

## series AS3-SV

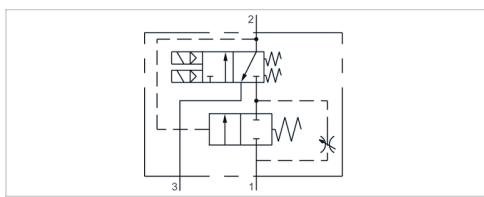


AVENTICS™ series AS3-SV

 **EMERSON**

# 3/2 directional safety valve, Series AS3-SV

- Safe exhaust and protection against unexpected start-up■category 4, PL e■Soft-start function
- 3/2
- Compressed air connection output : G 1/2
- Electrical connection : M12, 5-pin, A-coded



Activation	Electrically
Sealing principle	Soft sealing
Standards	ISO 13849-1
Working pressure min./max.	2 ... 10 bar
Ambient temperature min./max.	-5 ... 50 °C
Medium temperature min./max.	-5 ... 50 °C
Medium	Compressed air Neutral gases
Max. particle size	5 µm
Oil content of compressed air	0 ... 1 mg/m³
Nominal flow 1 ▶ 2	3700 l/min
Nominal flow 2 ▶ 3	7200 l/min
Protection class with connection	IP65
Duty cycle	100 %
Max. power consumption	280 mA
Version sensor	PNP
Weight	4.3 kg

## Technical data

Part No.	Compressed air connection		Compressed air connection	
	Input	Output	Input	Output
R412026223	G 1/2		G 1/2	

Part No.	Compressed air connection		Operational voltage	Voltage tolerance
	Exhaust	DC		
R412026223	1"	24 V		-10% / +10%

Part No.	Power consumption		Nominal resistance
	DC	6 W	
R412026223			40 Ω

## 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).

The AS3-SV safety valve is a redundant system according to the requirements of ISO 13849-1 and -2, in which the pneumatic safety functions "safe exhaust" and "prevention of unexpected start-ups" are ensured, including in case of a safety valve fault (e.g. due to wear).

The safety function of the 3/2 valve from the AS3-SV series is that the machine/system is only supplied with pneumatic energy (compressed air) when the redundant electrical control and therefore both valve elements are actuated simultaneously. The supply with compressed air is switched off and the system is exhausted if the redundant electrical control is not available.

In contrast to the functions "safe exhaust" and "prevention of unexpected start-ups" of the valve AS3-SV, the "soft start" function does not fulfil the safety function according to ISO 13849.

If using as a single valve, it is recommended to mount the AS3-SV with the block assembly kit W05. If the AS3-SV is installed in an air preparation unit, use one mounting clip R412026828 when adding to the end of the maintenance unit and two mounting clips R412026828 when installing in the middle. Please observe the operating instructions for this.

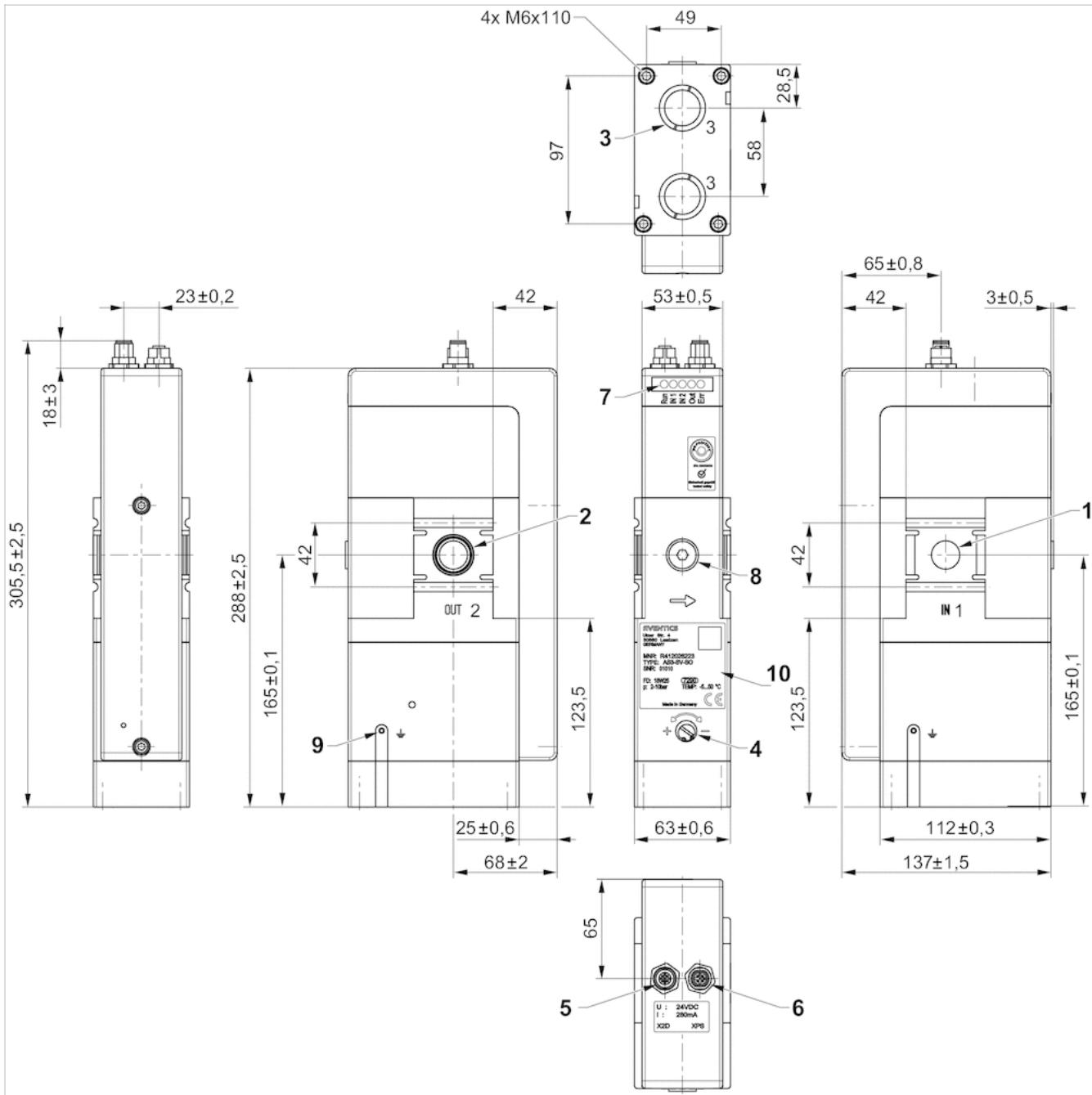
## Technical information

### Material

Housing	Aluminum, painted
Seals	Nitrile butadiene rubber

## Dimensions

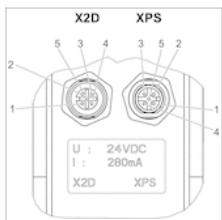
### Dimensions



1) Compressed air supply port 12) Operating line port 23) Exhaust port 34) Adjustment screw for soft-start  
 5) Plug X2D, M12 female safety inputs 6) Plug XPS, M12 male voltage supply 7) LED display 8) Pressure gauge connection G1/4 (optional)  
 9) Port for functional ground M310) Name plate (identification of the AS3-SV safety valve)

## Pin assignments

### Pin assignments



Socket (female), X2D, M12, A-coded, 5-pin

- 1) S21 Clock signal S22
- 2) S22 Safety input 2
- 3) S11 Clock signal for S12
- 4) S12 Safety input 1
- 5) Not connected (NC)

Plug (male), XPS, M12, A-coded, 5-pin

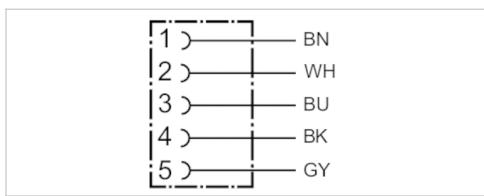
- 1) 24 V DC
- 2) Signal contact 42. (Potential-free contact)
- 3) 0 V
- 4) Input signal X2
- 5) Signal contact 41. (Potential-free contact)

# 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 <sup>2</sup>
Weight	See table below



## Technical data

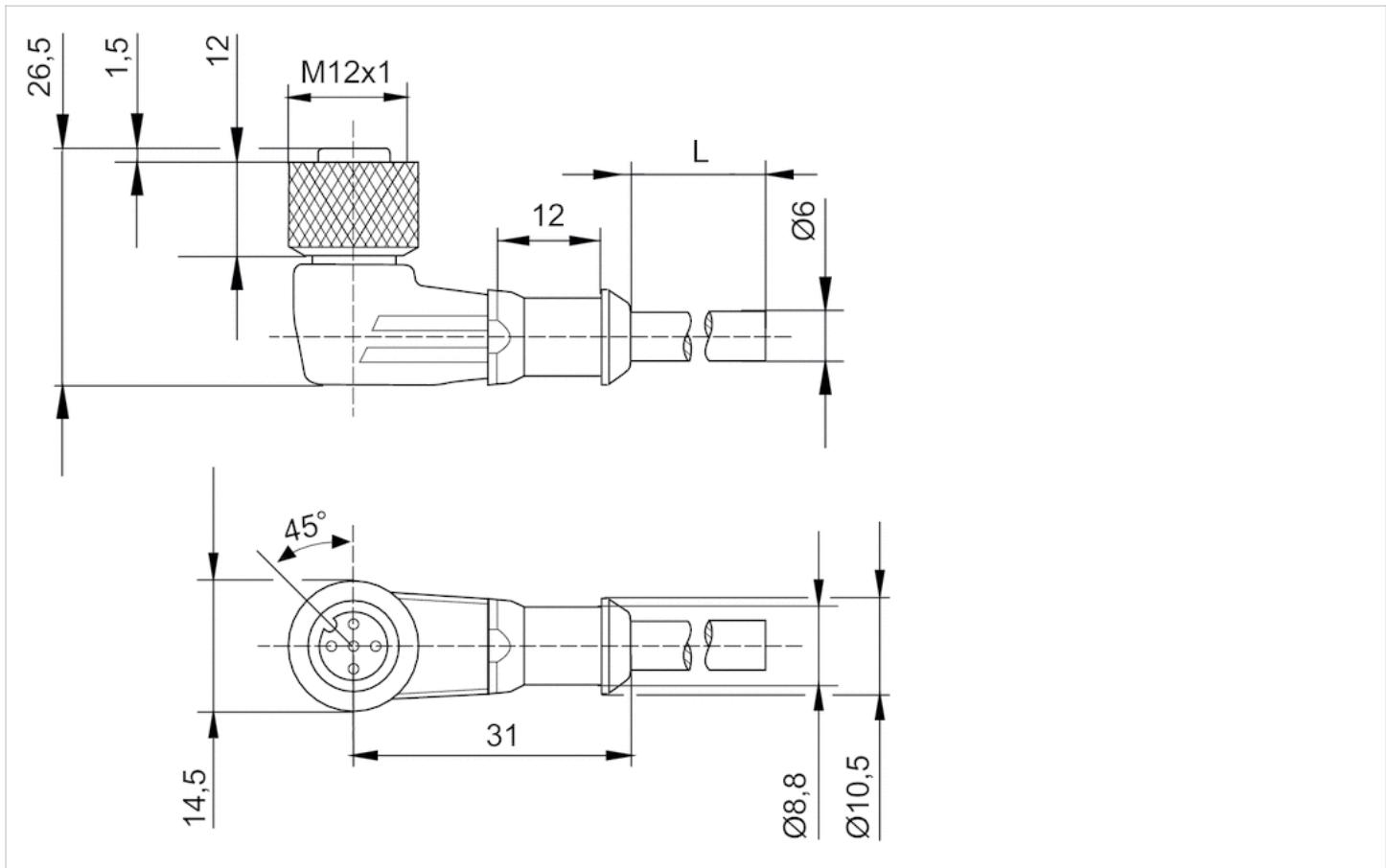
Part No.	Max. current	Number of wires	Cable-Ø	Cable length	Weight
R419800109	4 A	5	6 mm	2.5 m	0.145 kg
R419800110	4 A	5	6 mm	5 m	0.27 kg
R419800546	4 A	5	6 mm	10 m	0.514 kg

## Technical information

Material	
Housing	Thermoplastic elastomer
Cable sheath	Polyurethane

## Dimensions

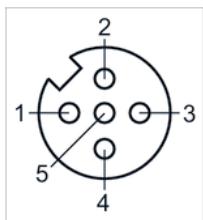
### Dimensions



L = length

## Pin assignments

### Pin assignment, socket



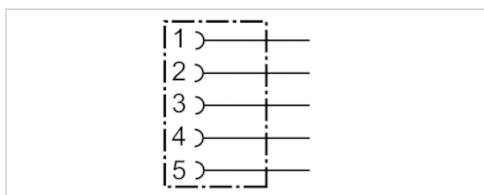
- (1) BN=brown
- (2) WH=white
- (3) BU=blue
- (4) BK=black
- (5) GY=grey

# Round plug connector, Series CON-RD

- Socket, M12x1, 5-pin, A-coded, straight, 180°
- for DeviceNet
- unshielded



Connection type	Screws
Ambient temperature min./max.	-40 ... 85 °C
Operational voltage	48 V AC/DC
Protection class	IP67
Weight	0.016 kg



## Technical data

Part No.	Max. current	suitable cable-Ø min./max
4407230020	4 A	4 mm

## Technical information

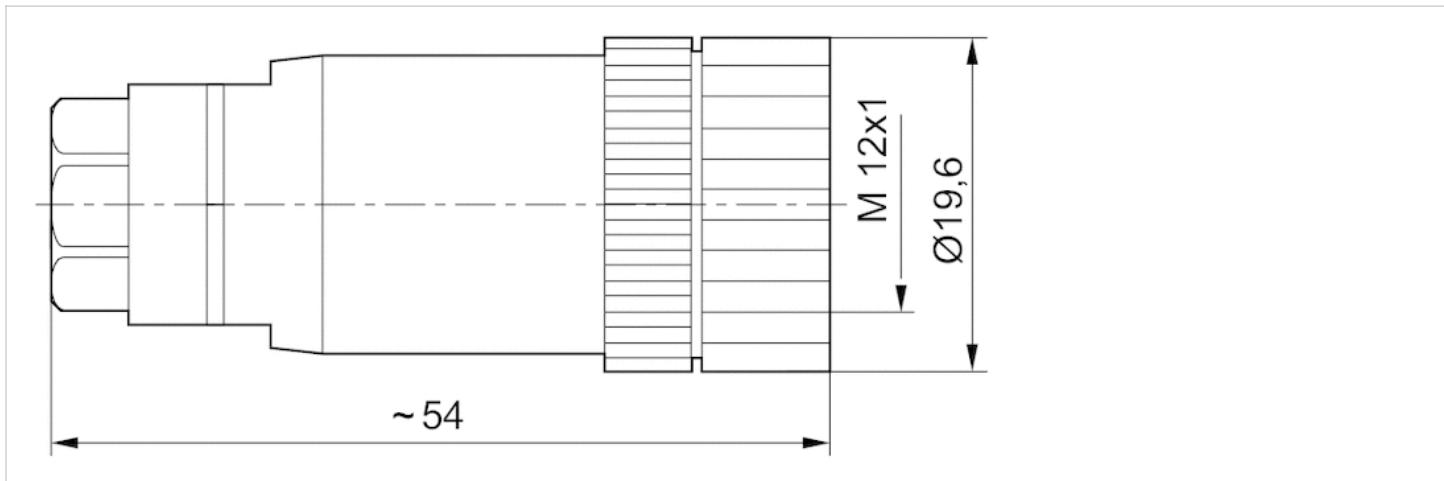
The specified protection class is only valid in assembled and tested state.

## Technical information

Material
Housing

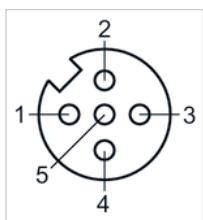
## Dimensions

### Dimensions



## Pin assignments

### Pin assignment, socket

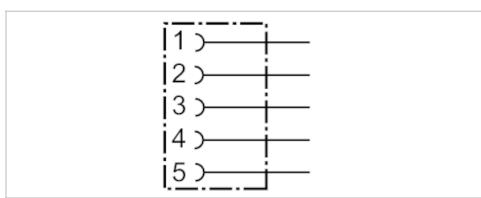


# Round plug connector, Series CON-RD

- 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

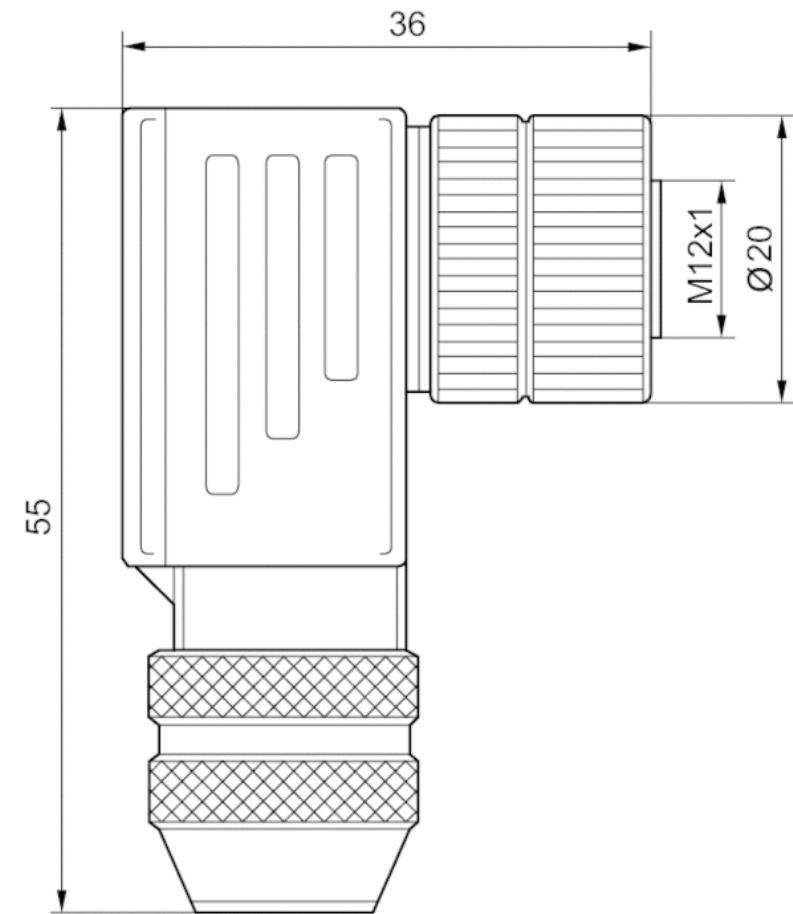
The specified protection class is only valid in assembled and tested state.

## Technical information

Material	
Housing	Die cast zinc

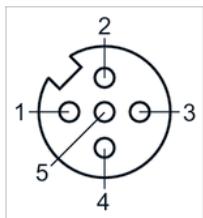
## Dimensions

### Dimensions



## Pin assignments

### Pin assignment, socket



# Round plug connector, Series CON-RD

- Plug M12x1 5-pin A-coded straight 180°
- open cable ends 5-pin
- with cable
- unshielded



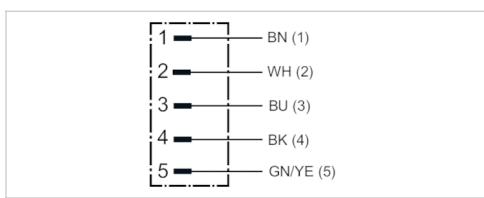
Protection class

IP68

Weight

See table below

The delivered product may vary from that in the illustration.



## Technical data

Part No.	Number of wires	Cable length	Weight
8946203432	5	2 m	0.102 kg
8946203442	5	5 m	0.238 kg

with self-clinching screw

## Technical information

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

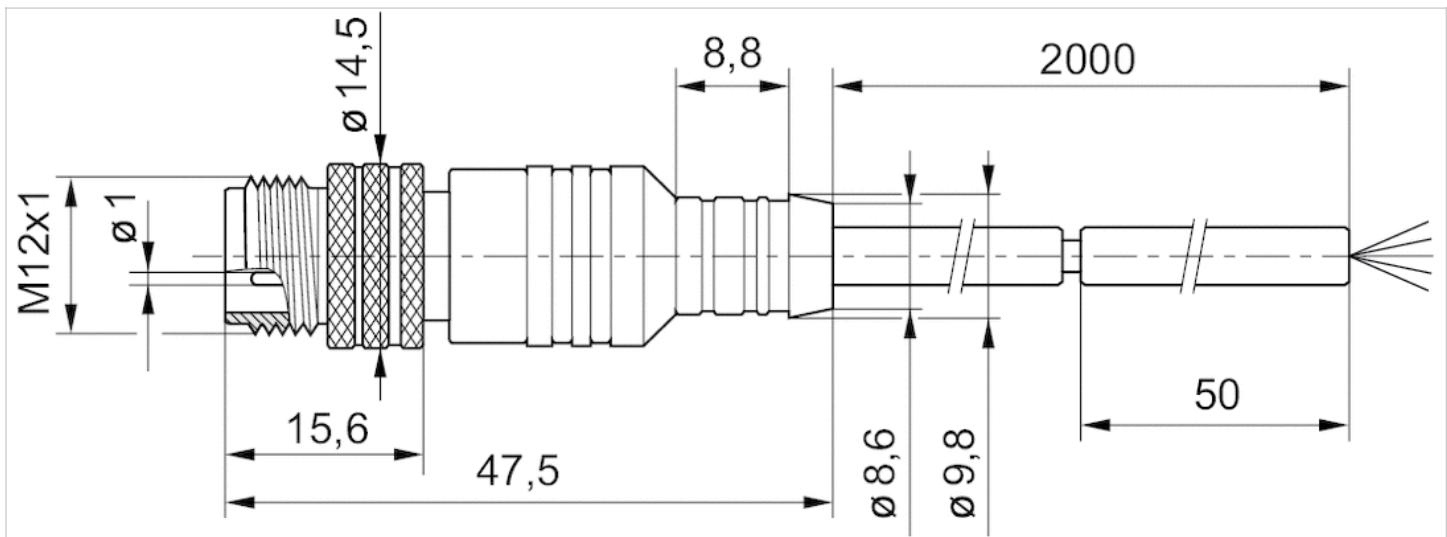
## Technical information

### Material

Cable sheath	Polyvinyl chloride
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## Dimensions

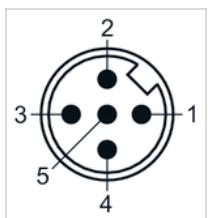
### Dimensions



L = length

## Pin assignments

### Plug pin assignment



- (1) BN=brown
- (2) WH=white
- (3) BU=blue
- (4) BK=black
- (5) GRN-Y=green-yellow

# Round plug connector, Series CON-RD

- Plug M12x1 5-pin A-coded angled 90°

- open cable ends 5-pin

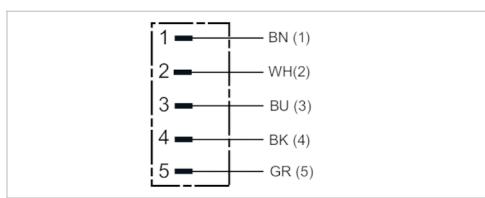
- with cable

- suitable for dynamic laying

- unshielded



Ambient temperature min./max.	See table below
Operational voltage	48 V AC/DC
Protection class	IP68
Wire cross-section	0.34 mm <sup>2</sup>
Mounting screw tightening torque	0.8 Nm
Weight	See table below



## Technical data

Part No.	Ambient temperature min./max.	Max. current	Number of wires	Bending radius min.	Cable-Ø	Cable length
R412021691	-40 ... 85 °C	4 A	5	50 mm	5 mm	2 m
R412021692	-40 ... 85 °C	4 A	5	50 mm	5 mm	5 m
R412021693	-25 ... 85 °C	4 A	5	50 mm	5 mm	10 m

Part No.	Weight
R412021691	0.093 kg
R412021692	0.2 kg
R412021693	0.381 kg

suitable for dynamic laying

## Technical information

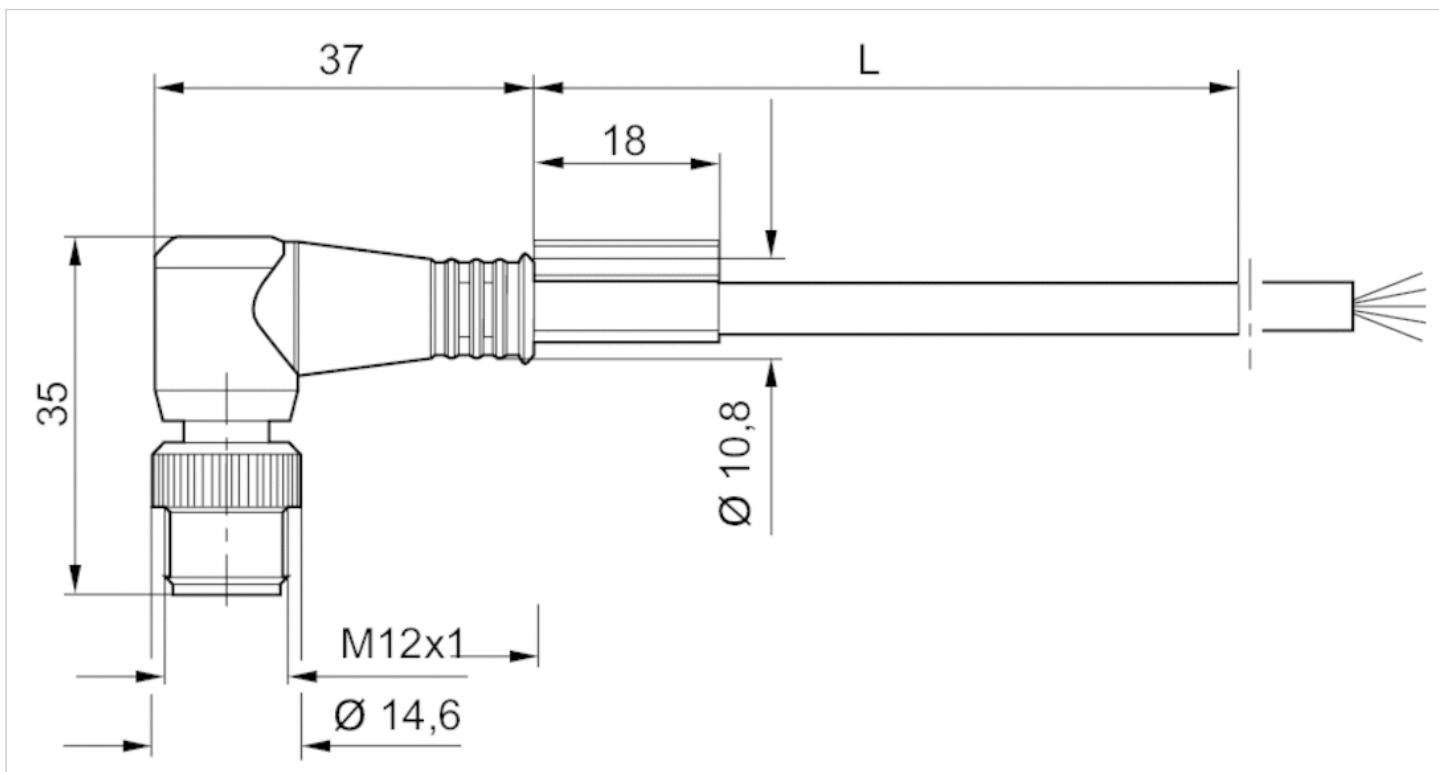
The specified protection class is only valid in assembled and tested state.

## Technical information

Housing	Polyurethane
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## Dimensions

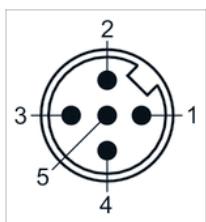
### Dimensions



L = length

## Pin assignments

### Plug pin assignment



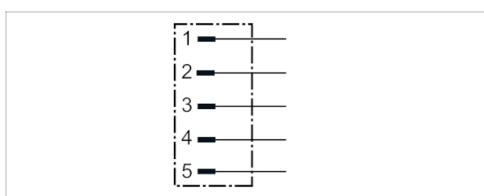
- (1) BN=brown
- (2) WH=white
- 3) BU=blue
- (4) BK=black
- (5) GY=grey

# Round plug connector, Series CON-RD

- Plug, M12x1, 5-pin, A-coded, straight, 180°
- for CANopen, DeviceNet
- UL (Underwriters Laboratories)
- shielded



Connection type	Screws
Ambient temperature min./max.	-40 ... 85 °C
Operational voltage	48 V AC/DC
Protection class	IP67
Weight	0.48 kg



## Technical data

Part No.	Max. current	suitable cable-Ø min./max
8942051612	4 A	6 / 8 mm

## Technical information

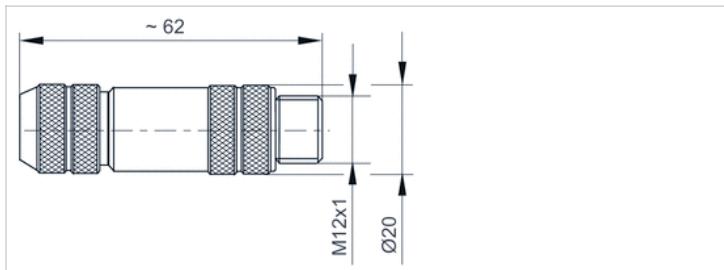
The specified protection class is only valid in assembled and tested state.

## Technical information

Material	
Housing	Brass, nickel-plated

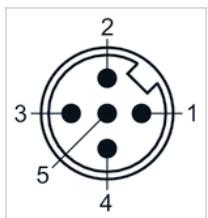
## Dimensions

### Dimensions



## Pin assignments

### Plug pin assignment

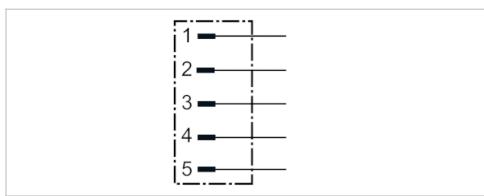


# Round plug connector, Series CON-RD

- Plug, 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	0.068 kg



## Technical data

Part No.	Max. current	suitable cable-Ø min./max
1824484028	4 A	6 / 8 mm

## Technical information

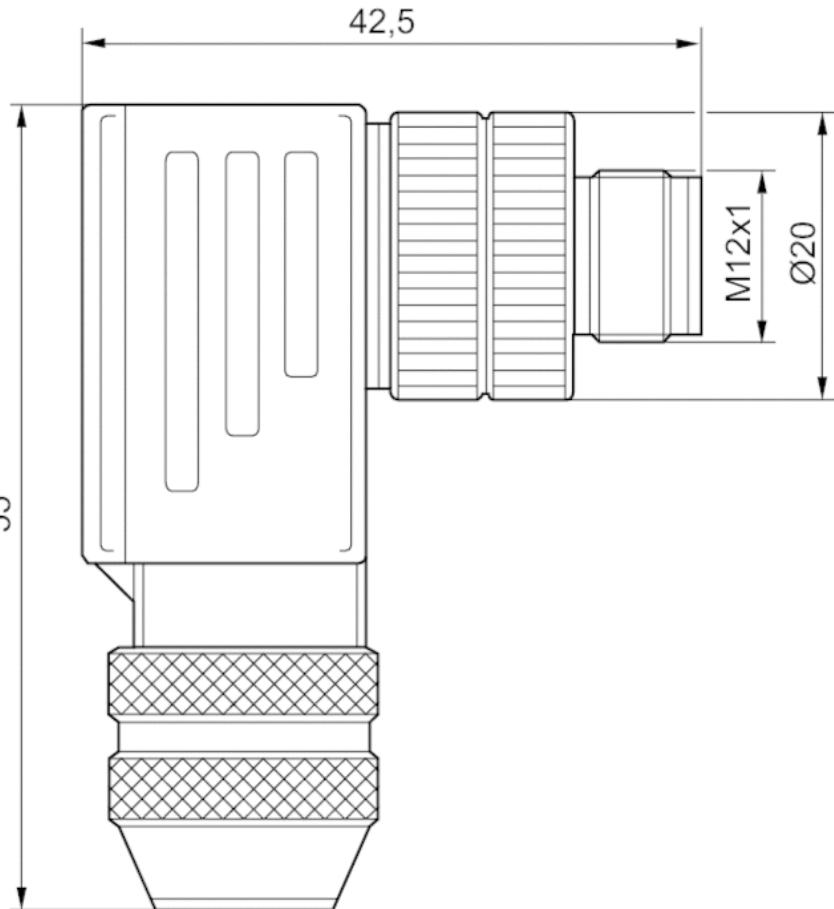
The specified protection class is only valid in assembled and tested state.

## Technical information

Material	
Housing	Brass, nickel-plated

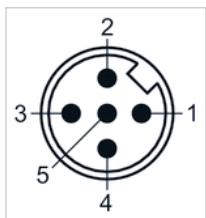
## Dimensions

### Dimensions



## Pin assignments

### Plug pin assignment



# Mounting clip, Series AS3-MBR-...-W03, Aluminum



Ambient temperature min./max.	-10 ... 50 °C
Weight	0.133 kg

## Technical data

Part No.

R412026828

Scope of delivery incl. 2 mounting screws M5x68-4.8-A2R according to EN ISO 7046-1 (countersunk screw with type H X-slot), 1x O-ring

## Technical information

This mounting clip is recommended for installing an AS3-SV safety valve in an air preparation unit.

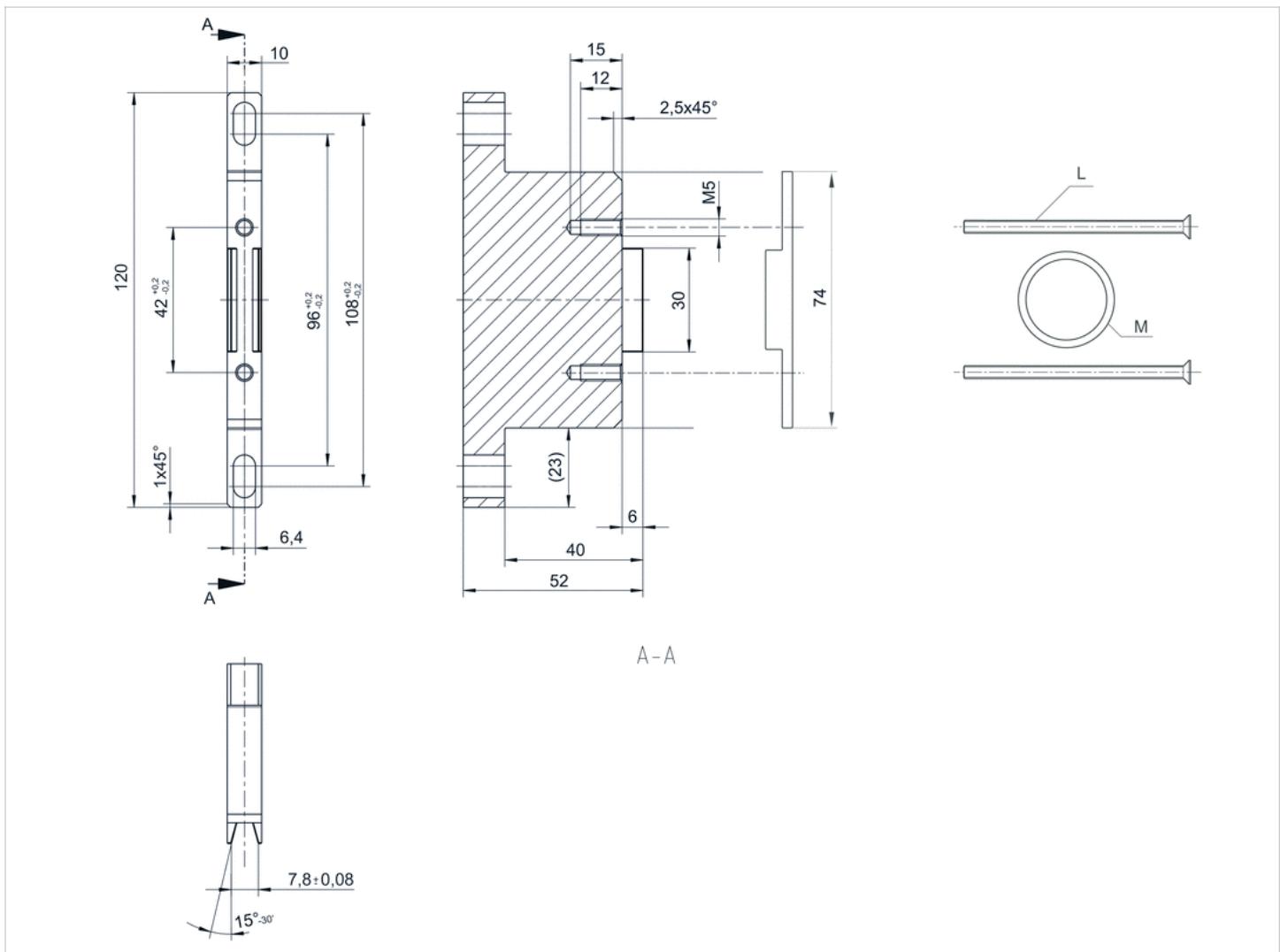
## Technical information

### Material

Housing	Aluminum
Seal	Acrylonitrile butadiene rubber

## Dimensions

## Dimensions



L = Mounting screw

M = O-ring

# Block assembly kit, Series AS3-MBR-...-W05

- G 3/8 - G 1/2



Ambient temperature min./max. -10 ... 50 °C

Weight 0.825 kg

## Technical data

Part No.	Port
R412007367	G 1/2

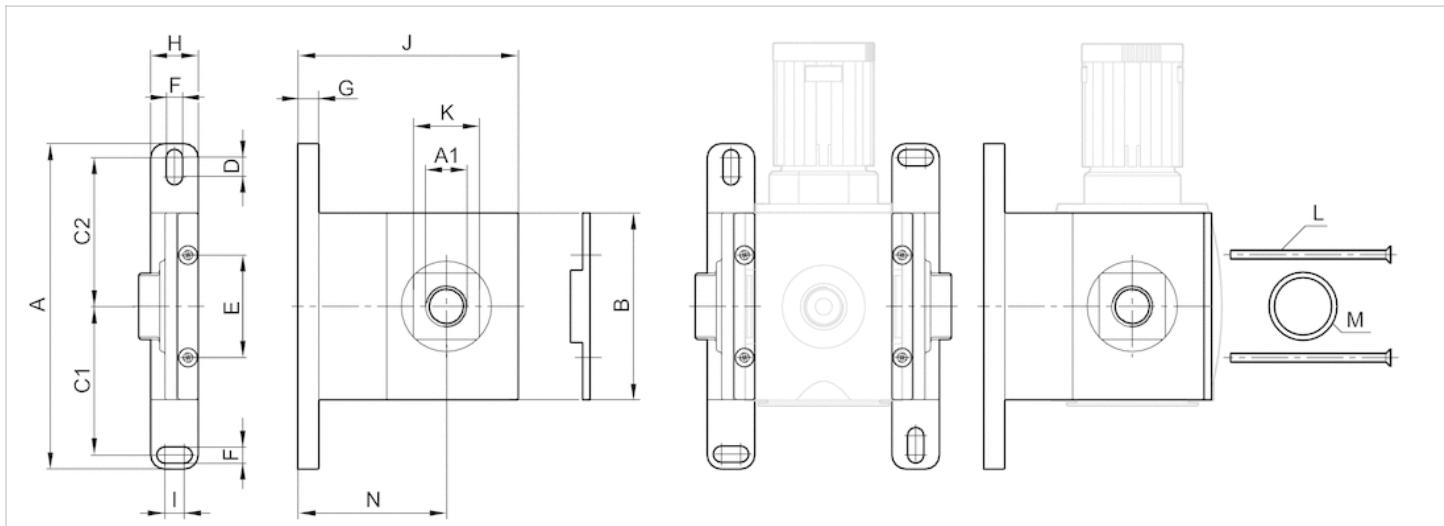
Scope of delivery incl. 4 mounting screws M5x68-4.8-A2R according to EN ISO 7046-1 (countersunk screw with type H X-slot), 2x O-ring

## Technical information

Material	
Housing	Die cast zinc, painted
Seal	Acrylonitrile butadiene rubber

## Dimensions

## Dimensions



## Dimensions

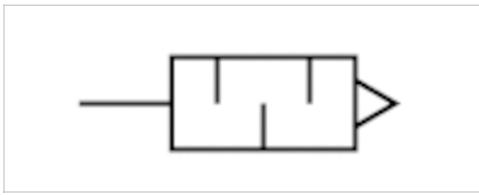
Part No.	A1	A	B	C1	C2	D	E	F	G	H	I	J	K	L	M	N
R412007367	G 1/2	120	75	54	54	8	42	6.4	7	20	8	102.5	30	M5x68	23x2	72

# Silencers, series SI1

- G 1
- Metal braiding



Working pressure min./max.	0 ... 15 bar
Ambient temperature min./max.	-10 ... 150 °C
Medium	Compressed air
Sound pressure level	104 dB
Comment	Flow characteristic curves can be found under "Diagrams".



## Technical data

Part No.	Compressed air connection	Flow	Delivery unit
		Qn	
R412010249	G 1	10642 l/min	2 piece

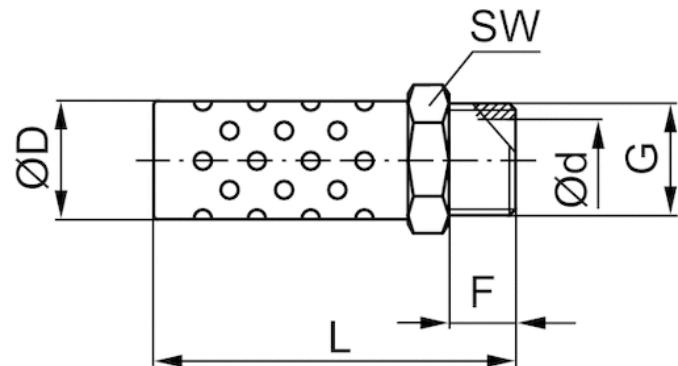
Nominal flow Qn at p1 = 6 bar (absolute) freely discharged. Sound pressure level measured at 6 bar against atmosphere at 1 m distance.

## Technical information

Material	
Silencer	Metal braiding
Thread	Aluminum

## Dimensions

### Dimensions



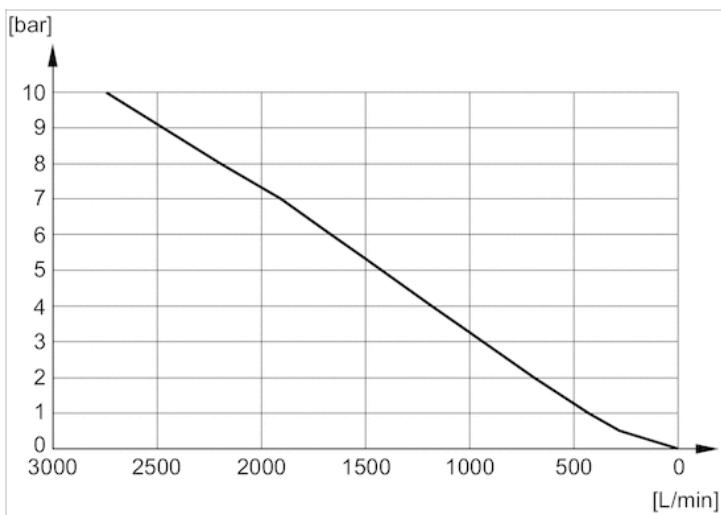
## Dimensions

R412010249	G 1	91	15.5	32.3	26	34

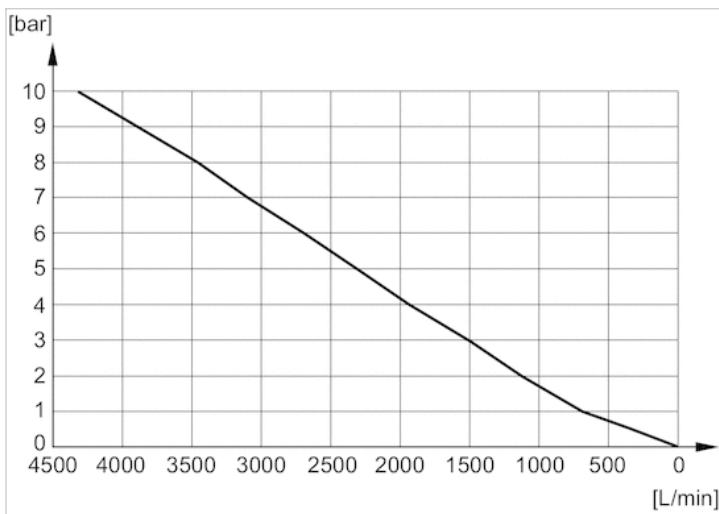
Sound pressure level measured at 6 bar at 1 m distance

## Diagrams

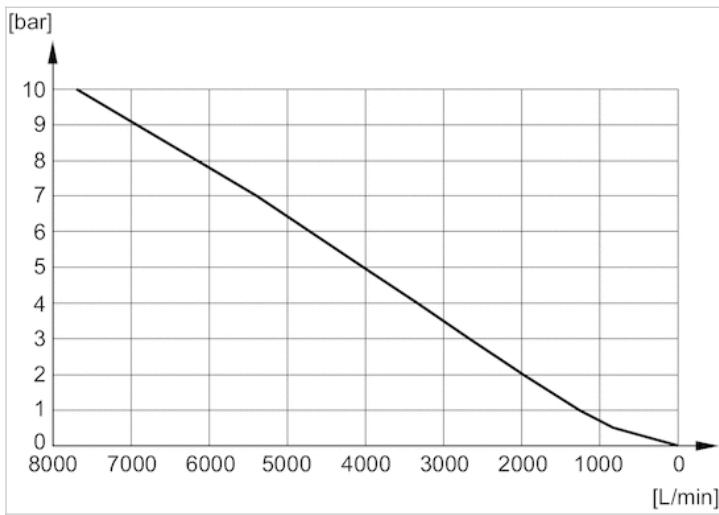
### Flow diagram, R412010283



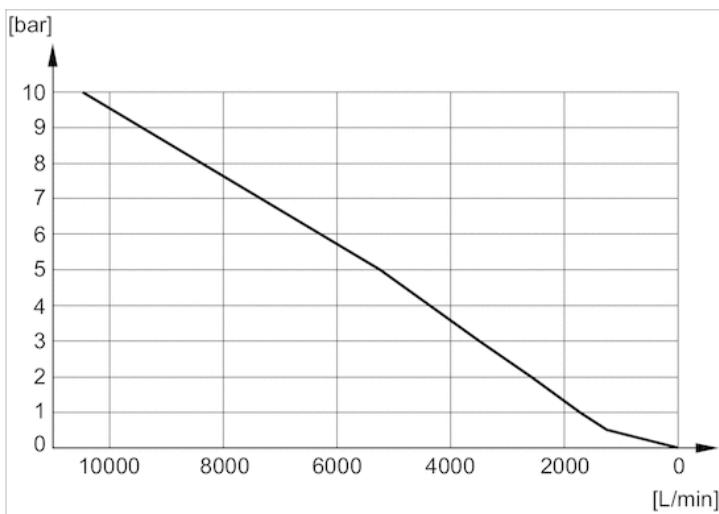
## Flow diagram, R412010245



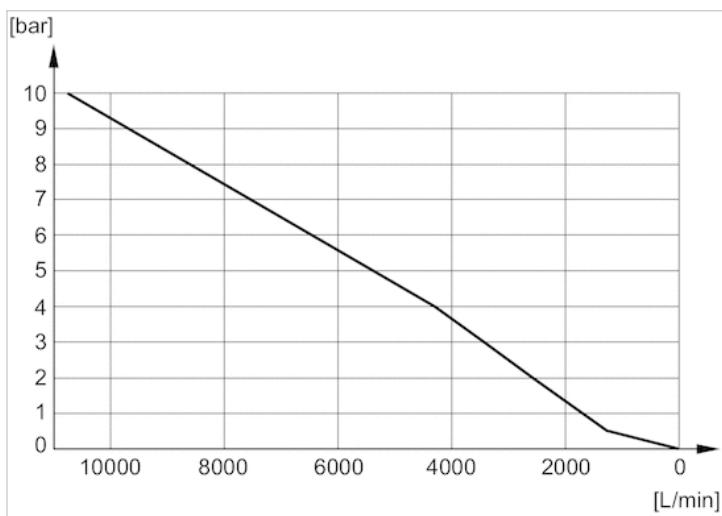
## Flow diagram, R412010246



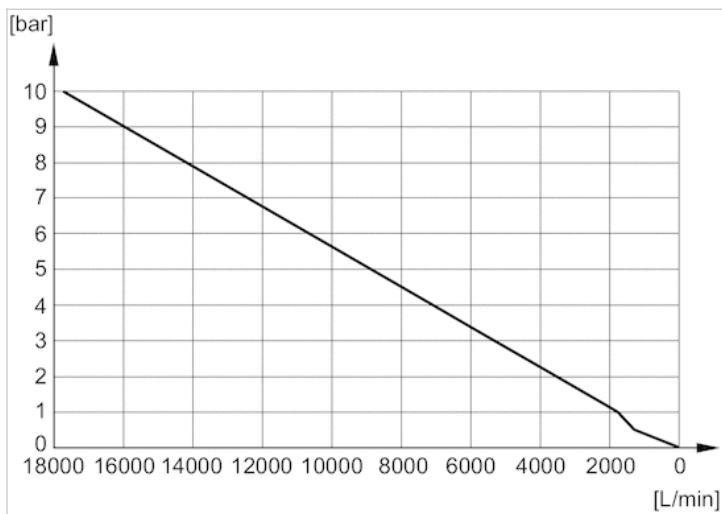
## Flow diagram, R412010247



## Flow diagram, R412010248



## Flow diagram, R412010249



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