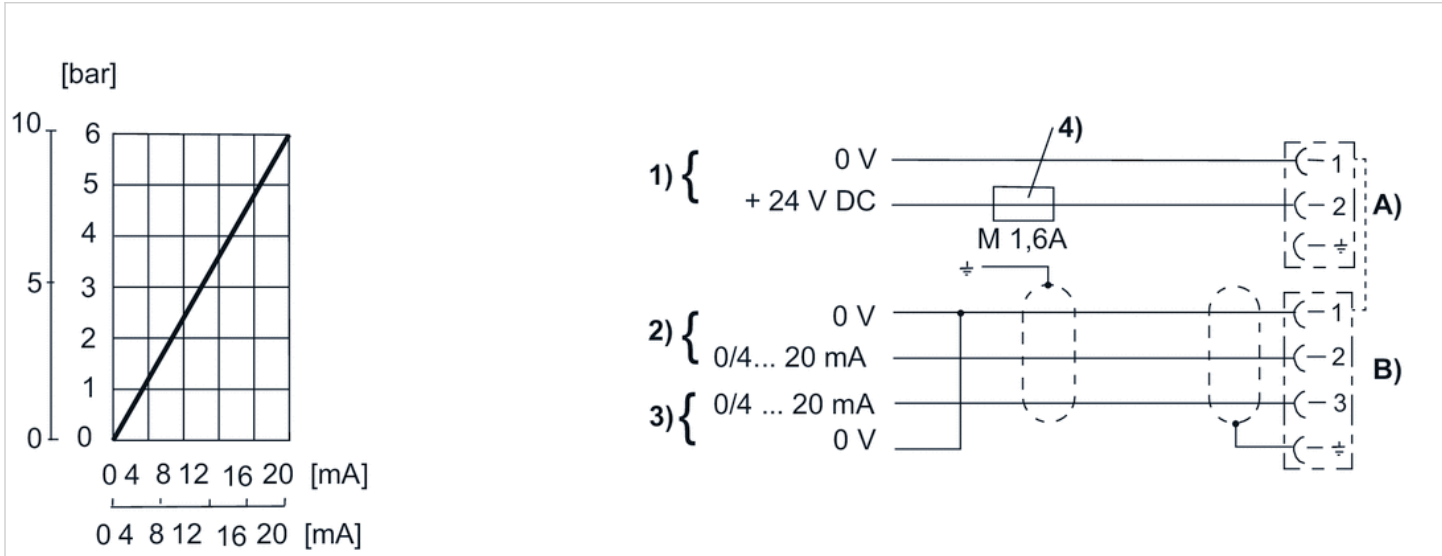


a) Nominal input value b) Actual output value

The E/P pressure control valve modulates the pressure corresponding to an analog electrical nominal input value.

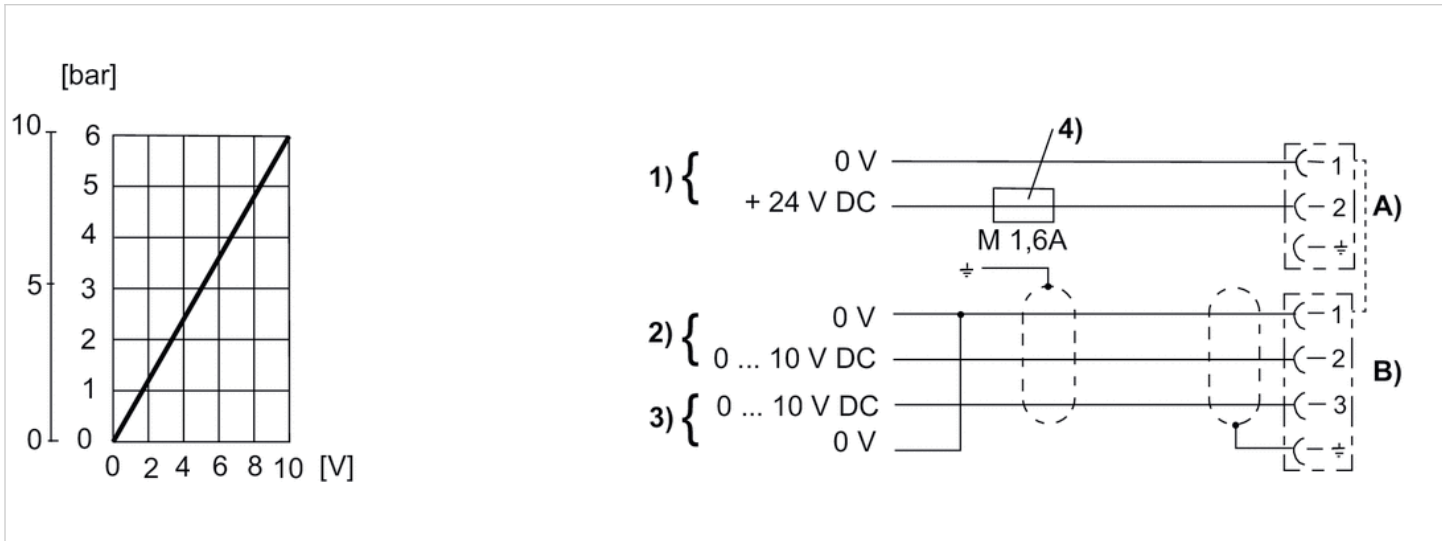
- 1) Operating pressure
- 2) Working pressure
- 3) Exhaust

Fig. 1, Characteristic and pin assignment for current control with actual output value



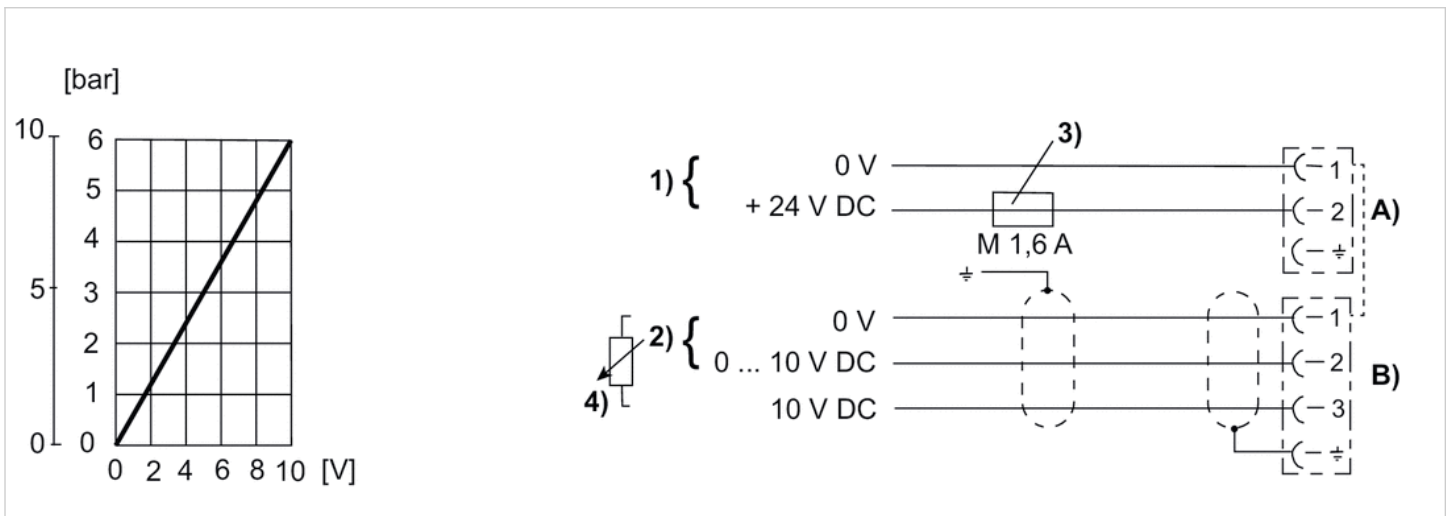
- 1) Operational voltage
- 2) Input current nominal value (ohmic load 100 Ω, max. 50 mA.)
The voltage at the nominal input value may not exceed 12 V.
- 4) actual output value (max. total resistance of downstream devices 300 Ω).
- 3) The operating voltage must be protected by an external M 1.6 A fuse.
Connect plug 2 via a shielded cable to ensure EMC.
- A) Plug 1 B) Plug 2

Fig. 2, Characteristic and pin assignment for voltage control with actual output value



- 1) Operational voltage
- 2) Nominal input value voltage
- 3) Actual output value (min. external ohmic load 1 kΩ)
- 4) The operating voltage must be protected by an external M 1.6 A fuse.
Connect plug 2 via a shielded cable to ensure EMC.
- A) Plug 1 B) Plug 2

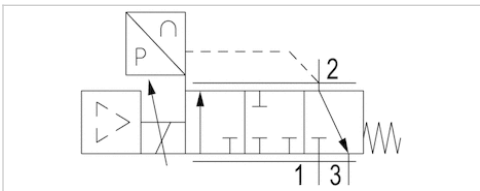
Fig. 3, Characteristic and pin assignment for potentiometer control without actual output value



- 1) Operational voltage
- 2) Nominal input value voltage
- 3) The operating voltage must be protected by an external M 1.6 A fuse. Connect plug 2 via a shielded cable to ensure EMC.
- A) Plug 1 B) Plug 2
- 4) Potentiometer control (0 - 2 kΩ (min.), 0 - 10 kΩ (max.))

E/P pressure regulator, Series ED05

- Qn = 1000 l/min
- Compressed air connection output G 1/4
- Electr. connection Plug, M12, 4-pin, shielded cable required
- Communication port Socket Plug, M12, 5-pin
- serial control DDL



Version	Poppet valve
Mounting orientation	$\alpha = 0-90^\circ \beta = 0-90^\circ$
Certificates	CE declaration of conformity
Working pressure max	11 bar
Ambient temperature min./max.	0 ... 50 °C
Medium temperature min./max.	0 ... 50 °C
Compressed air connection input	G 1/4
Compressed air connection output	G 1/4
Compressed air connection, exhaust	G 1/4
Medium	Compressed air
Max. particle size	50 μm
Oil content of compressed air	0 ... 1 mg/m ³
Nominal flow Qn	1000 l/min
Control	serial
DC operating voltage	24 V
Voltage tolerance DC	-20% / +20%
Hysteresis	0.06 bar
Permissible ripple	5%
Resolution	10 bit
Data length	16-bit input and output (1 data word)+
Protection class	IP65
Weight	1.1 kg
	Nominal flow Qn with working pressure 7 bar , with secondary pressure 6 bar and $\Delta p = 0.2$ bar

Technical data

Part No.	Pressure setting range min./max.	Control	serial control
5610141550	0 ... 10 bar	serial	DDL

Technical information

The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!
 The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .
 The oil content of compressed air must remain constant during the life cycle.
 Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in the MediaCentre).

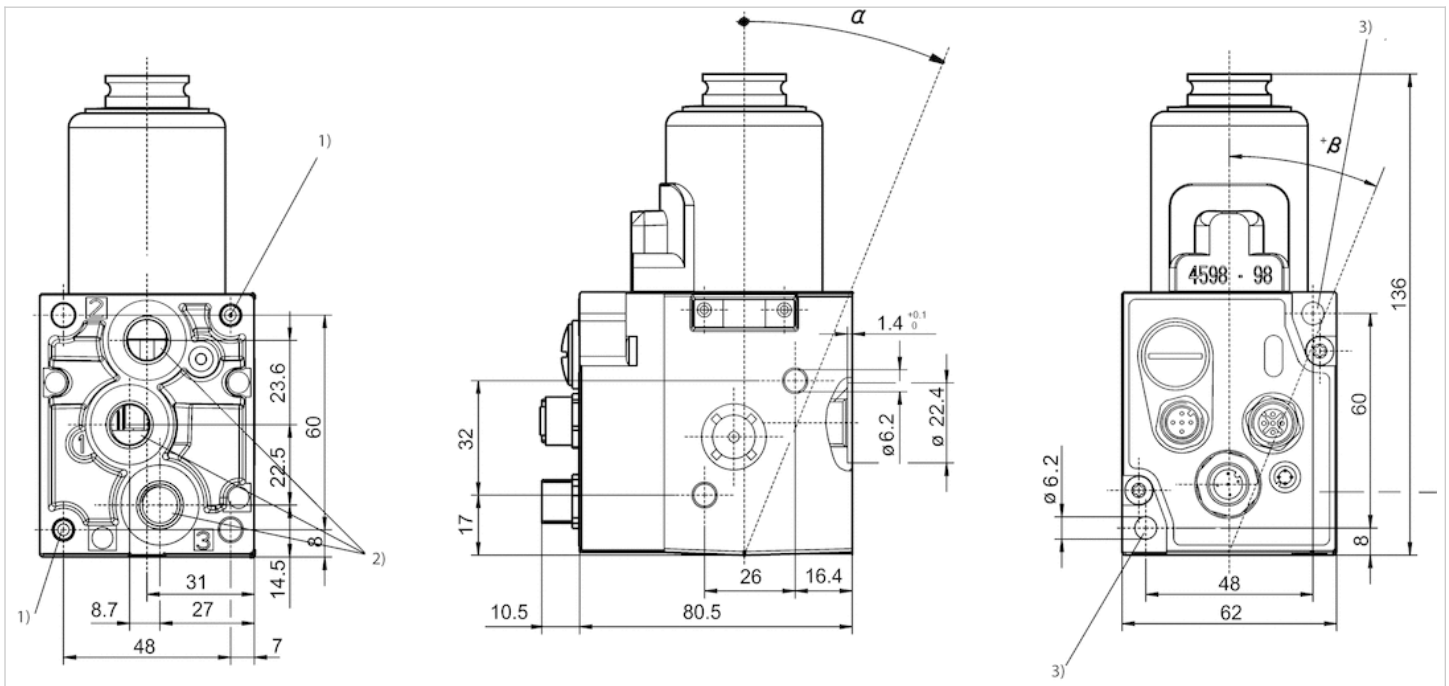
With oil-free, dry air, other installation positions are possible on request.
 The protection class is only ensured when the plug is mounted properly. For detailed information, see operating instructions.

Technical information

Material	
Housing	Die-cast aluminum Steel
Seals	Hydrogenated acrylonitrile butadiene rubber

Dimensions

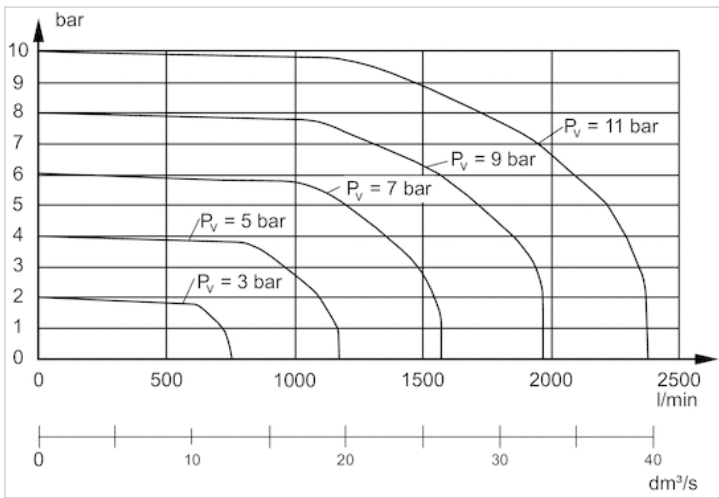
Dimensions



- 1) Core hole 15 mm deep for self-tapping screws M6
- 2) Universal threaded connection, suitable for G1/4 according to ISO 228/1:2000 and 1/4-27 NPTF
- 3) Through hole

Diagrams

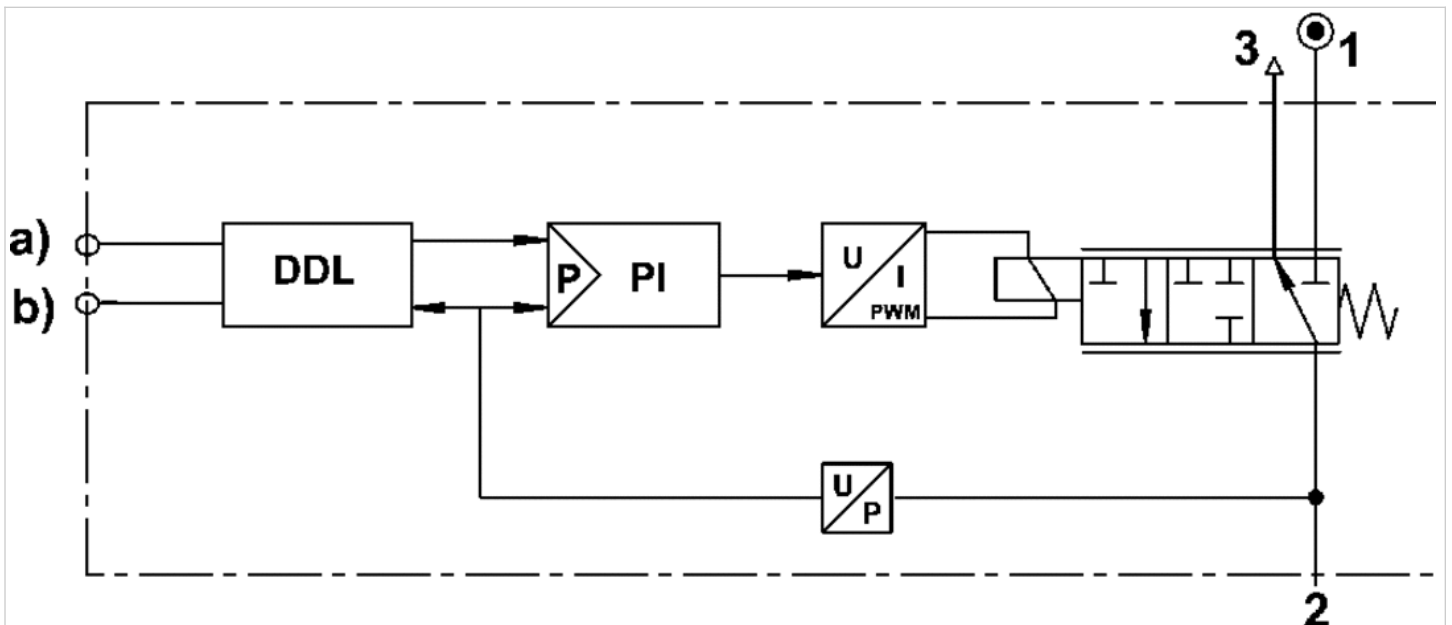
Flow diagram



Connect the plug via a shielded cable to ensure EMC

Circuit diagram

Functional diagram

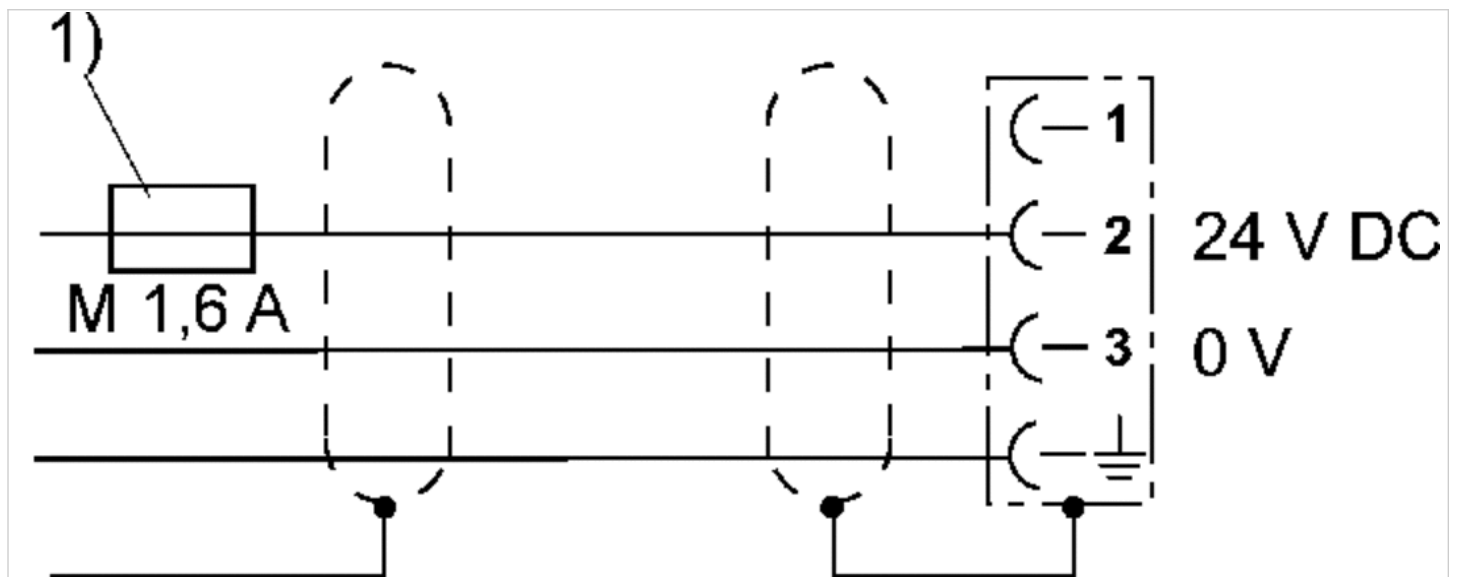


- a) Nominal input value
- b) Actual output value

The DDL E/P pressure control valve modulates the pressure corresponding to a digital electrical nominal input value (10 bit).

- 1) Operating pressure
- 2) Working pressure
- 3) Exhaust

Power supply connection



1) The operating voltage must be protected by an external M 1.6 A fuse.
Connect the plug via a shielded cable to ensure EMC.

Manifold block, for series ED05



Medium
Weight

Compressed air
See table below

Technical data

Part No.	Type	Weight
5610141002	1x	0.573 kg
5610141012	2x	1 kg
5610141022	3x	1.42 kg
R414000105	4x	1.87 kg
R414000106	5x	2.32 kg
5610141052	6x	2.74 kg
R414000908	7x	3.18 kg
5610141072	8x	3.45 kg
R414000910	9x	4.02 kg
5610141092	10x	4.69 kg

Scope of delivery incl. screws and seals

Technical information

The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!

The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .

The oil content of compressed air must remain constant during the life cycle.

Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in the MediaCentre).

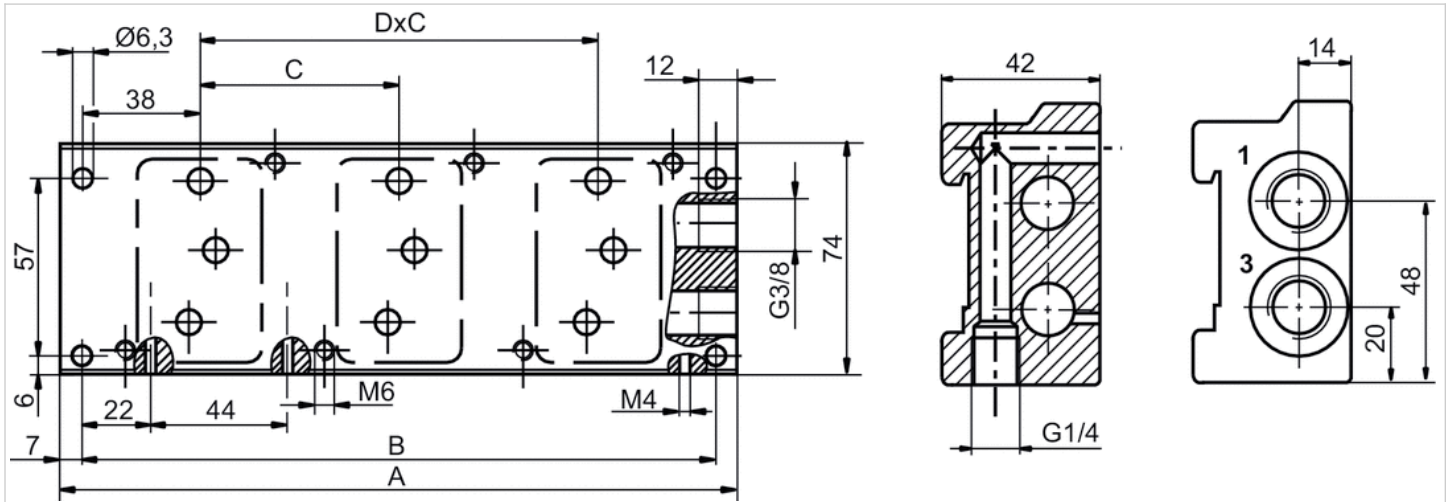
Technical information

Material

Housing	Aluminum
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Dimensions

Dimensions



Dimensions

Part No.	A	B	C	D
5610141002	90	76	-	-
5610141012	154	140	64	1
5610141022	218	204	64	2
R414000105	282	268	64	3
R414000106	346	332	64	4
5610141052	410	396	64	5
R414000908	474	460	64	6
5610141072	538	524	64	7
R414000910	602	588	64	8
5610141092	666	652	64	9

blanking plate for pressure regulators



Medium
Weight

Compressed air
0.121 kg

Technical data

Part No.	Type
5610140312	Blanking plate for sealing unused connections on connecting blocks

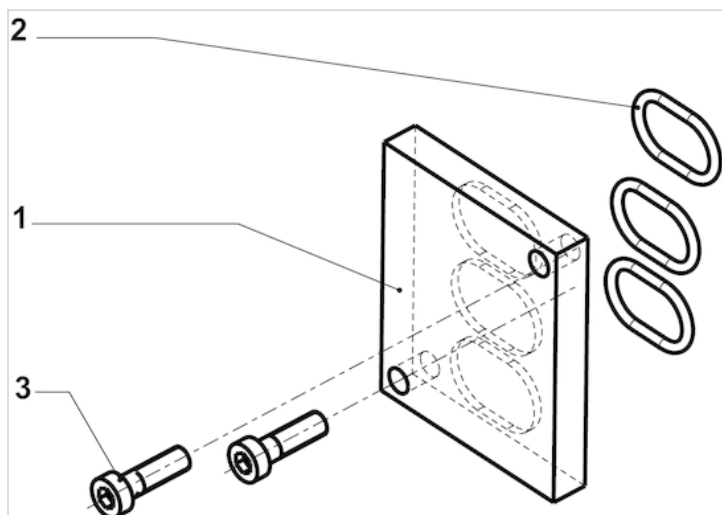
Includes screws and seals.

Technical information

Material	
Housing	Aluminum

Dimensions

Dimensions



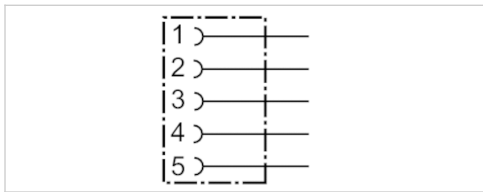
1) blanking plate 2) seal 3) screws

Round plug connector, Series CON-RD

- Socket, M12x1, 5-pin, A-coded, angled, 90°
- for CANopen
- UL (Underwriters Laboratories)
- shielded



Connection type	Screws
Ambient temperature min./max.	-40 ... 85 °C
Operational voltage	48 V AC/DC
Protection class	IP67
Weight	0.072 kg



Technical data

Part No.	Max. current	suitable cable-Ø min./max
1824484029	4 A	6 / 8 mm

Technical information

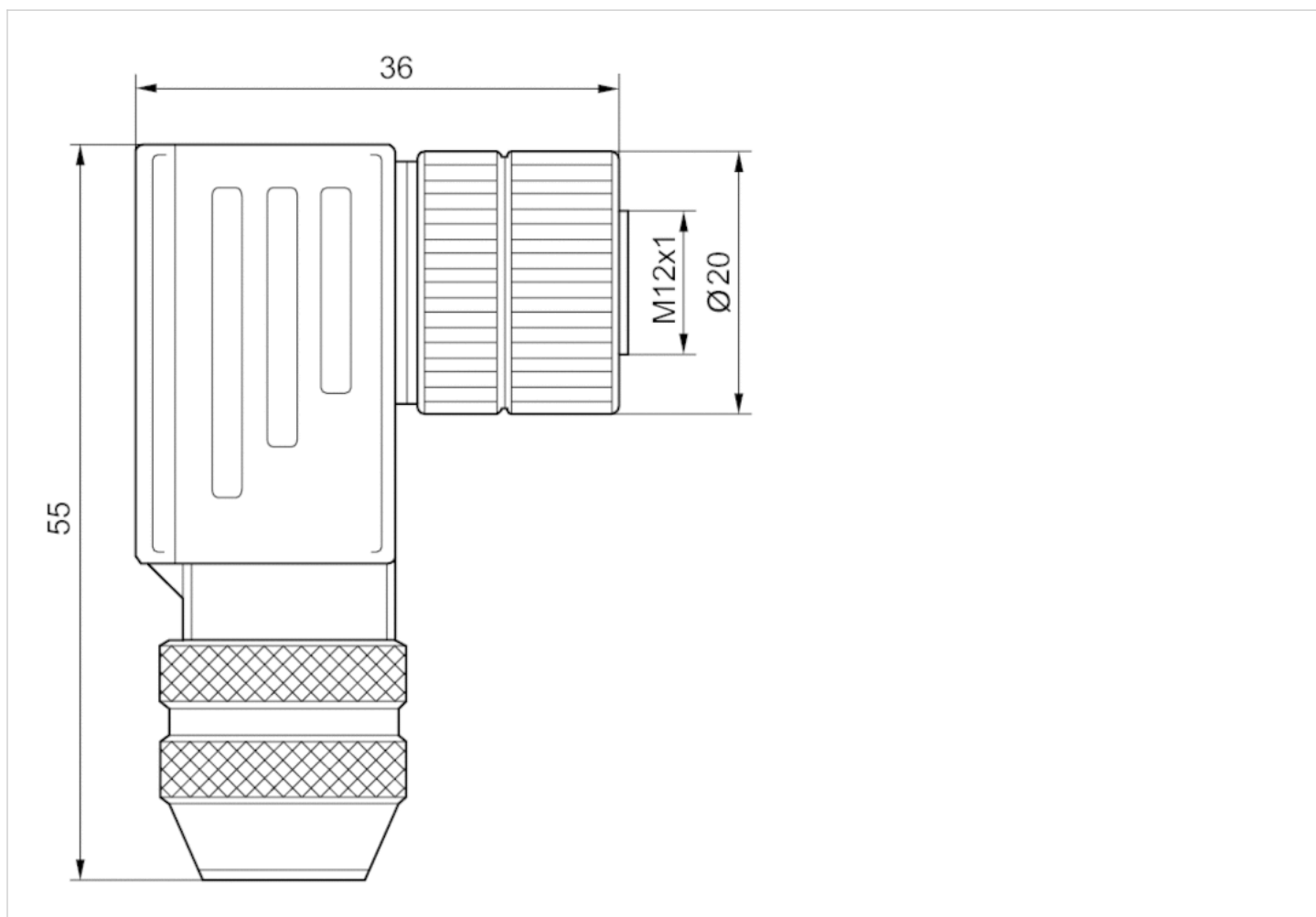
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Die cast zinc

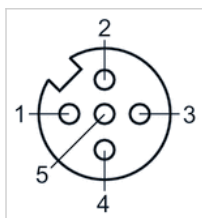
Dimensions

Dimensions



Pin assignments

Pin assignment, socket

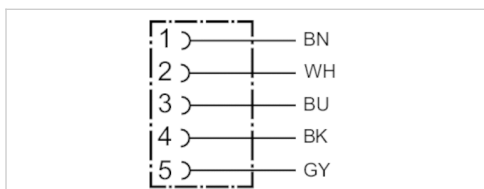


Round plug connector, Series CON-RD

- Socket M12x1 5-pin A-coded angled 90°
- open cable ends
- with cable
- shielded



Ambient temperature min./max.	-25 ... 80 °C
Operational voltage	48 V AC/DC
Protection class	IP67
Wire cross-section	0.34 mm ²
Weight	See table below



Technical data

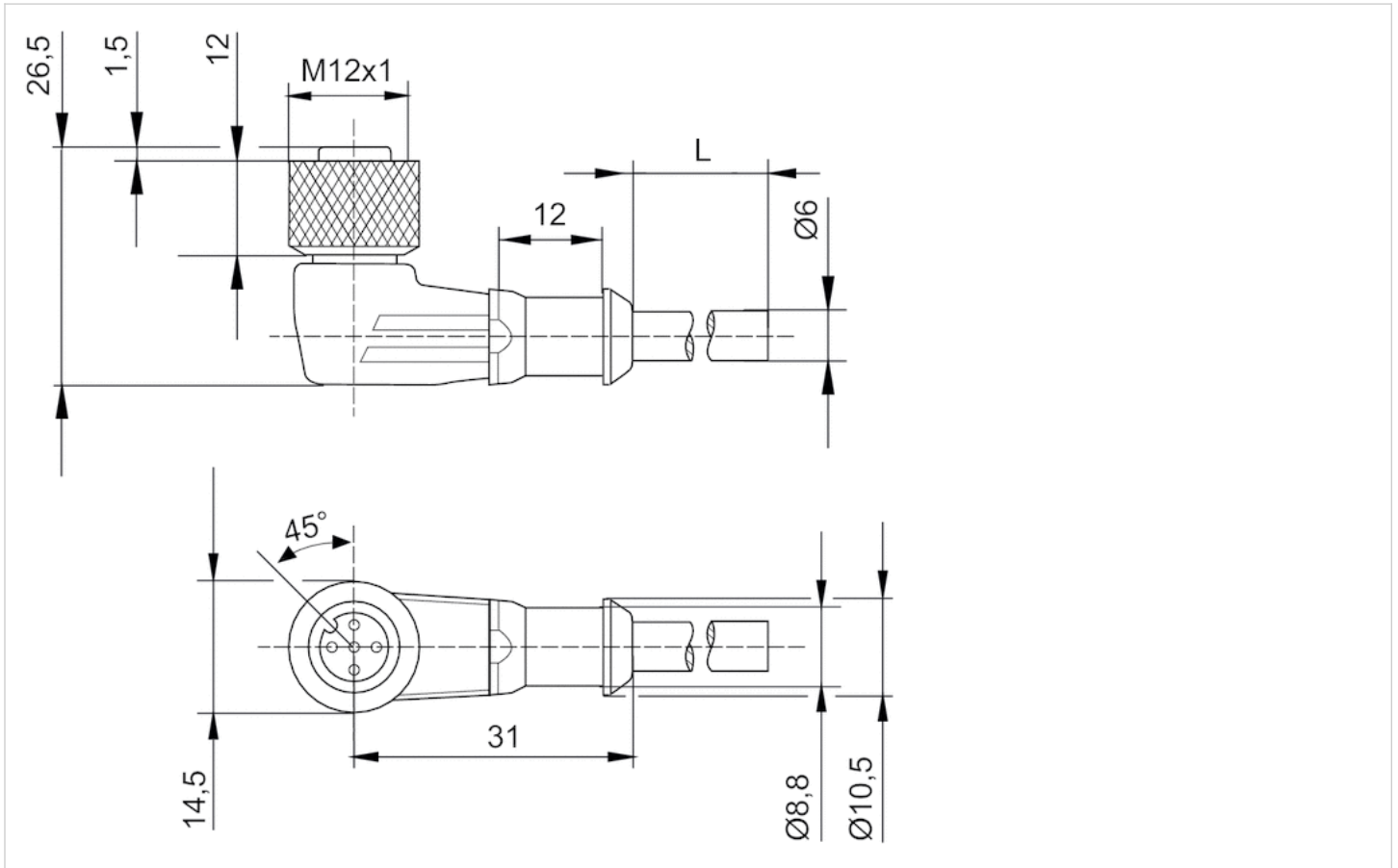
Part No.	Max. current	Number of wires	Cable-Ø	Cable length	Weight
R419800109	4 A	5	6 mm	2.5 m	0.145 kg
R419800110	4 A	5	6 mm	5 m	0.27 kg
R419800546	4 A	5	6 mm	10 m	0.514 kg

Technical information

Material	
Housing	Thermoplastic elastomer
Cable sheath	Polyurethane

Dimensions

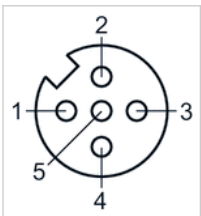
Dimensions



L = length

Pin assignments

Pin assignment, socket



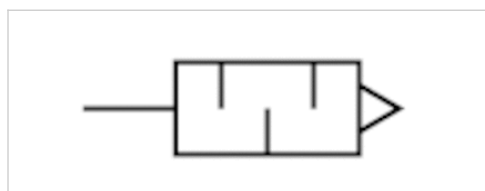
- (1) BN=brown
- (2) WH=white
- (3) BU=blue
- (4) BK=black
- (5) GY=grey

Silencers, series SI1

- G 1/4
- Sintered bronze



Working pressure min./max.	0 ... 10 bar
Ambient temperature min./max.	-25 ... 80 °C
Medium	Compressed air
Sound pressure level	See table below
Weight	See table below
Comment	Flow characteristic curves can be found under "Diagrams".



Technical data

Part No.	Compressed air connection	Sound pressure level	Flow	Delivery unit	Weight
			Qn		
R412004817	G 1/4	-	5950 l/min	10 piece	0.013 kg
1827000001	G 1/4	79 dB	3390 l/min	10 piece	0.02 kg

Weight per piece

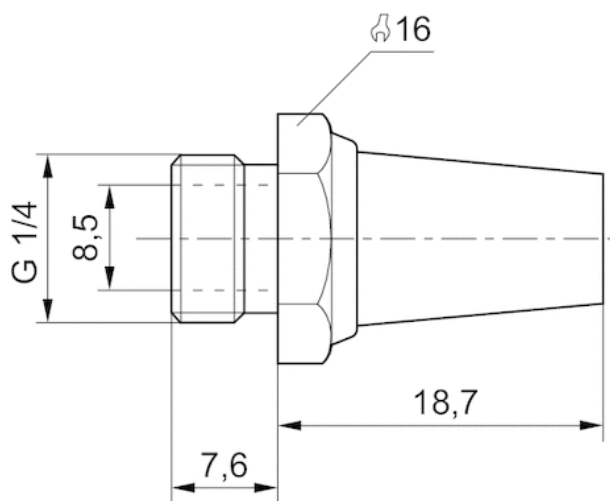
Nominal flow Qn at p1 = 6 bar (absolute) freely discharged. Sound pressure level measured at 6 bar against atmosphere at 1 m distance.

Technical information

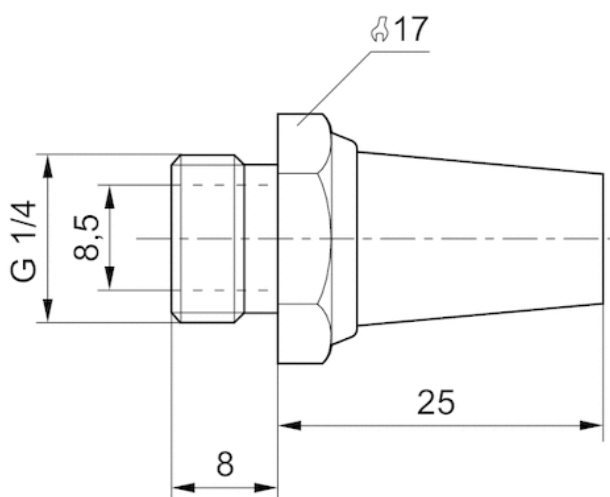
Material	
Silencer	Sintered bronze
Thread	Brass

Dimensions

Dimensions in mm



Dimensions in mm

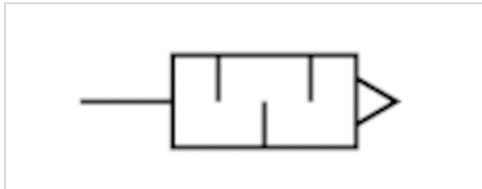


Silencers, series SI1

- G 3/8
- Sintered bronze



Working pressure min./max.	0 ... 10 bar
Ambient temperature min./max.	-25 ... 80 °C
Medium	Compressed air
Sound pressure level	84 dB
Weight	0.05 kg
Comment	Flow characteristic curves can be found under "Diagrams".



Technical data

Part No.	Compressed air connection	Flow	Delivery unit
		Qn	
1827000002	G 3/8	6554 l/min	5 piece

Weight per piece

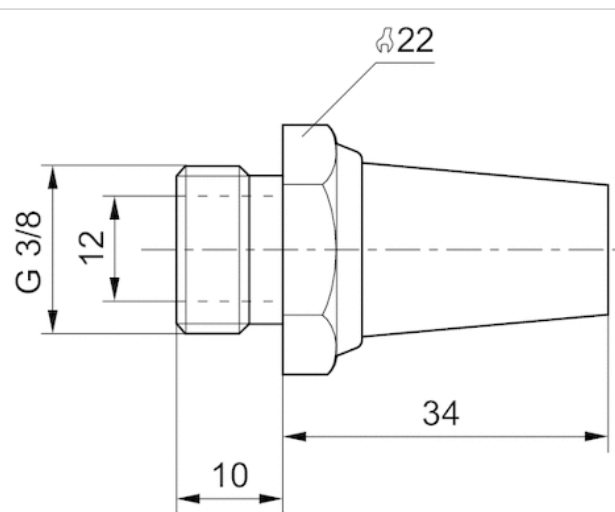
Nominal flow Qn at p1 = 6 bar (absolute) freely discharged. Sound pressure level measured at 6 bar against atmosphere at 1 m distance.

Technical information

Material	
Silencer	Sintered bronze
Thread	Brass

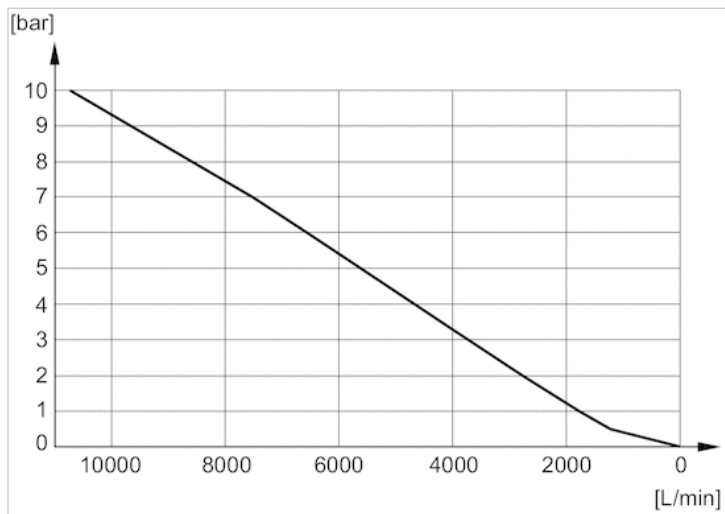
Dimensions

Dimensions in mm



Diagrams

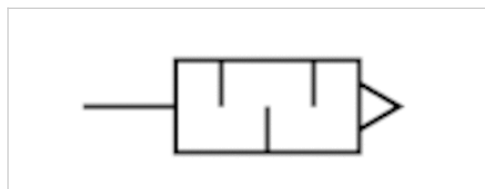
Flow diagram, 1827000002



Silencers, series SI1

- Ø 4 Ø 6 Ø 8 Ø 10 Ø 12

- Polyethylene



Working pressure min./max.

0 ... 10 bar

Ambient temperature min./max.

-25 ... 80 °C

Medium

Compressed air

Sound pressure level

See table below

Weight

See table below

Comment

Flow characteristic curves can be found under "Diagrams".

Technical data

Part No.	Compressed air connection	Sound pressure level	Flow	Delivery unit	Weight	
			Qn			
R412007519	Ø 4	-	321 l/min	5 piece	0.002 kg	1)
R412007899	Ø 6	82 dB	680 l/min	5 piece	0.002 kg	1)
R412000591	Ø 6	80 dB	622 l/min	5 piece	0.002 kg	1)
R412007520	Ø 8	90 dB	1366 l/min	5 piece	0.002 kg	1)
R412000593	Ø 10	95 dB	2854 l/min	5 piece	0.004 kg	1)
R412007715	Ø 12	97 dB	3870 l/min	5 piece	0.007 kg	2)

Weight per piece

1) Nominal flow Qn at p1 = 6 bar (absolute) freely discharged. Sound pressure level measured at 6 bar against atmosphere at 1 m distance.

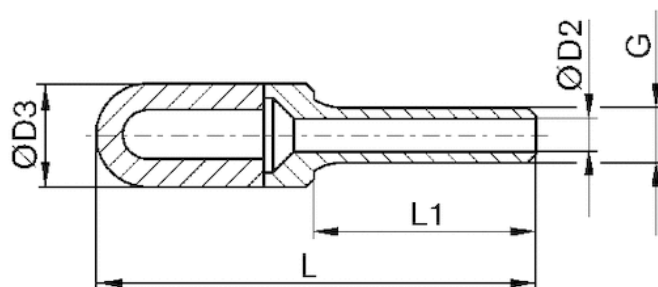
2) Nominal flow Qn at p1 = 5 bar (absolute) freely discharged. Sound pressure level measured at 5 bar against atmosphere at 1 m distance.

Technical information

Material	
Silencer	Polyethylene
Thread	Polyethylene

Dimensions

Dimensions

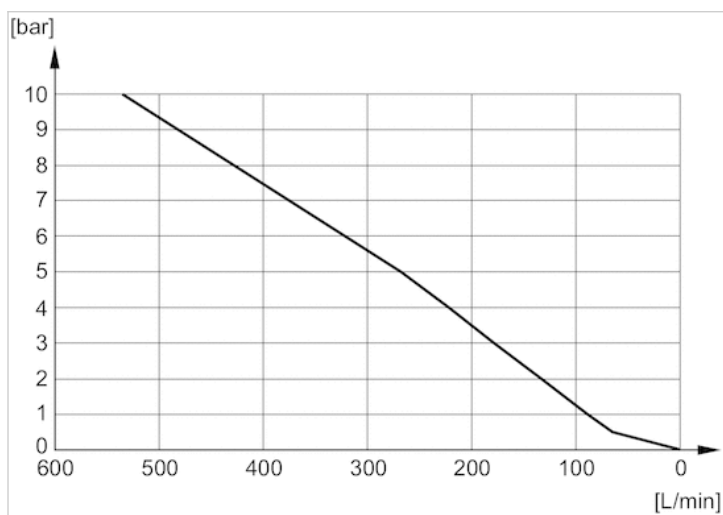


Dimensions

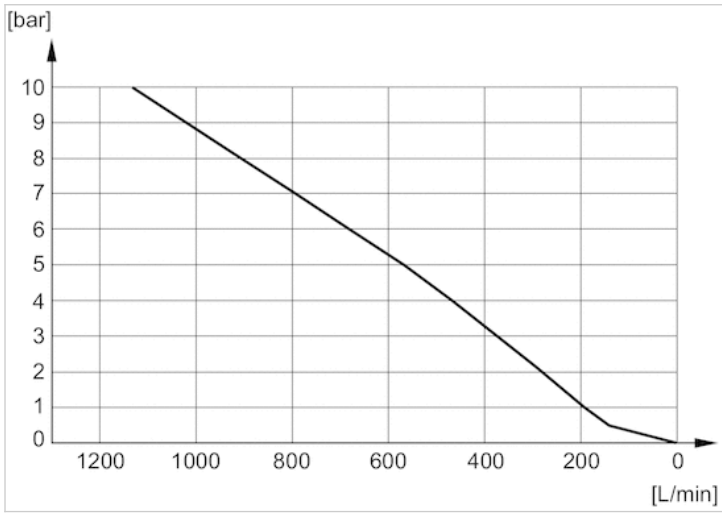
Part No.	Port G	Ø D2	Ø D3	L1	L
R412007519	Ø 4	2.5	7	16	32
R412007899	Ø 6	3.5	10	20.5	45
R412000591	Ø 6	3.5	12.5	20.5	45
R412007520	Ø 8	4.8	13.5	21.5	43.5
R412000593	Ø 10	6.9	15.5	26.5	57.5
R412007715	Ø 12	8.4	18.5	29	82

Diagrams

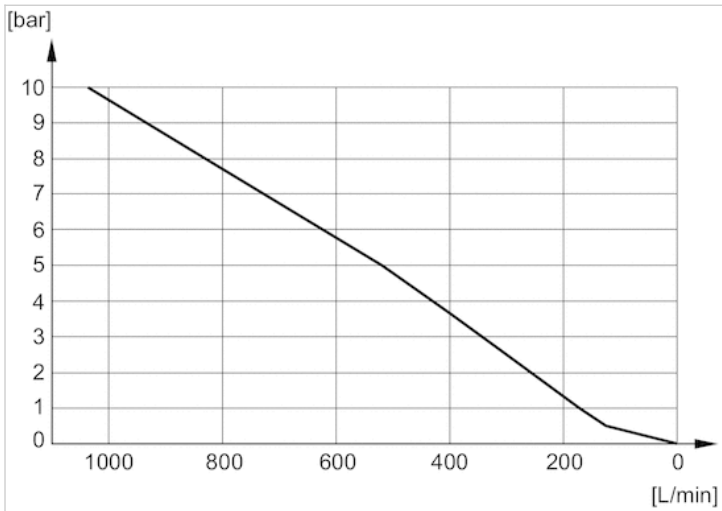
Flow diagram, R412007519



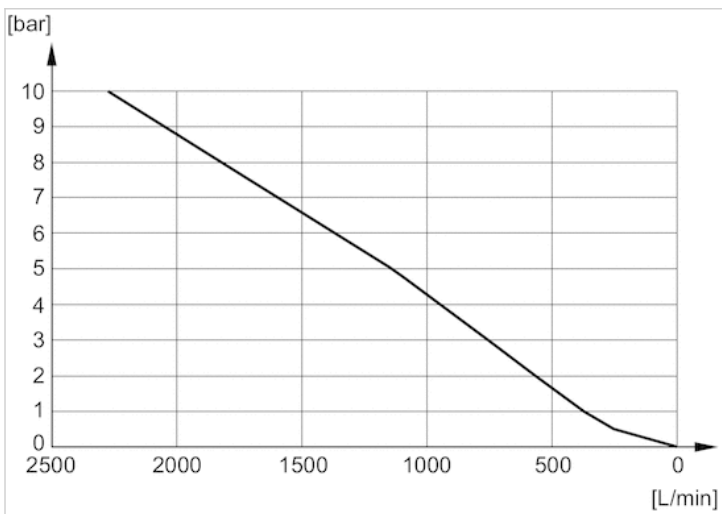
Flow diagram, R412007899



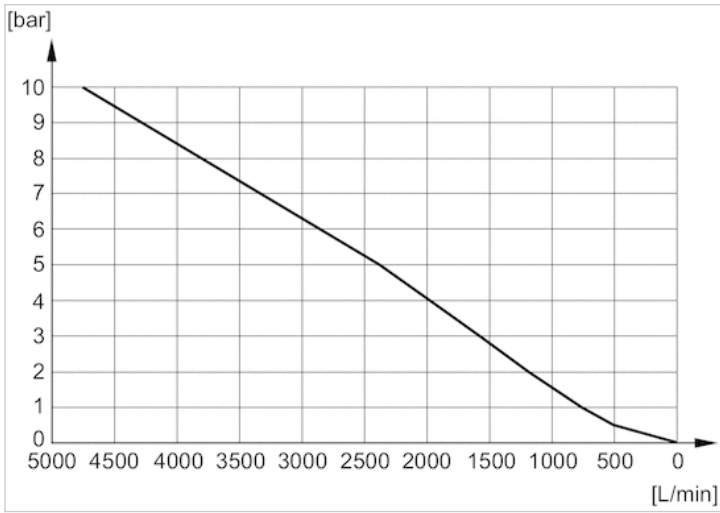
Flow diagram, R412000591



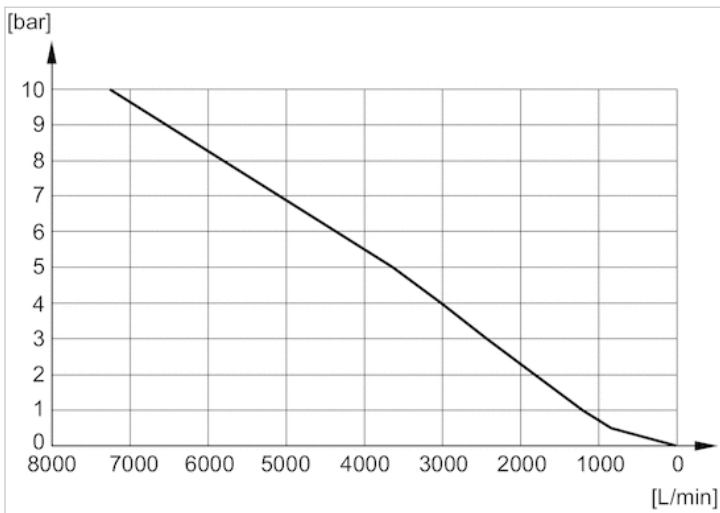
Flow diagram, R412007520



Flow diagram, R412000593



Flow diagram, R412007715

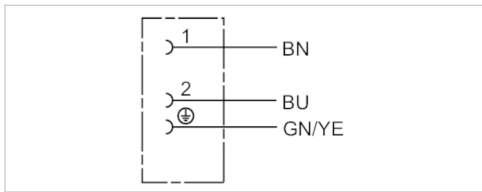


Valve plug connector, series CON-VP

- Socket form C 2+E angled 90°
- open cable ends 3-pin
- with cable
- unshielded



Operational voltage	230 V AC/DC
Protection class	IP67
Wire cross-section	0.75 mm ²
Weight	0.307 kg



Technical data

Part No.	Max. current	Contact assignment	Number of wires	Cable length
8946201612	6 A	2+E	3	5 m

With coding pin

Technical information

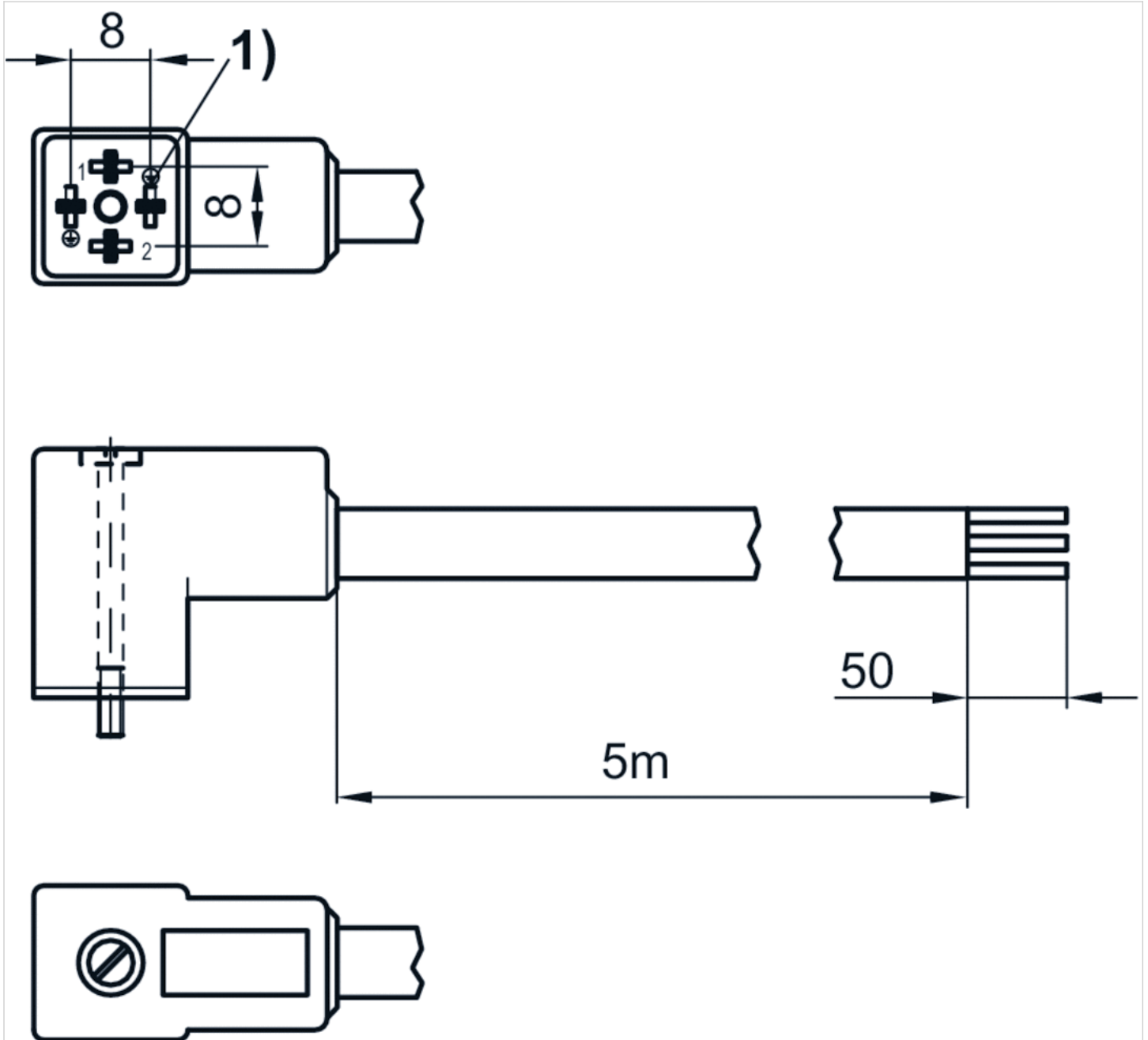
The specified protection class is only valid in assembled and tested state.
 For 24 V DC applications, a coding pin is required to protect against reverse polarity.

Technical information

Material	
Cable sheath	Polyvinyl chloride

Dimensions

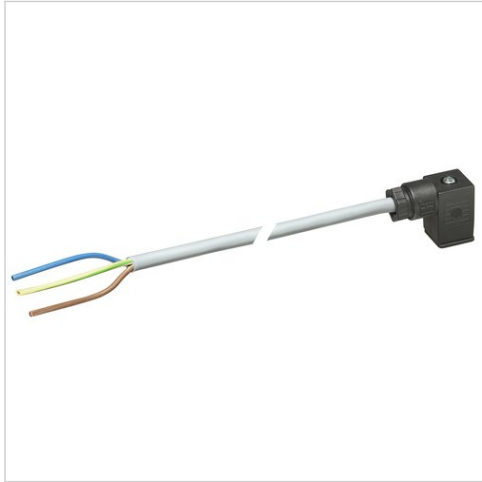
Dimensions



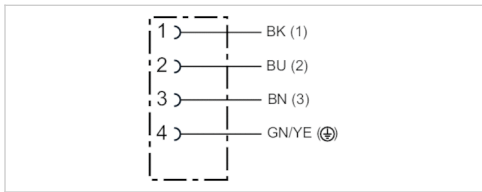
1) Coding pin

Valve plug connector, series CON-VP

- Socket form C 3+E angled 90°
- open cable ends 4-pin
- with cable
- unshielded



Operational voltage	24 V AC/DC
Protection class	IP67
Wire cross-section	0.34 mm ²
Weight	0.295 kg



Technical data

Part No.	Max. current	Contact assignment	Number of wires	Cable length
8946201602	4 A	3+E	4	5 m

Technical information

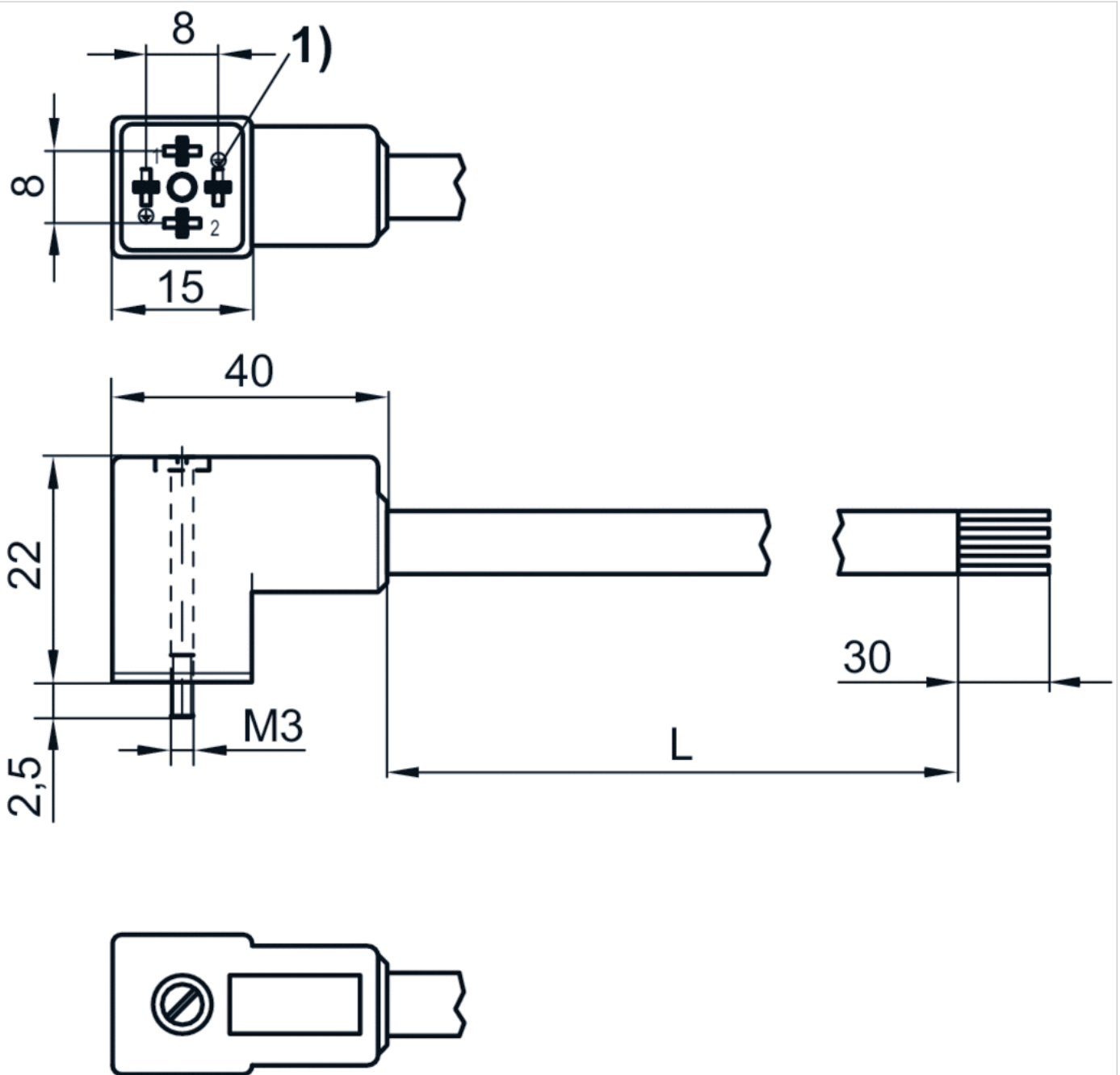
The specified protection class is only valid in assembled and tested state.

Technical information

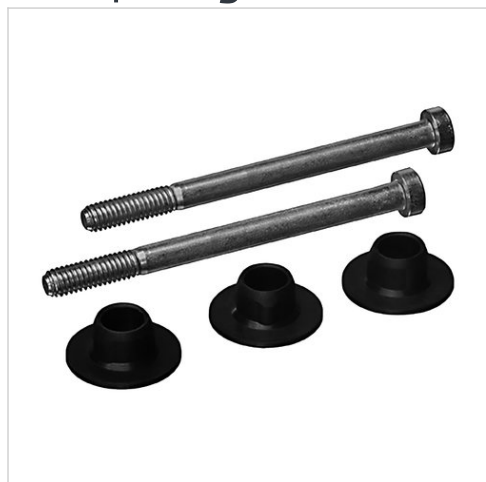
Material	
Cable sheath	Polyvinyl chloride

Dimensions

Dimensions



Coupling kit, Series ED05



Weight

0.038 kg

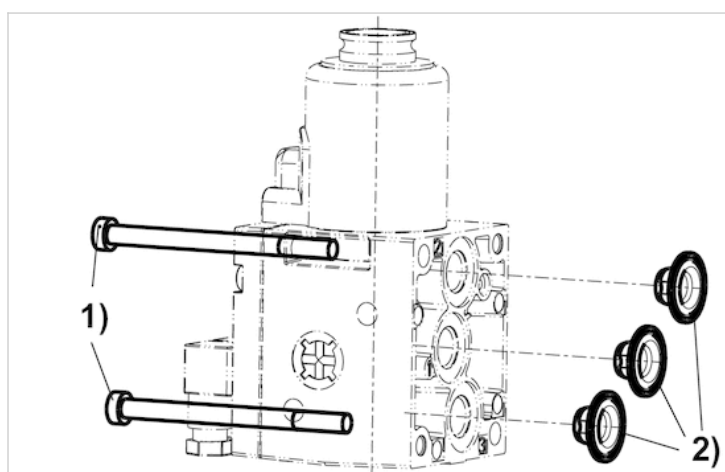
Technical data

Part No.	Type
5610140302	2 screws and 3 seals

Technical information

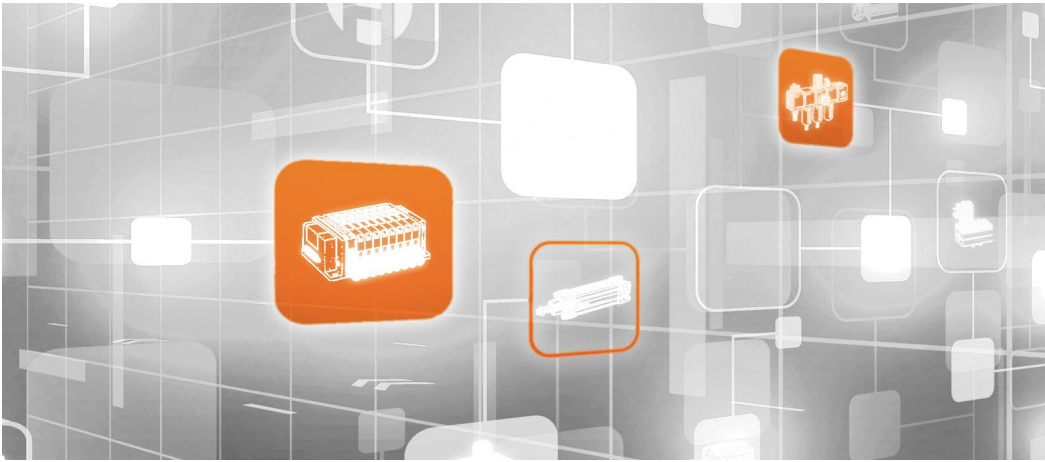
for mounting an ED05 on a base plate

Dimensions



1) 2 screws 2) 3 seals

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