

Pressure regulators ▶ E/P pressure regulators










## Series ED12

Brochure



Pressure regulators ▶ E/P pressure regulators

## Series ED12

	E/P pressure regulator, Series ED12 ▶ Qn= 2600 l/min ▶ Electr. connection: via signal connection ▶ Signal connection: input and output, Plug, M12, 5-pin	3
	E/P pressure regulator, Series ED12 ▶ Qn= 2600 l/min ▶ Electr. connection: Plug, M12, 5-pin ▶ Signal connection: input and output, Socket, M12, 5-pin	9
<b>Accessories</b>		
	Single subbase, Series ED12	15
	Stacking assembly subplate, ISO size 3	16
	Socket, M12x1, Series CN2 ▶ Socket, M12x1, 5-pin, A-coded, angled ▶ screened	17
	Plug, M12x1, Series CN2 ▶ Plug, M12x1, 5-pin, A-coded, angled ▶ A-coded ▶ screened	18
	Connecting cable, Series CN2 ▶ Socket, M12, 5-pin, A-coded, angled ▶ without wire end ferrule, tin-plated, 5-pin ▶ screened	19
	Silencers, Series SI1 ▶ Sintered bronze	21
	Base plate gasket, Series ED12	22

Pressure regulators ▶ E/P pressure regulators

**E/P pressure regulator, Series ED12**

▶ Qn= 2600 l/min ▶ Electr. connection: via signal connection ▶ Signal connection: input and output, Plug, M12, 5-pin



00123681

Version	Poppet valve
Control	Analog
Certificates	CE declaration of conformity
Ambient temperature min./max.	+5 °C / +50 °C
Medium temperature min./max.	+5 °C / +50 °C
Medium	Compressed air
Max. particle size	50 μm
Max. oil content of compressed air	1 mg/m <sup>3</sup>
Qn	2600 l/min
Mounting orientation	$\alpha = 0 - 90^\circ \pm \beta = 0 - 90^\circ$
Operating pressure	See table below
DC operating voltage	24 V
Voltage tolerance DC	-20% / +30%
Permissible ripple	5%
Max. power consumption	1400 mA
Protection class	IP65
Weight	2.3 kg
Materials:	
Housing	Aluminum; Steel
Seal	Hydrogenated acrylonitrile butadiene rubber

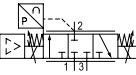
Nominal flow Qn with working pressure 7 bar, with secondary pressure 6 bar and  $\Delta p = 0.2$  bar

**Technical Remarks**

- 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, see chapter „Technical information“.
- 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.

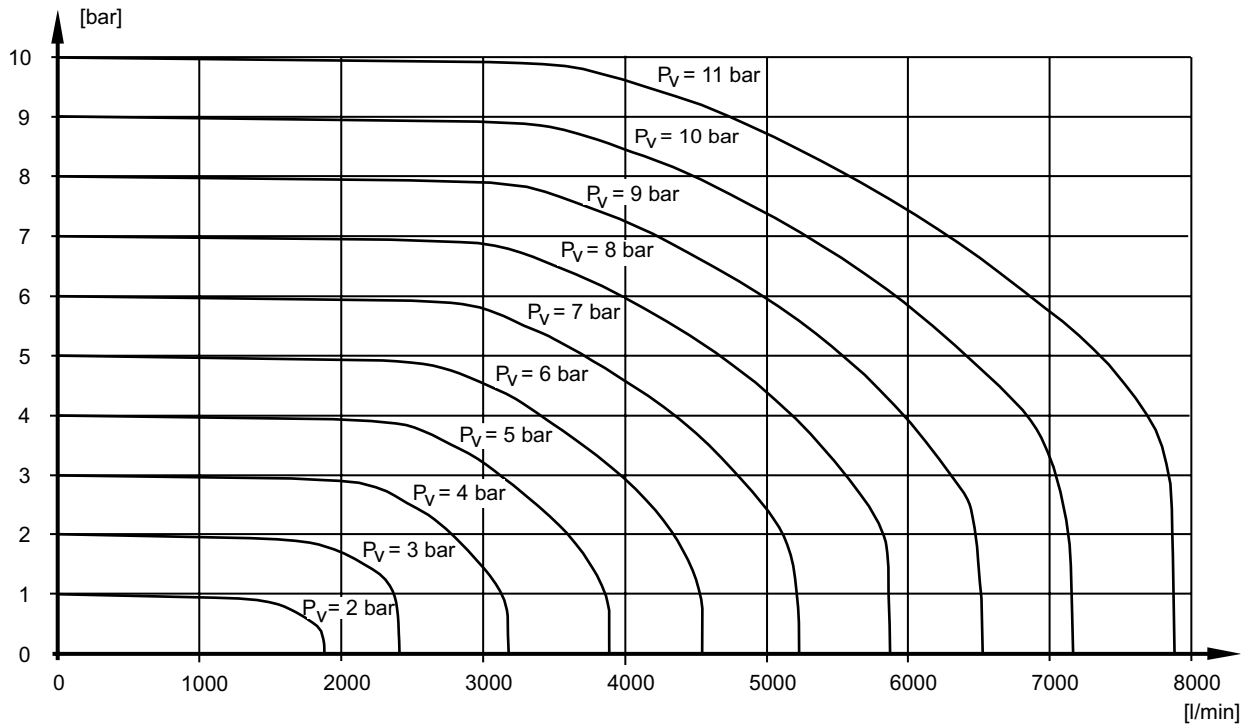
### E/P pressure regulator, Series ED12

▶ Q<sub>n</sub>= 2600 l/min ▶ Electr. connection: via signal connection ▶ Signal connection: input and output, Plug, M12, 5-pin

	Operating pressure max.	Pressure setting range min./max.	Nominal input value		Actual output value		Hysteresis	Fig.	Note	Part No.
	[bar]	[bar]								
	3	-1 / 1	0 - 20	mA	0 - 20	mA	< 0,015 bar	Fig. 1	-	R414002794
	3	0 / 1	0 - 20	mA	0 - 20	mA	< 0,015 bar	Fig. 1	-	R414009658
	3	0 / 1	4 - 20	mA	4 - 20	mA	< 0,015 bar	Fig. 1	-	R414009659
	3	0 / 1	0 - 10	V	-	-	< 0,015 bar	Fig. 3	1)	R414009660
	3	0 / 1	0 - 10	V	0 - 10	V	< 0,015 bar	Fig. 2	-	R414009661
	3	0 / 2	0 - 20	mA	0 - 20	mA	< 0,015 bar	Fig. 1	-	R414009662
	3	0 / 2	4 - 20	mA	4 - 20	mA	< 0,015 bar	Fig. 1	-	R414009663
	3	0 / 2	0 - 10	V	-	-	< 0,015 bar	Fig. 3	1)	R414009664
	3	0 / 2	0 - 10	V	0 - 10	V	< 0,015 bar	Fig. 2	-	R414009665
	8	0 / 6	0 - 20	mA	0 - 20	mA	< 0,03 bar	Fig. 1	-	R414009570
	8	0 / 6	4 - 20	mA	4 - 20	mA	< 0,03 bar	Fig. 1	-	R414009571
	8	0 / 6	0 - 10	V	-	-	< 0,03 bar	Fig. 3	1)	R414009572
	8	0 / 6	0 - 10	V	0 - 10	V	< 0,03 bar	Fig. 2	-	R414009573
	12	0 / 10	0 - 20	mA	0 - 20	mA	< 0,03 bar	Fig. 1	-	R414001635
	12	0 / 10	4 - 20	mA	4 - 20	mA	< 0,03 bar	Fig. 1	-	<b>R414001636</b>
12	0 / 10	0 - 10	V	-	-	< 0,03 bar	Fig. 3	1)	R414008920	
12	0 / 10	0 - 10	V	0 - 10	V	< 0,03 bar	Fig. 2	-	R414002867	

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

### Flow diagram



Part numbers marked in bold are available from the central warehouse in Germany, see the shopping basket for more detailed information

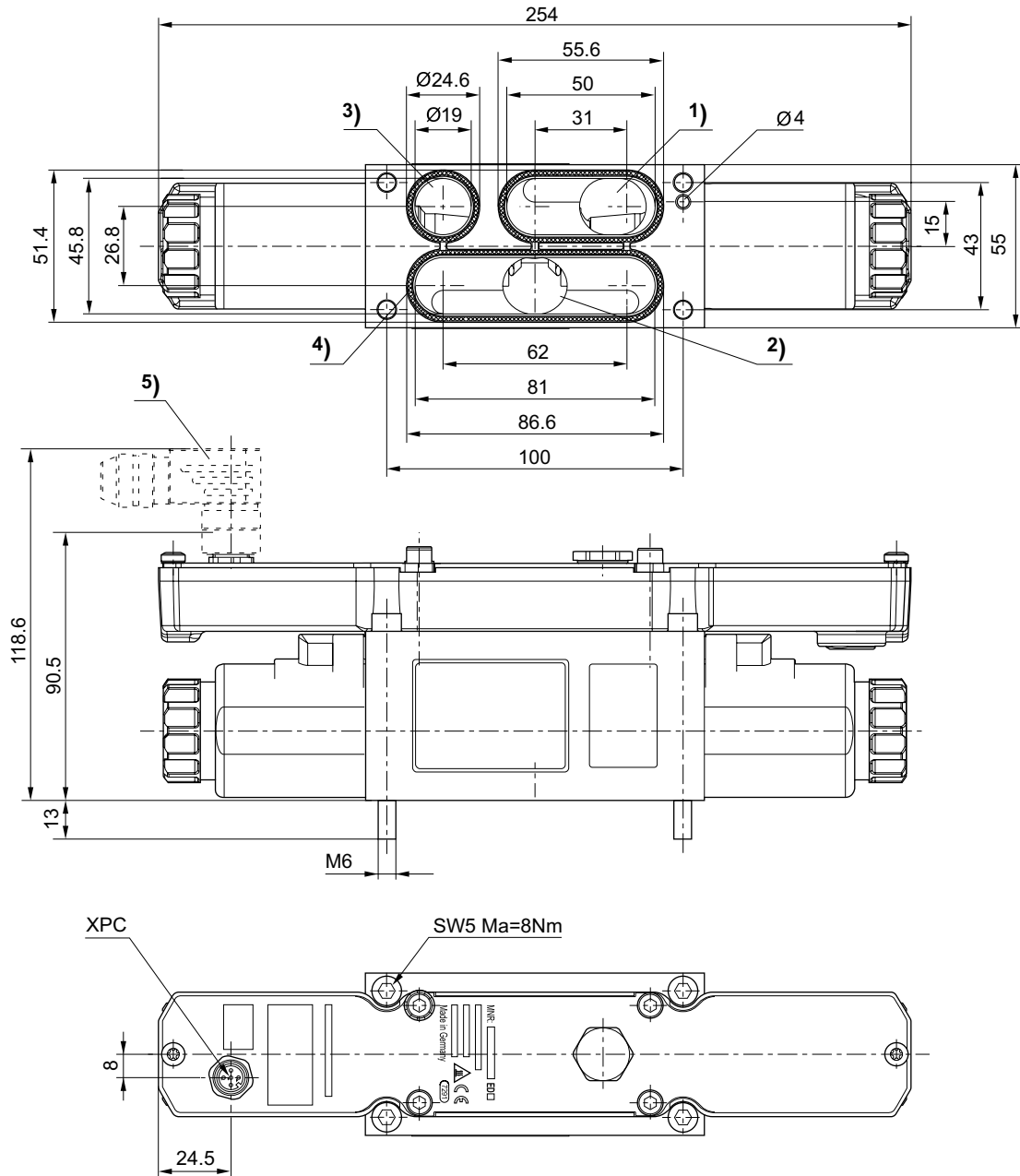
Pneumatics catalog, online PDF, as of 2017-03-30, ©AVENTICS S.à r.l., subject to change

Pressure regulators ▶ E/P pressure regulators

## E/P pressure regulator, Series ED12

▶ Qn= 2600 l/min ▶ Electr. connection: via signal connection ▶ Signal connection: input and output, Plug, M12, 5-pin

### Dimensions



00124916

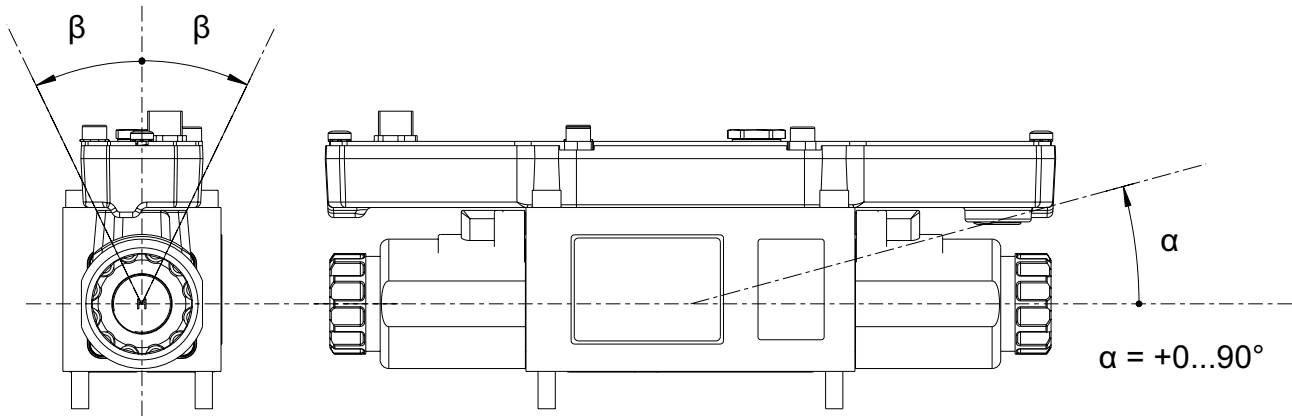
- 1) Operating pressure
- 2) Working pressure
- 3) Exhaust
- 4) Seal (not assembled)
- 5) Accessories not supplied

### E/P pressure regulator, Series ED12

▶  $Q_n = 2600 \text{ l/min}$  ▶ Electr. connection: via signal connection ▶ Signal connection: input and output, Plug, M12, 5-pin

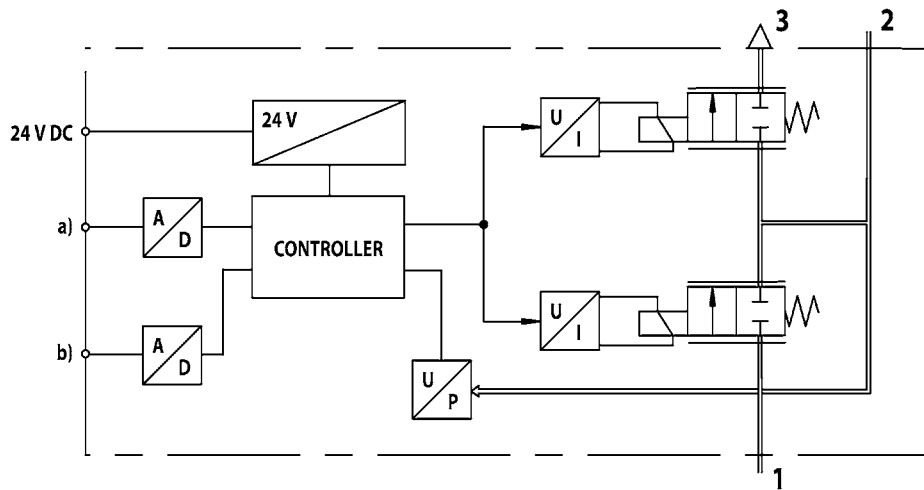
#### Mounting orientation

$$\beta = \pm 0 \dots 90^\circ$$



00131781

#### Functional diagram



00125477

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.

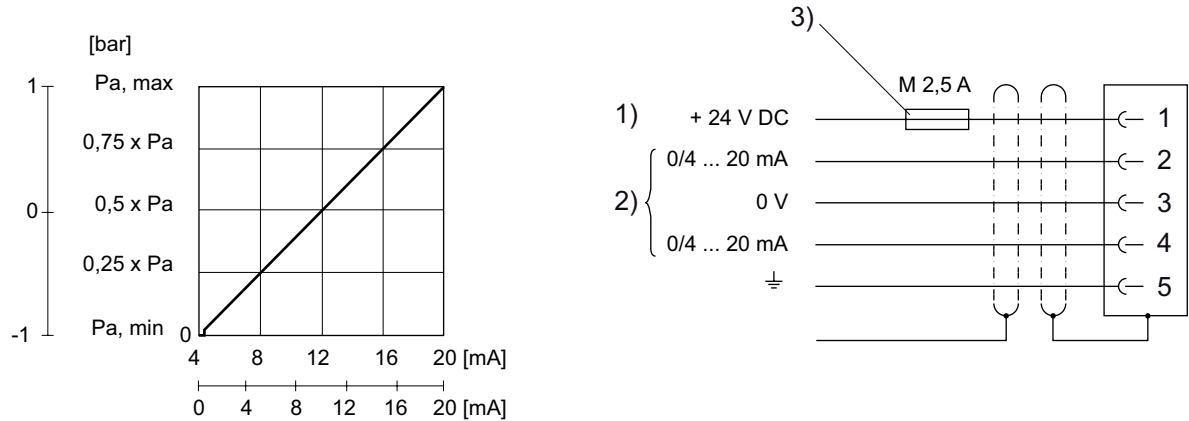
- 1) Operating pressure
- 2) Working pressure
- 3) Exhaust

## Pressure regulators ▶ E/P pressure regulators

### E/P pressure regulator, Series ED12

▶ Qn= 2600 l/min ▶ Electr. connection: via signal connection ▶ Signal connection: input and output, Plug, M12, 5-pin

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



IM0043978

1) Supply Voltage

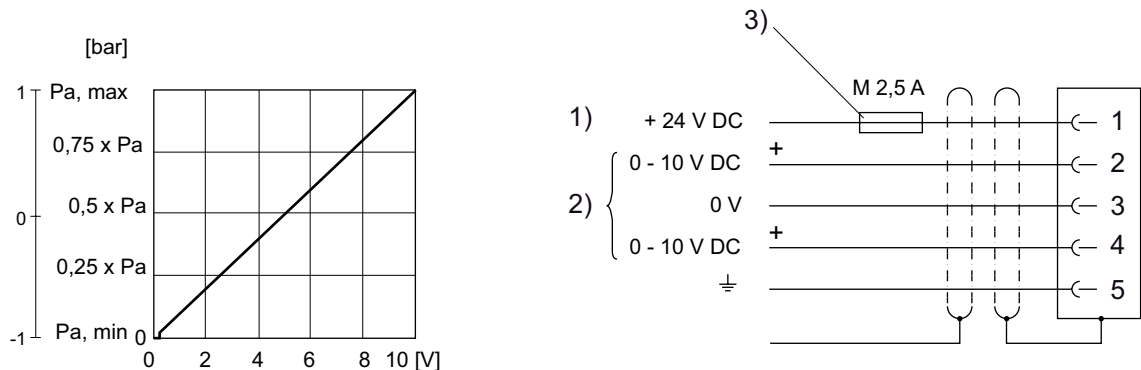
2) Actual value (pin 4) and nominal value (pin 2) are related to 0 V (control voltage).

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 2.5 A fuse.

Connect the plug via a shielded cable to ensure EMC.

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



IM0043980

1) Supply Voltage

2) Actual value (pin 4) and target value (pin 2) are related to 0 V.

If the supply voltage is switched off, the voltage input value is high-ohmic.

Input resistance under supply voltage: 1 MΩ

Voltage output (actual value): external working resistance 10 kΩ

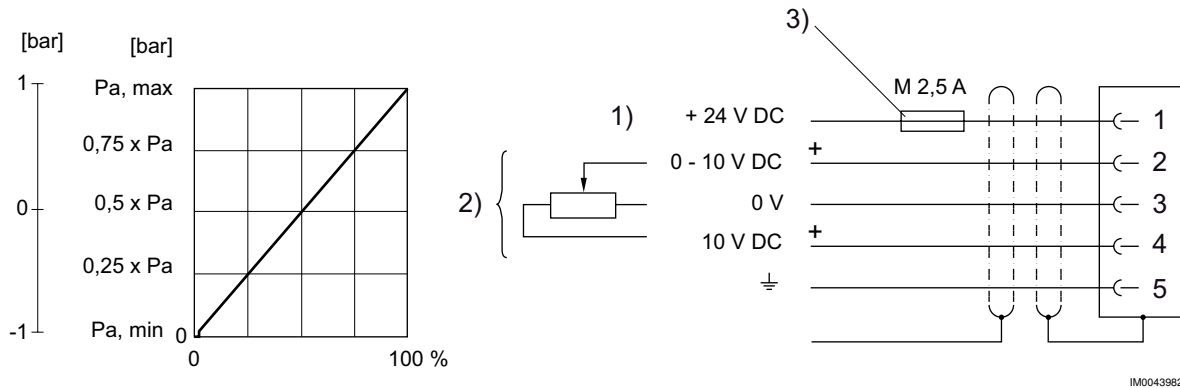
3) The operating voltage must be protected by an external M 2.5 A fuse.

Connect the plug via a shielded cable to ensure EMC.

### E/P pressure regulator, Series ED12

▶  $Q_n = 2600 \text{ l/min}$  ▶ Electr. connection: via signal connection ▶ Signal connection: input and output, Plug, M12, 5-pin

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



1) Supply Voltage

2) Actual value (pin 2) is related to 0 V.

If the supply voltage is switched off, the voltage input value is high-ohmic.

Input resistance under supply voltage:  $1 \text{ M}\Omega$

3) The operating voltage must be protected by an external M 2.5 A fuse.

Connect the plug via a shielded cable to ensure EMC.

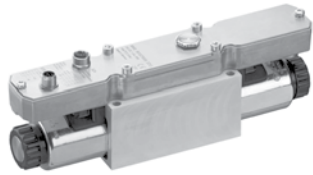
IM0043982



Pressure regulators ▶ E/P pressure regulators

**E/P pressure regulator, Series ED12**

▶ Qn= 2600 l/min ▶ Electr. connection: Plug, M12, 5-pin ▶ Signal connection: input and output, Socket, M12, 5-pin



00124123

Version	Poppet valve
Control	Analog
Certificates	CE declaration of conformity
Ambient temperature min./max.	+5 °C / +50 °C
Medium temperature min./max.	+5 °C / +50 °C
Medium	Compressed air
Max. particle size	50 μm
Max. oil content of compressed air	1 mg/m <sup>3</sup>
Qn	2600 l/min
Mounting orientation	$\alpha = 0 - 90^\circ \pm \beta = 0 - 90^\circ$
Operating pressure	See table below
DC operating voltage	24 V
Voltage tolerance DC	-20% / +30%
Permissible ripple	5%
Max. power consumption	1400 mA
Protection class	IP65
Weight	2.3 kg
Materials:	
Housing	Aluminum; Steel
Seal	Hydrogenated acrylonitrile butadiene rubber

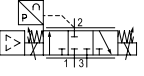
Nominal flow Qn with working pressure 7 bar, with secondary pressure 6 bar and  $\Delta p = 0.2$  bar

**Technical Remarks**

- 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, see chapter „Technical information“.
- 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.

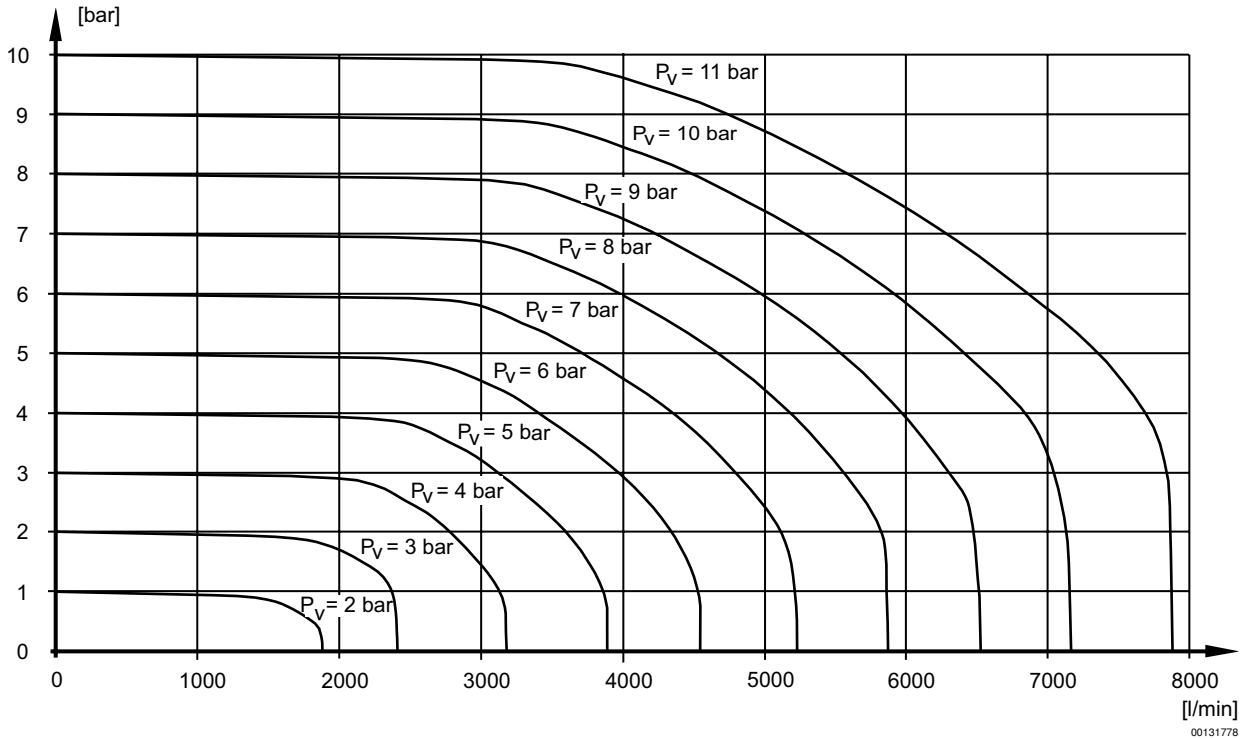
**E/P pressure regulator, Series ED12**

▶ Qn= 2600 l/min ▶ Electr. connection: Plug, M12, 5-pin ▶ Signal connection: input and output, Socket, M12, 5-pin

	Operating pressure max.	Pressure setting range min./max.	Nominal input value		Actual output value		Hysteresis	Fig.	Note	Part No.
	[bar]	[bar]								
	3	0 / 1	0 - 20	mA	0 - 20	mA	< 0,015 bar	Fig. 1	-	R414009666
	3	0 / 1	4 - 20	mA	4 - 20	mA	< 0,015 bar	Fig. 1	-	R414009667
	3	0 / 1	0 - 10	V	-	-	< 0,015 bar	Fig. 3	1)	R414009668
	3	0 / 1	0 - 10	V	0 - 10	V	< 0,015 bar	Fig. 2	-	R414009669
	3	0 / 2	0 - 20	mA	0 - 20	mA	< 0,015 bar	Fig. 1	-	R414009670
	3	0 / 2	4 - 20	mA	4 - 20	mA	< 0,015 bar	Fig. 1	-	R414009671
	3	0 / 2	0 - 10	V	-	-	< 0,015 bar	Fig. 3	1)	R414009672
	3	0 / 2	0 - 10	V	0 - 10	V	< 0,015 bar	Fig. 2	-	R414009673
	8	0 / 6	0 - 20	mA	0 - 20	mA	< 0,03 bar	Fig. 1	-	R414009574
	8	0 / 6	4 - 20	mA	4 - 20	mA	< 0,03 bar	Fig. 1	-	R414009575
	8	0 / 6	0 - 10	V	-	-	< 0,03 bar	Fig. 3	1)	R414009576
	8	0 / 6	0 - 10	V	0 - 10	V	< 0,03 bar	Fig. 2	-	R414002870
	12	0 / 10	0 - 20	mA	0 - 20	mA	< 0,03 bar	Fig. 1	-	R414000728
	12	0 / 10	4 - 20	mA	4 - 20	mA	< 0,03 bar	Fig. 1	-	R414000729
	12	0 / 10	0 - 10	V	-	-	< 0,03 bar	Fig. 3	1)	R414000730
	12	0 / 10	0 - 10	V	0 - 10	V	< 0,03 bar	Fig. 2	-	<b>R414000731</b>

1) Output 10V constant to supply a potentiometer  
 Minimum working pressure = 0.5 bar + max. required secondary pressure  
 Additional pressure setting ranges available on request

**Flow diagram**

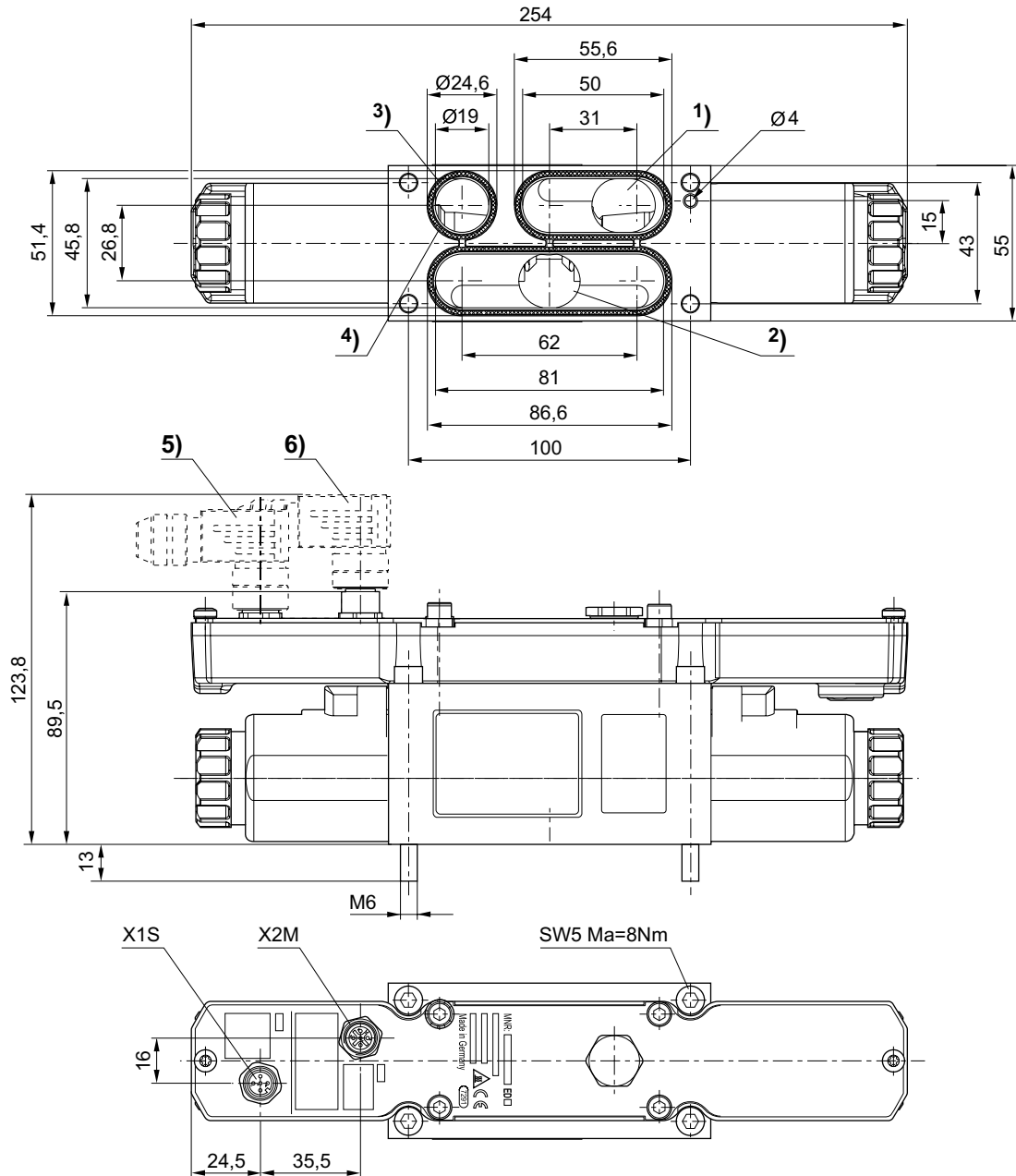


## Pressure regulators ▶ E/P pressure regulators

### E/P pressure regulator, Series ED12

▶ Qn= 2600 l/min ▶ Electr. connection: Plug, M12, 5-pin ▶ Signal connection: input and output, Socket, M12, 5-pin

#### Dimensions



- 1) Operating pressure
- 2) Working pressure
- 3) Exhaust
- 4) Seal (not assembled)
- 5) + 6) Accessories not supplied

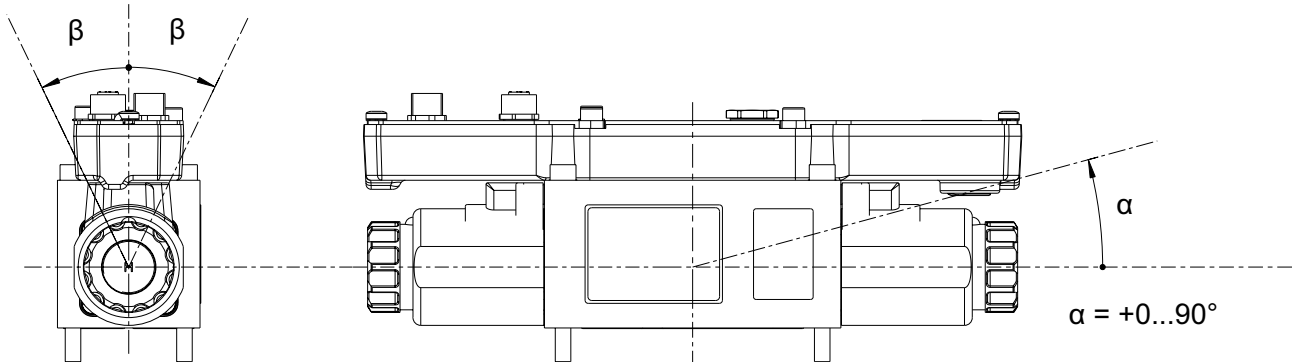
00124915

### E/P pressure regulator, Series ED12

▶  $Q_n = 2600 \text{ l/min}$  ▶ Electr. connection: Plug, M12, 5-pin ▶ Signal connection: input and output, Socket, M12, 5-pin

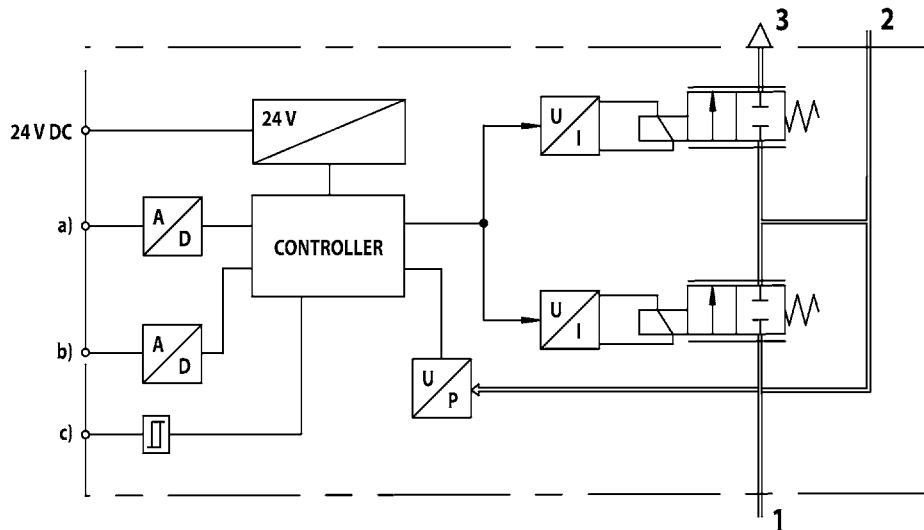
#### Mounting orientation

$$\beta = \pm 0 \dots 90^\circ$$



00131782

#### Functional diagram



00125530

- a) Nominal input value
- b) Actual output value
- c) Switch output (acknowledge signal)

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

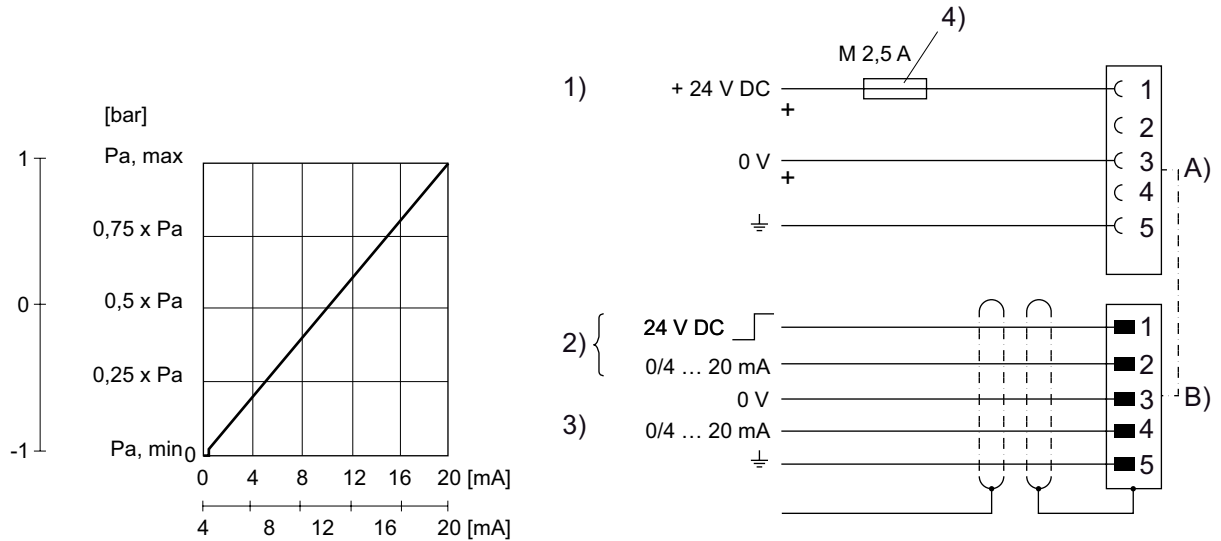
- 1) Operating pressure
- 2) Working pressure
- 3) Exhaust

## Pressure regulators ▶ E/P pressure regulators

### E/P pressure regulator, Series ED12

▶ Qn= 2600 l/min ▶ Electr. connection: Plug, M12, 5-pin ▶ Signal connection: input and output, Socket, M12, 5-pin

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



1) Supply Voltage

2) Switch output (pin 1) and nominal value (pin 2) are related to 0 V. Input current nominal value (ohmic load 100 Ω).

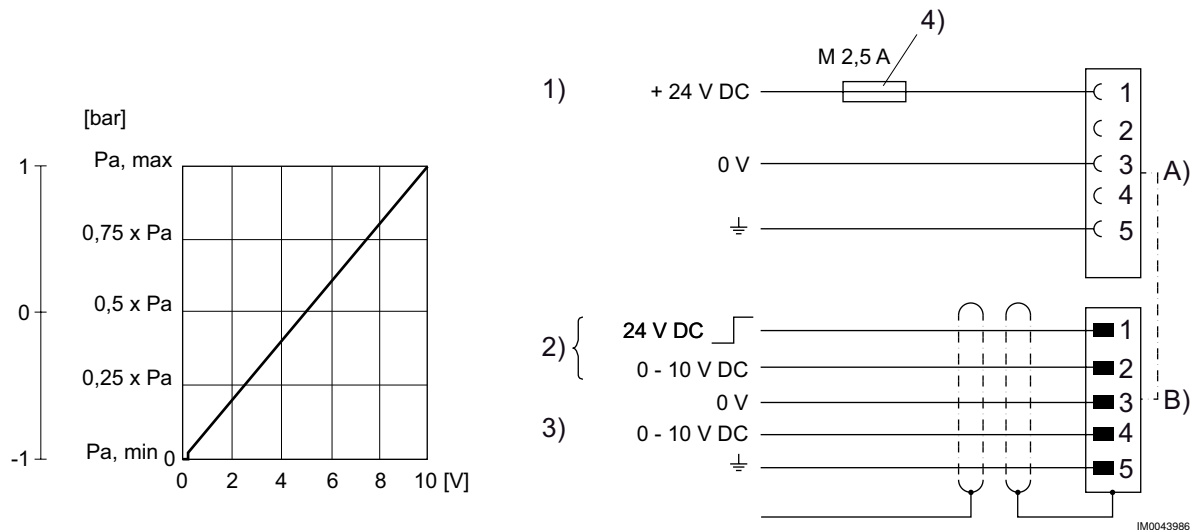
3) Actual value (pin 4) is related to 0 V (max. total resistance of downstream devices < 300 Ω).

4) The operating voltage must be protected by an external M 2.5 A fuse.

Connect plug X2M via a shielded cable to ensure EMC.

A) Plug X1S B) Plug X2M

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



1) Supply Voltage

2) Switch output (pin 1) and nominal value (pin 2) are related to 0 V (min load resistance 1 kΩ)

3) Actual value (pin 4) is related to 0 V (min. load resistance 1 kΩ).

4) The operating voltage must be protected by an external M 2.5 A fuse.

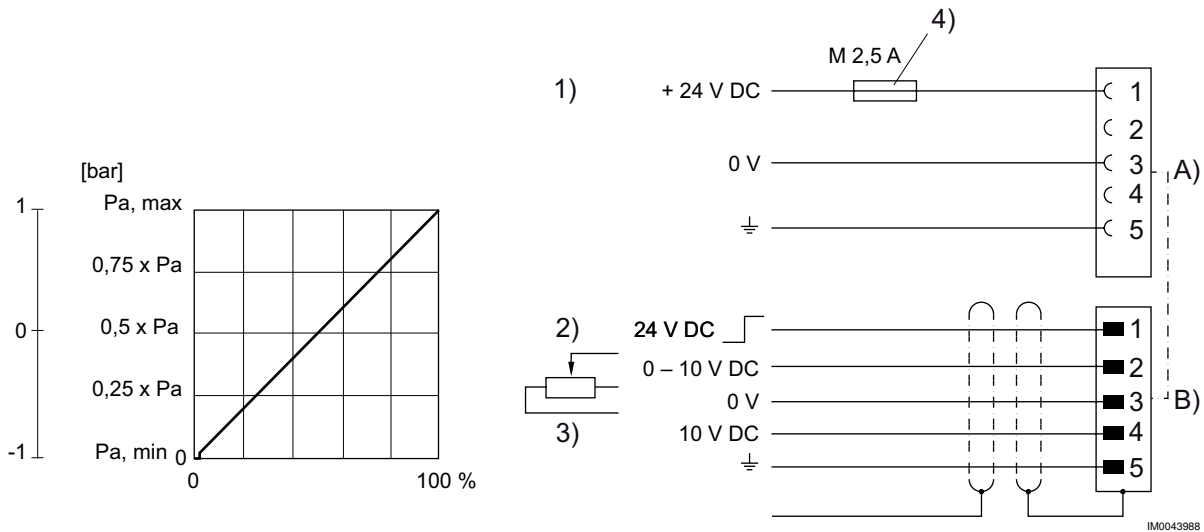
Connect plug X2M via a shielded cable to ensure EMC.

A) Plug X1S B) Plug X2M

### E/P pressure regulator, Series ED12

▶  $Q_n = 2600 \text{ l/min}$  ▶ Electr. connection: Plug, M12, 5-pin ▶ Signal connection: input and output, Socket, M12, 5-pin

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



1) Supply Voltage

2) Switch output (pin 1) and nominal value (pin 2) are related to 0 V.

3) Potentiometer control (min. 0-2 k $\Omega$ , max. 0-10 k $\Omega$ )

4) The operating voltage must be protected by an external M 2.5 A fuse.  
Connect plug X2M via a shielded cable to ensure EMC.

A) Plug X1S B) Plug X2M

## Pressure regulators ▶ E/P pressure regulators

**Series ED12**  
 Accessories

**Single subbase, Series ED12**


P561\_024

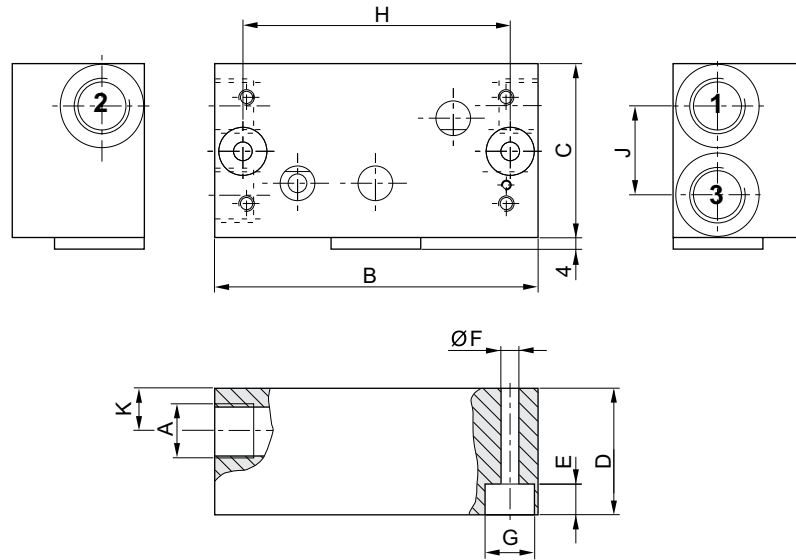
Medium

Compressed air

 Materials:  
 Base plate

Aluminum

Type	Weight [kg]	Part No.
ISO 5599-1, size 3	1.13	<b>5610221012</b>

**Dimensions**


D561\_105

Part No.	A	B	C	D	E	F	G	H	J	K
<b>5610221012</b>	G 3/4	120	80	54	14	8.5	18	100	43	18

**Series ED12**  
 Accessories

**Stacking assembly subplate, ISO size 3**


P561\_023

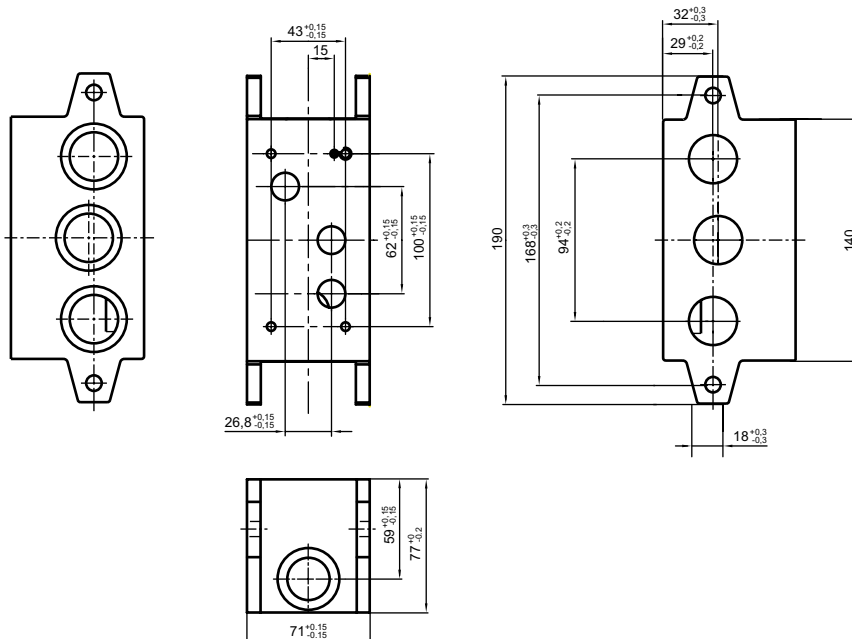
Medium

Compressed air

 Materials:  
 Base plate

Aluminum

Type	Weight [kg]	Part No.
ISO 5599-1, size 3	1.63	8985049912

**Dimensions**


00131764



Pressure regulators ▶ E/P pressure regulators

**Series ED12**  
Accessories

**Socket, M12x1, Series CN2**

▶ Socket, M12x1, 5-pin, A-coded, angled ▶ screened



00132053

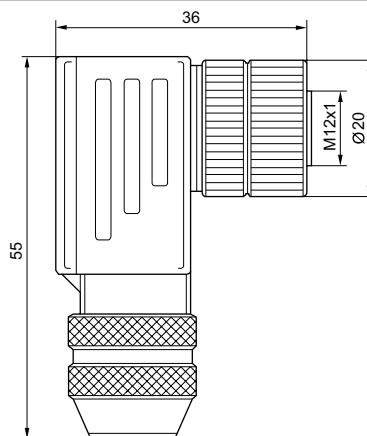
Ambient temperature min./max.	-40°C / +85°C
Protection class	IP67
Cable fitting	PG 9
 Materials:	
Housing	Die cast zinc

**Technical Remarks**

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

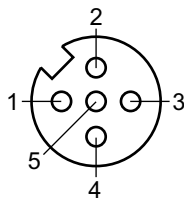
Max. current	suitable cable-Ø min./max	Weight	Part No.
[A]	[mm]	[kg]	
4	6 / 8	0.072	<b>1824484029</b>

**Dimensions**



00108850

**Pin assignment**



Buchse\_A-Codiert

### Series ED12

#### Accessories

### Plug, M12x1, Series CN2

▶ Plug, M12x1, 5-pin, A-coded, angled ▶ A-coded ▶ screened



00120237

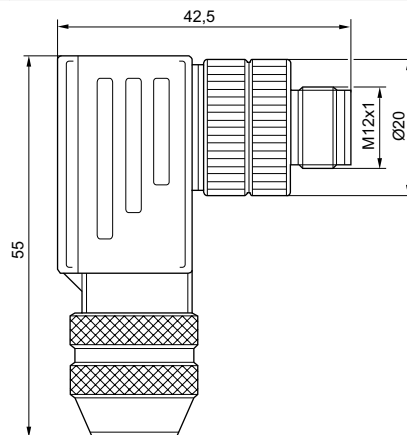
Ambient temperature min./max.	-40°C / +85°C
Protection class	IP67
Cable fitting	PG 9
Materials:	
Housing	Die cast zinc

#### Technical Remarks

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

Operational voltage	Max. current	suitable cable-Ø min./max	Weight	Part No.
AC				
[V]	[A]	[mm]	[kg]	
48	4	6 / 8	0.068	<b>1824484028</b>

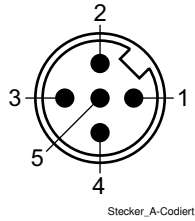
#### Dimensions



00108851

**Series ED12**  
Accessories

Pin assignment



**Connecting cable, Series CN2**

▶ Socket, M12, 5-pin, A-coded, angled ▶ without wire end ferrule, tin-plated, 5-pin ▶ screened



Ambient temperature min./max.

-25°C / +80°C

Wire cross-section

0.34 mm<sup>2</sup>

Materials:

Cable sheath

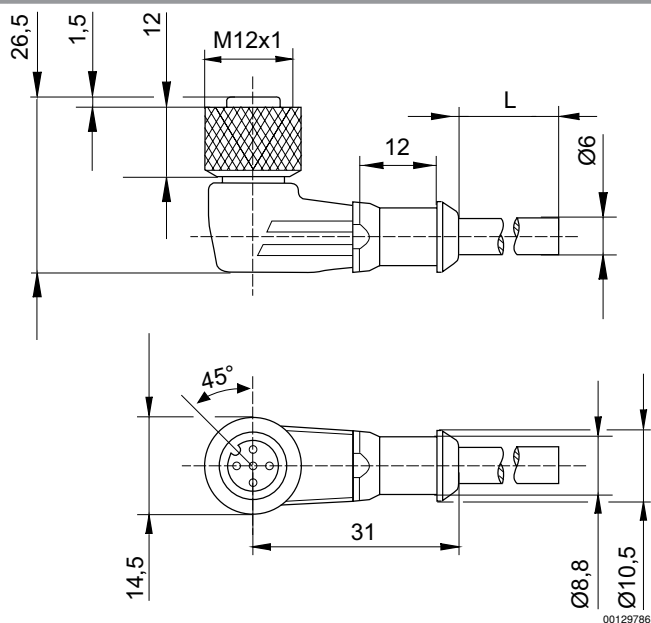
Polyurethane

00129794

Max. current	Number of wires	Cable-Ø	Cable length L	Weight	Part No.
[A]		[mm]	[m]	[kg]	
4	5	6	2.5	0.153	<b>R419800109</b>
			5	0.285	<b>R419800110</b>
			10	0.542	<b>R419800546</b>

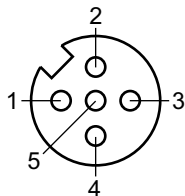
## Series ED12 Accessories

### Dimensions



L = length

### Pin assignment



Buchse\_A-Codiert

- (1) = brown
- (2) = white
- (3) = blue
- (4) = black
- (5) = grey

## Pressure regulators ▶ E/P pressure regulators

### Series ED12 Accessories

### Silencers, Series SI1 ▶ Sintered bronze

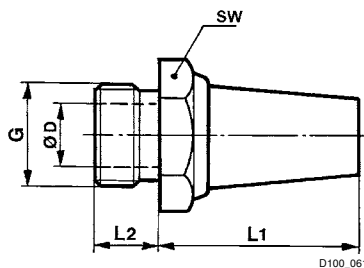


P100\_060

Working pressure min./max.	0 bar / 10 bar
Ambient temperature min./max.	-25°C / +80°C
Medium	Compressed air
Materials:	Sintered bronze
Silencers	Brass
Thread	

Compressed air connection	Sound pressure level	Qn	Order quantity	Weight	Part No.
	[dB]	[l/min]	[piece]	[kg]	
G 3/4	92	8800	1	0.13	<b>1827000004</b>

### Dimensions



D100\_061

Part No.	Port G	SW	Ø D	L1	L2						
1827000004	G 3/4	32	19	66	14						

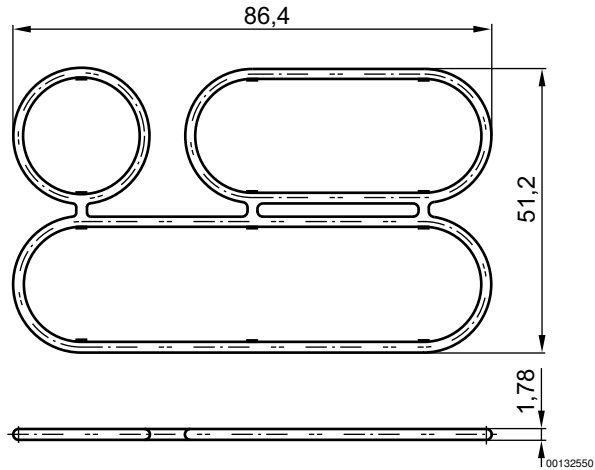
Sound pressure level measured at 6 bar at 1 m distance

**Series ED12**

## Accessories

**Base plate gasket, Series ED12**


00132549



The delivered product varies from that in the illustration. See the drawing for an exact description.

Part No.	Type	Weight [kg]							
<b>5610220092</b>	4 mounting screws according to DIN 912 - M6x70 and base plate gasket	0.07							

AVENTICS GmbH  
Ulmer Straße 4  
30880 Laatzen, GERMANY  
Phone +49 511 2136-0  
Fax +49 511 2136-269  
www.aventics.com  
info@aventics.com



Find more contact information at  
[www.aventics.com/contact](http://www.aventics.com/contact)

Only use the AVENTICS products shown in industrial applications. Read the product documentation completely and carefully before using the product.

Observe the applicable regulations and laws of the respective country. When integrating the product into applications, note the system manufacturer's specifications for safe use of the product.

The data specified only serve to describe the product.

No statements concerning a certain condition or suitability for a certain application can be derived from our information.

The information given does not release the user from the obligation of own judgment and verification. It must be remembered that the products are subject to a natural process of wear and aging.

30-03-2017

An example configuration is depicted on the title page. The delivered product may thus vary from that in the illustration. Subject to change. © AVENTICS S.à r.l.  
This document, as well as the data, specifications and other information set forth in it, are the exclusive property of AVENTICS S.à r.l.. It may not be reproduced or given to third parties without its consent. PDF online