

# Series NL1

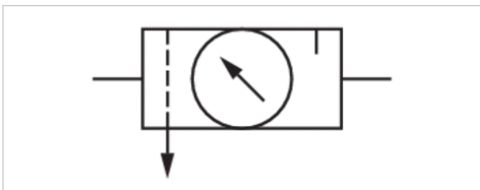


AVENTICS™ Series NL1



# Air preparation unit, 2-part, Series NL1-ACD

- G 1/8 G 1/4
- filter porosity 5  $\mu\text{m}$
- with pressure gauge



Version	2-part, Can be assembled into blocks
Parts	Filter pressure regulator, Micro oil-mist lubricator
Mounting orientation	vertical
Working pressure min./max.	1.5 ... 16 bar
Ambient temperature min./max.	-10 ... 60 °C
Medium temperature min./max.	-10 ... 60 °C
Medium	Compressed air Neutral gases
Nominal flow Qn	750 l/min
Regulator type	Diaphragm-type pressure regulator
Regulator function Adjustment	with relieving air exhaust
range min./max. Pressure supply	0.5 ... 10 bar
Filter reservoir volume	16 cm <sup>3</sup>
Filter element	exchangeable
Lubricator reservoir volume	35 cm <sup>3</sup>
Type of filling	Manual oil filling
Weight	See table below

## Technical data

Part No.	Port	filter porosity	Flow	Condensate drain
			Qn	
0821300727	G 1/8	5 $\mu\text{m}$	750 l/min	semi-automatic, open without pressure
0821300728	G 1/8	5 $\mu\text{m}$	750 l/min	semi-automatic, open without pressure
0821300730	G 1/4	5 $\mu\text{m}$	750 l/min	semi-automatic, open without pressure
0821300731	G 1/4	5 $\mu\text{m}$	750 l/min	semi-automatic, open without pressure
0821300732	G 1/4	5 $\mu\text{m}$	750 l/min	fully automatic, open without pressure

Part No.	Pressure gauge	Reservoir	Weight
0821300727	with pressure gauge	Polycarbonate	0.564 kg
0821300728	with pressure gauge	Die cast zinc	0.645 kg
0821300730	with pressure gauge	Polycarbonate	0.564 kg
0821300731	with pressure gauge	Die cast zinc	0.645 kg
0821300732	with pressure gauge	Polycarbonate	0.617 kg

Metal protective guard can be retrofitted for all polycarbonate reservoirs, Nominal flow Qn with secondary pressure p<sub>2</sub> = 6 bar at  $\Delta p = 1$  bar

## Technical information

The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .  
 A change in the flow direction (from air supply on the left to air supply on the right) occurs by rotating installation by 180° about the vertical axis. Please see the operating instructions for further details.  
 Also suitable for separation of fluid oil or water due to the design.

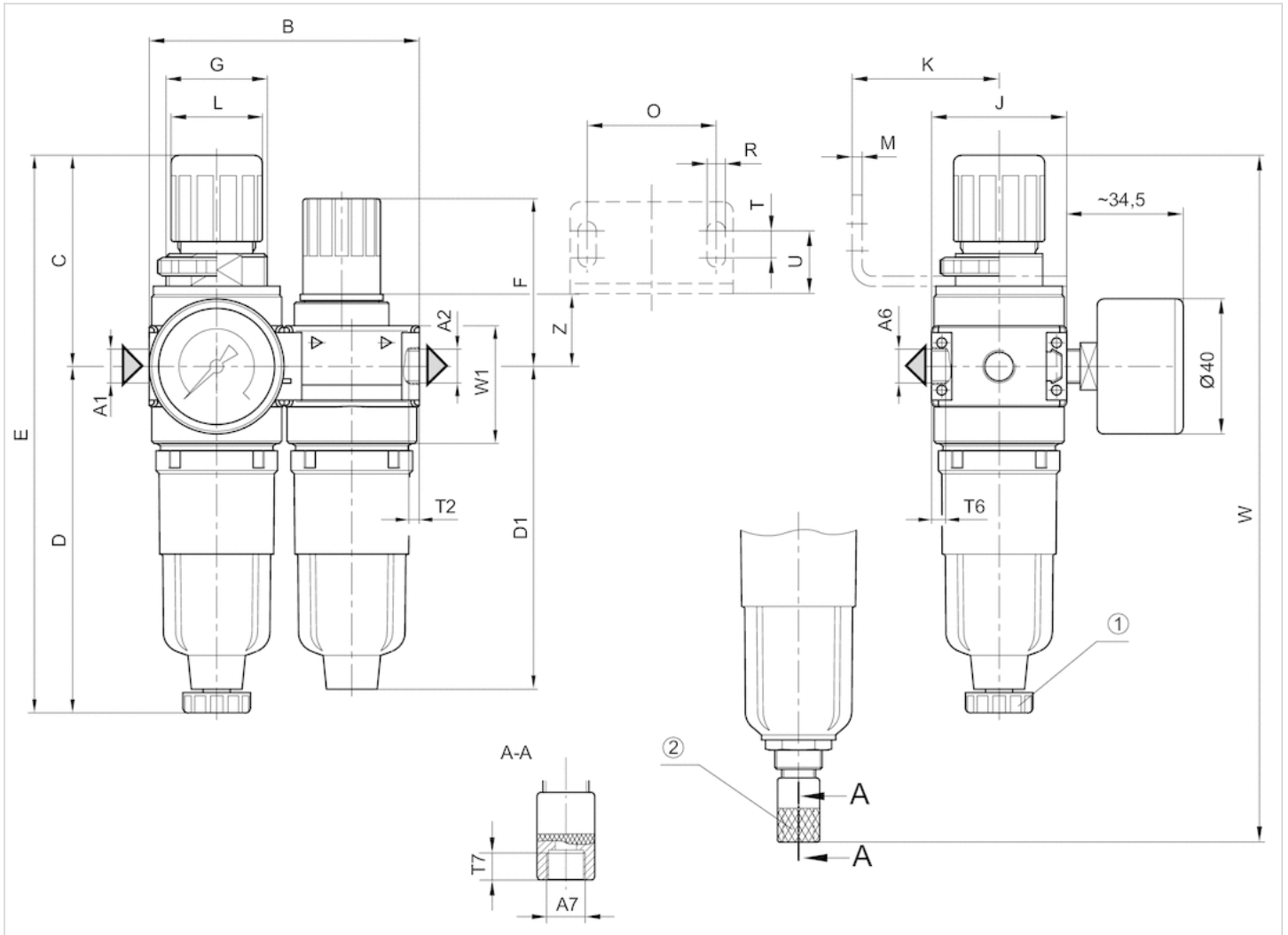
Max. achievable compressed air class acc. to ISO 8573-1:2010 6 : 7 : -

## Technical information

Material	
Housing	Die cast zinc
Front plate	Acrylonitrile butadiene styrene
Seals	Acrylonitrile butadiene rubber
Threaded bushing	Die cast zinc
Reservoir	Polycarbonate Die cast zinc
Protective guard	Polyamide
Filter insert	Polyethylene

## Dimensions

### Dimensions



- A1 = input
- A2 = output
- A6 = ventilation port
- A7 = condensate drain
- 1) Semi-automatic condensate drain
- 2) fully automatic condensate drain

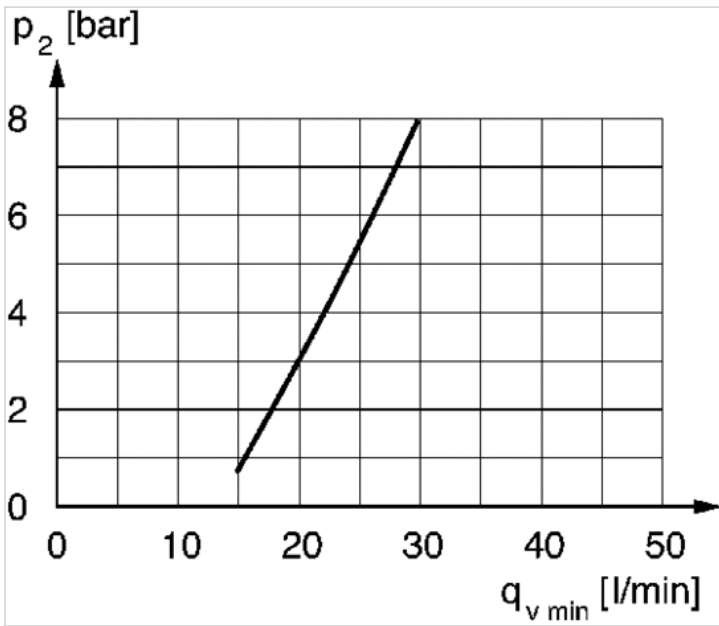
### Dimensions in mm

A1	A2	A6	A7	B	C	D	D1	E	F	G	J	K	L	M	O	R	T	T2	T6	T7
G 1/8	G 1/8	G 1/8	G 1/8	80	62.5	102.5	95.5	165	50	M30x1,5	40	43.5	27	3	38	5.4	8	8	6	8.5
G 1/4	G 1/4	G 1/8	G 1/8	80	62.5	102.5	95.5	165	50	M30x1,5	40	43.5	27	3	38	5.4	8	8	6	8.5

U	W	W1	Z
18.5	203	35	24.5
18.5	203	35	24.5

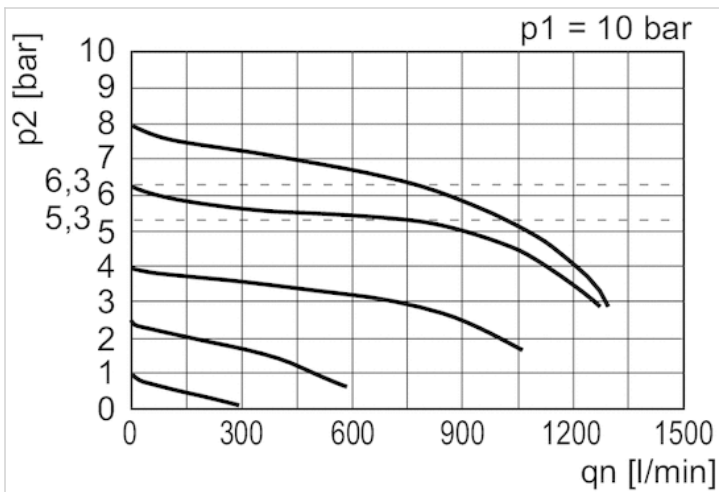
## Diagrams

minimum flow rate curve (flow rate necessary for the correct functioning of the lubricator)



$p_2$  = secondary pressure  
 $q_{v\min}$  = min. nominal flow

## Flow rate characteristic



$p_1$  = Working pressure  
 $p_2$  = Secondary pressure  
 $q_n$  = Nominal flow

# Pressure regulator, Series NL1-RGS

- G 1/8 G 1/4
- Qn = 1000 l/min
- Standard pressure regulator
- Activation Mechanical



Parts	Pressure regulator
Mounting orientation	Any
Working pressure min./max.	0.5 ... 16 bar
Ambient temperature min./max.	-10 ... 60 °C
Medium temperature min./max.	-10 ... 60 °C
Medium	Compressed air Neutral gases
Regulator type	Diaphragm-type pressure regulator Can be assembled into blocks with relieving air exhaust
Regulator function Adjustment range min./max. Pressure supply	See table below single
Activation	Mechanical
Weight	See table below

## Technical data

Part No.			Port	Flow	Adjustment range min./max.	Pressure gauge
				Qn		
0821302728			G 1/8	1000 l/min	0.1 ... 3 bar	with pressure gauge
0821302729			G 1/8	1000 l/min	0.2 ... 6 bar	with pressure gauge
0821302730			G 1/8	1000 l/min	0.5 ... 10 bar	with pressure gauge
0821302725		—	G 1/8	1000 l/min	0.1 ... 3 bar	-
0821302726		—	G 1/8	1000 l/min	0.2 ... 6 bar	-
0821302727		—	G 1/8	1000 l/min	0.5 ... 10 bar	-
0821302734			G 1/4	1000 l/min	0.1 ... 3 bar	with pressure gauge
0821302735			G 1/4	1000 l/min	0.2 ... 6 bar	with pressure gauge
0821302736			G 1/4	1000 l/min	0.5 ... 10 bar	with pressure gauge
0821302731		—	G 1/4	1000 l/min	0.1 ... 3 bar	-
0821302732		—	G 1/4	1000 l/min	0.2 ... 6 bar	-
0821302733		—	G 1/4	1000 l/min	0.5 ... 10 bar	-

Part No.	Weight
0821302728	0.294 kg
0821302729	0.294 kg
0821302730	0.294 kg
0821302725	0.24 kg
0821302726	0.24 kg
0821302727	0.24 kg
0821302734	0.294 kg
0821302735	0.294 kg
0821302736	0.294 kg

Part No.	Weight
0821302731	0.24 kg
0821302732	0.24 kg
0821302733	0.24 kg

Nominal flow Qn with secondary pressure p2 = 6 bar at  $\Delta p = 1$  bar

## Technical information

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

Relieving exhaust ( $\leq 0.3$  bar over set pressure).

With rear exhaust ( $> 3$  bar ).

The rear pressure gauge connection on the pressure regulator is closed with a blanking plug, the front connection is open. Depending on the customer application, a second blanking plug may be necessary. Please order separately (see accessories).

A change in the flow direction (from air supply on the left to air supply on the right) occurs by rotating installation by 180° about the vertical axis. Please see the operating instructions for further details.

lockable regulator head

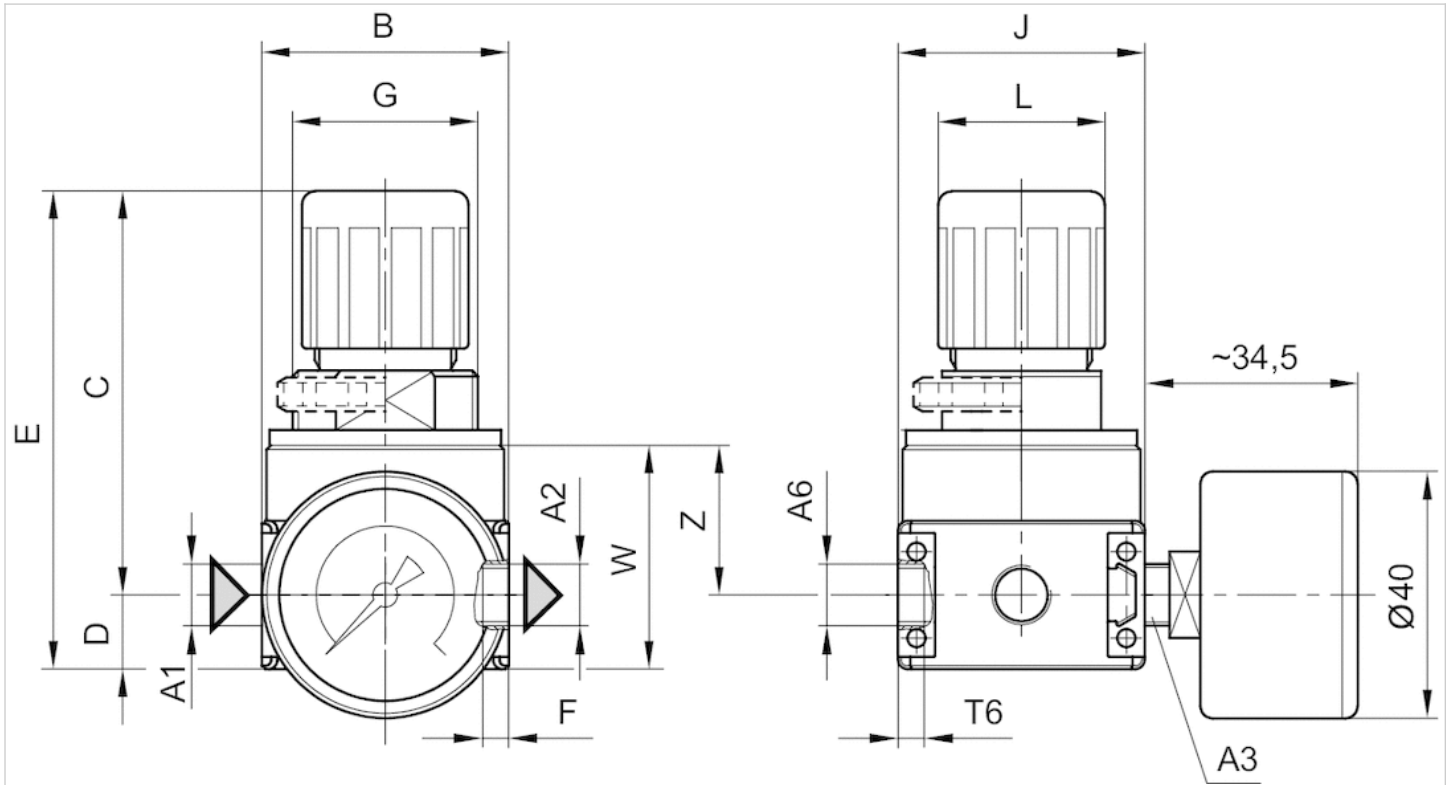
Recommended pre-filtering 5  $\mu$ m

## Technical information

Material	
Housing	Die cast zinc
Seals	Acrylonitrile butadiene rubber

## Dimensions

### Dimensions



- A1 = input
- A2 = output
- A3 = pressure gauge connection
- A6 = ventilation port

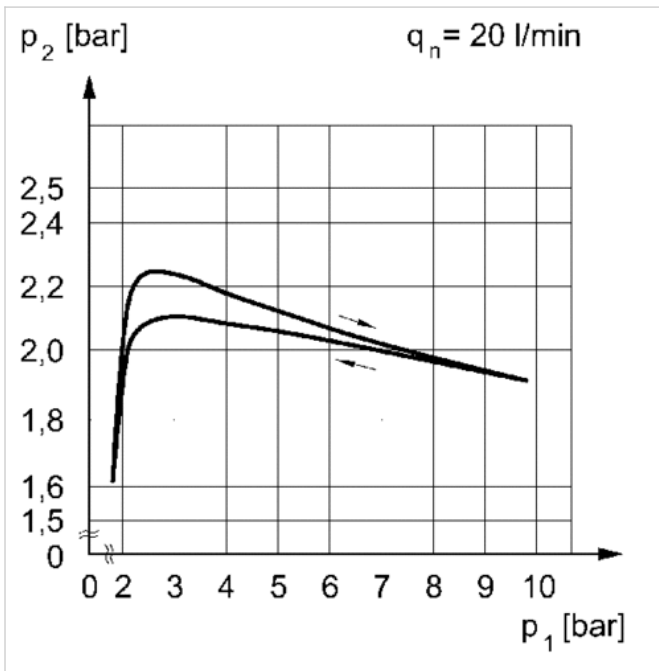
### Dimensions in mm

A1	A2	A3	A6	B	C	D	E	G	J	L	T2	T6	W	Z
G 1/8	G 1/8	G 1/8	G 1/8	40	65.5	12	77.5	M30x1,5	40	27	8	6	36.2	24.2
G 1/8	G 1/8	G 1/8	G 1/8	40	65.5	12	77.5	M30x1,5	40	27	8	6	36.2	36.2
G 1/8	G 1/8	G 1/8	G 1/8	40	65.5	12	77.5	M30x1,5	40	27	8	6	36.2	24.2
G 1/4	G 1/4	G 1/8	G 1/8	40	65.5	12	77.5	M30x1,5	40	27	8	6	36.2	24.2



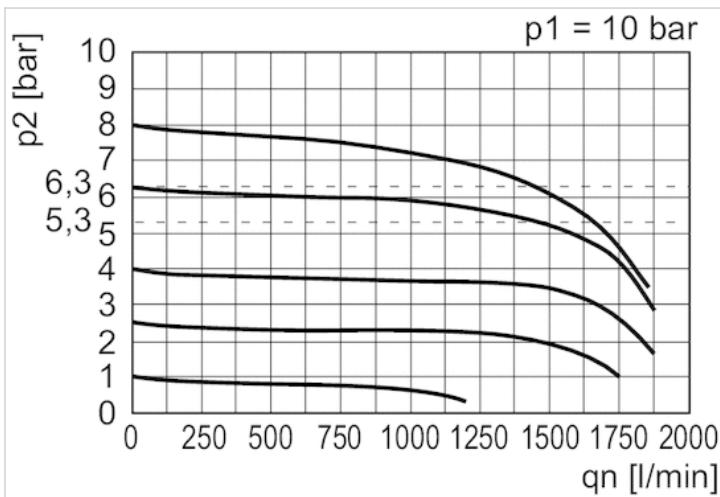
## Diagrams

### Pressure characteristics curve



$p_1$  = Working pressure  
 $p_2$  = Secondary pressure  
 $q_n$  = Nominal flow

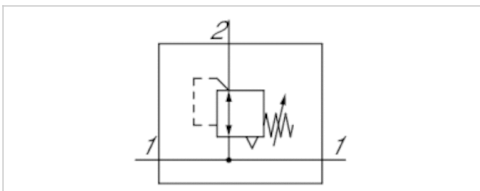
### Flow rate characteristic (setting range $p_2$ : 0.5 - 10 bar)



$p_1$  = Working pressure  
 $p_2$  = Secondary pressure  
 $q_n$  = Nominal flow

# Pressure regulator, Series NL1-RGS-...-DS

- G 1/4
- Qn = 1350 l/min
- with continuous pressure supply



## Parts

Mounting orientation  
Working pressure min./max.  
Ambient temperature min./max.  
Medium temperature min./max.  
Medium  
Regulator type

Regulator function  
Adjustment range min./max.  
Pressure supply  
Weight

Pressure regulator with continuous pressure supply

Any  
0.5 ... 16 bar  
-10 ... 60 °C  
-10 ... 60 °C  
Compressed air Neutral gases  
Diaphragm-type pressure regulator. Can be assembled into blocks with relieving air exhaust  
See table below  
double  
0.26 kg

## Technical data

Part No.	Port	Flow	Adjustment range min./max.
		Qn	
0821300711	G 1/4	1350 l/min	0.1 ... 3 bar
0821300712	G 1/4	1350 l/min	0.2 ... 6 bar
0821300713	G 1/4	1350 l/min	0.5 ... 10 bar

lockable regulator head, Order pressure gauge separately, Nominal flow Qn with secondary pressure p2 = 6 bar at Δp = 1 bar

## Technical information

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

Relieving exhaust (≤ 0.3 bar over set pressure).

With rear exhaust (> 3 bar ).

The rear pressure gauge connection on the pressure regulator is closed with a blanking plug, the front connection is open. Depending on the customer application, a second blanking plug may be necessary. Please order separately (see accessories).

Recommended pre-filtering 5 μm

## Technical information

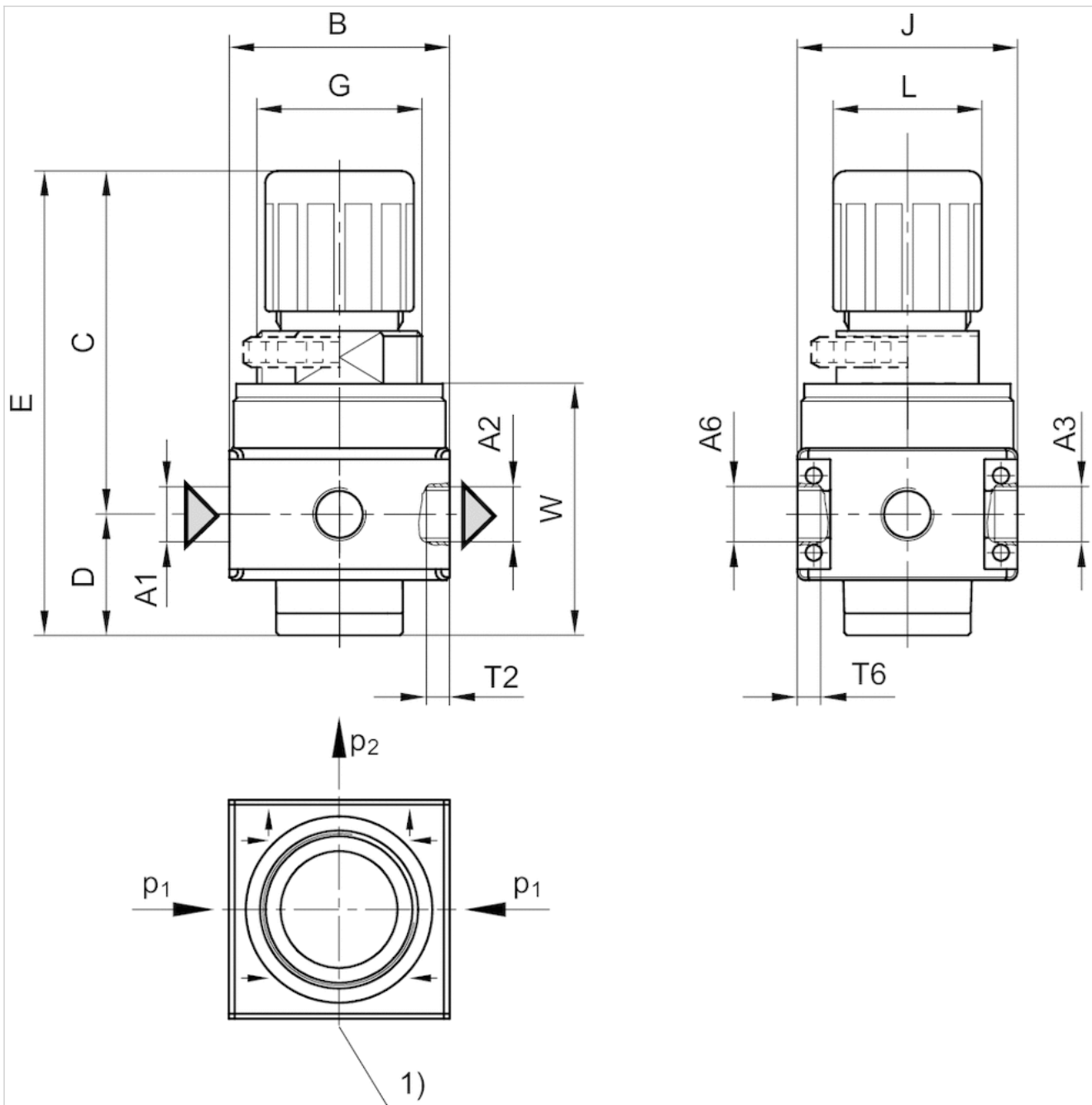
Material

Housing

Die cast zinc

## Dimensions

### Dimensions



A1 = input

A2 = output

1) pressure gauge connection

p1 = working pressure

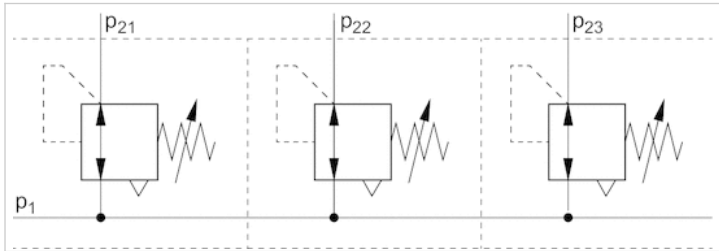
p2 = secondary pressure

Dimensions in mm

A1	A2	A3	A6	B	C	D	E	G	J	K	L	M	T2	T6	W
G 1/4	G 1/4	G 1/8	G 1/4	40	62.5	22	84.5	M30x1,5	40	43.5	27	3	8	6	43.5

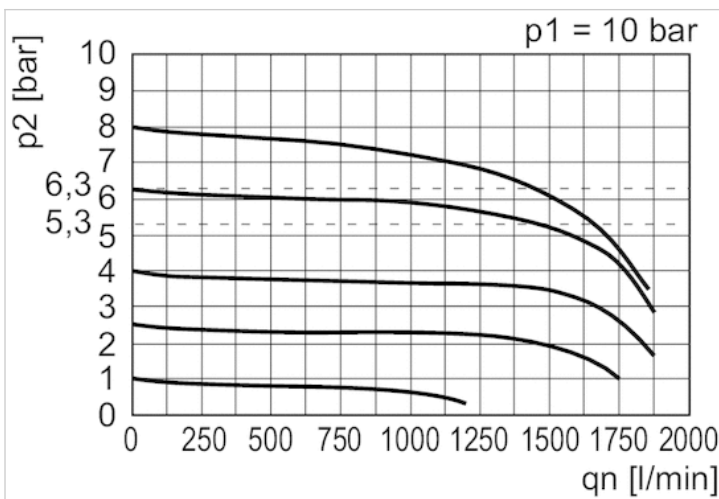
Diagrams

Application example



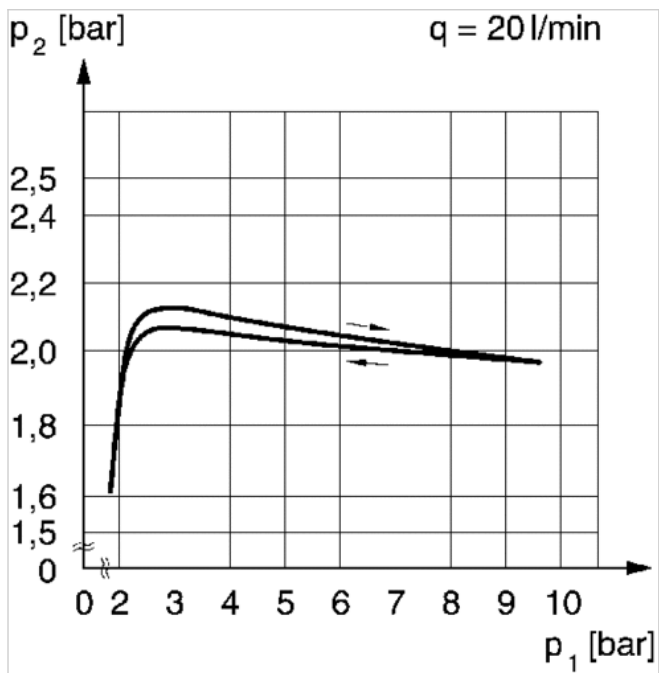
p1 = working pressure

Flow rate characteristic (setting range p2: 0.5 - 10 bar)



p1 = Working pressure  
 p2 = Secondary pressure  
 qn = Nominal flow

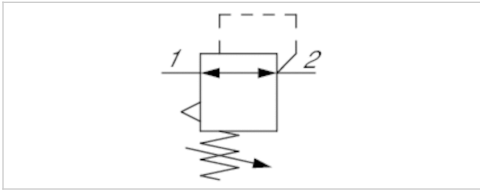
## Pressure characteristics curve



$p_1$  = working pressure  
 $p_2$  = secondary pressure  
 $q$  = flow rate

# Pressure regulator, Series NL1-RGS

- G 1/4
- Qn = 1350 l/min
- Standard pressure regulator
- Activation Mechanical
- -30 °C cold-resistant



Parts	Pressure regulator
Mounting orientation	Any
Working pressure min./max.	0.5 ... 16 bar
Ambient temperature min./max.	-30 ... 50 °C
Medium temperature min./max.	-30 ... 50 °C
Medium	Compressed air Neutral gases
Regulator type	Diaphragm-type pressure regulator Can be assembled into blocks with relieving air exhaust
Regulator function Adjustment range min./max. Pressure supply	0.5 ... 10 bar single
Activation	Mechanical
Weight	0.26 kg

## Technical data

Part No.	Port	Flow
		Qn
R412007620	G 1/4	1350 l/min

Nominal flow Qn with secondary pressure p2 = 6 bar at  $\Delta p = 1$  bar

Order pressure gauge separately.

## Technical information

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

Relieving exhaust ( $\leq 0.3$  bar over set pressure).

With rear exhaust ( $> 3$  bar ).

The rear pressure gauge connection on the pressure regulator is closed with a blanking plug, the front connection is open. Depending on the customer application, a second blanking plug may be necessary. Please order separately (see accessories).

A change in the flow direction (from air supply on the left to air supply on the right) occurs by rotating installation by 180° about the vertical axis. Please see the operating instructions for further details.

Recommended pre-filtering 5  $\mu$ m

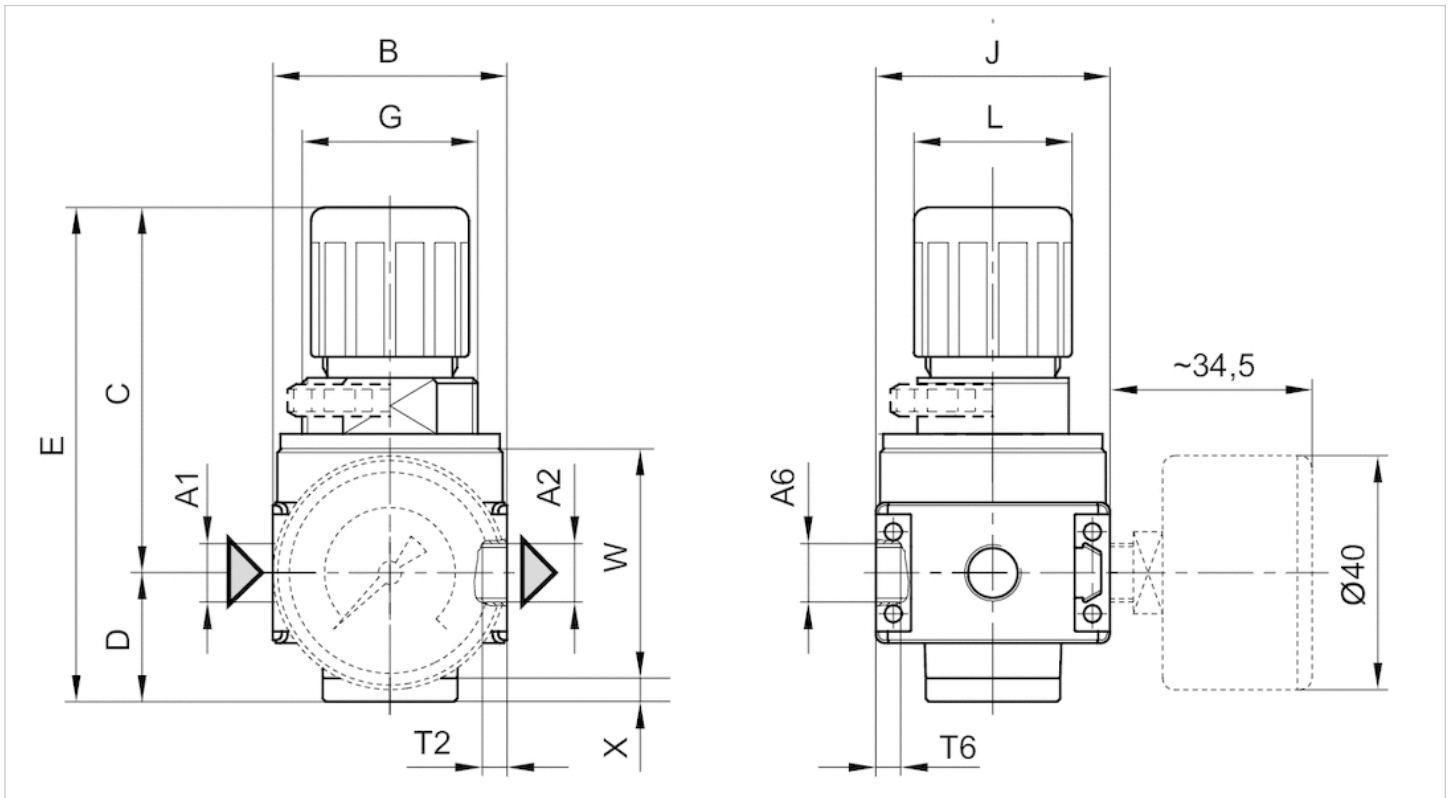
## Technical information

### Material

Housing	Die cast zinc
Seals	Chloroprene rubber

## Dimensions

### Dimensions



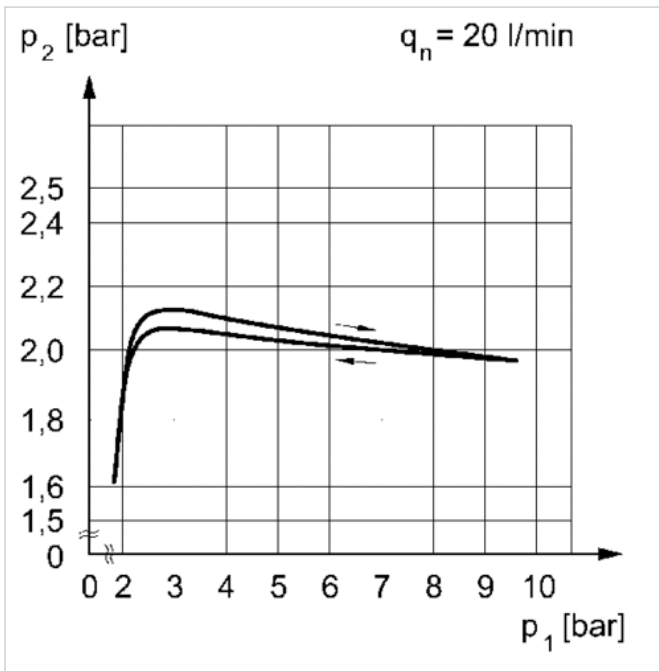
A1 = input  
 A2 = output  
 A6 = output

### Dimensions in mm

A1	A2	A6	B	C	D	E	G	J	K	L	M	O	R	T	T2	T6	U	W	X
G 1/4	G 1/4	G 1/8	40	62.5	22	84.5	M30x1,5	40	43.5	27	3	38	5.4	8	8	6	18.5	39.5	4

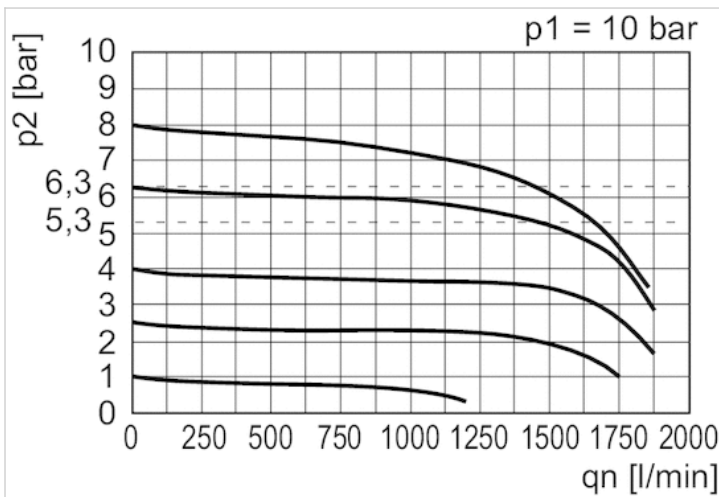
## Diagrams

### Pressure characteristics curve



$p_1$  = Working pressure  
 $p_2$  = Secondary pressure  
 $q_n$  = Nominal flow

### Flow rate characteristic (setting range $p_2$ : 0.5 - 10 bar)



$p_1$  = Working pressure  
 $p_2$  = Secondary pressure  
 $q_n$  = Nominal flow



# Pressure regulator, Series NL1-RGS

- G 1/8 G 1/4
- Qn = 1350 l/min
- Pressure regulator, high flow rate
- Activation Mechanical



Parts	Pressure regulator
Mounting orientation	Any
Working pressure min./max.	0.5 ... 16 bar
Ambient temperature min./max.	-10 ... 60 °C
Medium temperature min./max.	-10 ... 60 °C
Medium	Compressed air Neutral gases
Regulator type	Diaphragm-type pressure regulator Can be assembled into blocks with relieving air exhaust
Regulator function Adjustment range min./max. Pressure supply	See table below single
Activation	Mechanical
Weight	See table below

## Technical data

Part No.			Port	Flow	Adjustment range min./max.	Pressure gauge
				Qn		
0821302708			G 1/8	1350 l/min	0.1 ... 3 bar	with pressure gauge
0821302709			G 1/8	1350 l/min	0.2 ... 6 bar	with pressure gauge
0821302710			G 1/8	1350 l/min	0.5 ... 10 bar	with pressure gauge
0821302705		—	G 1/8	1350 l/min	0.1 ... 3 bar	-
0821302706		—	G 1/8	1350 l/min	0.2 ... 6 bar	-
0821302707		—	G 1/8	1350 l/min	0.5 ... 10 bar	-
0821302714			G 1/4	1350 l/min	0.1 ... 3 bar	with pressure gauge
0821302715			G 1/4	1350 l/min	0.2 ... 6 bar	with pressure gauge
0821302716			G 1/4	1350 l/min	0.5 ... 10 bar	with pressure gauge
0821302711		—	G 1/4	1350 l/min	0.1 ... 3 bar	-
0821302712		—	G 1/4	1350 l/min	0.2 ... 6 bar	-
0821302713		—	G 1/4	1350 l/min	0.5 ... 10 bar	-

Part No.	Weight
0821302708	0.314 kg
0821302709	0.314 kg
0821302710	0.314 kg
0821302705	0.26 kg
0821302706	0.26 kg
0821302707	0.26 kg
0821302714	0.314 kg
0821302715	0.314 kg
0821302716	0.314 kg

Part No.	Weight
0821302711	0.26 kg
0821302712	0.26 kg
0821302713	0.26 kg

Nominal flow Qn with secondary pressure p2 = 6 bar at  $\Delta p = 1$  bar

## Technical information

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

Relieving exhaust ( $\leq 0.3$  bar over set pressure).

With rear exhaust ( $> 3$  bar ).

The rear pressure gauge connection on the pressure regulator is closed with a blanking plug, the front connection is open. Depending on the customer application, a second blanking plug may be necessary. Please order separately (see accessories).

A change in the flow direction (from air supply on the left to air supply on the right) occurs by rotating installation by 180° about the vertical axis. Please see the operating instructions for further details.

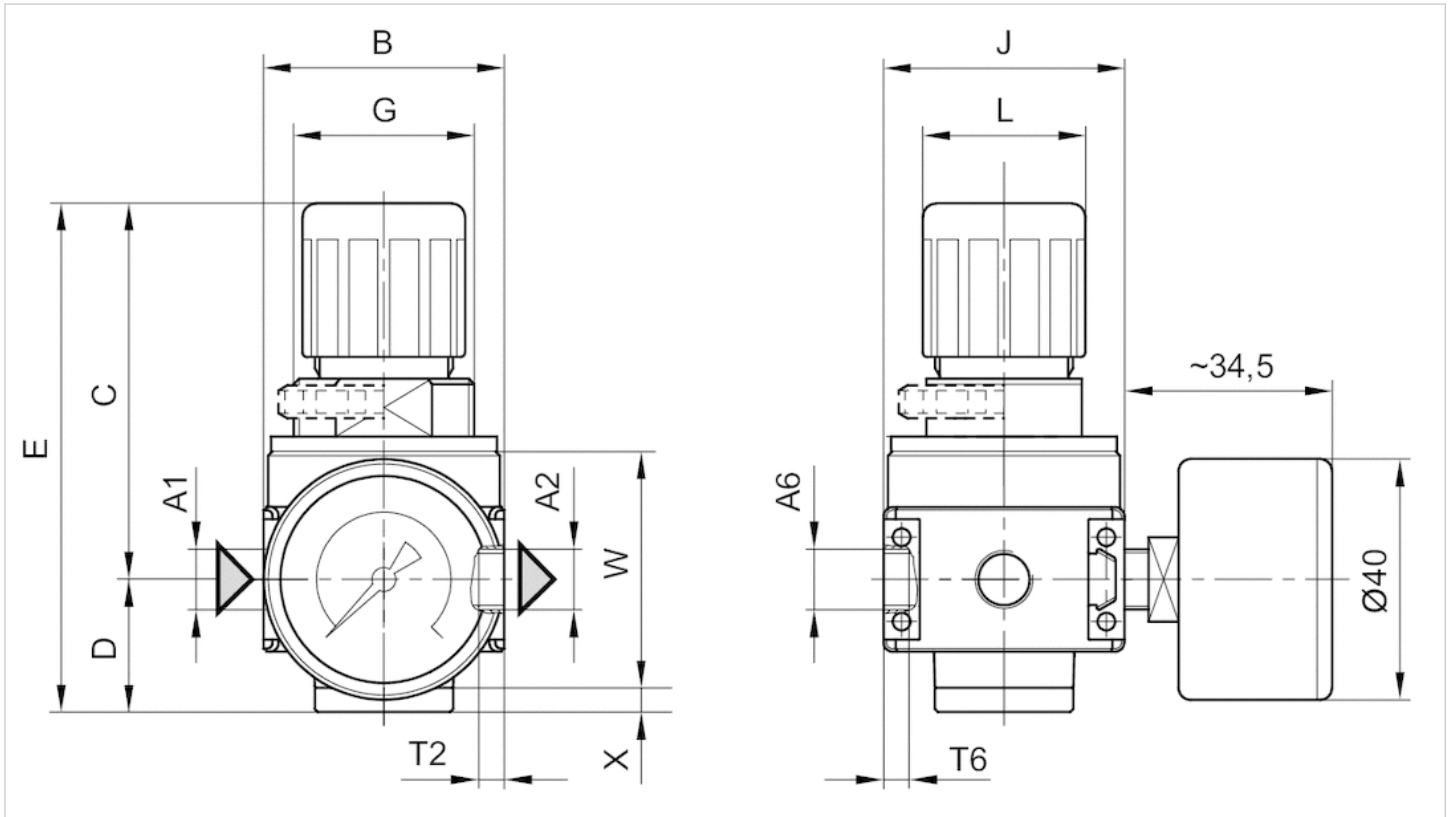
Recommended pre-filtering 5  $\mu\text{m}$

## Technical information

Material	
Housing	Die cast zinc
Seals	Acrylonitrile butadiene rubber

## Dimensions

### Dimensions



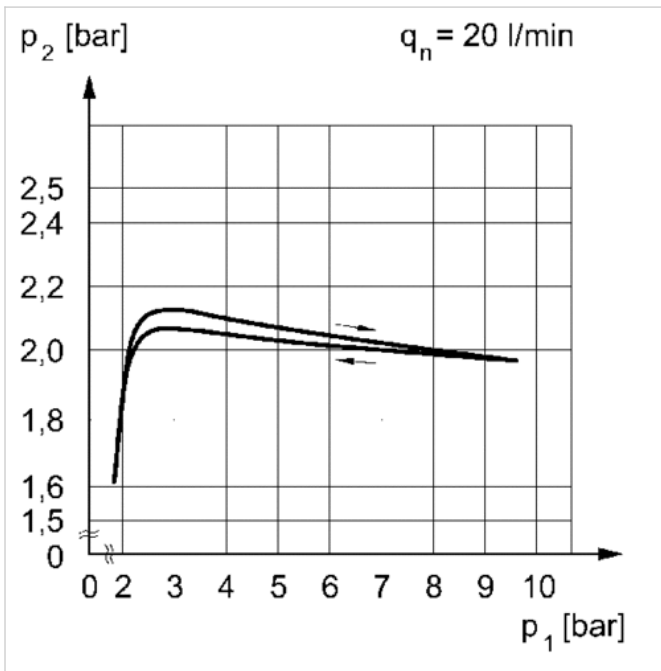
A1 = input  
 A2 = output  
 A6 = output

### Dimensions in mm

A1	A2	A6	B	C	D	E	G	J	L	T2	T6	W	X
G 1/8	G 1/8	G 1/8	40	62.5	22	84.5	M30x1,5	40	27	8	6	39.5	4
G 1/4	G 1/4	G 1/8	40	62.5	22	84.5	M30x1,5	40	27	8	6	39.5	4

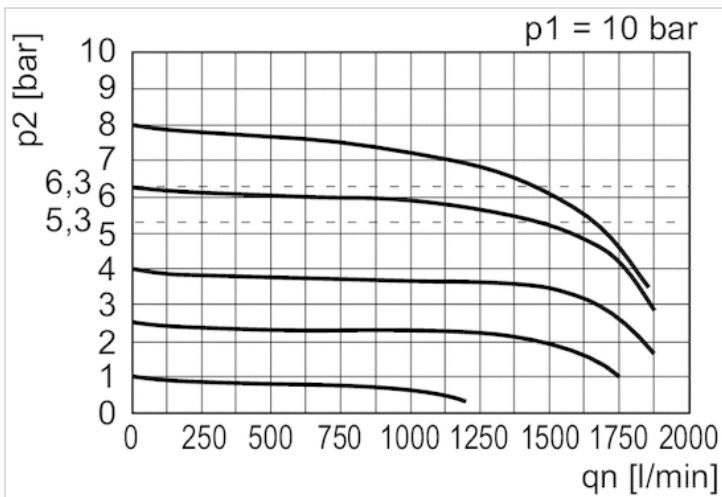
## Diagrams

### Pressure characteristics curve



$p_1$  = Working pressure  
 $p_2$  = Secondary pressure  
 $q_n$  = Nominal flow

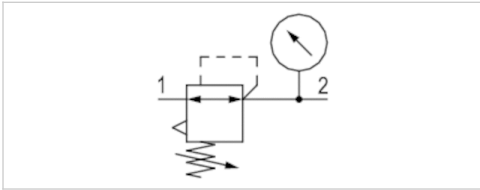
### Flow rate characteristic (setting range $p_2$ : 0.5 - 10 bar)



$p_1$  = Working pressure  
 $p_2$  = Secondary pressure  
 $q_n$  = Nominal flow

# Pressure regulator, Series NL1-RGS

- G 1/8 G 1/4
- $Q_n = 1350$  l/min
- Pressure regulator, high flow rate
- Activation Mechanical
- with pressure gauge in hand wheel



Parts	Pressure regulator
Mounting orientation	Any
Working pressure min./max.	0.5 ... 16 bar
Ambient temperature min./max.	-10 ... 60 °C
Medium temperature min./max.	-10 ... 60 °C
Medium	Compressed air Neutral gases
Regulator type	Diaphragm-type pressure regulator
Regulator function	Can be assembled into blocks
Adjustment range min./max. Pressure supply	with relieving air exhaust See table below
Activation	single
Weight	Mechanical 0.35 kg

## Technical data

Part No.	Port	Flow	Adjustment range min./max.	Pressure gauge
		$Q_n$		
0821300663	G 1/8	1350 l/min	0.1 ... 3 bar	with pressure gauge in hand wheel
0821300664	G 1/8	1350 l/min	0.2 ... 6 bar	with pressure gauge in hand wheel
0821300665	G 1/8	1350 l/min	0.5 ... 10 bar	with pressure gauge in hand wheel
0821300666	G 1/4	1350 l/min	0.1 ... 3 bar	with pressure gauge in hand wheel
0821300667	G 1/4	1350 l/min	0.2 ... 6 bar	with pressure gauge in hand wheel
0821300668	G 1/4	1350 l/min	0.5 ... 10 bar	with pressure gauge in hand wheel

Panel nut included in scope of delivery

Nominal flow  $Q_n$  with secondary pressure  $p_2 = 6$  bar at  $\Delta p = 1$  bar.

## Technical information

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

Relieving exhaust ( $\leq 0.3$  bar over set pressure).

With rear exhaust ( $> 3$  bar ).

A change in the flow direction (from air supply on the left to air supply on the right) occurs by rotating installation by 180° about the vertical axis. Please see the operating instructions for further details.

Recommended pre-filtering 5  $\mu$ m

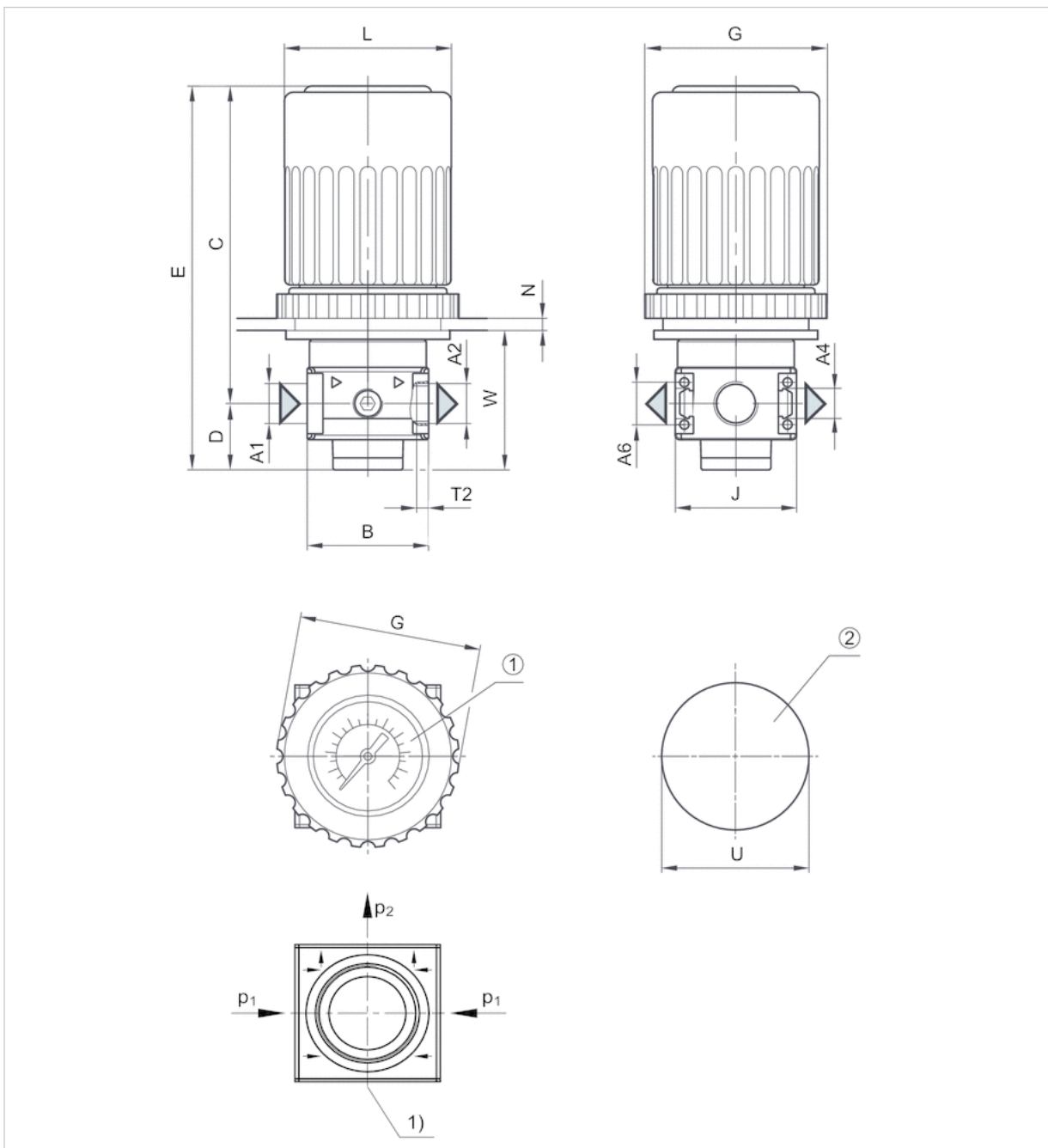
## Technical information

Material

Housing	Die cast zinc
Seals	Acrylonitrile butadiene rubber

## Dimensions

Dimensions



- A1 = input
- A2 = output
- A4 = output
- A6 = output
- 1) pressure gauge Ø 40

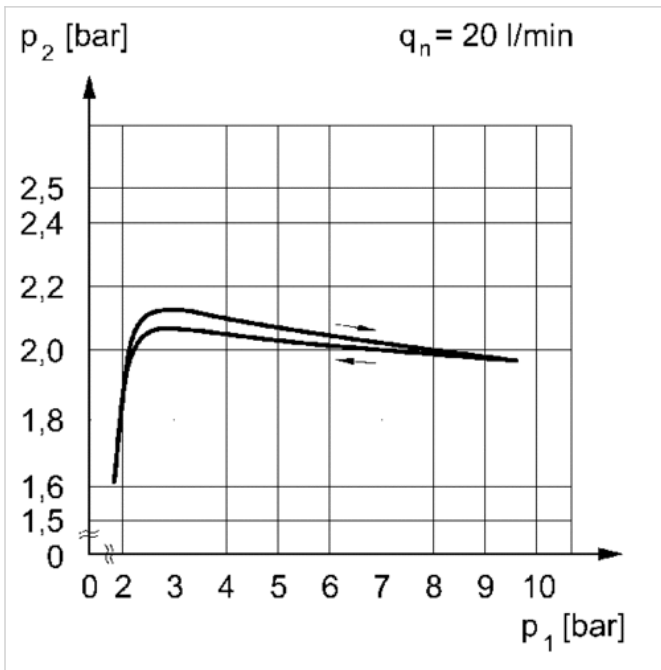
2) opening for control panel assembly

Dimensions in mm

A1	A2	A4	A6	B	C	D	E	G	J	L	N	T2	U	W
G 1/8	G 1/8	G 1/8	G 1/8	40	102	22	124	60	40	54	4	8	48.5	43
G 1/4	G 1/4	G 1/8	G 1/8	40	102	22	124	60	40	54	4	8	48.5	43

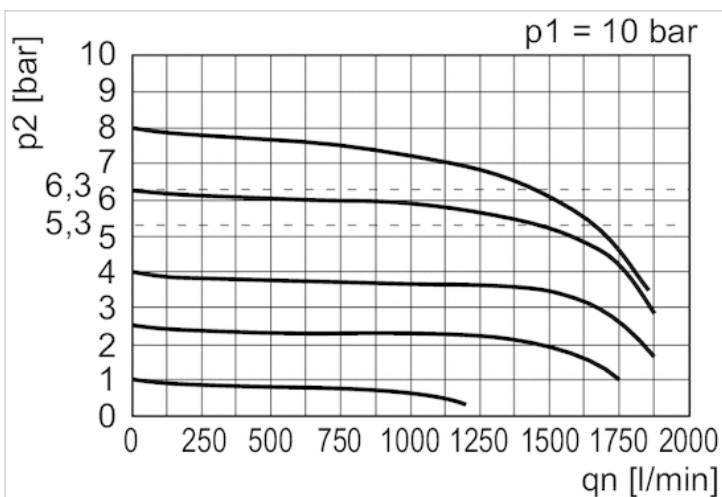
Diagrams

Pressure characteristics curve



p1 = Working pressure  
 p2 = Secondary pressure  
 qn = Nominal flow

Flow rate characteristic (setting range p2: 0.5 - 10 bar)



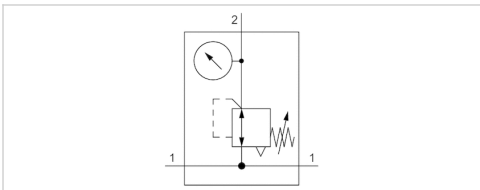
p1 = Working pressure  
 p2 = Secondary pressure

$q_n$  = Nominal flow



# Pressure regulator, Series NL1-RGS-...-DS

- G 1/4
- Qn = 1350 l/min
- Pressure regulator, high flow rate
- Activation Mechanical
- with continuous pressure supply
- with pressure gauge in hand wheel



Parts	Pressure regulator with continuous pressure supply
Mounting orientation	Any
Working pressure min./max.	0.5 ... 16 bar
Ambient temperature min./max.	-10 ... 50 °C
Medium temperature min./max.	-10 ... 50 °C
Medium	Compressed air Neutral gases
Regulator type	Diaphragm-type pressure regulator Can be assembled into blocks with relieving air exhaust
Regulator function Adjustment range min./max. Pressure supply	0.2 ... 6 bar single
Activation	Mechanical
Weight	0.35 kg

## Technical data

Part No.	Port	Flow	Pressure gauge
		Qn	
0821302743	G 1/4	1350 l/min	with pressure gauge in hand wheel

Panel nut included in scope of delivery

Nominal flow Qn with secondary pressure p<sub>2</sub> = 6 bar at Δp = 1 bar.

## Technical information

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

Relieving exhaust (≤ 0.3 bar over set pressure).

With rear exhaust (> 3 bar ).

The rear pressure gauge connection on the pressure regulator is closed with a blanking plug, the front connection is open. Depending on the customer application, a second blanking plug may be necessary. Please order separately (see accessories).

Recommended pre-filtering 5 μm

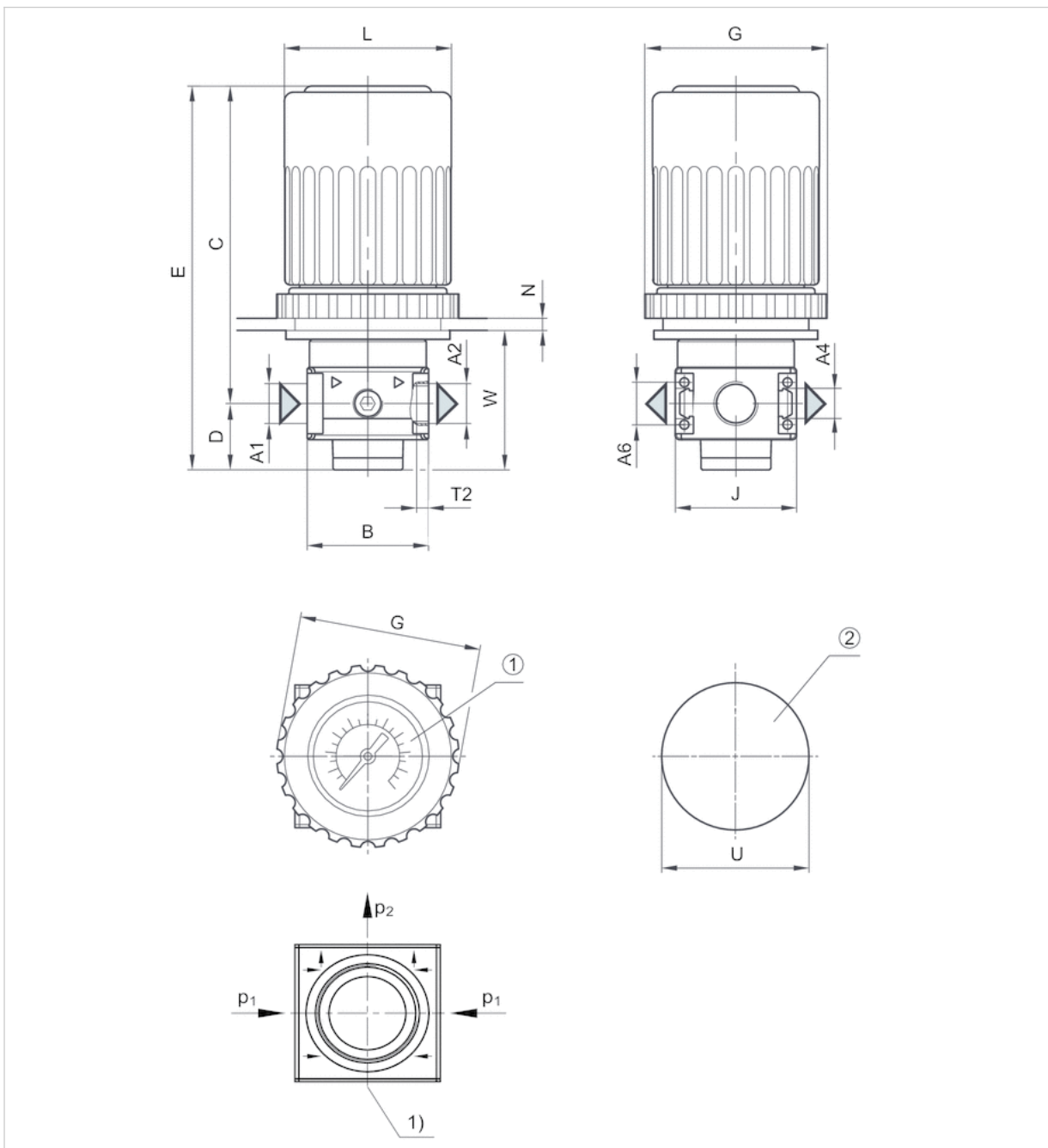
## Technical information

Material

Housing	Die cast zinc
Seals	Nitrile rubber

## Dimensions

Dimensions



- A1 = input
- A2 = output
- A4 = output
- A6 = output
- 1) pressure gauge Ø 40

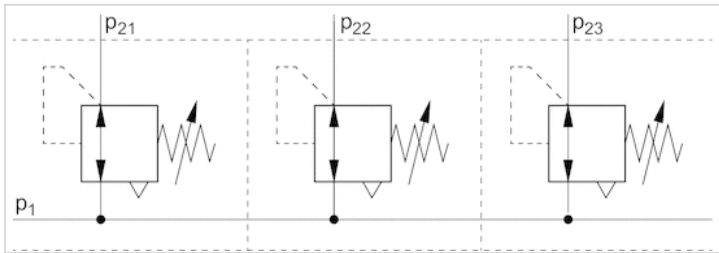
2) opening for control panel assembly

## Dimensions

A1	A2	A4	A6	B	C	D	E	G	J	L	N	T2	U	W
G 1/4	G 1/4	G 1/8	G 1/4	40	90	22	112	40	40	33.6	4	8	31.5	43

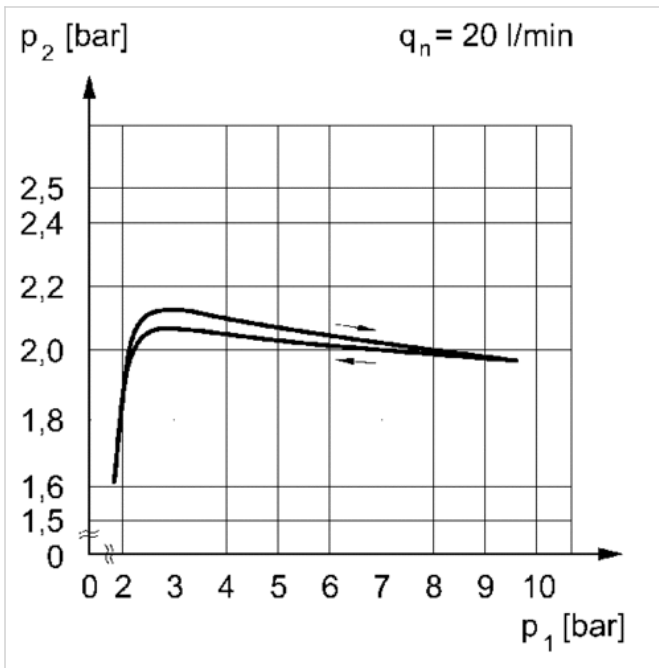
## Diagrams

### Application example



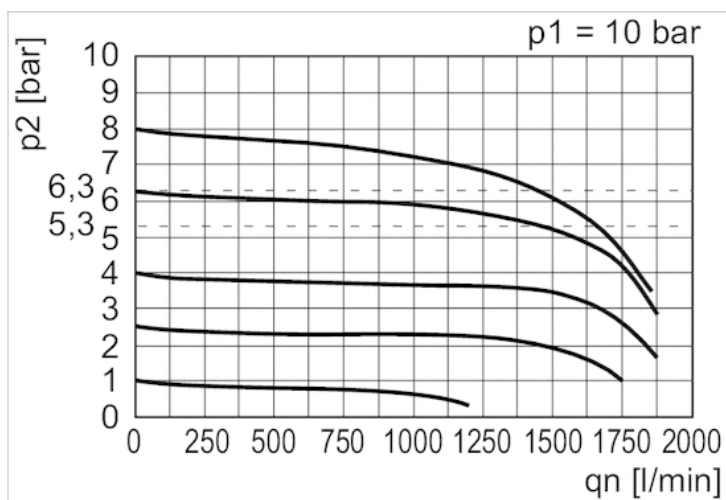
$p_1$  = working pressure

### Pressure characteristics curve



$p_1$  = Working pressure  
 $p_2$  = Secondary pressure  
 $q_n$  = Nominal flow

Flow rate characteristic (setting range p2: 0.5 - 10 bar)



p1 = Working pressure  
 p2 = Secondary pressure  
 qn = Nominal flow

# Filter pressure regulator, Series NL1-FRE



















- G 1/8 G 1/4

- filter porosity 5 µm



Version	1-part, Can be assembled into blocks
Parts	Filter pressure regulator
Mounting orientation	vertical
Working pressure min./max.	1.5 ... 16 bar
Ambient temperature min./max.	-10 ... 60 °C
Medium temperature min./max.	-10 ... 60 °C
Medium	Compressed air Neutral gases
Nominal flow Qn	1350 l/min
Regulator type	Diaphragm-type pressure regulator
Regulator function Adjustment	with relieving air exhaust
range min./max. Pressure supply	0.5 ... 10 bar
Filter reservoir volume	16 cm <sup>3</sup>
Filter element	exchangeable
Weight	See table below

## Technical data

Part No.			Port	filter porosity	Flow
					Qn
0821300750			G 1/8	5 µm	1350 l/min
0821300751			G 1/8	5 µm	1350 l/min
0821300752			G 1/8	5 µm	1350 l/min
0821300753		—	G 1/8	5 µm	1350 l/min
0821300754		—	G 1/8	5 µm	1350 l/min
0821300755		—	G 1/8	5 µm	1350 l/min
0821300756			G 1/4	5 µm	1350 l/min
0821300757			G 1/4	5 µm	1350 l/min
0821300758			G 1/4	5 µm	1350 l/min
0821300759		—	G 1/4	5 µm	1350 l/min
0821300760		—	G 1/4	5 µm	1350 l/min
0821300761		—	G 1/4	5 µm	1350 l/min

Part No.	Condensate drain	Pressure gauge	Reservoir
0821300750	semi-automatic, open without pressure	with pressure gauge	Polycarbonate
0821300751	semi-automatic, open without pressure	with pressure gauge	Die cast zinc
0821300752	fully automatic, open without pressure	with pressure gauge	Polycarbonate
0821300753	semi-automatic, open without pressure	-	Polycarbonate
0821300754	semi-automatic, open without pressure	-	Die cast zinc
0821300755	fully automatic, open without pressure	-	Polycarbonate
0821300756	semi-automatic, open without pressure	with pressure gauge	Polycarbonate

Part No.	Condensate drain	Pressure gauge	Reservoir
0821300757	semi-automatic, open without pressure	with pressure gauge	Die cast zinc
0821300758	fully automatic, open without pressure	with pressure gauge	Polycarbonate
0821300759	semi-automatic, open without pressure	-	Polycarbonate
0821300760	semi-automatic, open without pressure	-	Die cast zinc
0821300761	fully automatic, open without pressure	-	Polycarbonate

Part No.	Weight	
0821300750	0.334 kg	1)
0821300751	0.383 kg	1)
0821300752	0.387 kg	1)
0821300753	0.334 kg	2)
0821300754	0.383 kg	2)
0821300755	0.387 kg	2)
0821300756	0.334 kg	1)
0821300757	0.383 kg	1)
0821300758	0.387 kg	1)
0821300759	0.334 kg	2)
0821300760	0.383 kg	2)
0821300761	0.387 kg	2)

Nominal flow  $Q_n$  with secondary pressure  $p_2 = 6$  bar at  $\Delta p = 1$  bar

- 1) Pressure gauge enclosed separately, Metal protective guard can be retrofitted for all polycarbonate reservoirs.
- 2) Order pressure gauge separately, Metal protective guard can be retrofitted for all polycarbonate .

## Technical information

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

A change in the flow direction (from air supply on the left to air supply on the right) occurs by rotating installation by 180° about the vertical axis. Please see the operating instructions for further details.

Also suitable for separation of fluid oil or water due to the design.

The rear pressure gauge connection on the pressure regulator is closed with a blanking plug, the front connection is open. Depending on the customer application, a second blanking plug may be necessary. Please order separately (see accessories).

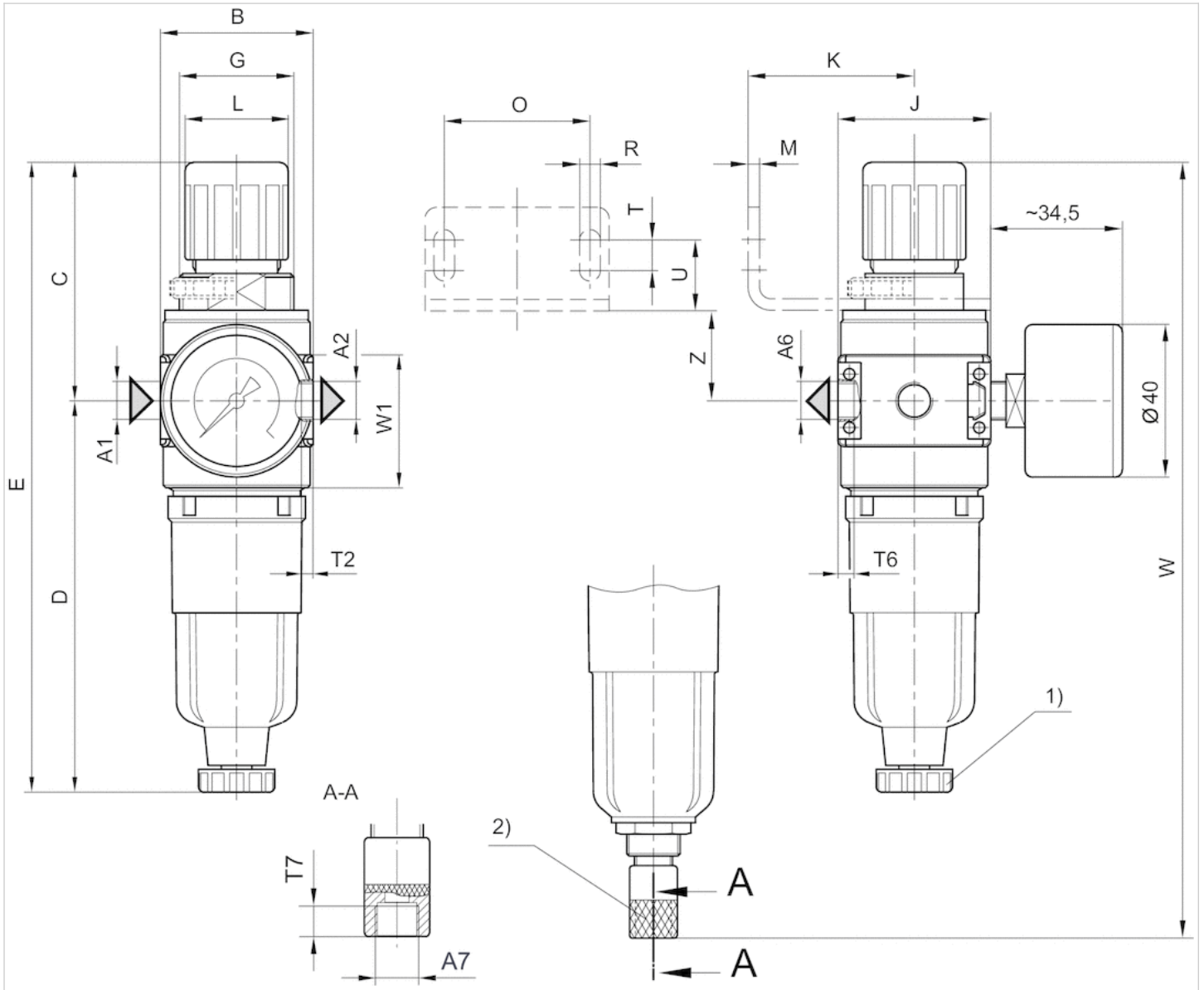
Max. achievable compressed air class acc. to ISO 8573-1:2010 6 : 7 : -

## Technical information

Material	
Housing	Die cast zinc
Front plate	Acrylonitrile butadiene styrene
Seals	Acrylonitrile butadiene rubber
Threaded bushing	Die cast zinc
Reservoir	Polycarbonate Die cast zinc
Filter insert	Polyethylene

# Dimensions

## Dimensions



- A1 = input
- A2 = output
- A4 = output
- A6 = output
- 1) Semi-automatic condensate drain
- 2) fully automatic condensate drain

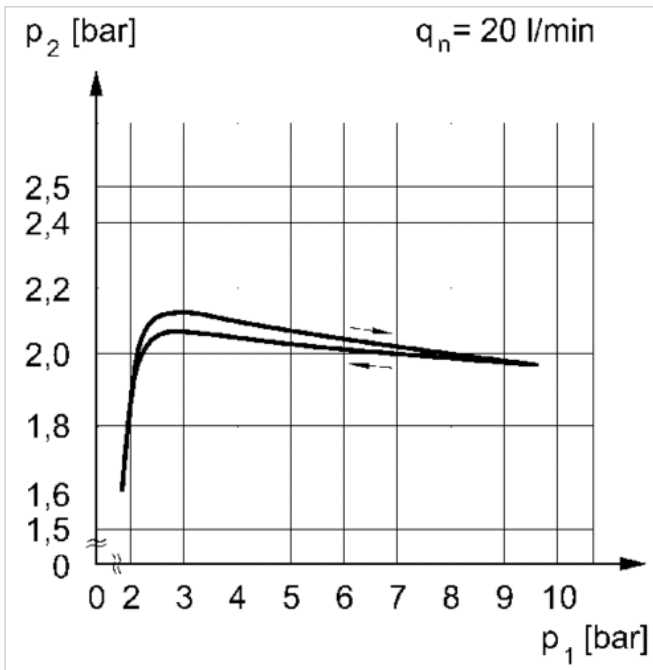
## Dimensions in mm

A1	A2	A3	A6	A7	B	C	D	E	G	J	K	L	M	O	R	T	T2	T6	T7	U
G 1/8	G 1/8	G 1/8	G 1/8	G 1/8	40	62.5	102.5	165	M30x1,5	40	43.5	27	3	38	5.4	8	8	6	8.5	18.5
G 1/4	G 1/4	G 1/8	G 1/8	G 1/8	40	62.5	102.5	165	M30x1,5	40	43.5	27	3	38	5.4	8	8	6	8.5	18.5

W					W1					Z				
203					44					24.5				
203					44					24.5				

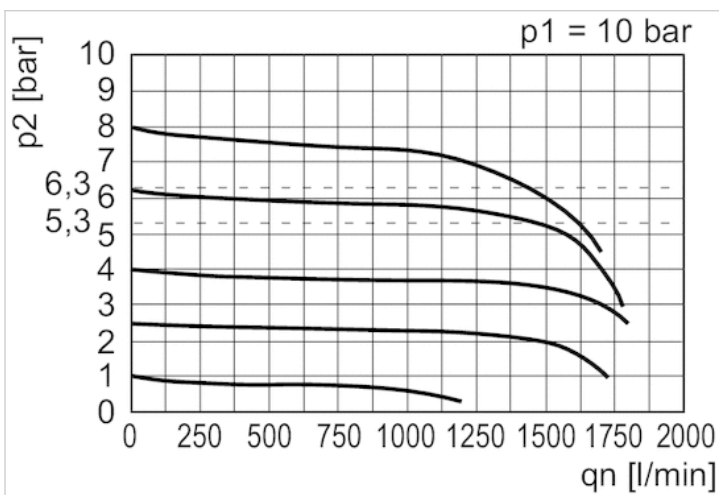
## Diagrams

### Pressure characteristics curve



$p_1$  = Working pressure  
 $p_2$  = Secondary pressure  
 $q_n$  = Nominal flow

### Flow rate characteristic



$p_1$  = Working pressure  
 $p_2$  = Secondary pressure  
 $q_n$  = Nominal flow

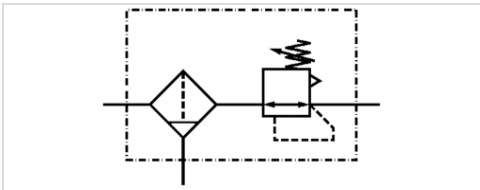


# Filter pressure regulator, Series NL1-FRE

- G 1/8 G 1/4

- filter porosity 5  $\mu\text{m}$

- -30 °C cold-resistant



Version	1-part, Can be assembled into blocks
Parts	Filter pressure regulator
Mounting orientation	vertical
Working pressure min./max.	1.5 ... 16 bar
Ambient temperature min./max.	-30 ... 50 °C
Medium temperature min./max.	-30 ... 50 °C
Medium	Compressed air Neutral gases
Nominal flow Qn	1350 l/min
Regulator type	Diaphragm-type pressure regulator
Regulator function	with relieving air exhaust
Adjustment range min./max.	0.5 ... 10 bar
Pressure supply	single
Filter reservoir volume	16 cm <sup>3</sup>
Filter element	exchangeable
Condensate drain	semi-automatic, open without pressure
Weight	0.334 kg

## Technical data

Part No.	Port	filter porosity	Flow	Condensate drain
			Qn	
R412007618	G 1/8	5 $\mu\text{m}$	1350 l/min	semi-automatic, open without pressure
R412007619	G 1/4	5 $\mu\text{m}$	1350 l/min	semi-automatic, open without pressure

Metal protective guard can be retrofitted for all polycarbonate reservoirs, Nominal flow Qn with secondary pressure  $p_2 = 6 \text{ bar}$  at  $\Delta p = 1 \text{ bar}$

Order pressure gauge separately

## Technical information

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

A change in the flow direction (from air supply on the left to air supply on the right) occurs by rotating installation by 180° about the vertical axis. Please see the operating instructions for further details.

Also suitable for separation of fluid oil or water due to the design.

The rear pressure gauge connection on the pressure regulator is closed with a blanking plug, the front connection is open. Depending on the customer application, a second blanking plug may be necessary. Please order separately (see accessories).

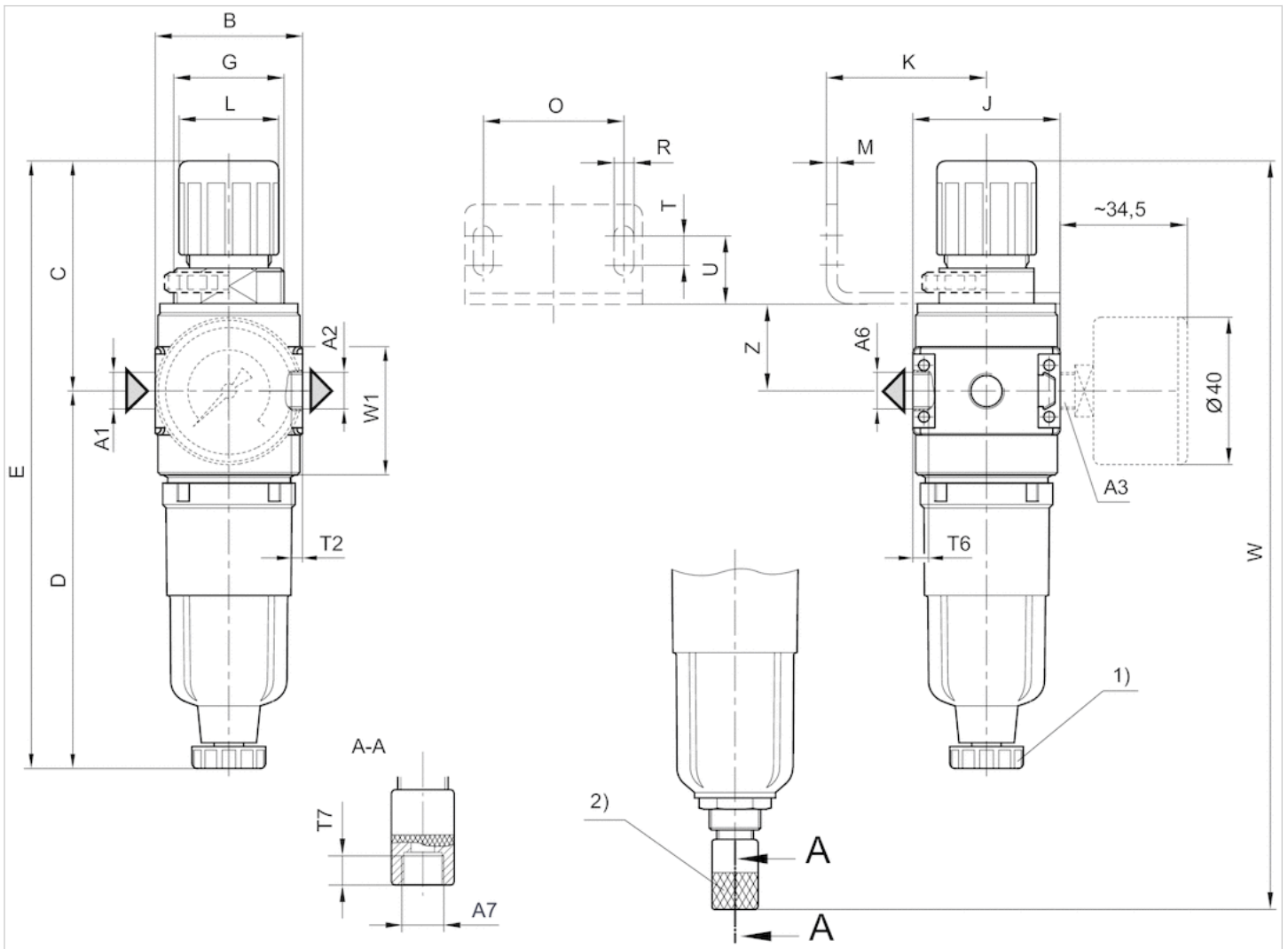
Max. achievable compressed air class acc. to ISO 8573-1:2010 6 : 7 : -

## Technical information

Material	
Housing	Die cast zinc
Front plate	Acrylonitrile butadiene styrene
Seals	Acrylonitrile butadiene rubber
Threaded bushing	Die cast zinc
Reservoir	Polycarbonate
Filter insert	Polyethylene

## Dimensions

### Dimensions



- A1 = input
- A2 = output
- A3 = output
- A6 = output
- A7 = condensate drain
- 1) Semi-automatic condensate drain
- 2) fully automatic condensate drain

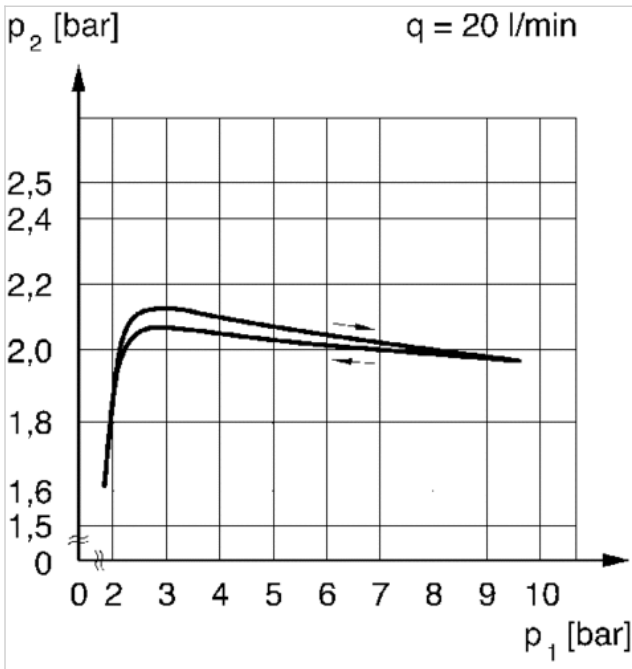
Dimensions in mm

A1	A2	A3	A6	A7	B	C	D	E	G	J	K	L	M	O	R	T	T2	T6	T7	U
G 1/8	G 1/8	G 1/8	G 1/8	G 1/8	40	62.5	102.5	165	M30x1,5	40	43.5	27	3	38	5.4	8	8	6	8.5	18.5
G 1/4	G 1/4	G 1/8	G 1/8	G 1/8	40	62.5	102.5	165	M30x1,5	40	43.5	27	3	38	5.4	8	8	6	8.5	18.5

W	W1	Z
203	44	24.5
203	44	24.5

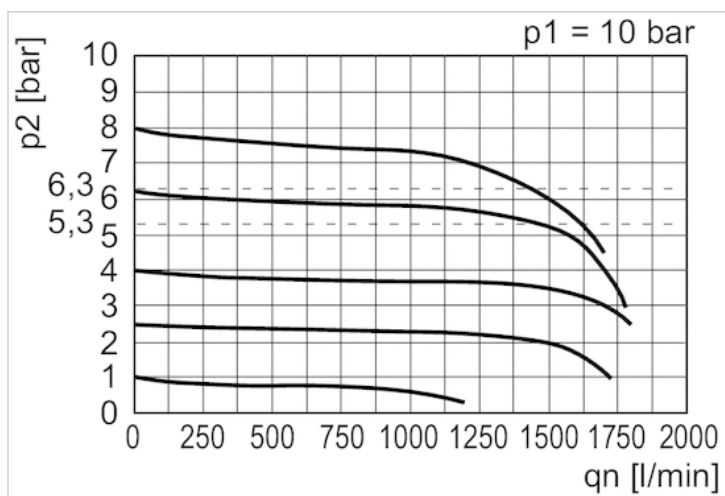
Diagrams

Pressure characteristics curve



p1 = working pressure  
 p2 = secondary pressure  
 q = flow rate

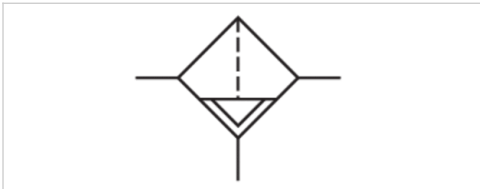
## Flow rate characteristic



$p_1$  = Working pressure  
 $p_2$  = Secondary pressure  
 $q_n$  = Nominal flow

# Filter, Series NL1-FLS

- G 1/8 G 1/4
- filter porosity 5 µm



Version	Standard filter, Can be assembled into blocks
Parts	Filter
Mounting orientation	vertical
Working pressure min./max.	1.5 ... 16 bar
Ambient temperature min./max.	-10 ... 60 °C
Medium temperature min./max.	-10 ... 60 °C
Medium	Compressed air Neutral gases
Filter reservoir volume	16 cm <sup>3</sup>
Filter element	exchangeable
filter porosity	5 µm
Condensate drain	See table below
Weight	See table below

## Technical data

Part No.	Port	Flow Qn	Condensate drain
0821303710	G 1/8	1000 l/min	semi-automatic, open without pressure
0821303711	G 1/8	1000 l/min	semi-automatic, open without pressure
0821303712	G 1/8	1000 l/min	fully automatic, open without pressure
0821303713	G 1/4	1000 l/min	semi-automatic, open without pressure
0821303714	G 1/4	1000 l/min	semi-automatic, open without pressure
0821303715	G 1/4	1000 l/min	fully automatic, open without pressure

Part No.	Version	Weight
0821303710	reservoir, polycarbonate, without protective guard	0.334 kg
0821303711	Metal reservoir without window	0.259 kg
0821303712	reservoir, polycarbonate, without protective guard	0.263 kg
0821303713	reservoir, polycarbonate, without protective guard	0.21 kg
0821303714	Metal reservoir without window	0.259 kg
0821303715	reservoir, polycarbonate, without protective guard	0.263 kg

Nominal flow Qn with secondary pressure p<sub>2</sub> = 6 bar at Δp = 1 bar

Metal protective guard can be retrofitted for all polycarbonate reservoirs

## Technical information

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

Note: Polycarbonate reservoirs are susceptible to solvents, supplementary information can be found at "Customer information". A change in the flow direction (from air supply on the left to air supply on the right) occurs by rotating installation by 180° about the vertical axis. Please see the operating instructions for further details.

Also suitable for separation of fluid oil or water due to the design.

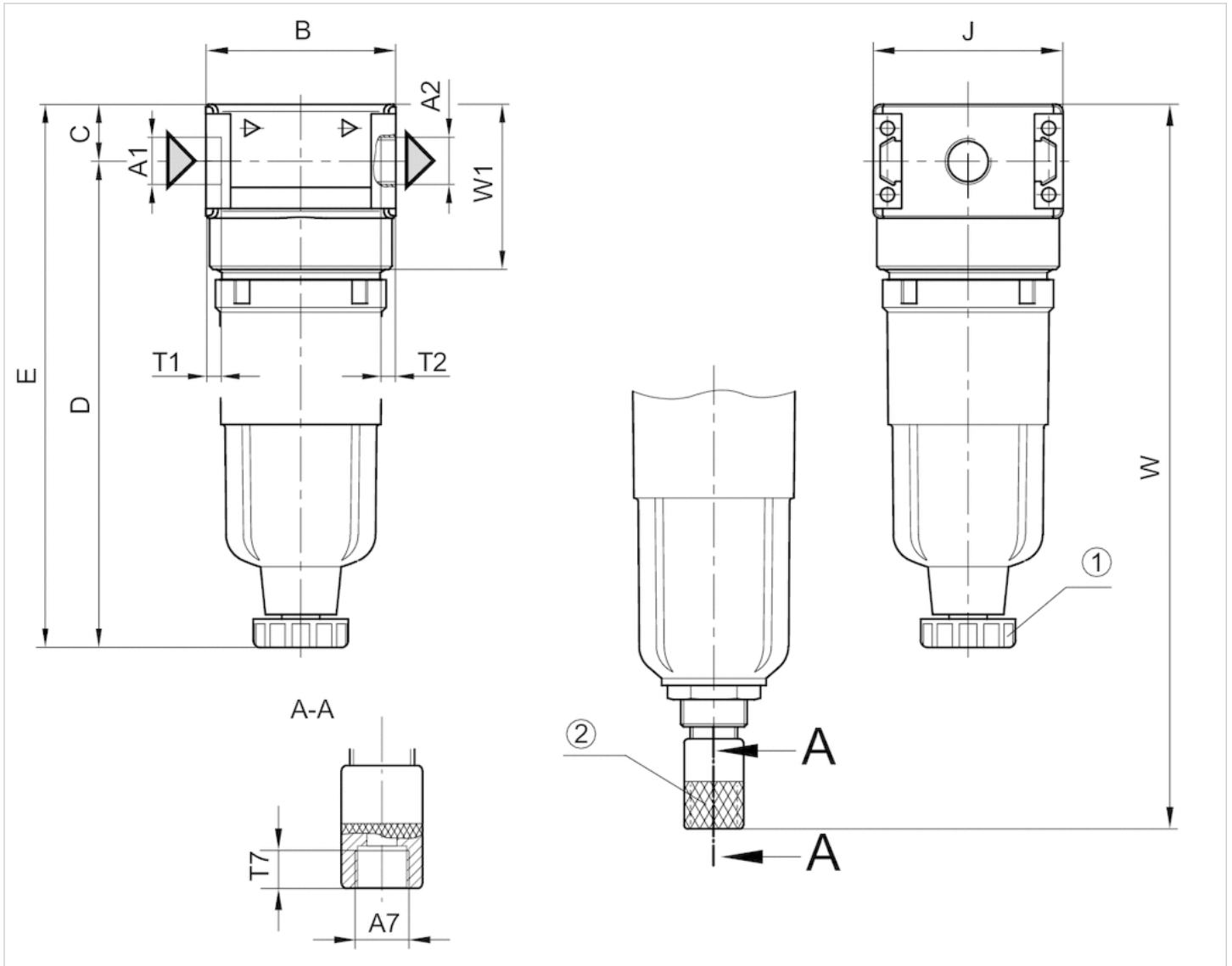
Max. achievable compressed air class acc. to ISO 8573-1:2010 6 : 7 : -

## Technical information

Material	
Housing	Die cast zinc
Seals	Acrylonitrile butadiene rubber
Reservoir	Polycarbonate Die cast zinc
Filter insert	Cellpor

## Dimensions

### Dimensions



A1 = input

A2 = output

1) Semi-automatic condensate drain

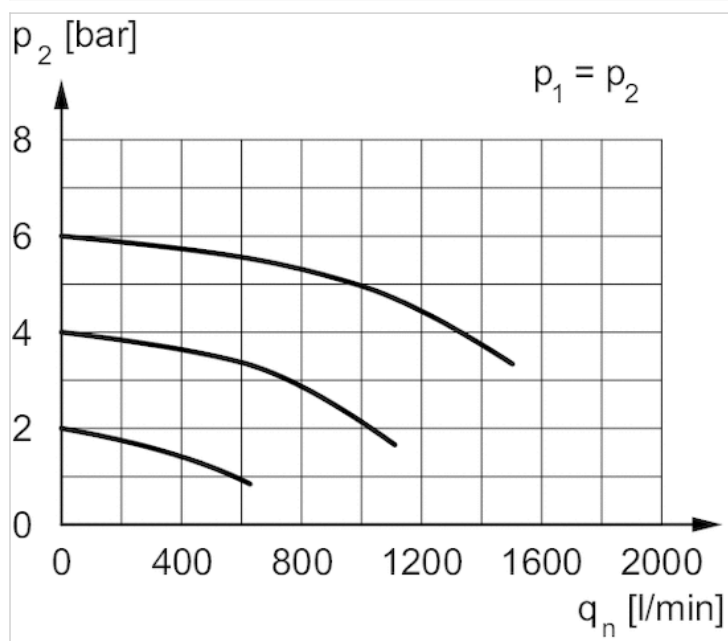
2) fully automatic condensate drain

### Dimensions in mm

A1	A2	A7	B	C	D	E	J	T1	T2	T7	W	W1
G 1/8	G 1/8	G 1/8	40	12.3	102.5	114.8	40	8	8	8.5	-	35.1
G 1/8	G 1/8	G 1/8	40	12.3	-	114	40	8	8	8.5	-	35.1
G 1/8	G 1/8	G 1/8	40	12.3	-	-	40	8	8	8.5	154	35.1
G 1/4	G 1/4	G 1/8	40	12.3	102.5	114.8	40	8	8	8.5	-	35.1
G 1/4	G 1/4	G 1/8	40	12.3	-	114	40	8	8	8.5	-	35.1
G 1/4	G 1/4	G 1/8	40	12.3	-	-	40	8	8	8.5	154	35.1

## Diagrams

## Flow rate characteristic



$p_2$  = secondary pressure  
 $q_n$  = nominal flow



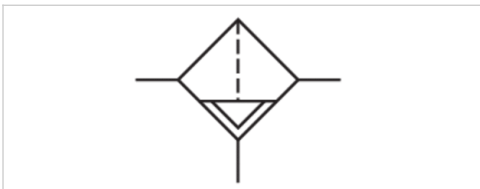
# Microfilter, Series NL1-FLC

- G 1/8 G 1/4

- filter porosity 0.01 µm



Version	Microfilter, Can be assembled into blocks
Parts	Microfilter
Mounting orientation	vertical
Working pressure min./max.	1.5 ... 16 bar
Ambient temperature min./max.	-10 ... 60 °C
Medium temperature min./max.	-10 ... 60 °C
Medium	Compressed air Neutral gases
Filter reservoir volume	16 cm <sup>3</sup>
Filter element	exchangeable
filter porosity	0.01 µm
Condensate drain	See table below
Weight	See table below



## Technical data

Part No.	Port	Flow Qn	Condensate drain	Weight
0821303716	G 1/8	170 l/min	semi-automatic, open without pressure	0.21 kg
0821303717	G 1/8	170 l/min	fully automatic, open without pressure	0.263 kg
0821303718	G 1/4	450 l/min	semi-automatic, open without pressure	0.23 kg

Nominal flow Qn with secondary pressure p<sub>2</sub> = 6 bar at Δp = 0.1 bar

## Technical information

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

Note: Polycarbonate reservoirs are susceptible to solvents, supplementary information can be found at "Customer information". A change in the flow direction (from air supply on the left to air supply on the right) occurs by rotating installation by 180° about the vertical axis. Please see the operating instructions for further details.

Recommended pre-filtering 0.3 µm

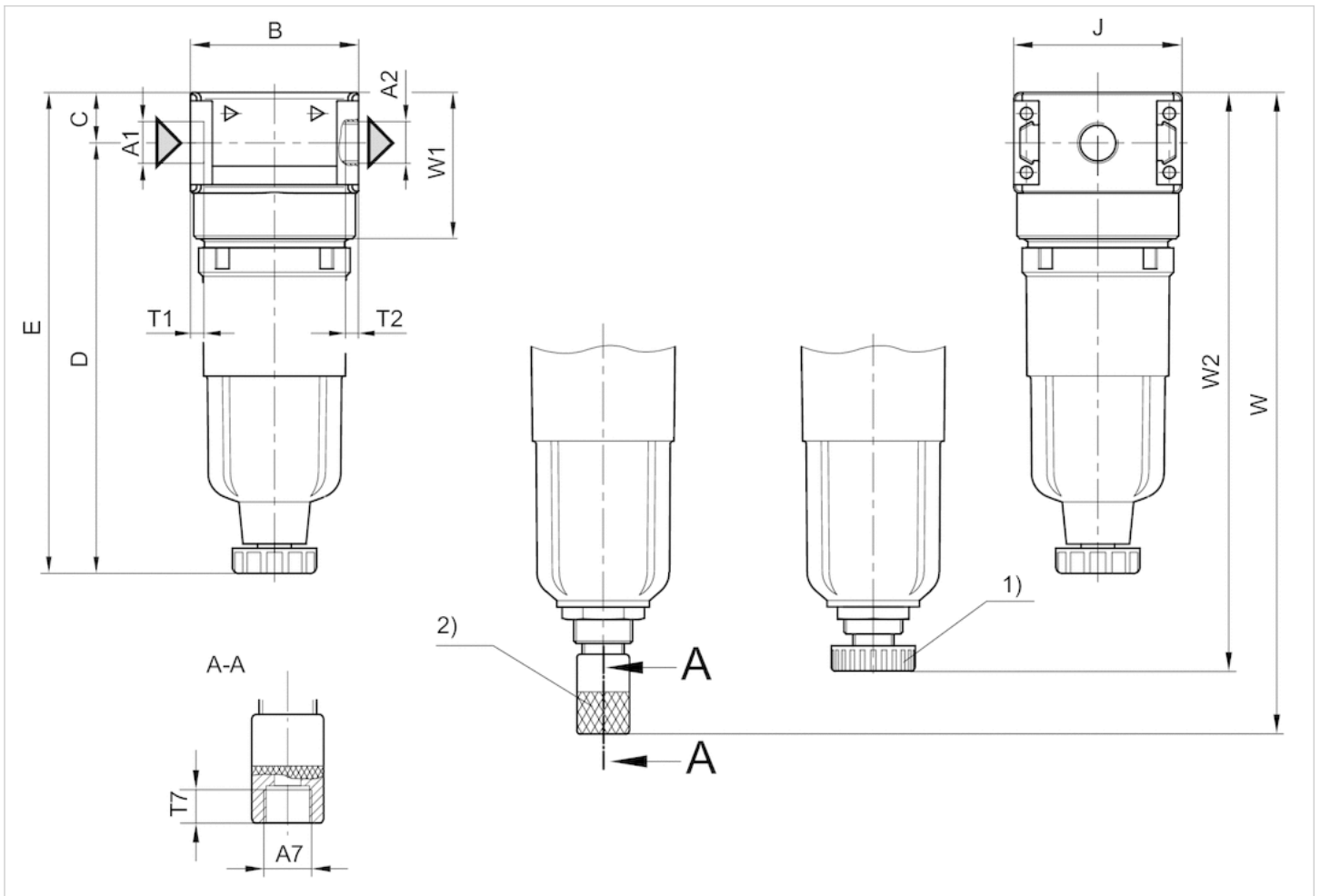
Max. achievable compressed air class acc. to ISO 8573-1:2010 1 : - : 2

## Technical information

Material	
Housing	Die cast zinc
Front plate	Acrylonitrile butadiene styrene
Seals	Acrylonitrile butadiene rubber
Threaded bushing	Die cast zinc
Reservoir	Polycarbonate
Filter insert	Borosilicate glass fiber

## Dimensions

### Dimensions



A1 = input

A2 = output

1) Semi-automatic condensate drain

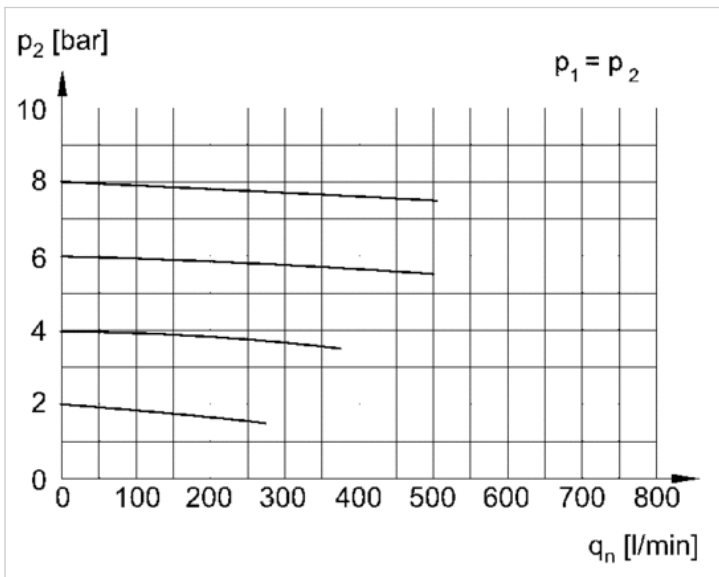
2) fully automatic condensate drain

Dimensions in mm

A1	A2	A7	B	C	D	E	J	T1	T2	T7	W	W1	W2
G 1/8	G 1/8	G 1/8	40	12.3	102.5	114.8	40	8	8	8.5	153	35.1	-
G 1/4	G 1/4	G 1/8	40	12.3	-	-	40	8	8	8.5	-	35.1	138

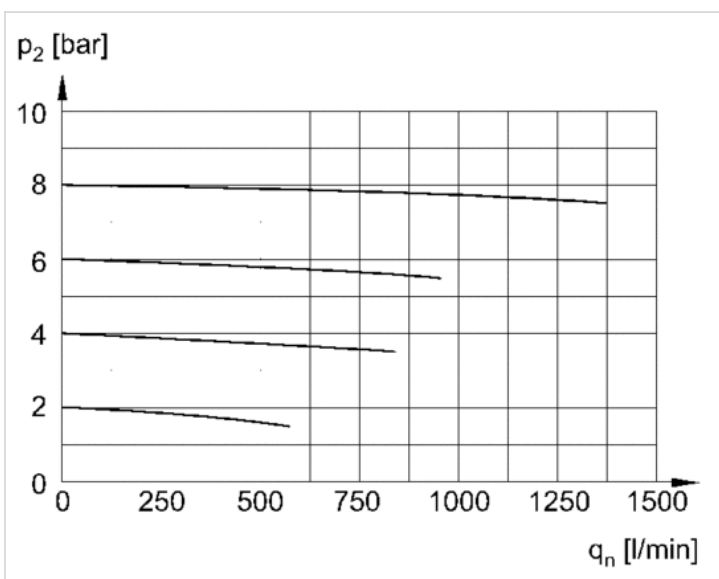
Diagrams

Flow rate characteristic G1/8



p2 = secondary pressure  
qn = nominal flow

Flow rate characteristic G1/4



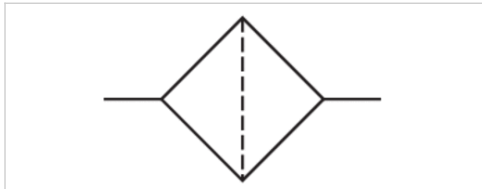
p2 = secondary pressure  
qn = nominal flow

# Active carbon filter, Series NL1-FLA

- G 1/8 G 1/4



Version	Active carbon filter, Can be assembled into blocks
Parts	Active carbon filter
Mounting orientation	vertical
Working pressure min./max.	0.5 ... 16 bar
Ambient temperature min./max.	-10 ... 60 °C
Medium temperature min./max.	-10 ... 60 °C
Medium	Compressed air Neutral gases
Filter reservoir volume	16 cm <sup>3</sup>
Filter element	exchangeable
Weight	See table below



## Technical data

Part No.	Port	Flow Qn	Weight
0821303720	G 1/8	310 l/min	0.19 kg
0821303721	G 1/4	380 l/min	0.21 kg

Nominal flow Qn with secondary pressure p<sub>2</sub> = 6 bar at Δp = 0.1 bar

Metal protective guard can be retrofitted for all polycarbonate reservoirs

## Technical information

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

Note: Polycarbonate reservoirs are susceptible to solvents, supplementary information can be found at "Customer information". A change in the flow direction (from air supply on the left to air supply on the right) occurs by rotating installation by 180° about the vertical axis. Please see the operating instructions for further details.

Recommended pre-filtering 0.01 μm

Max. achievable compressed air class acc. to ISO 8573-1:2010 - : - : 1

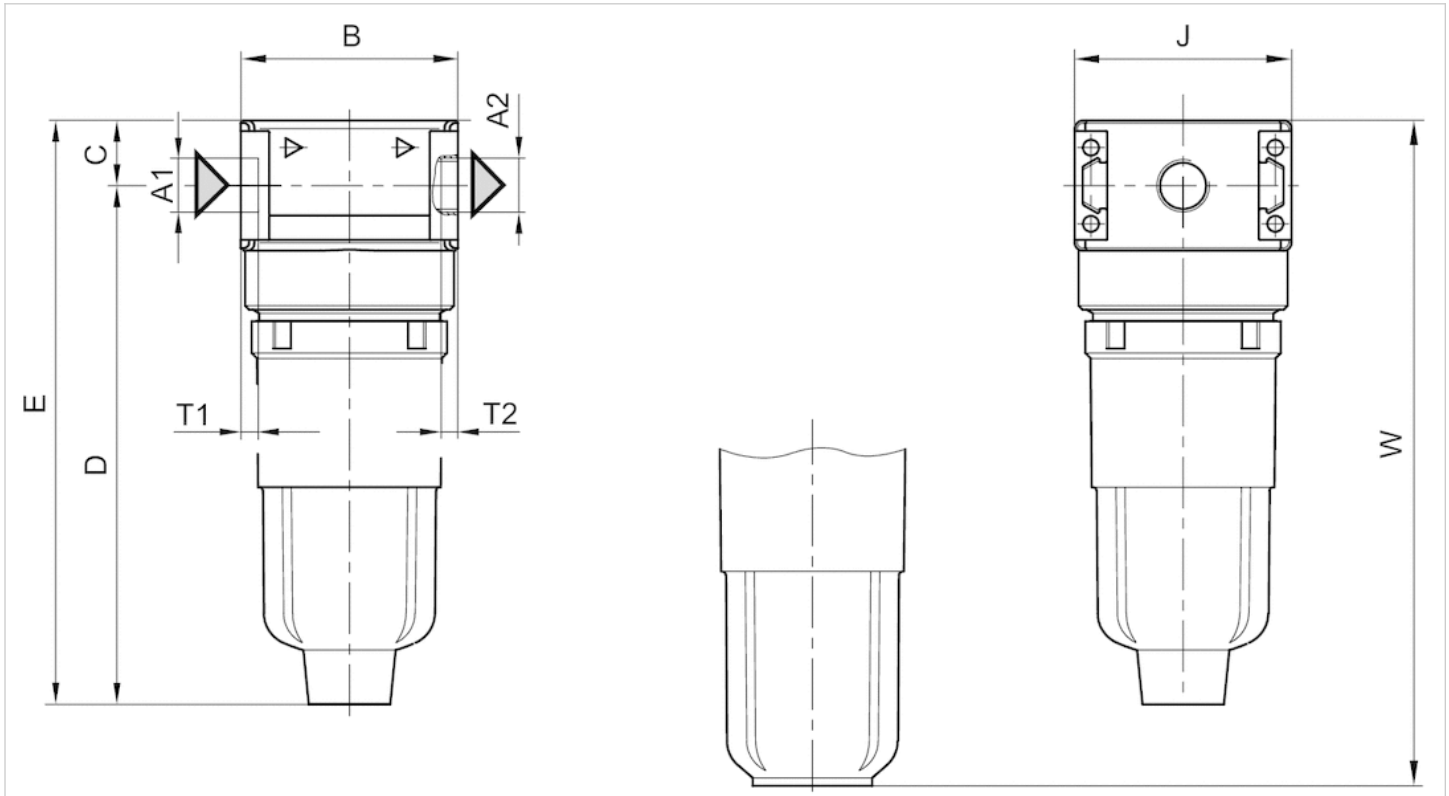
## Technical information

Material	
Housing	Die cast zinc
Seals	Acrylonitrile butadiene rubber
Reservoir	Polycarbonate

Material	
Filter insert	Active carbon

## Dimensions

### Dimensions



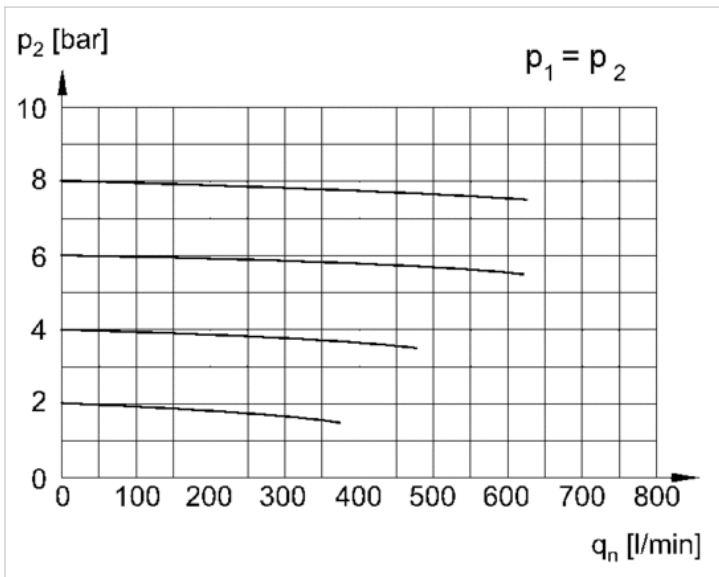
A1 = input  
A2 = output

### Dimensions in mm

A1	A2	B	C	D	E	J	T1	T2	W
G 1/8	G 1/8	40	12.3	95.5	108	40	8	8	-
G 1/4	G 1/4	40	12.3	-	-	40	8	8	123

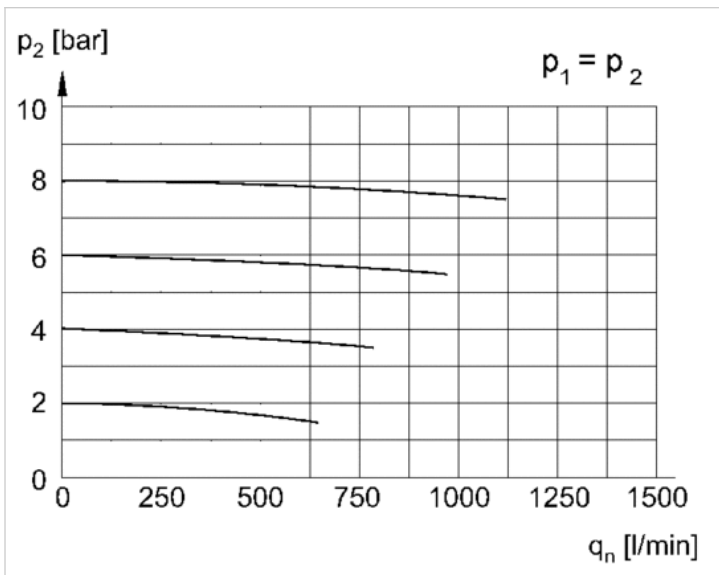
## Diagrams

### Flow rate characteristic G1/8



p2 = secondary pressure  
qn = nominal flow

### Flow rate characteristic G1/4



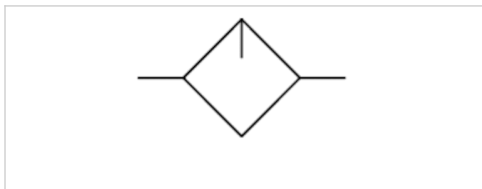
p2 = secondary pressure  
qn = nominal flow

# Micro oil-mist lubricator, Series NL1-LBM

- G 1/8 G 1/4



Version	Micro oil-mist lubricator, Can be assembled into blocks
Parts	Micro oil-mist lubricator
Mounting orientation	vertical
Working pressure min./max.	0.5 ... 16 bar
Ambient temperature min./max.	-10 ... 60 °C
Medium temperature min./max.	-10 ... 60 °C
Medium	Compressed air Neutral gases
Lubricator reservoir volume	35 cm <sup>3</sup>
Type of filling	Manual oil filling
Weight	See table below



## Technical data

Part No.	Port	Nominal flow Qn	Material Reservoir
0821301702	G 1/8	1000 l/min	Polycarbonate
0821301703	G 1/8	1000 l/min	Die cast zinc
0821301704	G 1/4	1000 l/min	Polycarbonate
0821301705	G 1/4	1000 l/min	Die cast zinc

Part No.	Reservoir	Weight
0821301702	reservoir, polycarbonate, without protective guard	0.23 kg
0821301703	reservoir, metal, standard, without inspection glass	0.262 kg
0821301704	reservoir, polycarbonate, without protective guard	0.23 kg
0821301705	reservoir, metal, standard, without inspection glass	0.262 kg

Nominal flow Qn with secondary pressure p2 = 6 bar at Δp = 1 bar  
 Metal protective guard can be retrofitted for all polycarbonate reservoirs

## Technical information

The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .  
 Only approx. 10% of the preset drip quantity enters the compressed air system.  
 oil filling not possible during operation.

Note: Polycarbonate reservoirs are susceptible to solvents, supplementary information can be found at "Customer information". A change in the flow direction (from air supply on the left to air supply on the right) occurs by rotating installation by 180° about the vertical axis. Please see the operating instructions for further details.

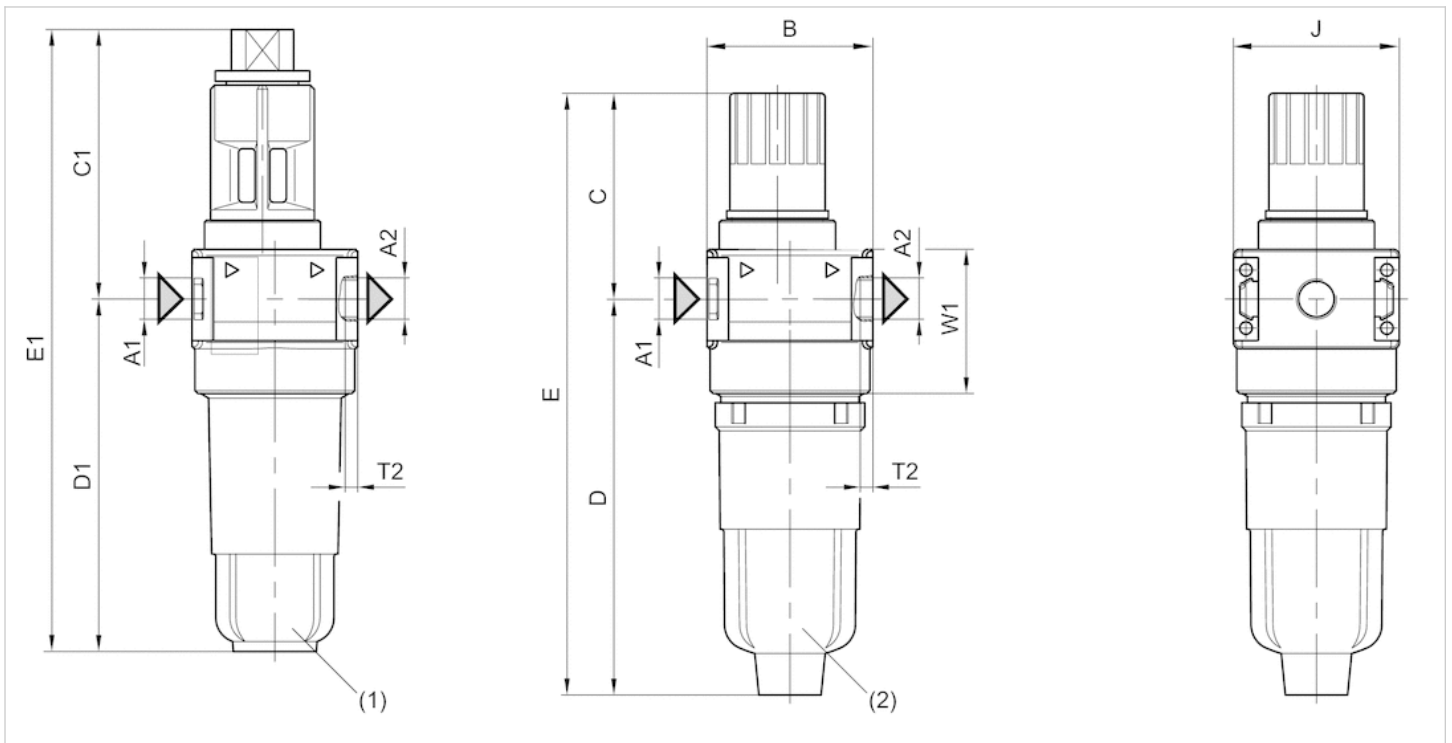
Oil dosing at 1000 l/min 10-20 drops

## Technical information

Material	
Housing	Die cast zinc
Seals	Acrylonitrile butadiene rubber
Reservoir	Polycarbonate Die cast zinc

## Dimensions

### Dimensions



- A1 = input
- A2 = output
- 1) Metal reservoir
- 2) PC reservoir

### Dimensions in mm

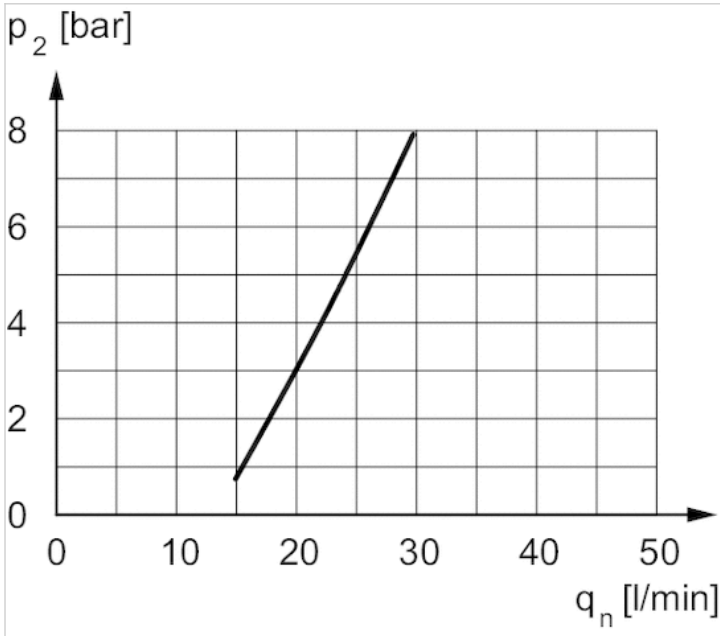
A1	A2	B	C	C1	D	D1	E	E1	J	T2	W1
G 1/8	G 1/8	40	50	65	95.5	85	145.5	150	40	8	35



A1	A2	B	C	C1	D	D1	E	E1	J	T2	W1
G 1/4	G 1/4	40	50	65	95.5	85	145.5	150	40	8	35

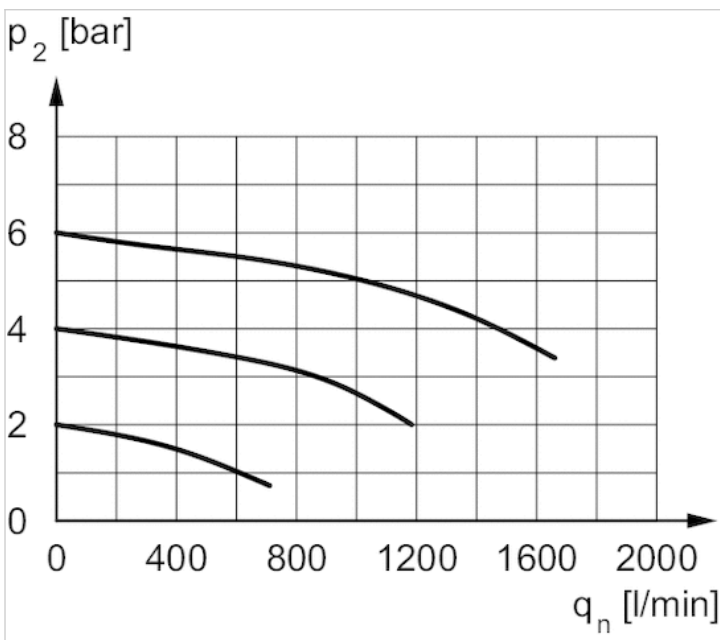
## Diagrams

minimum flow rate curve (flow rate necessary for the correct functioning of the lubricator)



$p_2$  = secondary pressure  
 $q_{nmin.}$  = min. nominal flow

## Flow rate characteristic



$p_2$  = secondary pressure  
 $q_n$  = nominal flow






# Filling unit, electrically operated, Series NL1-SSU

- Compressed air connection G 1/4
- Pipe connection



Version	Poppet valve, Can be assembled into blocks
Parts	Filling valve, 3/2-directional valve, electrically operated
Nominal flow 1 ▶ 2	2000 l/min
Nominal flow 2 ▶ 3	800 l/min
Working pressure min./max.	2.5 ... 10 bar
Medium	Compressed air Neutral gases
Medium temperature min./max.	-10 ... 60 °C
Ambient temperature min./max.	-10 ... 60 °C
Pilot	Internal
Sealing principle	Soft sealing
Max. particle size	5 µm
Protection class acc. to DIN EN 61140 with plug	IP65
Duty cycle	100 %
Weight	See table below

## Technical data

Part No.			Compressed air connection input	Compressed air connection output	Exhaust
0821300796		—	G 1/4	G 1/4	G 1/4
0821300797		—	G 1/4	G 1/4	G 1/4
0821300798		—	G 1/4	G 1/4	G 1/4
0821300799			G 1/4	G 1/4	G 1/4

Part No.	Operational voltage		Operational voltage	
	DC	AC 50 Hz	AC 60 Hz	
0821300796	24 V	-	-	
0821300797	-	230 V	230 V	
0821300798	-	-	-	
0821300799	-	-	-	

Part No.	Power consumption		Holding power		Switch-on power		Manual override
	DC	AC 50 Hz	AC 50 Hz	AC 50 Hz			
0821300796	4.8 W	-	-	-	-	-	
0821300797	-	8.5 VA	8.5 VA	11.8 VA	-	-	
0821300798	-	-	-	-	-	with detent	
0821300799	-	-	-	-	-	-	

Part No.	Electrical connection		Connector standard	basic valve with electrical connector
	Pilot valve			
0821300796	Plug, ISO 6952, form B		ISO 6952	-

Part No.	Electrical connection	Connector standard	basic valve with electrical connector
	Pilot valve		
0821300797	Plug, ISO 6952, form B	ISO 6952	-
0821300798	-	-	pilot valve without coil
0821300799	-	-	pilot valve without coil

Part No.	Reverse polarity protection	Weight
0821300796	Protected against polarity reversal	0.88 kg
0821300797	Protected against polarity reversal	0.88 kg
0821300798	-	0.85 kg
0821300799	-	0.85 kg

Nominal flow  $Q_n$  with secondary pressure  $p_2 = 6$  bar at  $\Delta p = 1$  bar  
adjustable filling

## Technical information

The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .  
The filling valve builds up pressure slowly in the pneumatic systems, i.e. prevents a sudden pressure build-up during a recommissioning after a mains pressure failure or avoids emergency OFF switching. This allows dangerous abrupt cylinder motions to be avoided.

Do not position filling valves or filling units upstream of open consumers, such as nozzles, air barriers, air curtains, since these may prevent through connection of components.

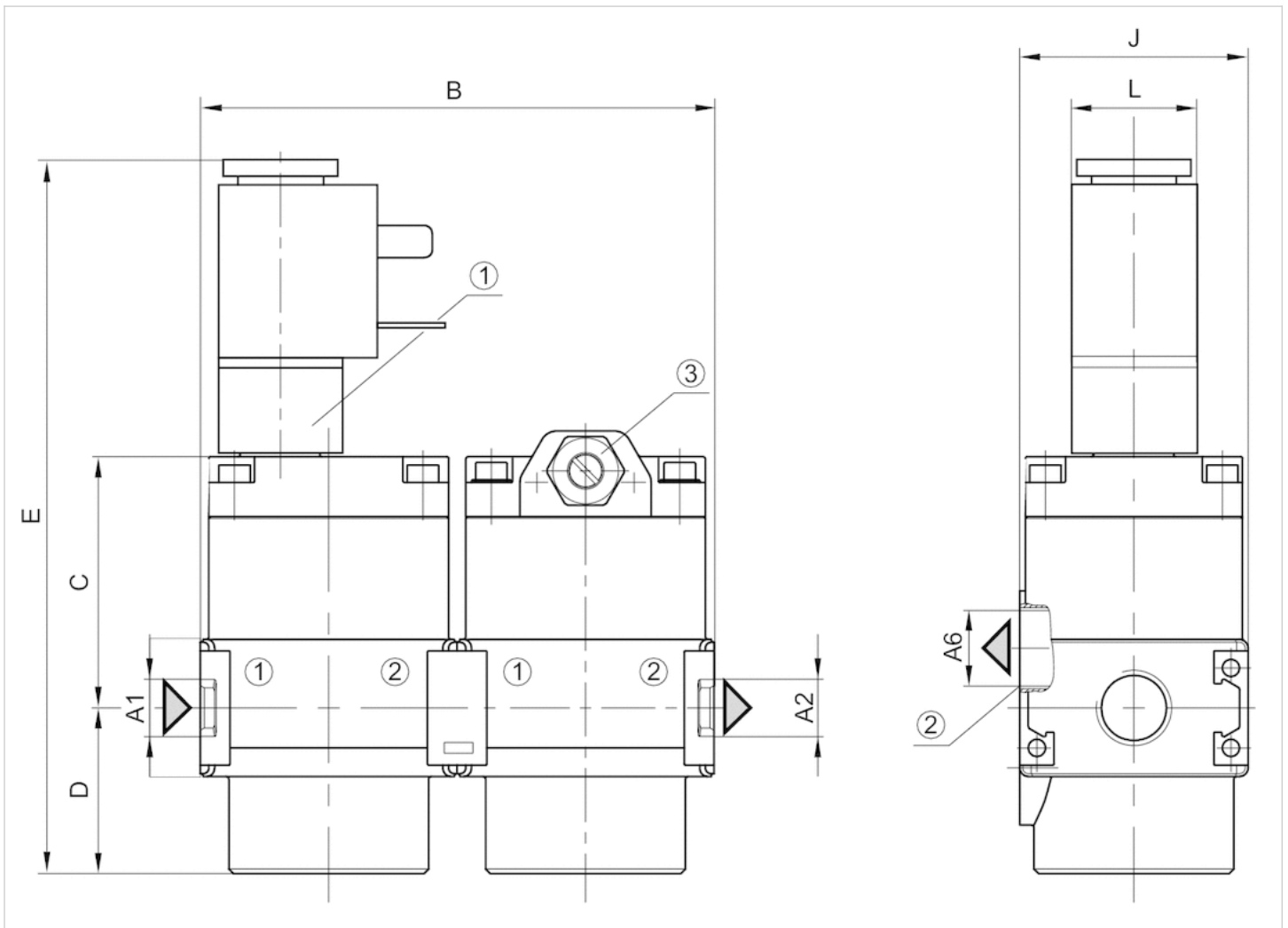
A change in the flow direction (from air supply on the left to air supply on the right) occurs by rotating installation by 180° about the vertical axis. Please see the operating instructions for further details.

## Technical information

Material	
Housing	Die cast zinc
Front plate	Acrylonitrile butadiene styrene
Seals	Acrylonitrile butadiene styrene
Threaded bushing	Die cast zinc

## Dimensions

### Dimensions



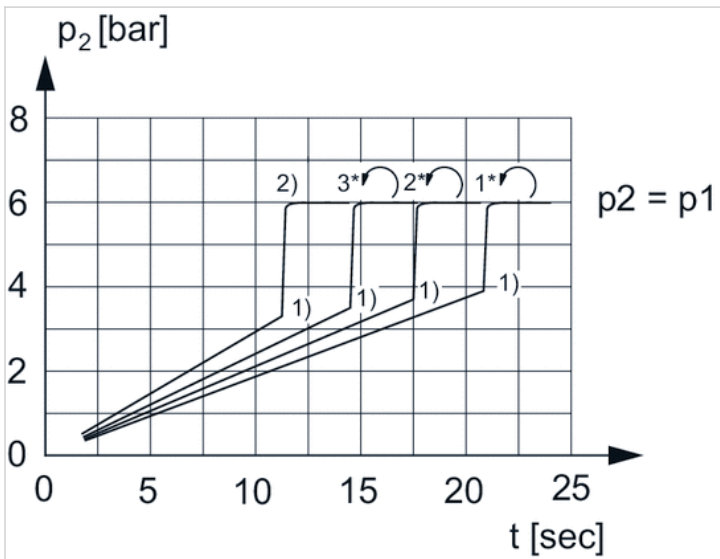
- A1 = input
- A2 = output
- A6 = output
- 1) electrically operated
- 2) exhaust
- 3) Adjustment screw for filling time

### Dimensions in mm

A1	A2	A6	B	C	D	E	J	L	L1	W
G 1/4	G 1/4	G 1/4	90	44.5	29	124.5	40	22	22	89.5

## Diagrams

### secondary pressure while filling



p1 = working pressure

p2 = secondary pressure

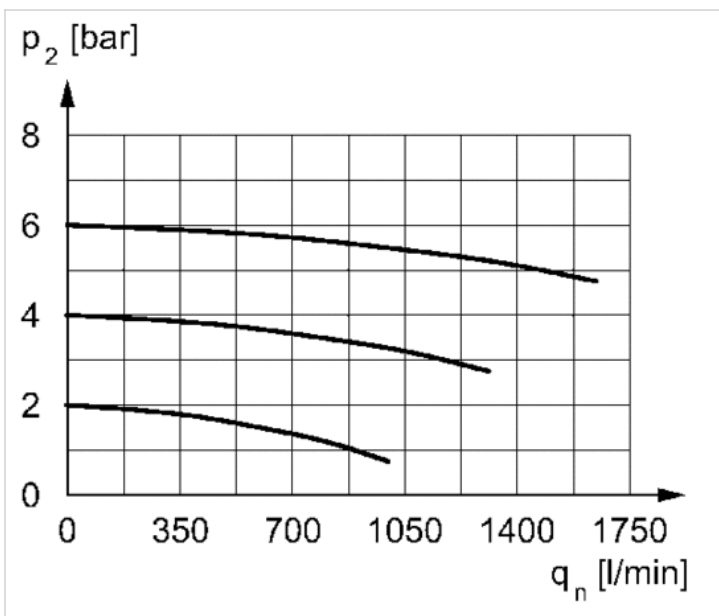
t = filling time, adjustable via adjustment screw (throttle)

1) Switching point: adjustable filling time, fixed change-over pressure  $\approx 0.5 \times p1$  (50%)

2) Throttle fully opened

\* Adjustment screw rotations

### Flow rate characteristic



p2 = secondary pressure

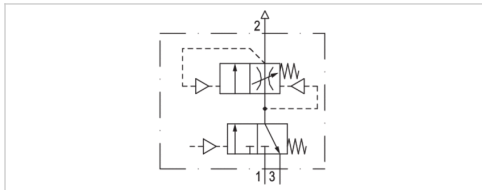
qn = nominal flow

# Filling unit, pneumatically operated, Series NL1-SSU

- Compressed air connection G 1/4
- Pipe connection



Version	Poppet valve, Can be assembled into blocks
Pilot	Internal
Sealing principle	Soft sealing
Working pressure min./max.	0 ... 16 bar
Control pressure min./max.	2.5 ... 16 bar
Ambient temperature min./max.	-10 ... 60 °C
Medium temperature min./max.	-10 ... 60 °C
Medium	Compressed air Neutral gases
Max. particle size	5 µm
Weight	0.83 kg



## Technical data

Part No.	Port	Exhaust	Flow	
			Qn 1→2	Qn 2→3
0821300795	G 1/4	G 1/4	2000 l/min	800 l/min

Nominal flow Qn with secondary pressure p2 = 6 bar at Δp = 1 bar

## Technical information

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

The filling valve builds up pressure slowly in the pneumatic systems, i.e. prevents a sudden pressure build-up during a recommissioning after a mains pressure failure or avoids emergency OFF switching. This allows dangerous abrupt cylinder motions to be avoided.

Do not position filling valves or filling units upstream of open consumers, such as nozzles, air barriers, air curtains, since these may prevent through connection of components.

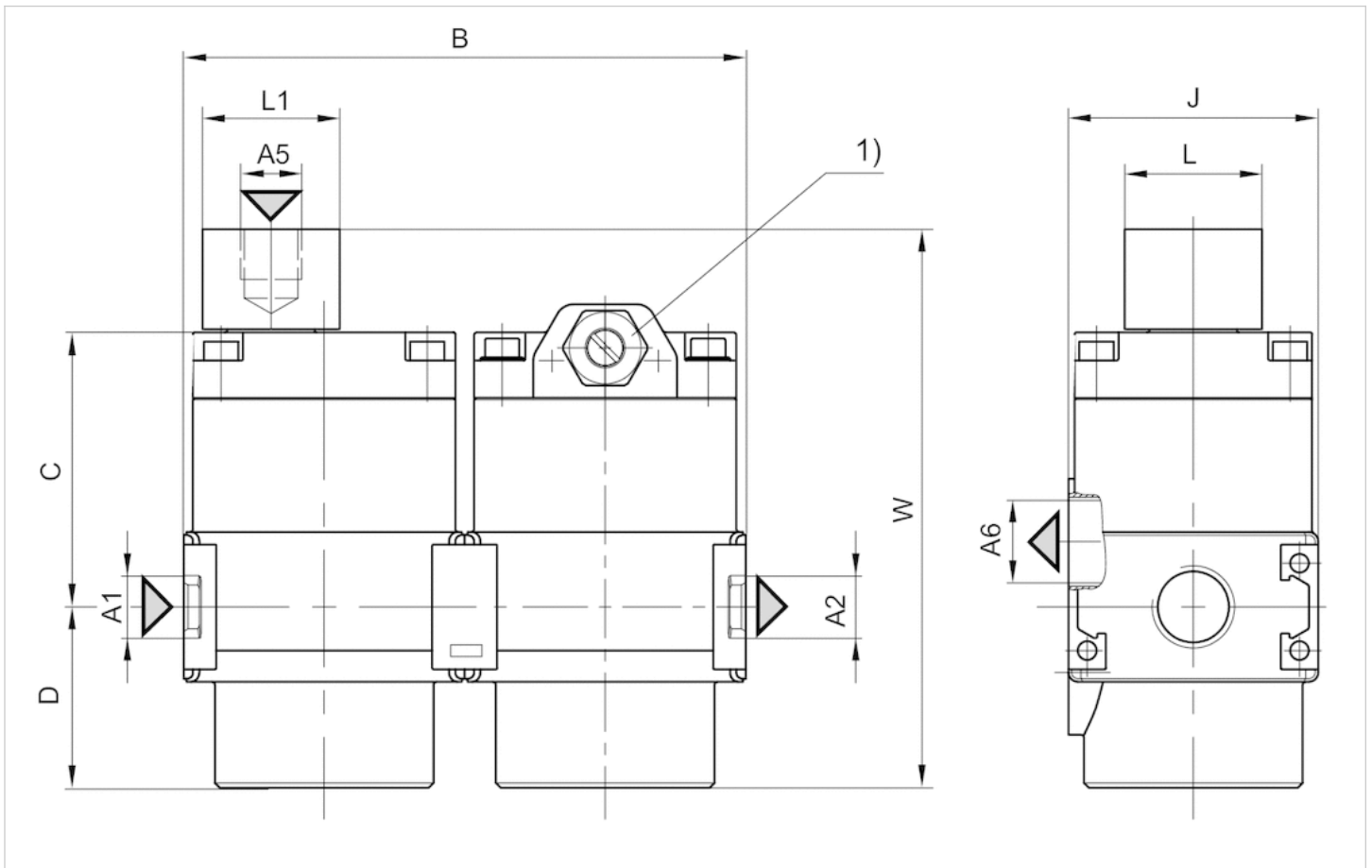
A change in the flow direction (from air supply on the left to air supply on the right) occurs by rotating installation by 180° about the vertical axis. Please see the operating instructions for further details.

## Technical information

Material	
Housing	Die cast zinc
Front plate	Acrylonitrile butadiene styrene
Seals	Acrylonitrile butadiene rubber
Threaded bushing	Die cast zinc

## Dimensions

### Dimensions



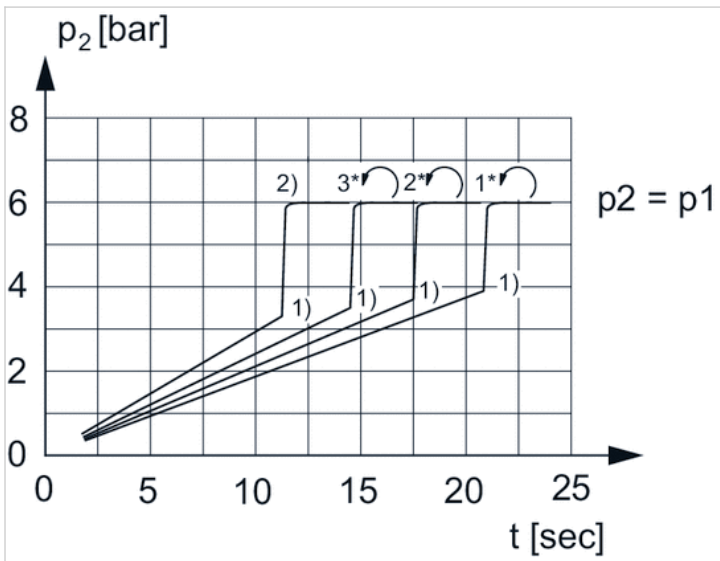
- A1 = input
- A2 = output
- A5 = control pressure connection
- A6 = ventilation port
- 1) Adjustment screw for filling time

### Dimensions in mm

A1	A2	A5	A6	B	C	D	J	L	L1	W
G 1/4	G 1/4	G1/8	G 1/4	90	44.5	29	40	22	22	89.5

## Diagrams

### secondary pressure while filling



p1 = working pressure

p2 = secondary pressure

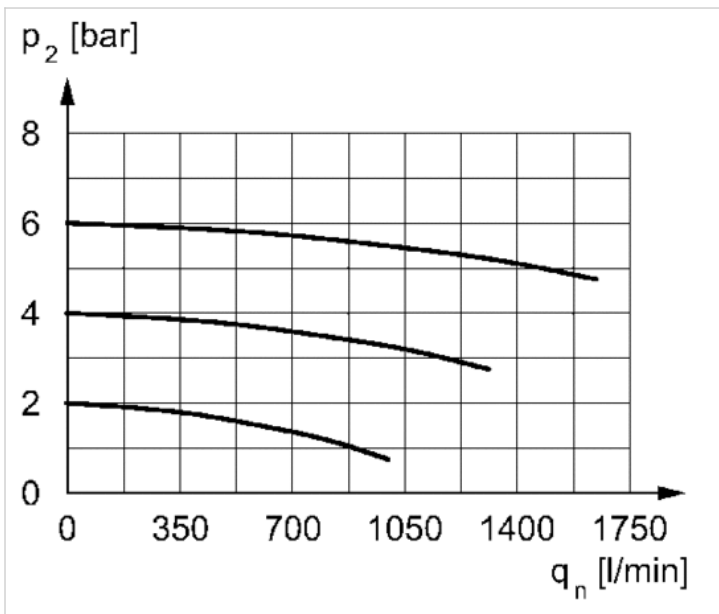
t = filling time, adjustable via adjustment screw (throttle)

1) Switching point: adjustable filling time, fixed change-over pressure  $\approx 0.5 \times p1$  (50%)

2) Throttle fully opened

\* Adjustment screw rotations

### Flow rate characteristic



p2 = secondary pressure

qn = nominal flow

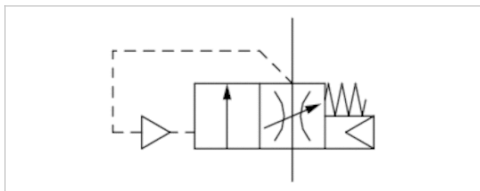


# Filling valve, pneumatically operated, Series NL1-SSV

- adjustable filling time
- Compressed air connection G 1/4
- Pipe connection



Version	Poppet valve, Can be assembled into blocks
Sealing principle	Soft sealing
Working pressure min./max.	0 ... 16 bar
Control pressure min./max.	2.5 ... 16 bar
Ambient temperature min./max.	-10 ... 60 °C
Medium temperature min./max.	-10 ... 60 °C
Medium	Compressed air Neutral gases
Max. particle size	5 µm
Weight	0.43 kg



## Technical data

Part No.	Port	Flow
		Qn
0821300774	G 1/4	2200 l/min

Nominal flow Qn with secondary pressure  $p_2 = 6$  bar at  $\Delta p = 1$  bar

## Technical information

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

The filling valve builds up pressure slowly in the pneumatic systems, i.e. prevents a sudden pressure build-up during a recommissioning after a mains pressure failure or avoids emergency OFF switching. This allows dangerous abrupt cylinder motions to be avoided.

Do not position filling valves or filling units upstream of open consumers, such as nozzles, air barriers, air curtains, since these may prevent through connection of components.

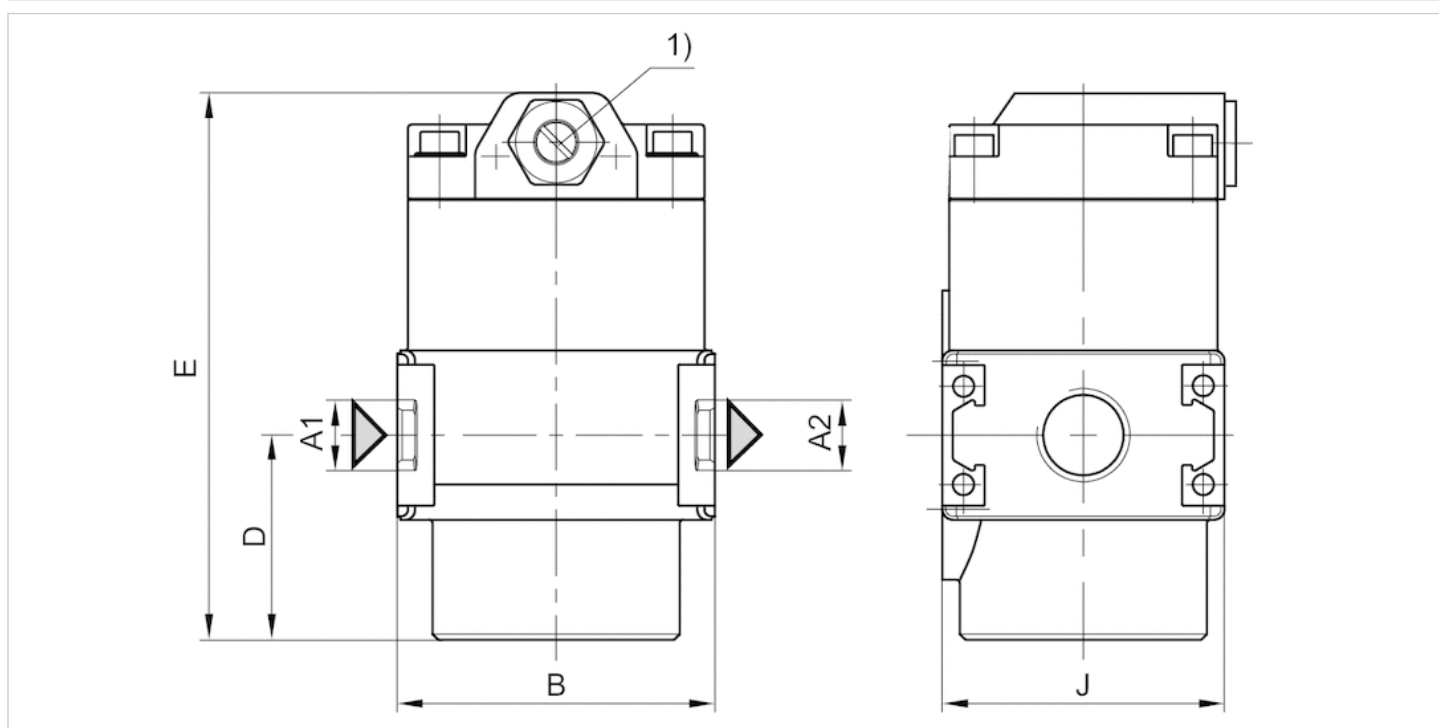
A change in the flow direction (from air supply on the left to air supply on the right) occurs by rotating installation by 180° about the vertical axis. Please see the operating instructions for further details.

## Technical information

Material	
Housing	Die cast zinc
Front plate	Acrylonitrile butadiene styrene
Seals	Acrylonitrile butadiene rubber
Threaded bushing	Die cast zinc

## Dimensions

### Dimensions



A1 = input

A2 = output

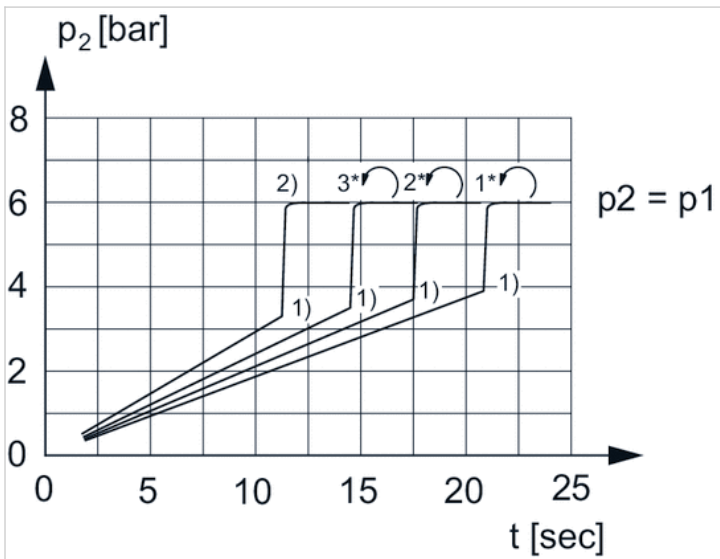
1) Adjustment screw for filling time

### Dimensions in mm

A1	A2	B	D	E	J
G 1/4	G 1/4	45	29	77.5	40

## Diagrams

### secondary pressure while filling



$p_1$  = working pressure

$p_2$  = secondary pressure

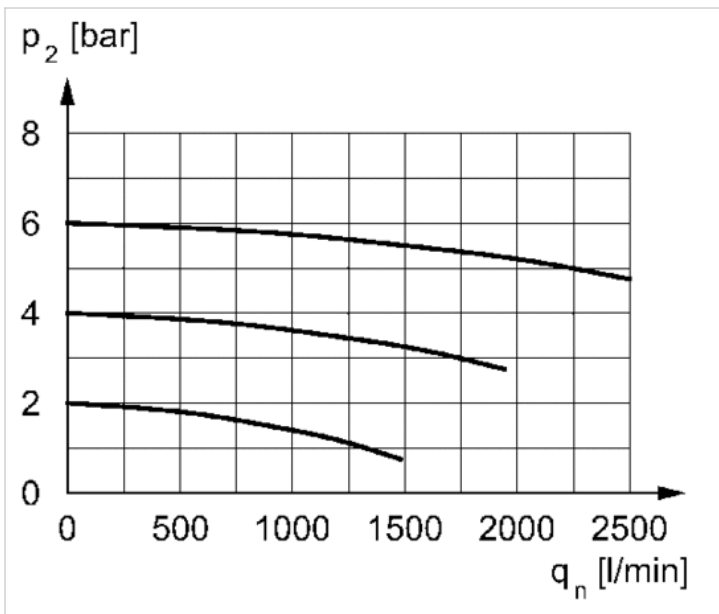
$t$  = filling time, adjustable via adjustment screw (throttle)

1) Switching point: adjustable filling time, fixed change-over pressure  $\approx 0.5 \times p_1$  (50%)

2) Throttle fully opened

\* Adjustment screw rotations

### Flow rate characteristic



$p_2$  = secondary pressure

$q_n$  = nominal flow






# 3/2-directional valve, electrically operated, Series NL1-SOV

- Compressed air connection G 1/4
- Pipe connection
- Electrical connection: Plug, ISO 6952, form B



Version	Poppet valve, Can be assembled into blocks
Parts	3/2-directional valve, electrically operated
Nominal flow 1 ▶ 2	2000 l/min
Nominal flow 2 ▶ 3	800 l/min
Working pressure min./max.	3 ... 10 bar
Medium	Compressed air Neutral gases
Medium temperature min./max.	-10 ... 60 °C
Ambient temperature min./max.	-10 ... 60 °C
Pilot	Internal
Sealing principle	Soft sealing
Max. particle size	5 µm
Protection class acc. to DIN EN 61140 with plug	IP65
Duty cycle	100 %
Weight	See table below

## Technical data

Part No.			Compressed air connection input	Compressed air connection output	Exhaust
0821300776		—	G 1/4	G 1/4	G 1/4
0821300777		—	G 1/4	G 1/4	G 1/4
0821300778		—	G 1/4	G 1/4	G 1/4
0821300779			G 1/4	G 1/4	G 1/4

Part No.	Operational voltage		Operational voltage
	DC	AC 50 Hz	AC 60 Hz
0821300776	24 V	-	-
0821300777	-	230 V	230 V
0821300778	-	-	-
0821300779	-	-	-

Part No.	Power consumption	Holding power	Switch-on power	Manual override
	DC	AC 50 Hz	AC 50 Hz	
0821300776	4.8 W	-	-	-
0821300777	-	8.5 VA	11.8 VA	-
0821300778	-	-	-	-
0821300779	-	-	-	with detent

Part No.	Electrical connection	Connector standard	basic valve with electrical connector
	Pilot valve		
0821300776	Plug, ISO 6952, form B	ISO 6952	-

Part No.	Electrical connection	Connector standard	basic valve with electrical connector
	Pilot valve		
0821300777	Plug, ISO 6952, form B	ISO 6952	-
0821300778	Plug, ISO 6952, form B	-	pilot valve without coil
0821300779	Plug, ISO 6952, form B	-	pilot valve without coil

Part No.	Reverse polarity protection	Weight
0821300776	Protected against polarity reversal	0.45 kg
0821300777	Protected against polarity reversal	0.45 kg
0821300778	Protected against polarity reversal	0.42 kg
0821300779	Protected against polarity reversal	0.42 kg

Nominal flow  $Q_n$  with secondary pressure  $p_2 = 6$  bar at  $\Delta p = 1$  bar

## Technical information

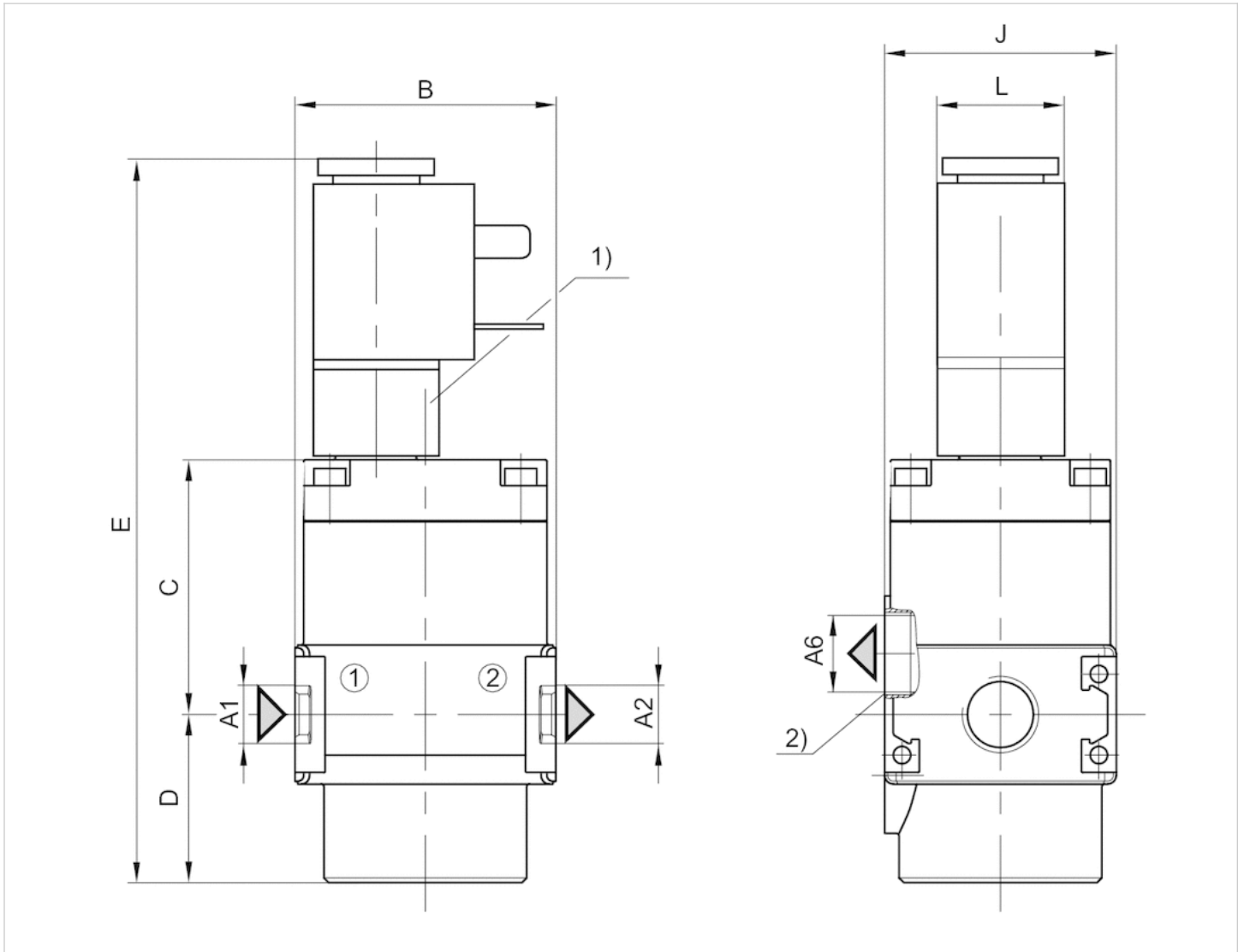
The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .

## Technical information

Material	
Housing	Die cast zinc
Seals	Acrylonitrile butadiene styrene

## Dimensions

### Dimensions



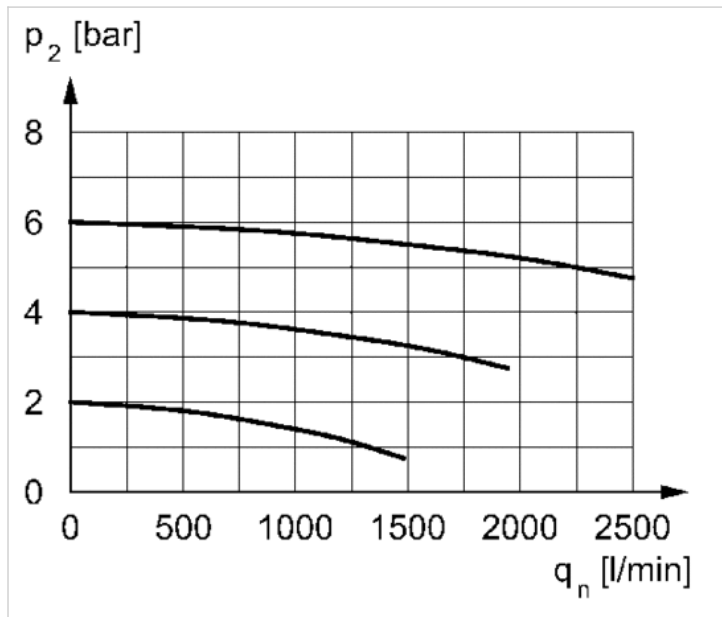
- A1 = input
- A2 = output
- A6 = output
- 1) electrically operated
- 2) Port 3 (Exhaust)

### Dimensions in mm

A1	A2	A6	B	C	D	E	J	L
G 1/4	G 1/4	G 1/4	45	44.5	29	124.5	40	22

## Diagrams

### Flow rate characteristic



$p_2$  = secondary pressure  
 $q_n$  = nominal flow





# 3/2-directional valve, electrically operated, Series NL1-SOV-...-DS

- Compressed air connection G 1/4
- Pipe connection
- Electrical connection: Plug, ISO 6952, form B
- with continuous pressure supply



Version	Poppet valve, Can be assembled into blocks
Parts	3/2-directional valve, electrically operated
Nominal flow 1 ▶ 2	2000 l/min
Nominal flow 2 ▶ 3	800 l/min
Working pressure min./max.	2.5 ... 10 bar
Medium	Compressed air Neutral gases
Medium temperature min./max.	-10 ... 60 °C
Ambient temperature min./max.	-10 ... 60 °C
Pilot	Internal
Sealing principle	Soft sealing
Max. particle size	5 µm
Protection class acc. to DIN EN 61140 with plug	IP65
Duty cycle	100 %
Weight	See table below

## Technical data

Part No.			Compressed air connection input	Compressed air connection output	Exhaust
0821300673		—	G 1/4	G 1/4	G 1/4
0821300675		—	G 1/4	G 1/4	G 1/4
0821300676			G 1/4	G 1/4	G 1/4

Part No.	Operational voltage	Power consumption		Manual override
		DC	DC	
0821300673	24 V		4.8 W	-
0821300675	-	-	-	-
0821300676	-	-	-	with detent

Part No.	Electrical connection	basic valve with electrical connector
	Pilot valve	
0821300673	Plug, ISO 6952, form B	-
0821300675	Plug, ISO 6952, form B	pilot valve without coil
0821300676	Plug, ISO 6952, form B	pilot valve without coil

Part No.	Reverse polarity protection	Weight
0821300673	Protected against polarity reversal	0.45 kg
0821300675	Protected against polarity reversal	0.42 kg
0821300676	Protected against polarity reversal	0.42 kg



Nominal flow  $Q_n$  with secondary pressure  $p_2 = 6$  bar at  $\Delta p = 1$  bar

## Technical information

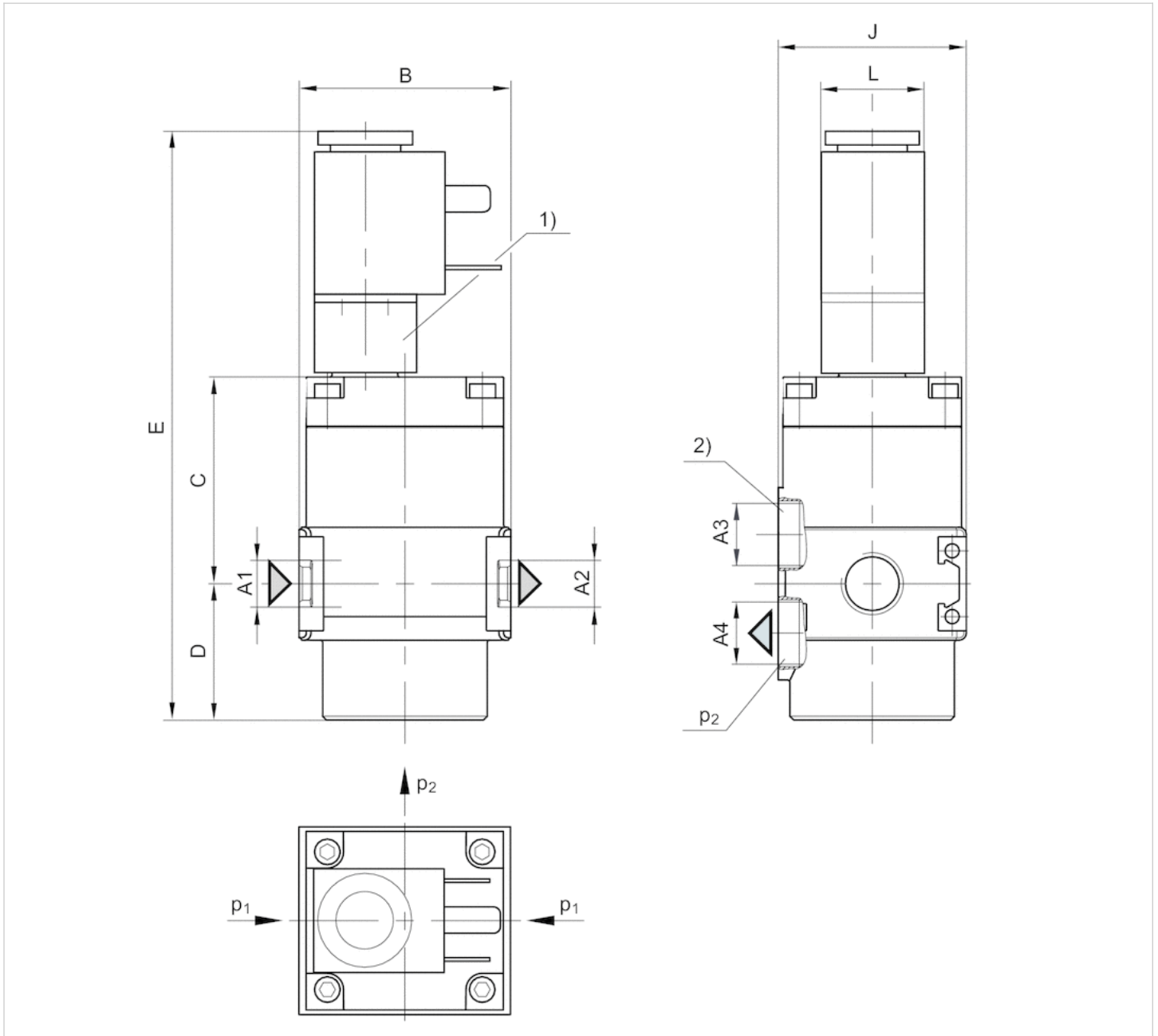
The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .

## Technical information

Material	
Housing	Die cast zinc
Seals	Acrylonitrile butadiene styrene

## Dimensions

### Dimensions



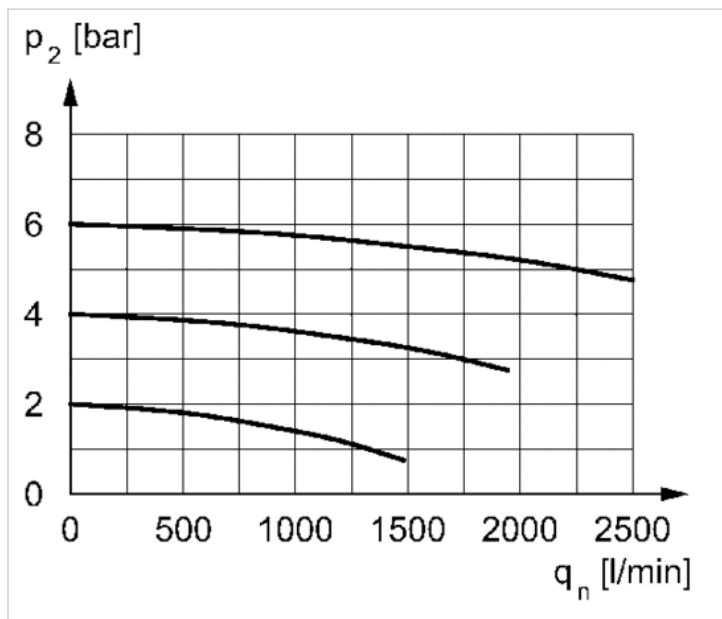
- A1 = input
- A2 = output
- A3 = ventilation port
- A4 = output
- p1 = working pressure
- p2 = secondary pressure
- 1) electrically operated
- 2) Port 3 (Exhaust)

### Dimensions in mm

A1	A2	A3	A4	A6	B	C	D	E	J	L
G 1/4	G 1/4	G 1/4	G 1/4	G 1/4	45	44.5	29	124.5	40	22

## Diagrams

### Flow rate characteristic



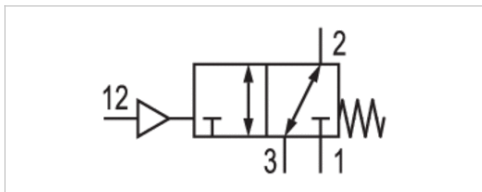
$p_2$  = secondary pressure  
 $q_n$  = nominal flow

# 3/2-directional valve, pneumatically operated, Series NL1-SOV

- Compressed air connection G 1/4
- Pipe connection



Version	Poppet valve, Can be assembled into blocks
Sealing principle	Soft sealing
Working pressure min./max.	0 ... 16 bar
Control pressure min./max.	2.5 ... 16 bar
Ambient temperature min./max.	-10 ... 60 °C
Medium temperature min./max.	-10 ... 60 °C
Medium	Compressed air Neutral gases
Max. particle size	5 µm
Weight	0.4 kg



## Technical data

Part No.	Port	Exhaust	Flow	Flow
			Qn 1→2	Qn 2→3
0821300775	G 1/4	G 1/4	2200 l/min	800 l/min

Nominal flow Qn with secondary pressure p2 = 6 bar at Δp = 1 bar

## Technical information

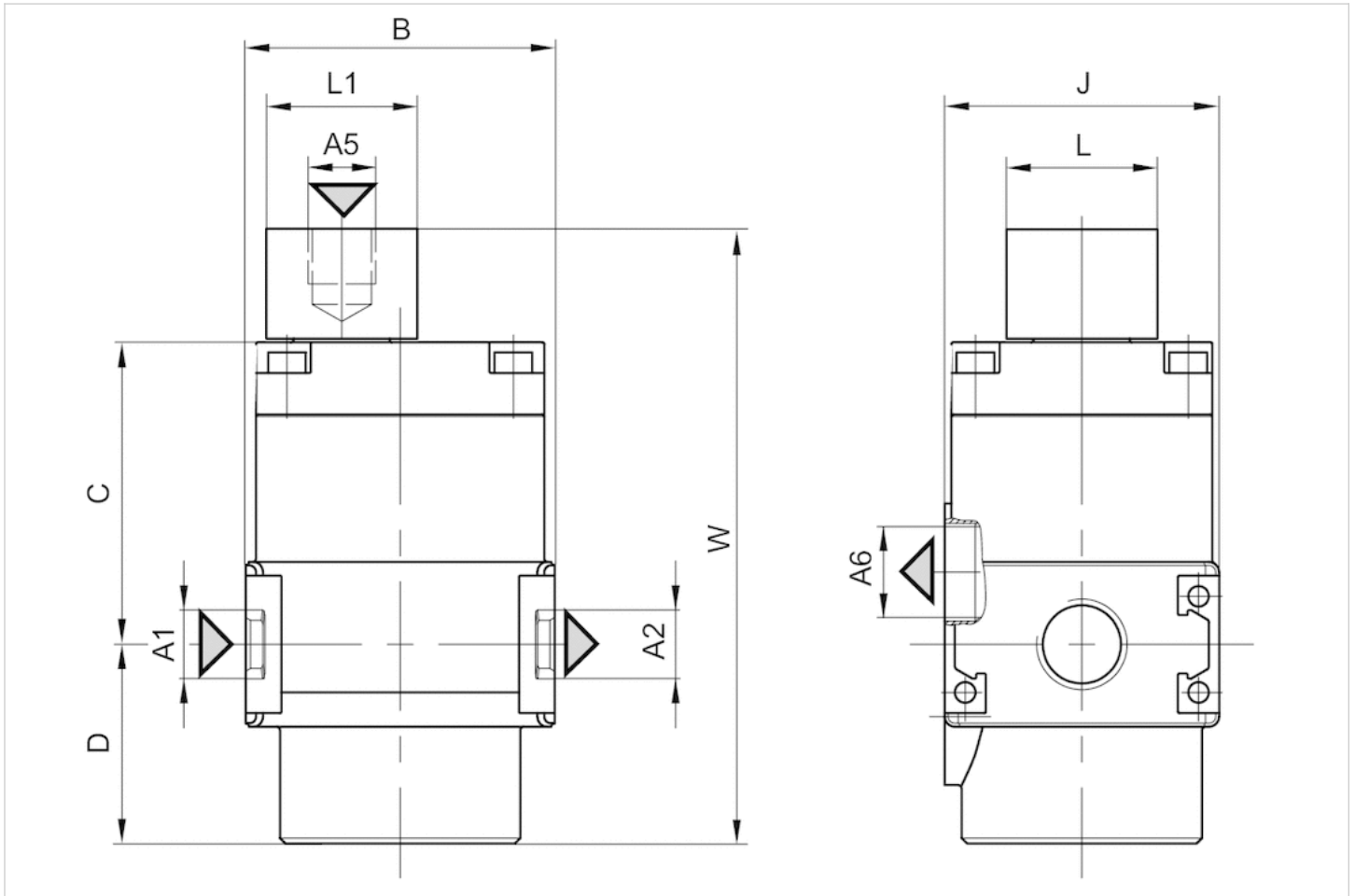
The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .

## Technical information

Material	
Housing	Die cast zinc
Seals	Acrylonitrile butadiene rubber

## Dimensions

### Dimensions



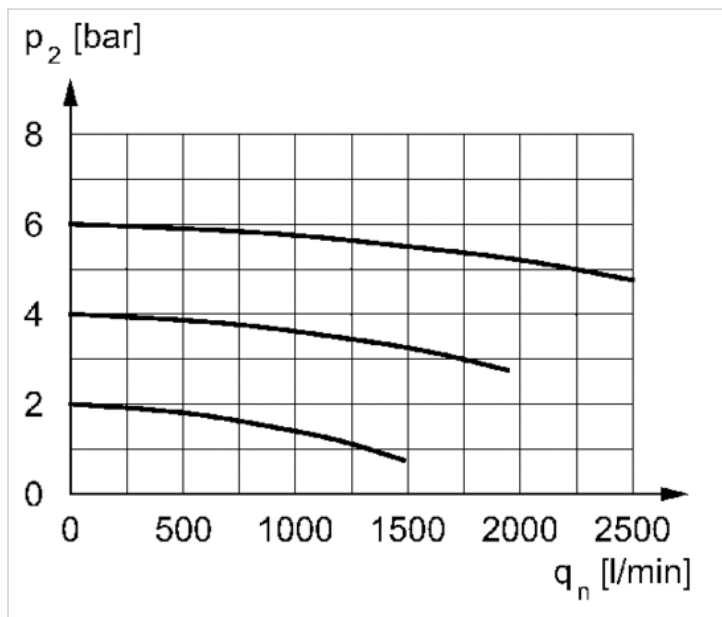
- A1 = input
- A2 = output
- A5 = control pressure connection
- A6 = ventilation port

### Dimensions in mm

A1	A2	A5	A6	B	C	D	J	L	L1	W
G 1/4	G 1/4	G 1/8	G 1/4	45	44.5	29	40	22	22	89.5

## Diagrams

## Flow rate characteristic



$p_2$  = secondary pressure

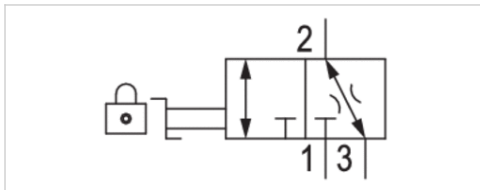
$q_n$  = nominal flow

# 3/2-shut-off valve, mechanically operated, Series NL1-BAV

- Qn = 3000 l/min
- Qn 1►2 = 1800 l/min
- Qn 2►3 = 70 l/min
- Compressed air connection output G 1/8 G 1/4



Version	Ball valve
Activation	Mechanical
Lock type	lockable
Actuating element	rotary switch
Sealing principle	metal/metal sealing
Nominal flow Qn	3000 l/min
Working pressure min./max.	0 ... 16 bar
Ambient temperature min./max.	-10 ... 60 °C
Medium temperature min./max.	-10 ... 60 °C
Medium	Compressed air Neutral gases
Weight	0.246 kg



## Technical data

Part No.	Version	Compressed air connection type	Compressed air connection Input	Compressed air connection Output
0821300772	3/2	Internal thread	G 1/8	G 1/8
0821300773	3/2	Internal thread	G 1/4	G 1/4

Part No.	Compressed air connection Exhaust	Flow		Lock type
		Qn 1 ► 2	Qn 2 ► 3	
0821300772	G 1/4	1800 l/min	70 l/min	for padlocks
0821300773	G 1/4	1800 l/min	70 l/min	for padlocks

Nominal flow Qn with secondary pressure p<sub>2</sub> = 6 bar at Δp = 1 bar

## Technical information

The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .  
A change in the flow direction (from air supply on the left to air supply on the right) occurs by rotating installation by 180° about the vertical axis. Please see the operating instructions for further details.

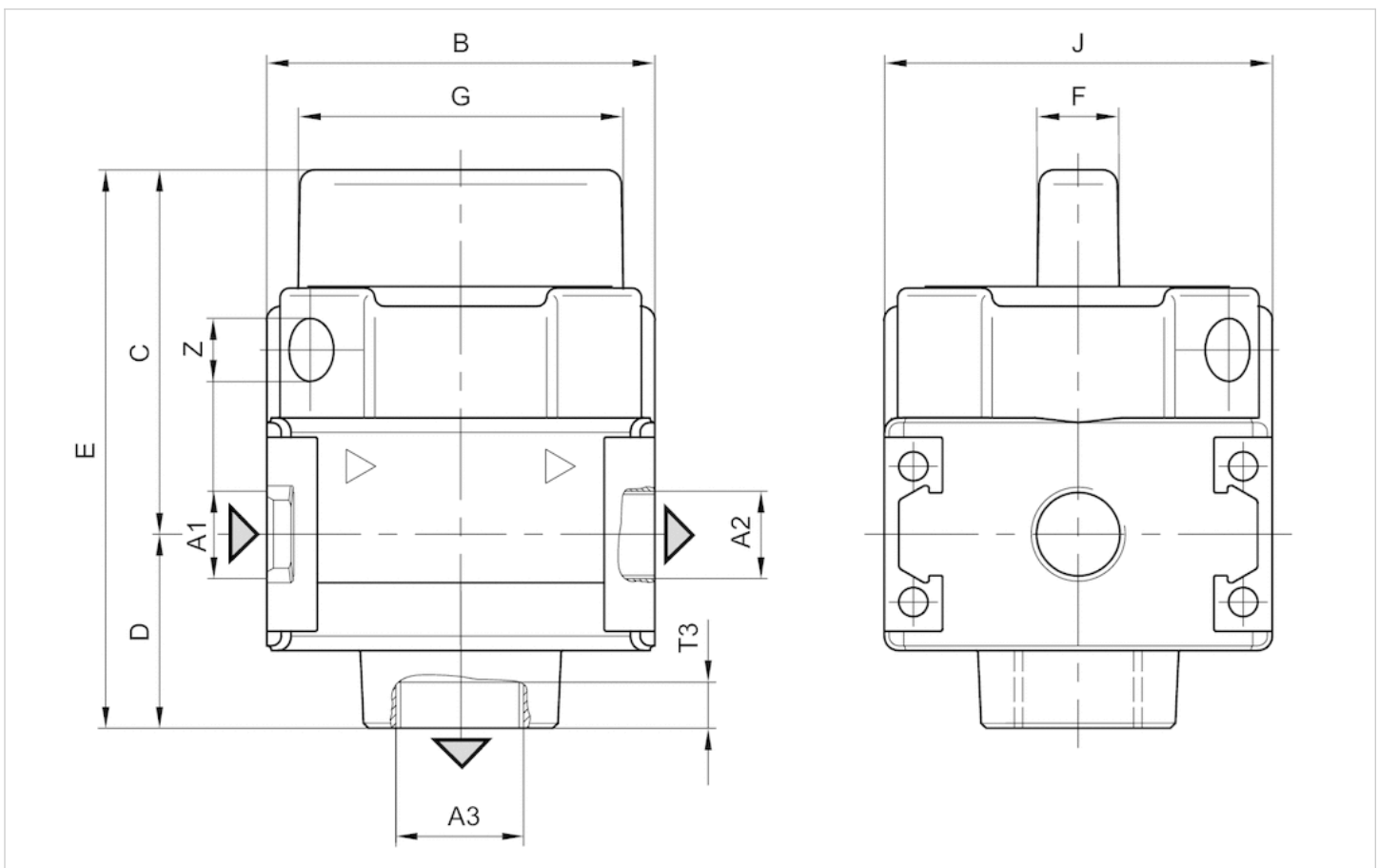
## Technical information

### Material

Housing	Die cast zinc
Seals	Acrylonitrile butadiene rubber
Actuating element	Polyoxymethylene

## Dimensions

### Dimensions



- A1 = input
- A2 = output
- A3 = ventilation port

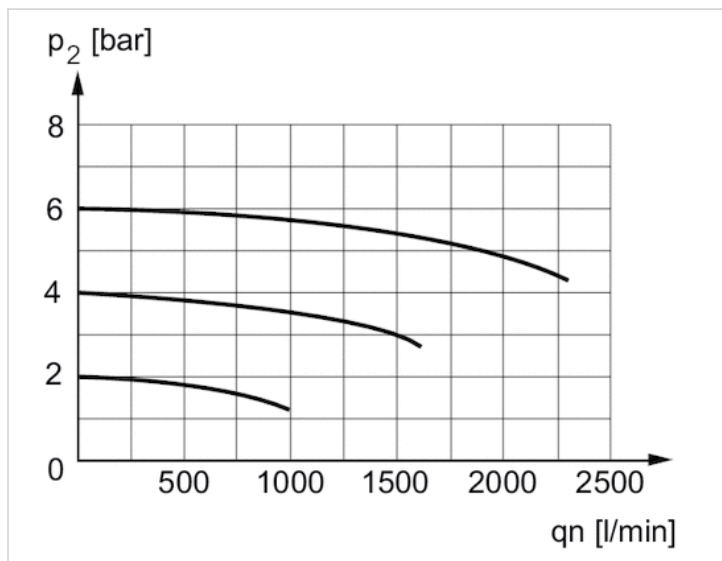
### Dimensions in mm

A2	A3	B	C	D	E	F	G	J	T3	Z
G 1/8	G 1/4	40	37.6	20	57.6	8	33.5	40	10	6.5
G 1/4	G 1/4	40	37.6	20	57.6	8	33.5	40	10	6.5



## Diagrams

### Flow rate characteristic



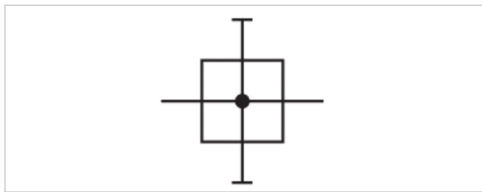
$p_2$  = secondary pressure  
 $q_n$  = nominal flow

# Distributor, Series NL1-DIL

- G 1/4
- Distributor 2x
- Narrow distributor



Version	Narrow distributor, Can be assembled into blocks
Parts	Distributor
Mounting orientation	Any
Working pressure min./max.	0 ... 16 bar
Ambient temperature min./max.	-10 ... 60 °C
Medium temperature min./max.	-10 ... 60 °C
Medium	Compressed air Neutral gases
Weight	0.09 kg



## Technical data

Part No.	Port	Nominal flow		
		Qn 1→2	Qn 1→3	Qn 1→5
0821300771	G 1/4	2700 l/min	1300 l/min	1300 l/min

Nominal flow Qn with secondary pressure p2 = 6 bar at Δp = 1 bar

## Technical information

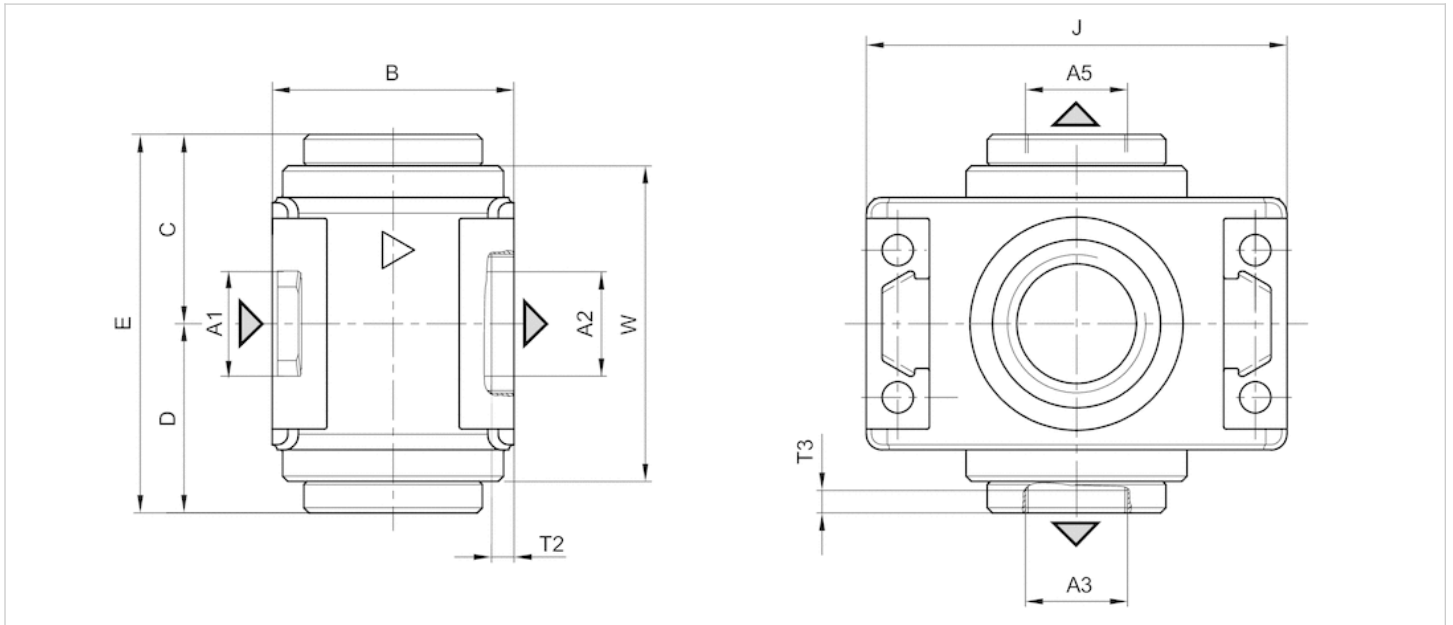
The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .  
 A change in the flow direction (from air supply on the left to air supply on the right) occurs by rotating installation by 180° about the vertical axis. Please see the operating instructions for further details.

## Technical information

Material	
Housing	Die cast zinc

## Dimensions

### Dimensions



- A1 = input
- A2 = output
- A3 = output
- A5 = output

### Dimensions in mm

A1	A2	A3	A5	B	C	D	E	J	T2	T3	W
G 1/4	G 1/4	G 1/8	G 1/8	23	18	20	40	40	6	8	30

# Reservoir, Series AS1-CLS

- Material Die cast zinc Polycarbonate



Version	Reservoir
Working pressure min./max.	See table below
Ambient temperature min./max.	-10 ... 50 °C
Medium temperature min./max.	-10 ... 50 °C
Medium	Compressed air
Filter reservoir volume	16 cm <sup>3</sup>
Weight	See table below

## Technical data

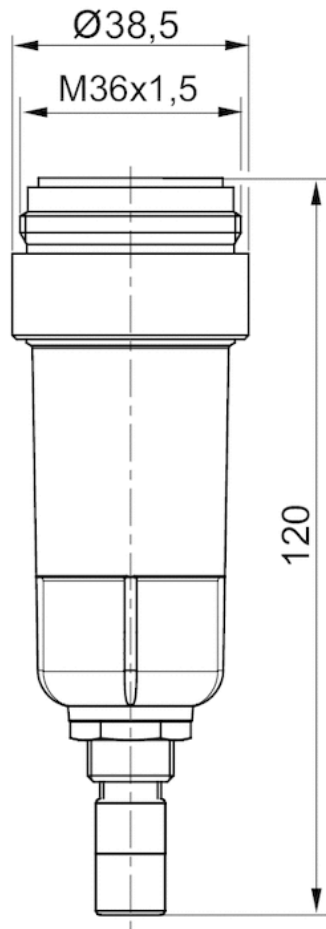
Part No.	Condensate drain	Reservoir	Weight	Fig.
R412014751	fully automatic, open without pressure	Die cast zinc	0.125 kg	Fig. 1
1827009640	semi-automatic, open without pressure	Die cast zinc	0.153 kg	Fig. 2
1827009639	semi-automatic, open without pressure	Polycarbonate	0.085 kg	Fig. 3

## Technical information

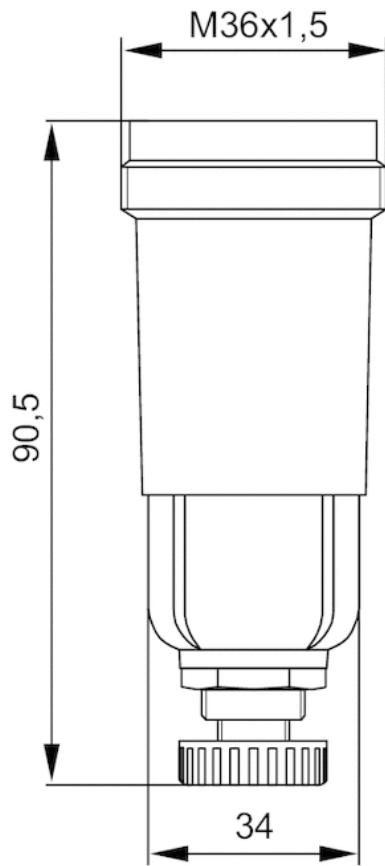
Material	
Reservoir	Die cast zinc Polycarbonate
Seal	Acrylonitrile butadiene rubber

## Dimensions

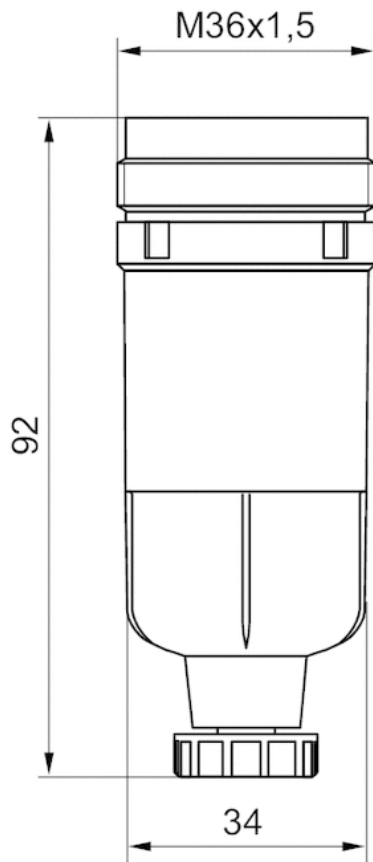
Dimensions in mm, Fig. 1



Dimensions in mm, Fig. 2



Dimensions in mm, Fig. 3



# Reservoir, Series NL1/AS1-CBM/-CLA/-CBM

- for active carbon filter and lubricator
- Material Polycarbonate



Version	Reservoir
Version	reservoir, polycarbonate, without protective guard
Working pressure min./max.	0 ... 16 bar
Ambient temperature min./max.	-10 ... 50 °C
Medium temperature min./max.	-10 ... 50 °C
Medium	Compressed air Oil
Lubricator reservoir volume	35 cm <sup>3</sup>
Filter reservoir volume	16 cm <sup>3</sup>
Weight	0.07 kg

## Technical data

Part No.	Fig.
1827009333	Fig. 1

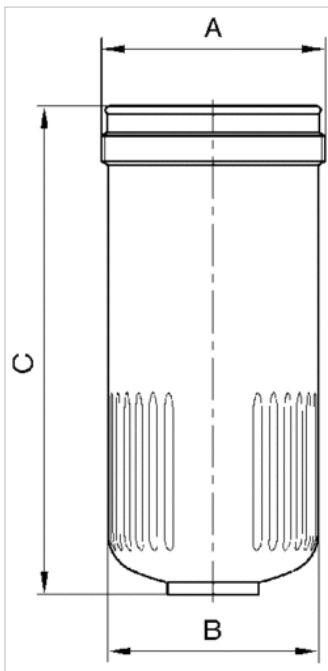
## Technical information

Material	
Reservoir	Polycarbonate
Seal	Acrylonitrile butadiene rubber



## Dimensions

### Dimensions



## Dimensions

Part No.	A	B	C
1827009333	M36x1.5	30	100

# Reservoir, Series NL1/AS1-CBM/-CLA

- for active carbon filter and lubricator
- Material Polycarbonate Die cast zinc



Version	Reservoir
Working pressure min./max.	16 bar
Ambient temperature min./max.	-10 ... 50 °C
Medium temperature min./max.	-10 ... 50 °C
Medium	Compressed air Oil
Filter reservoir volume	16 cm <sup>3</sup>
Weight	See table below

## Technical data

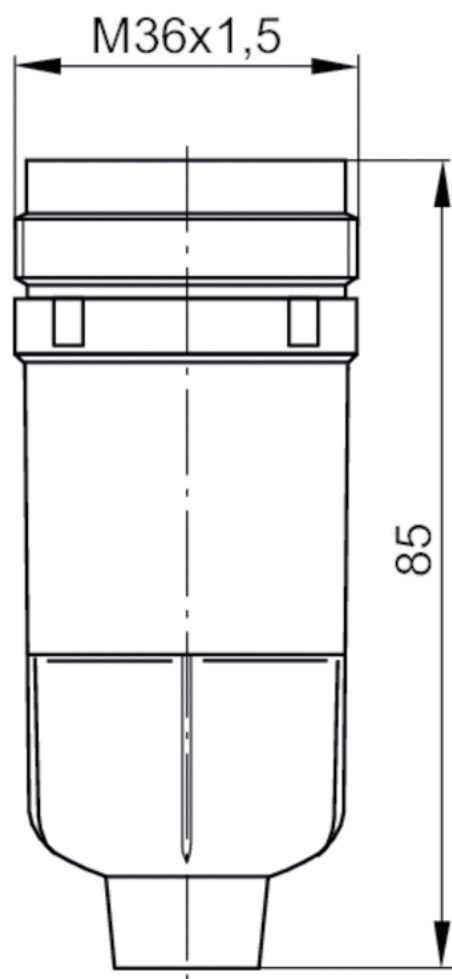
Part No.	Reservoir	Weight	Fig.
1827009637	Polycarbonate	0.06 kg	Fig. 1
1827009638	Die cast zinc	0.125 kg	Fig. 2

## Technical information

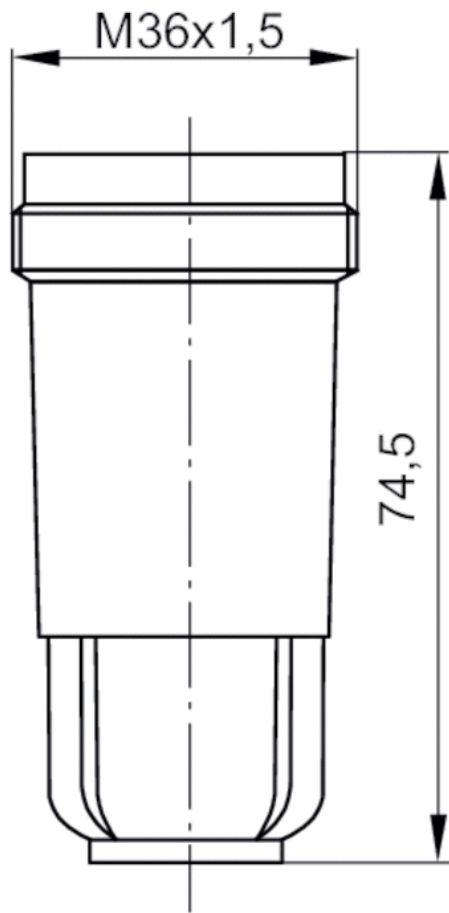
Material	
Reservoir	Polycarbonate Die cast zinc
Seal	Acrylonitrile butadiene rubber

## Dimensions

Dimensions in mm, Fig. 1



Dimensions in mm, Fig. 2



# Protective guard

- NL1
- Filter, Lubricator



Weight

0.03 kg

## Technical data

Part No.

1820507004

## Technical information

Can be retrofitted for PC reservoir

## Technical information

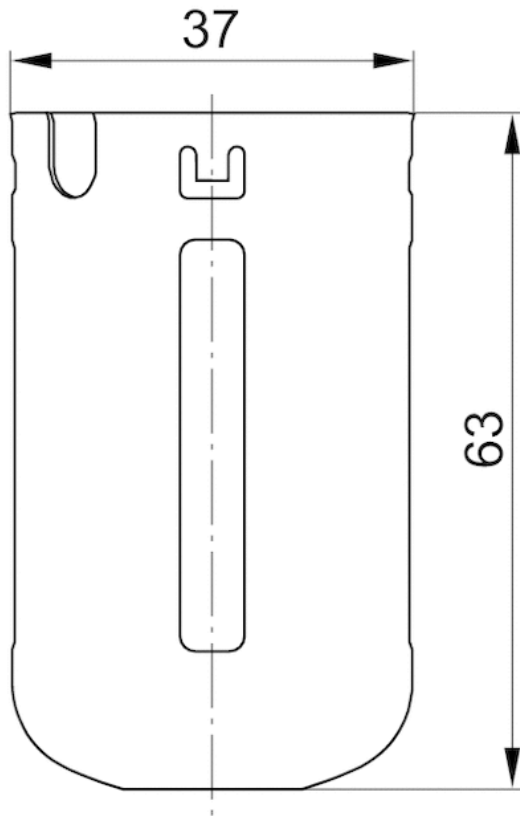
Material

Material

Steel galvanized

## Dimensions

Dimensions in mm



# Mounting bracket, Series NL1/NL2-MBR-...-W02



Ambient temperature min./max.  
Weight

-40 ... 60 °C  
0.065 kg

## Technical data

Part No.

1821331013

## Technical information

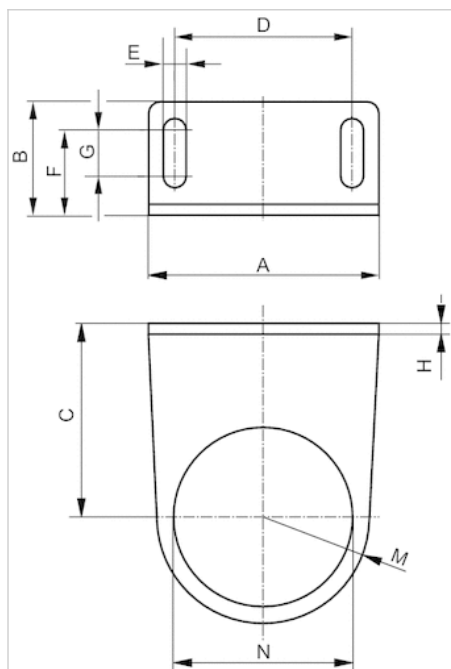
Material

Housing

Steel, galvanized

## Dimensions

### Dimensions



## Dimensions

Part No.	A	B	C	D	E	F	G	H	M	N
1821331013	48	27	43.5	38	5.4	18.5	8	3	20	30.5



# Block assembly kit, Series NL1-MBR-...-W04



Weight

0.02 kg

## Technical data

Part No.

1827009636

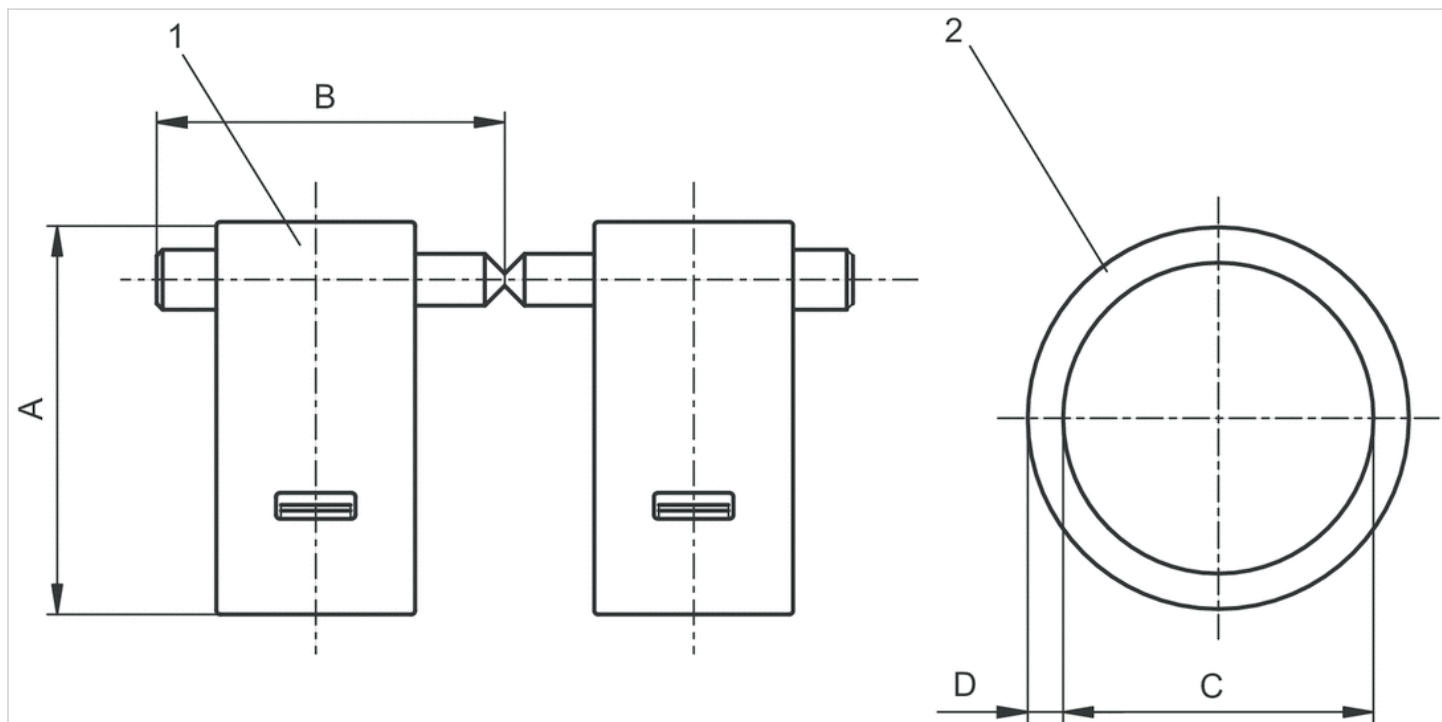
## Technical information

Material

Material

Polyamide

## Dimensions



1) coupling clamp 2) O-ring

## Dimensions

Part No.	A	B	C	D
1827009636	19.7	17.5	15.6	1.78

# Mounting kit, Series NL1-MBR-...-W05



Weight

0.02 kg

## Technical data

Part No.

1821336024

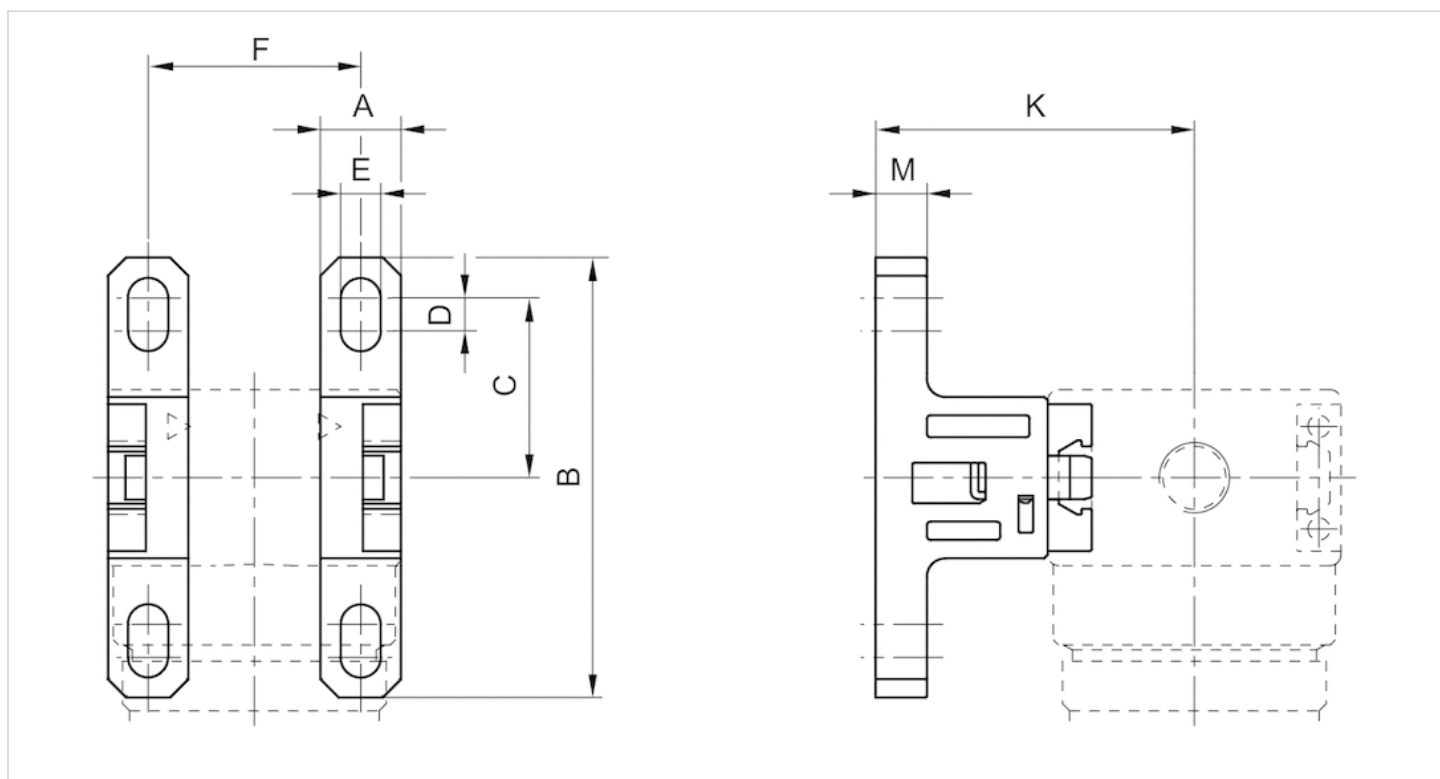
## Technical information

Material

Housing

Polyamide

## Dimensions



## Dimensions

Part No.	A	B	C	D	E	F	K	M	Material	Weight
1821336024	11	60	24.5	4.5	5.5	29	43.5	7	Polyamide	0.02 kg

# Panel nut, Series AS-MBR-...-W06

- M30x1,5

- for AS1, NL1, NL2, MU1, PR2



Weight

0.013 kg

The delivered product may vary from that in the illustration.

## Technical data

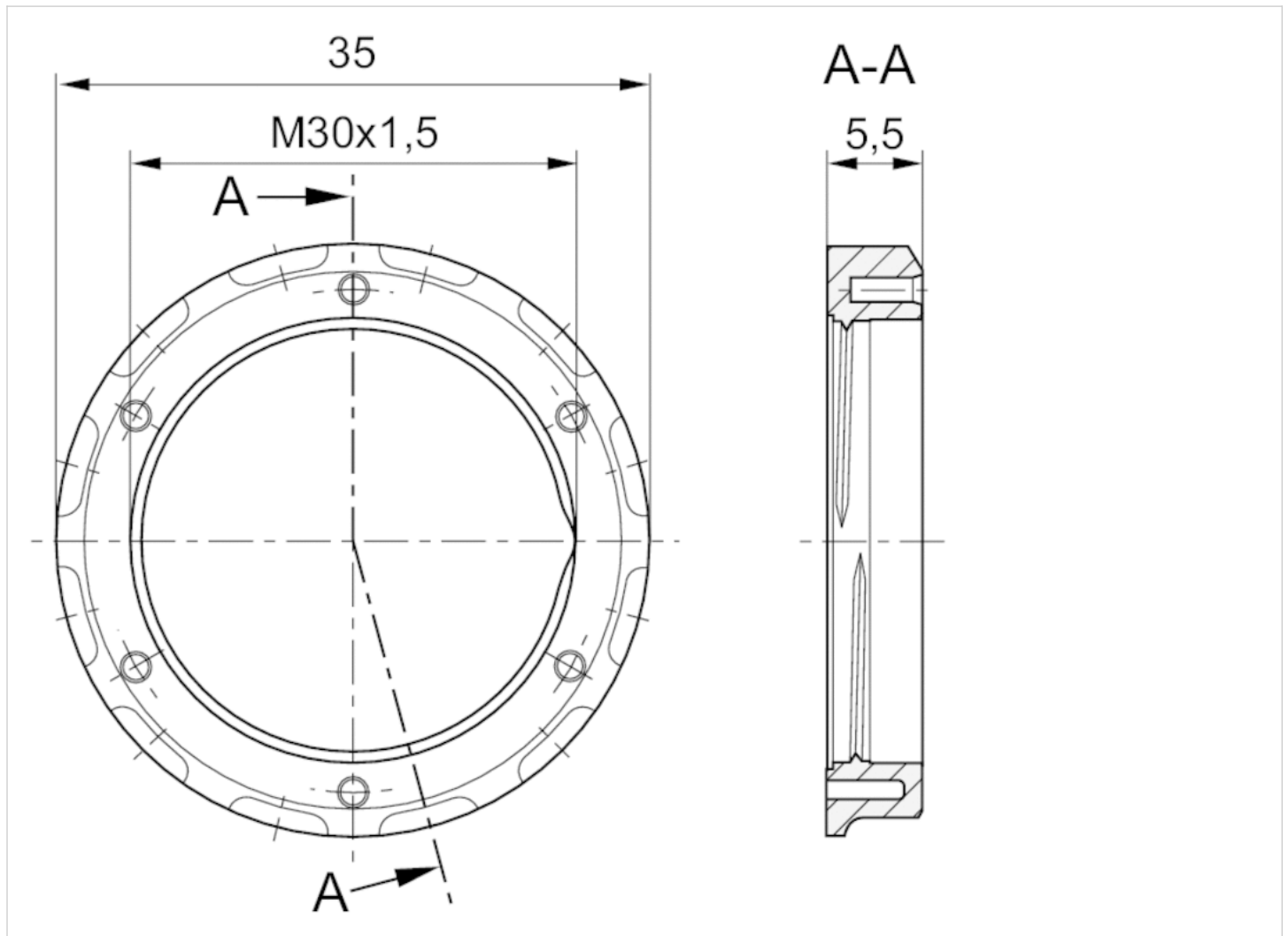
Part No.	Port	for	Scope of delivery
1829234070	M30x1,5	AS1, NL1, NL2, MU1, PR2	5 piece

## Technical information

Material	
Housing	Brass

## Dimensions

Dimensions in mm



# Panel nut, Series AS-MBR-...-W06

- M30x1,5

- for AS1, NL1, NL2, PR2



Weight

0.006 kg

The delivered product may vary from that in the illustration.

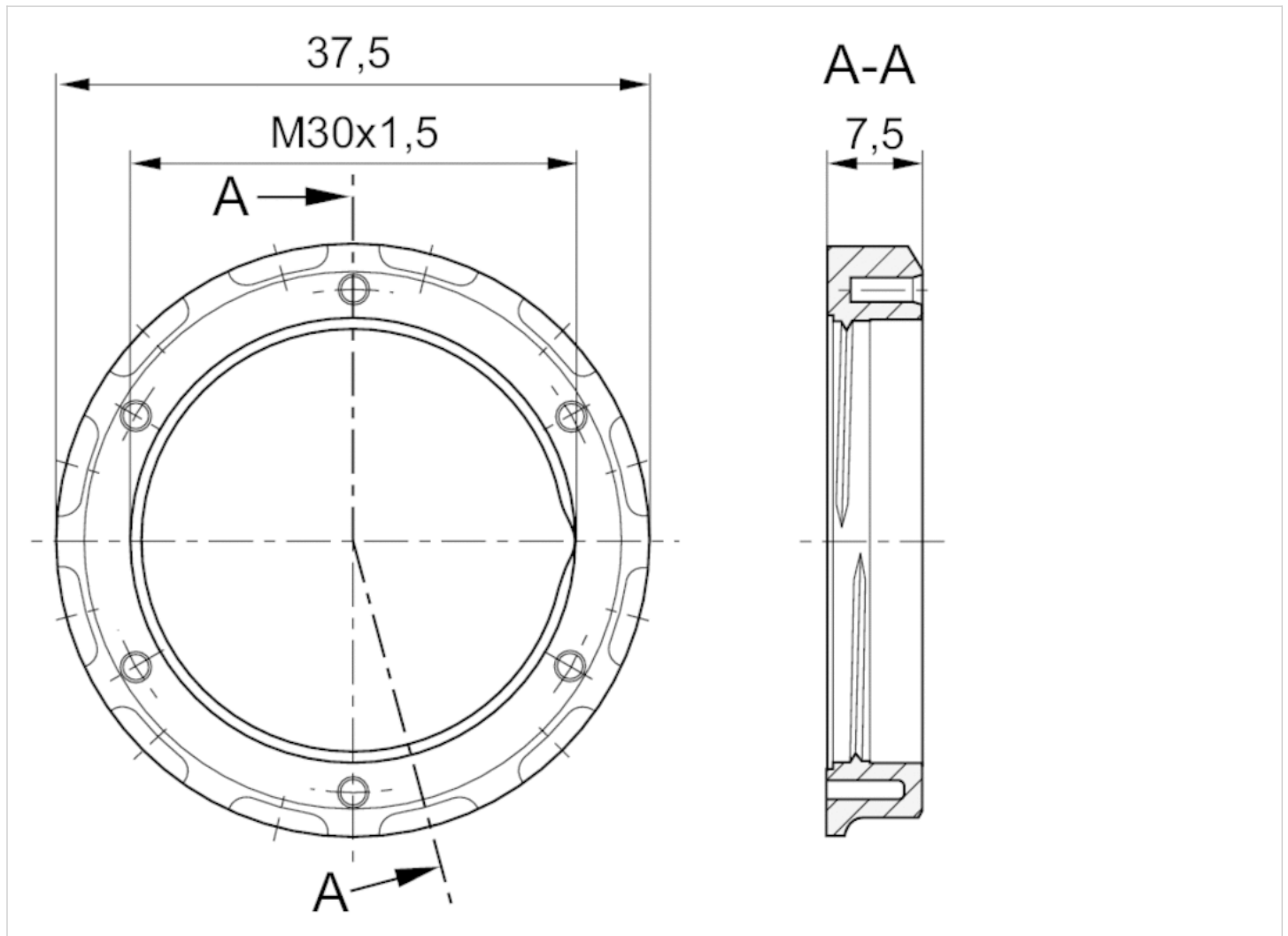
## Technical data

Part No.	Port	for	Scope of delivery
1829234073	M30x1,5	AS1, NL1, NL2, PR2	5 piece

## Technical information

Material	
Housing	Plastic

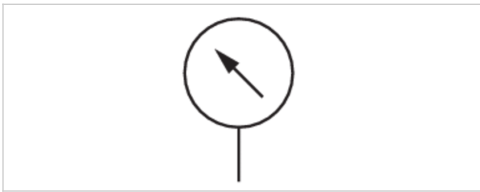
## Dimensions





# Pressure gauge, Series PG1-SNL

- Back port
- Background color Black
- Scale color Green, White
- Viewing window Polystyrene
- Units bar
- Units psi
- suitable for ATEX



Version	Bourdon tube pressure gauge
Seal	Axial
Standardization	EN 837-1
Class	1,6
Ambient temperature min./max.	-40 ... 60 °C
Medium	Compressed air
Main scale unit (outside)	bar
Main scale color (outside)	Green
Secondary scale unit (inside)	psi
Secondary scale color (inside)	White
Background color	Black
Pointer color	White
Weight	0.06 kg

## Technical data

Part No.	Compressed air connection	Nominal diameter	Range of application	Display range	Operating pressure	Scale value	
1827231053	G 1/8	40 mm	-0.8 ... 0 bar	-1 ... 0 bar	-1 ... 0 bar	0.1	-
1827231048	G 1/8	40 mm	0 ... 1.7 bar	0 ... 2.5 bar	0 ... 2.5 bar	0.1	-
1827231024	G 1/8	40 mm	0 ... 8 bar	0 ... 10 bar	0 ... 10 bar	0.5	1)
1827231009	G 1/8	40 mm	0 ... 12 bar	0 ... 16 bar	0 ... 16 bar	0.5	1)

Order seal 1829202004 separately

1) Suitable for use in Ex zones 1, 2, 21, 22.

## Technical information

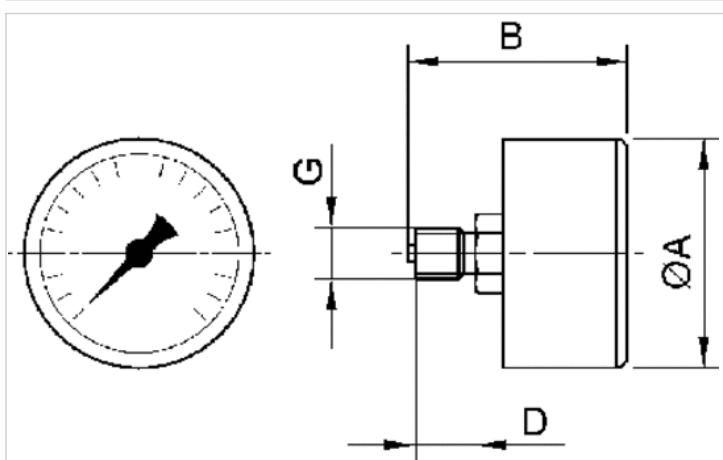
Order axial seal separately

## Technical information

Material	
Housing	Acrylonitrile butadiene styrene
Thread	Brass
Viewing window	Polystyrene

## Dimensions

### Dimensions

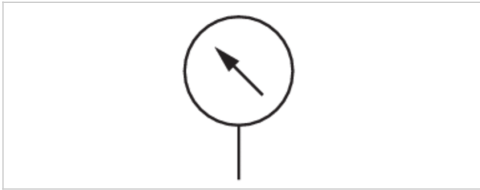


### Dimensions in mm

G	Nominal diameter	Ø A	B	D
G 1/8	40 mm	39	44	10

# Pressure gauge, Series PG1-SNL-ADJ

- Back port
- with adjustable work area display
- Background color White
- Scale color Black
- Viewing window Polystyrene
- Units bar



Version	Bourdon tube pressure gauge with adjustable work area display
Version	Axial
Seal	EN 837-1
Standardization	2,5
Class	-40 ... 60 °C
Ambient temperature min./max.	Compressed air
Medium	adjustable work area display
Work area	Red Green
Work Area Display, Color	bar
Work Area Display, Color	Black
Main scale unit (outside)	White
Main scale color (outside)	Black
Background color	Black
Pointer color	White
Weight	0.09 kg

## Technical data

Part No.	Compressed air connection	Nominal diameter	Range of application	Display range	Operating pressure	Scale value
1827231075	G 1/8	50 mm	0 bar ... 1.2	0 bar ... 1.6	0 ... 1.6 bar	0.05
1827231076	G 1/8	50 mm	0 bar ... 2	0 bar ... 2.5	0 ... 2.5 bar	0.1
1827231077	G 1/8	50 mm	0 bar ... 3.2	0 bar ... 4	0 ... 4 bar	0.2
1827231078	G 1/8	50 mm	0 bar ... 4	0 bar ... 6	0 ... 6 bar	0.2
1827231079	G 1/8	50 mm	0 bar ... 8	0 bar ... 10	0 ... 10 bar	0.5
1827231080	G 1/8	50 mm	0 bar ... 12	0 bar ... 16	0 ... 16 bar	0.5

## Technical information

To set the operating range, the cover (inspection glass) must be removed. To do this, carefully lift the inspection glass by inserting a pointed or flat object in the slot provided for this purpose on the housing circumference.  
Order axial seal separately

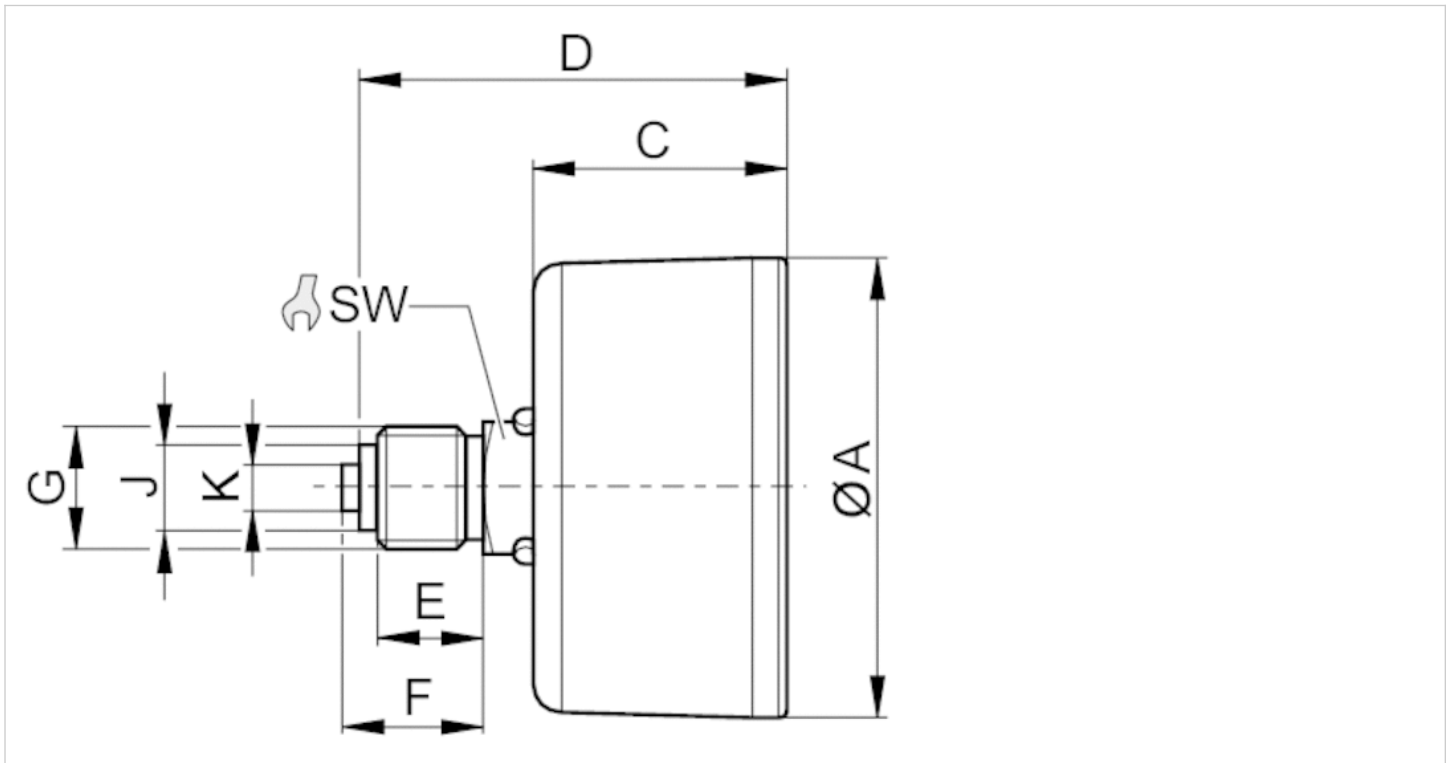
## Technical information

Material	
Housing	Acrylonitrile butadiene styrene
Thread	Brass

Material	
Viewing window	Polystyrene

## Dimensions

### Dimensions

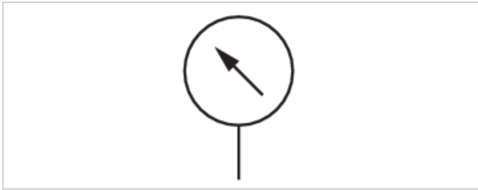


### Dimensions

Compressed air connection	Nominal diameter	Ø A	C	D	E	F	J	K	SW
G 1/8	50 mm	49	26.5	41.5	8	10	8	-	14

# Pressure gauge, Series PG1-SNL

- For panel installation
- Background color Black
- Scale color Green, White
- Viewing window Polystyrene
- Units bar
- Units psi



Version	Bourdon tube pressure gauge
Mounting	with U-clip
Seal	Axial
Standardization	EN 837-1
Ambient temperature min./max.	-40 ... 60 °C
Medium	Compressed air
Main scale unit (outside)	bar
Main scale color (outside)	Green
Secondary scale unit (inside)	psi
Secondary scale color (inside)	White
Background color	Black
Pointer color	White
Weight	0.097 kg

## Technical data

Part No.	Compressed air connection	Nominal diameter	Range of application	Display range	Operating pressure	Scale value	Class	
1827231040	G 1/8	40 mm	-0.8 ... 0	0 ... 1	-1 ... 0 bar	0.1	1,6	1)
1827231042	G 1/8	40 mm	0 ... 2	0 ... 2.5	0 ... 2.5 bar	0.1	1,6	-
1827231041	G 1/8	40 mm	0 ... 4	0 ... 6	0 ... 6 bar	0.2	1,6	-
1827231030	G 1/8	40 mm	0 ... 8	0 ... 10	0 ... 10 bar	0.5	1,6	-
1827231031	G 1/8	40 mm	0 ... 12	0 ... 16	0 ... 16 bar	0.5	2,5	-

1) Vacuum

## Technical information

Order axial seal separately

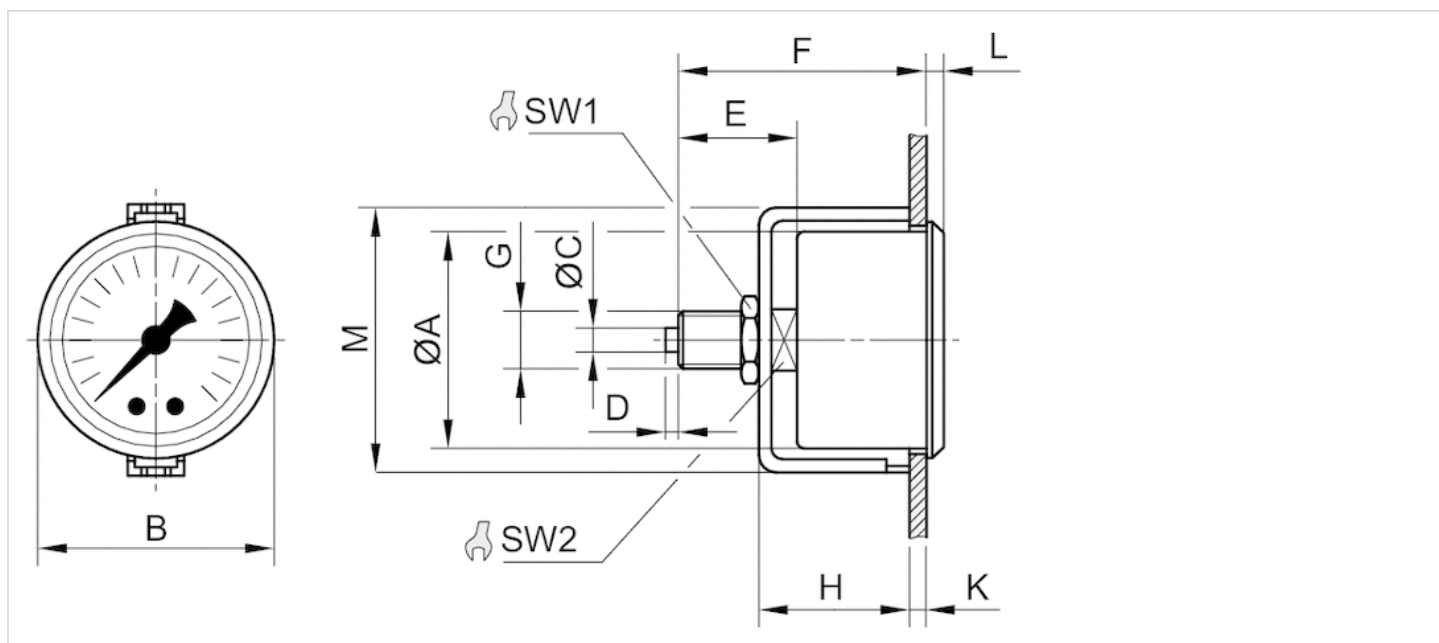
## Technical information

Material	
Housing	Steel
Thread	Brass

Material	
Front ring	Steel, chrome-plated
Viewing window	Polystyrene

## Dimensions

### Dimensions

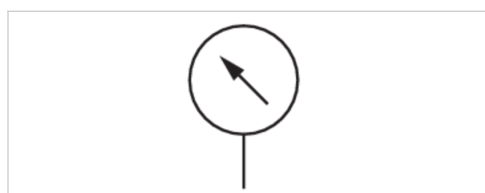


### Dimensions in mm

Compressed air connection	Nominal diameter	Ø A	B	C	D	E	F	H	K	L	M	SW1	SW2
G 1/8	40 mm	40	43	-	-	25.5	49	32	4	4	49	17	14

# Pressure gauge, Series PG1-SNL

- Back port
- Background color Black
- Scale color Green, White
- Viewing window Polystyrene
- Units bar
- Units psi
- suitable for ATEX



Version	Bourdon tube pressure gauge
Seal	Axial
Standardization	EN 837-1
Class	1,6
Ambient temperature min./max.	-40 ... 60 °C
Medium	Compressed air
Main scale unit (outside)	bar
Main scale color (outside)	Green
Secondary scale unit (inside)	psi
Secondary scale color (inside)	White
Background color	Black
Pointer color	White
Weight	0.06 kg

## Technical data

Part No.	Compressed air connection	Nominal diameter	Range of application	Display range	Operating pressure	Scale value
1827231018	G 1/8	40 mm	0 ... 4 bar	0 ... 6 bar	0 ... 6 bar	0.2

Order seal 1829202004 separately

Suitable for use in Ex zones 1, 2, 21, 22.

## Technical information

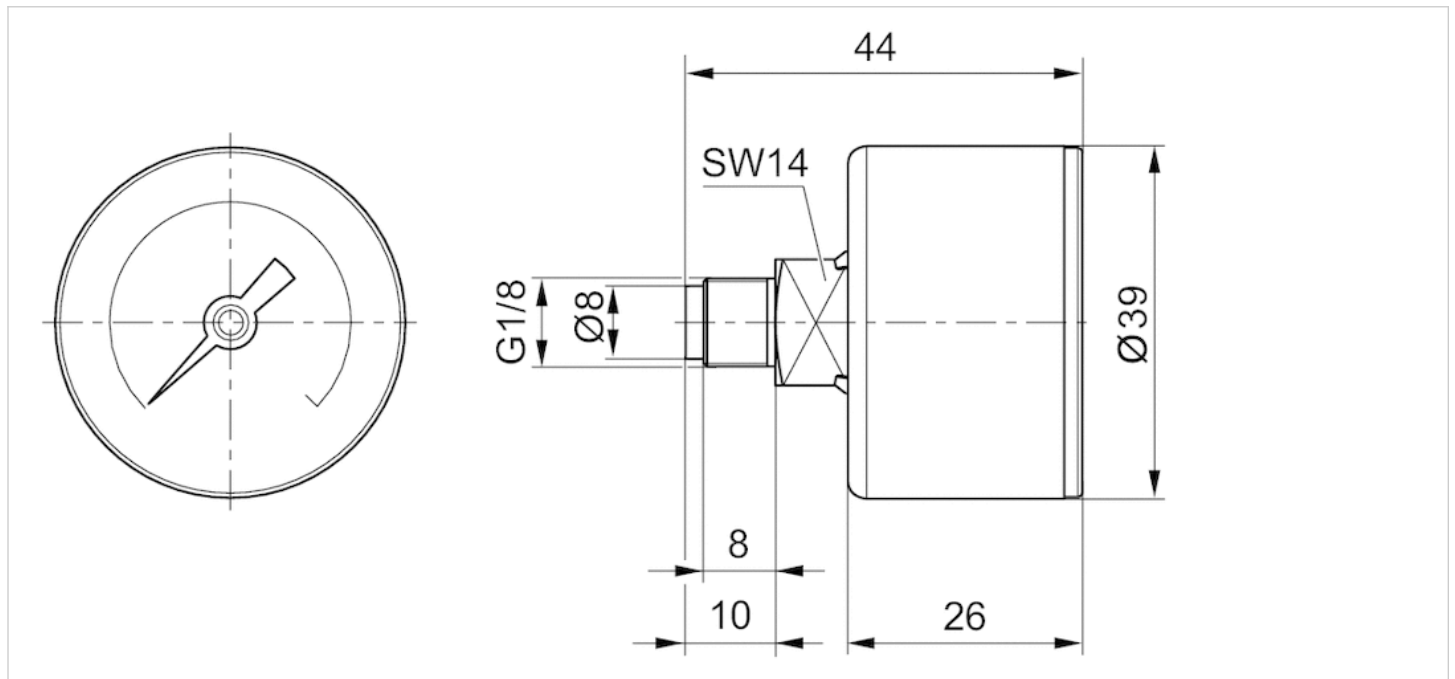
Order axial seal separately

## Technical information

Material	
Housing	Acrylonitrile butadiene styrene
Thread	Brass
Front ring	Steel, chrome-plated
Viewing window	Polystyrene

## Dimensions

## Dimensions in mm



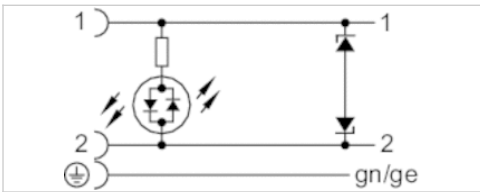


# Valve plug connector, series CON-VP

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



Ambient temperature min./max.	-20 ... 80 °C
Operational voltage	24 V AC/DC
Protection class	IP67
Protective circuit	Z-diode
Wire cross-section	0.75 mm <sup>2</sup>
Mounting screw tightening torque	0.4 Nm
Weight	See table below



## Technical data

Part No.	Max. current	Contact assignment	LED status display	Number of wires	Cable-Ø	Cable length	Weight	Fig.
1834484153	10 A	2+E	Yellow	3	5.9 mm	3 m	0.2 kg	Fig. 2
1834484155	10 A	2+E	Yellow	3	5.9 mm	5 m	0.31 kg	Fig. 2

Scope of delivery incl. flat gasket

## Technical information

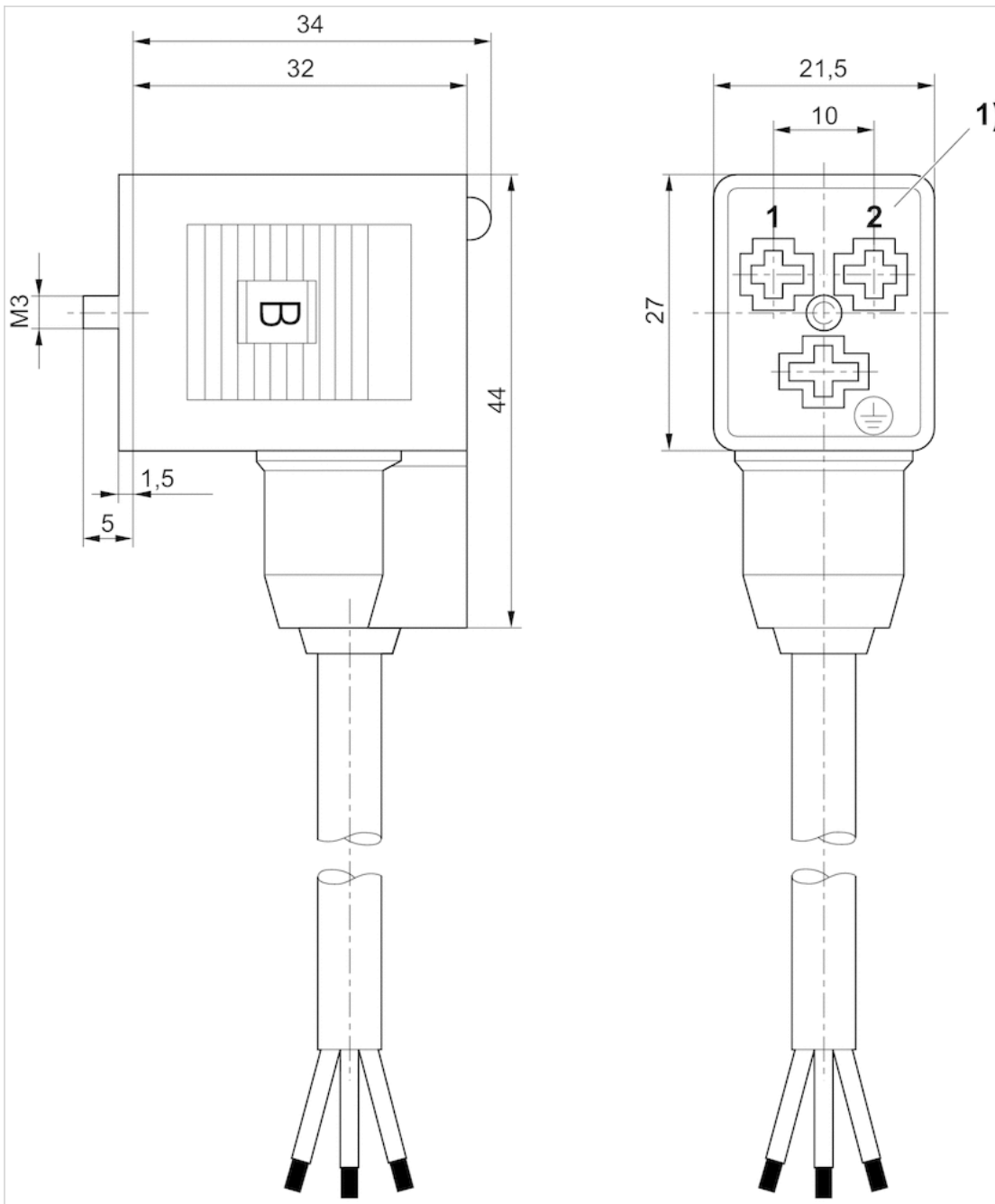
The specified protection class is only valid in assembled and tested state.

## Technical information

Material	
Seals	caoutchouc/butadiene caoutchouc
Cable sheath	Polyvinyl chloride

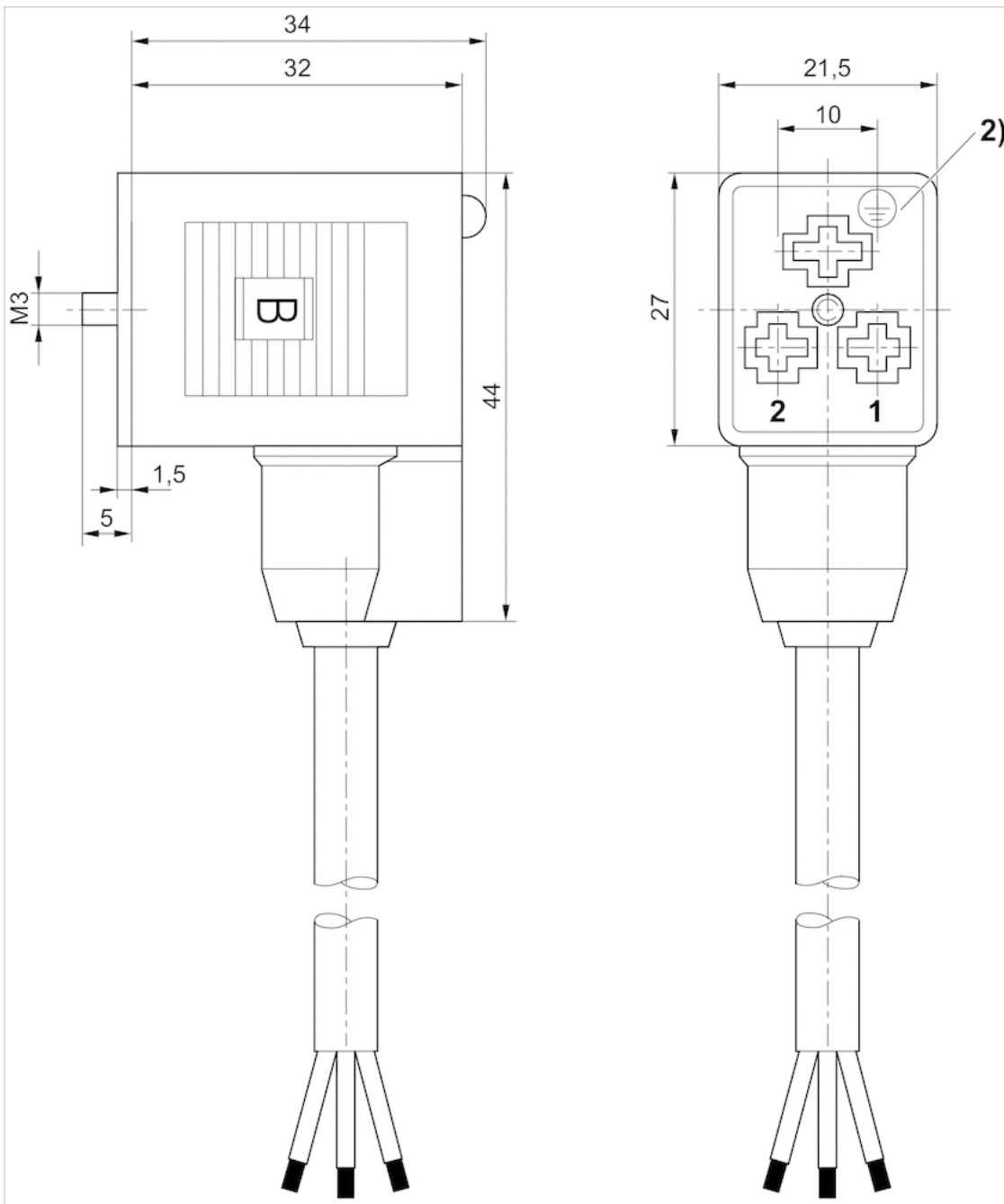
# Dimensions

Fig. 1



1) 0° female insert

Fig. 2



2) 180° female insert

# Valve plug connector, series CON-VP

- Socket, form B, 2+E, angled, 90°
- ISO 6952
- unshielded
- with LED Yellow Red Red



Connection type	Screws
Ambient temperature min./max.	-25 ... 50 °C
Operational voltage	See table below
Protection class	IP65
Mounting screw tightening torque	0.4 Nm
Weight	0.02 kg

## Technical data

Part No.		Operational voltage	Protective circuit	Contact assignment
1834484104		24 V AC/DC	Z-diode	2+E
1834484105		110 V AC	Varistor	2+E
1834484106		230 V AC	Varistor	2+E

Part No.	LED status display	suitable cable-Ø min./max	Fig.
1834484104	Yellow	6 / 8 mm	Fig. 2
1834484105	Red Red	6 / 8 mm	Fig. 2
1834484106	Red Red	6 / 8 mm	Fig. 2

Profile seal, Flat gasket

## Technical information

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

## Technical information

Material	
Seals	Silicone caoutchouc

# Dimensions

Fig. 1

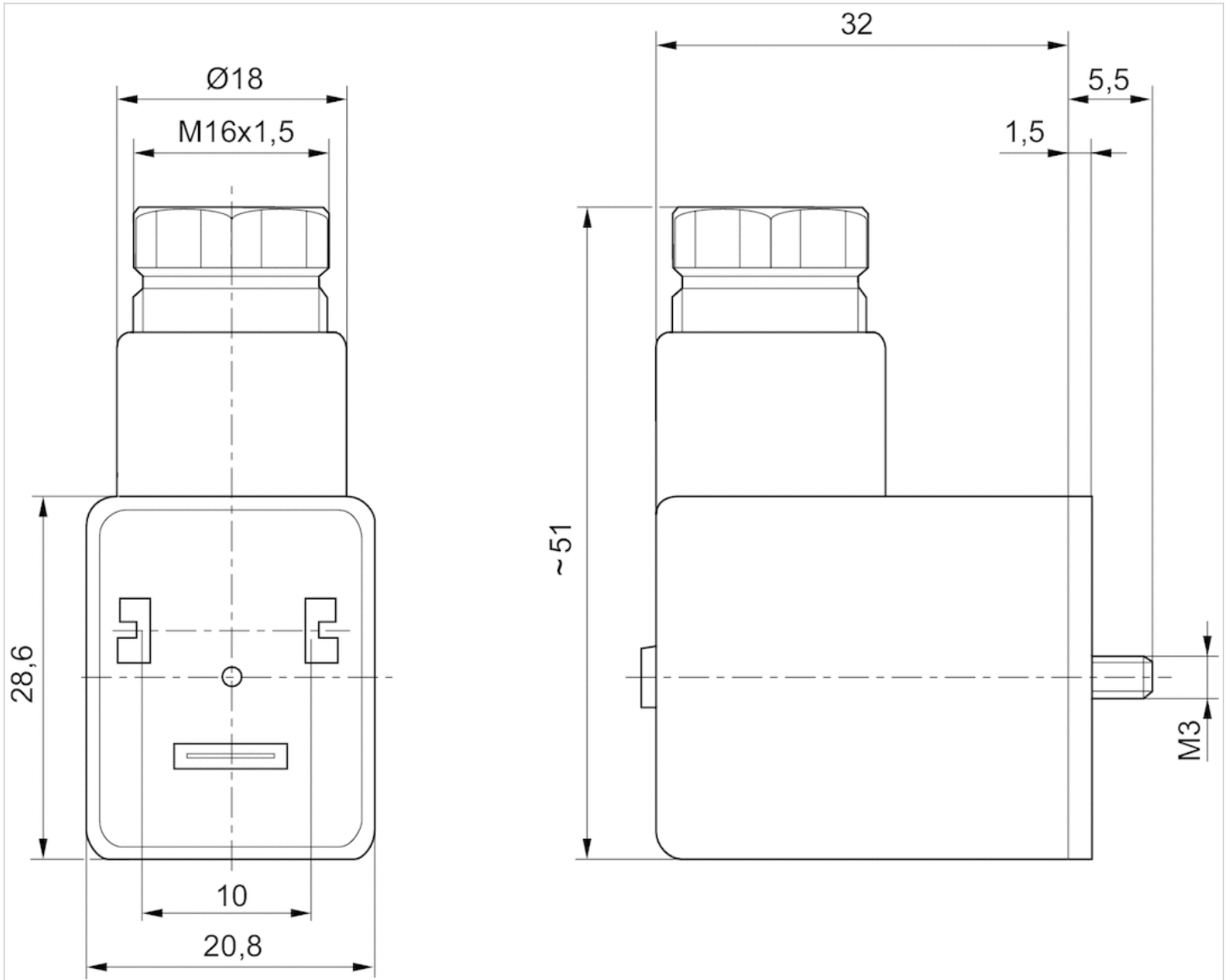
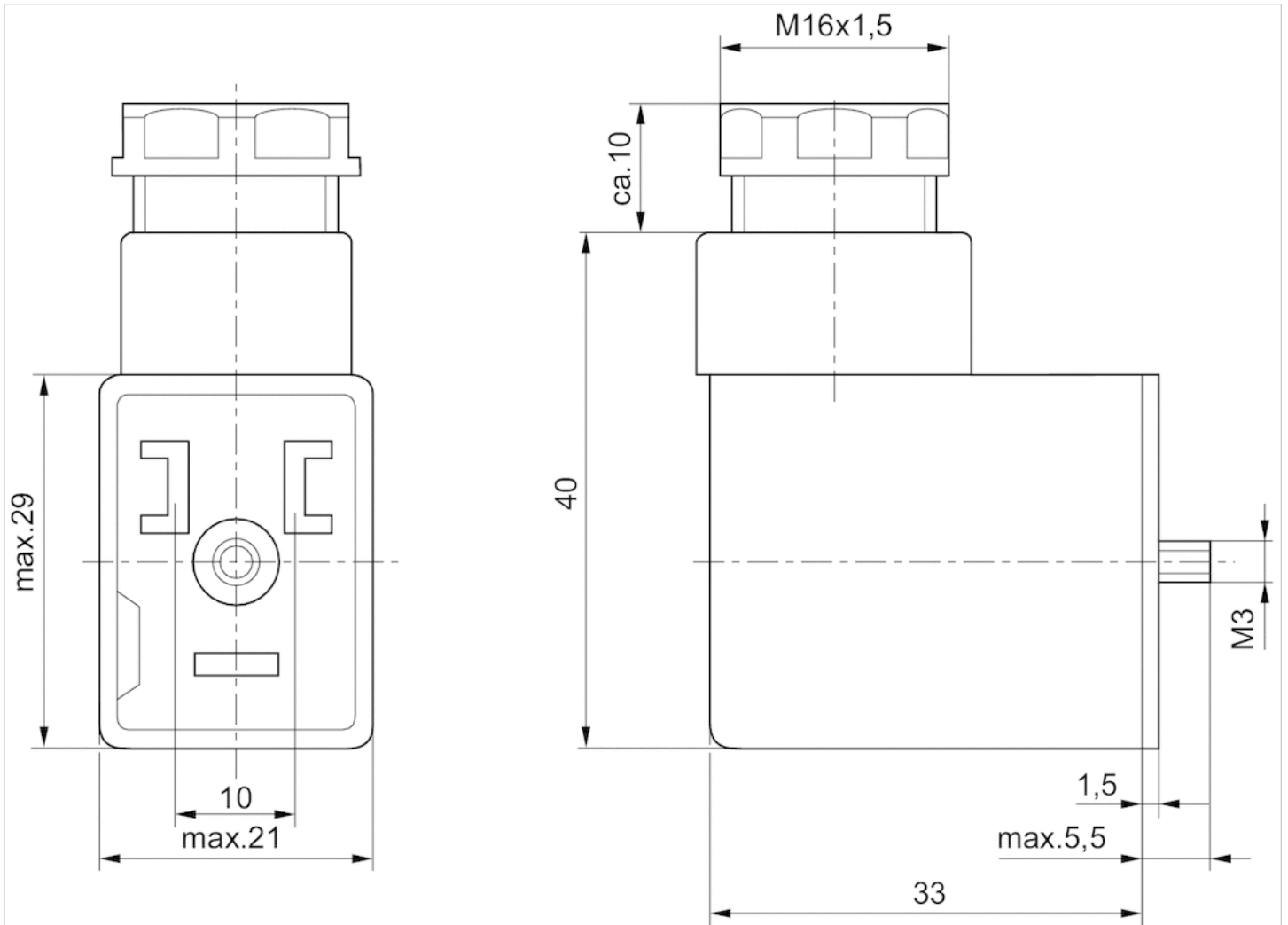


Fig. 2

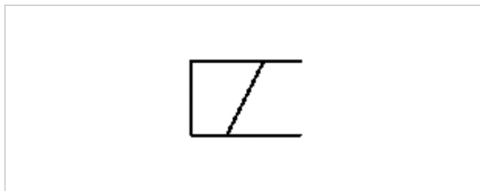


# Coil, Series C01

- form B
- Coil width 22 mm
- Power consumption DC 4.8-5.9 W
- Holding power AC 7.7-9.7 VA
- Switch-on power AC 10.5-12.6 VA



Connector standard	EN 175301-803, form B
electrical connections	Plug, 3-pin
Ambient temperature min./max.	50 °C
Protection class With valve plug connector/plug	IP65
Duty cycle ED	100 %
Compatibility index	14
Weight	0.07 kg



## Technical data

Part No.	Operational voltage	Operational voltage	Operational voltage
	DC	AC 50 Hz	AC 60 Hz
1824210239	12 V	24 V	24 V
1824210243	24 V	48 V	48 V
1824210241	48 V	-	-
1824210237	60 V	110 V	110 V
1824210235	110 V	220 V	230 V

Part No.	Voltage tolerance	Voltage tolerance	Voltage tolerance	Power consumption
	DC	AC 50 Hz	AC 60 Hz	DC
1824210239	-10% / +10%	-10% / +10%	-10% / +10%	5.5 W
1824210243	-10% / +10%	-10% / +10%	-10% / +10%	4.8 W
1824210241	-10% / +10%	-10% / +10%	-10% / +10%	5 W
1824210237	-10% / +10%	-10% / +10%	-10% / +10%	5.9 W
1824210235	-10% / +10%	-10% / +10%	-10% / +10%	4.9 W

Part No.	Holding power	Holding power	Switch-on power	Switch-on power
	AC 50 Hz	AC 60 Hz	AC 50 Hz	AC 60 Hz
1824210239	8.9 VA	7.3 VA	12 VA	9.9 VA
1824210243	7.7 VA	6.2 VA	10.5 VA	9.4 VA
1824210241	-	-	-	-
1824210237	8.4 VA	6.8 VA	11 VA	9.4 VA

Part No.	Holding power		Switch-on power	
	AC 50 Hz	AC 60 Hz	AC 50 Hz	AC 60 Hz
1824210235	9.7 VA	7.9 VA	12.6 VA	10.2 VA

## Technical information

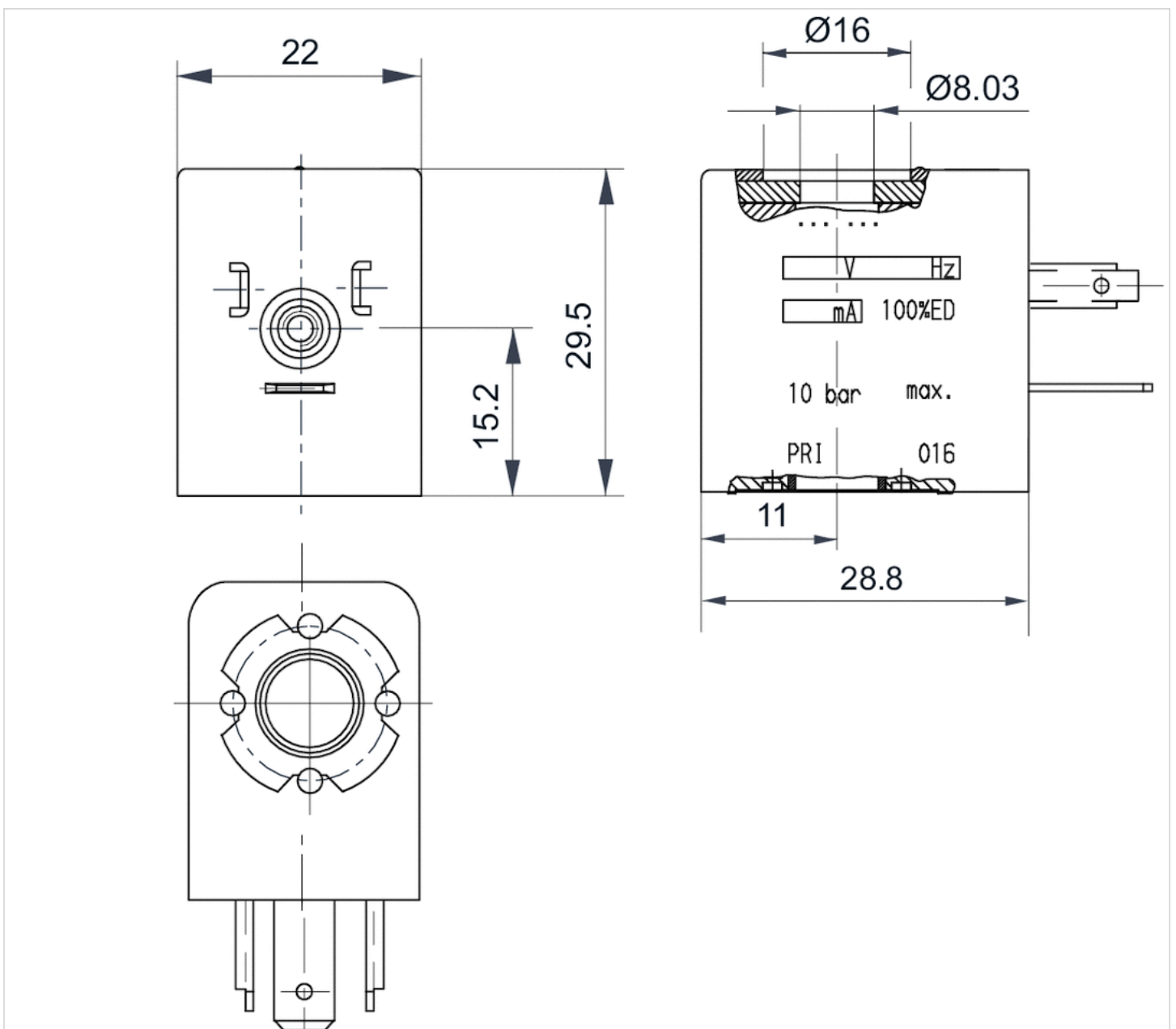
Material

Housing

Thermoplastic elastomer

## Dimensions

Dimensions





# Pressure sensor, Series PE5

- Operating pressure -1 ... 0 -1 ... 1 0 ... 6 0 ... 10 0 ... 12 bar
- electronic
- Output signal analog 0 - 10 V DC, 4 - 20 mA
- Output signal digital 2 x PNP, NPN, Push-pull PNP, NPN, Push-pull PNP, NPN, push-pull, 1x IO-Link
- Electr. connection Plug M12x1 4-pin
- Compressed air connection Internal thread G 1/4



Type	electronic
Certificates	CE declaration of conformity cULus RoHS Conforms with REACH Free of substances that impair surface wetting in the coating process
Compressed air connection	Internal thread G 1/4
Ambient temperature min./max.	0 ... 60 °C
Medium temperature min./max.	0 ... 60 °C
Medium	Compressed air (max. 40 µm)
Max. oil content of compressed air	40 mg/m <sup>3</sup>
Measurement	Relative pressure
Display	LCD display, 4 digits, Color setting: green or red
Units displayed	bar psi kPa MPa inHg
Switching logic	NO/NC (adjustable)
Shock resistance max.	30 g
Vibration resistance	5 g (10 - 150 Hz)
Precision (% of full scale value)	±1.5% in temperature range of 10 - 30°C ± 2 % including temperature drift
Repeatability (% of full scale value)	± 0,2 %
Switching time	5 ms
Switching point	adjustable 0 ... 100%
Resetting point	adjustable 0 ... 100%
Hysteresis	adjustable
Delayed hysteresis	adjustable
Window function	adjustable
DC operating voltage min./max.	17 ... 30 V DC
Analog output	0 - 10 V DC, 4 - 20 mA
Quiescent current consumption	40 mA
Analog output linearity	± 0.5% of the final value
Maximum load (analog current output)	600 Ω
Short circuit resistance	Max. 600 ohms (current output) Min. 3K ohms (voltage output)
Mounting types	Directly on hat rail and wall mounting For panel installation using mounting kit via double nipple
Protection class	IP65 IP67 with connections assembled
Electr. connection	Plug M12x1 4-pin
Weight	0.04 kg

## Technical data

Part No.		Operating pressure range	Protection against overpressure
		min./max.	
R412010761		-1 ... 0 bar	5 bar
R412010769		-1 ... 0 bar	5 bar
R412010775		-1 ... 0 bar	5 bar
R412010763		-1 ... 1 bar	5 bar
R412010771		0 ... 6 bar	15 bar
R412010765		0 ... 6 bar	15 bar
R412010777		0 ... 6 bar	15 bar
R412010773		0 ... 10 bar	15 bar
R412010767		0 ... 10 bar	15 bar
R412010779		0 ... 10 bar	15 bar
R412010782		0 ... 12 bar	16 bar
R412010806		0 ... 12 bar	16 bar

Part No.	Output signal	Output signal	Fig.	
	Analog	digital		
R412010761	-	2 x PNP, NPN, Push-pull	Fig. 1	-
R412010769	0 - 10 V DC-4 ... 20 mA	PNP, NPN, Push-pull	Fig. 1	-
R412010775	-	PNP, NPN, push-pull, 1x IO-Link	Fig. 1	1)
R412010763	-	2 x PNP, NPN, Push-pull	Fig. 1	-
R412010771	0 - 10 V DC-4 ... 20 mA	PNP, NPN, Push-pull	Fig. 1	-
R412010765	-	2 x PNP, NPN, Push-pull	Fig. 1	-
R412010777	-	PNP, NPN, push-pull, 1x IO-Link	Fig. 1	1)
R412010773	0 - 10 V DC-4 ... 20 mA	PNP, NPN, Push-pull	Fig. 1	-
R412010767	-	2 x PNP, NPN, Push-pull	Fig. 1	-
R412010779	-	PNP, NPN, push-pull, 1x IO-Link	Fig. 1	1)
R412010782	-	2 x PNP, NPN, Push-pull	Fig. 1	-
R412010806	-	PNP, NPN, push-pull, 1x IO-Link	Fig. 1	1)

1) The IO-Link device description (IODD) for the PE5 pressure sensor is available for download in the Media Centre.

## Technical information

Alternative pressure connection (G1/4) on the rear side (closed with plug)

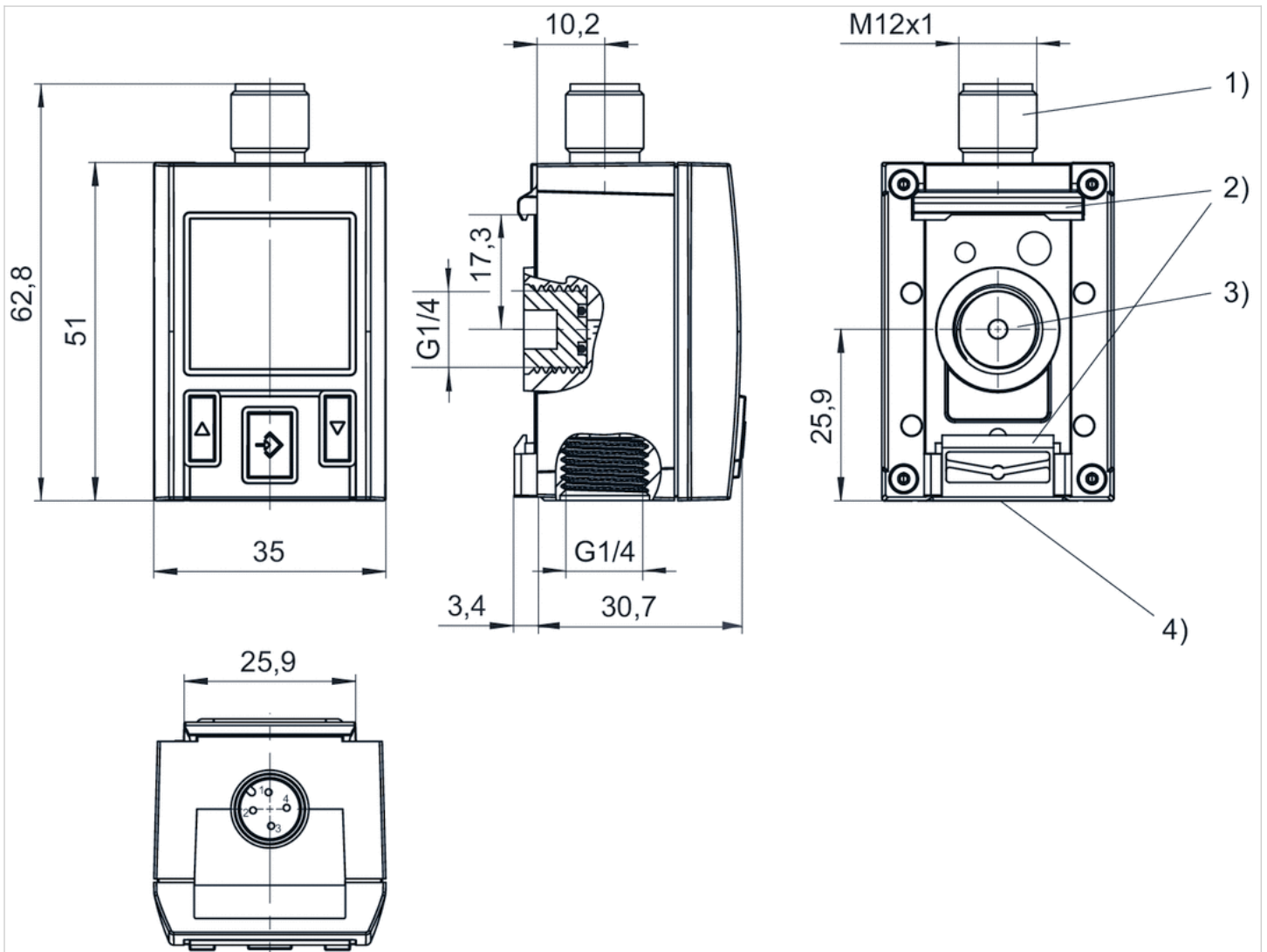
Display color selectable, red or green

## Technical information

Material	
Housing	Polycarbonate
Seals	Acrylonitrile butadiene rubber
Blanking plug	Polyoxymethylene
Electr. connection	Aluminum, black anodized

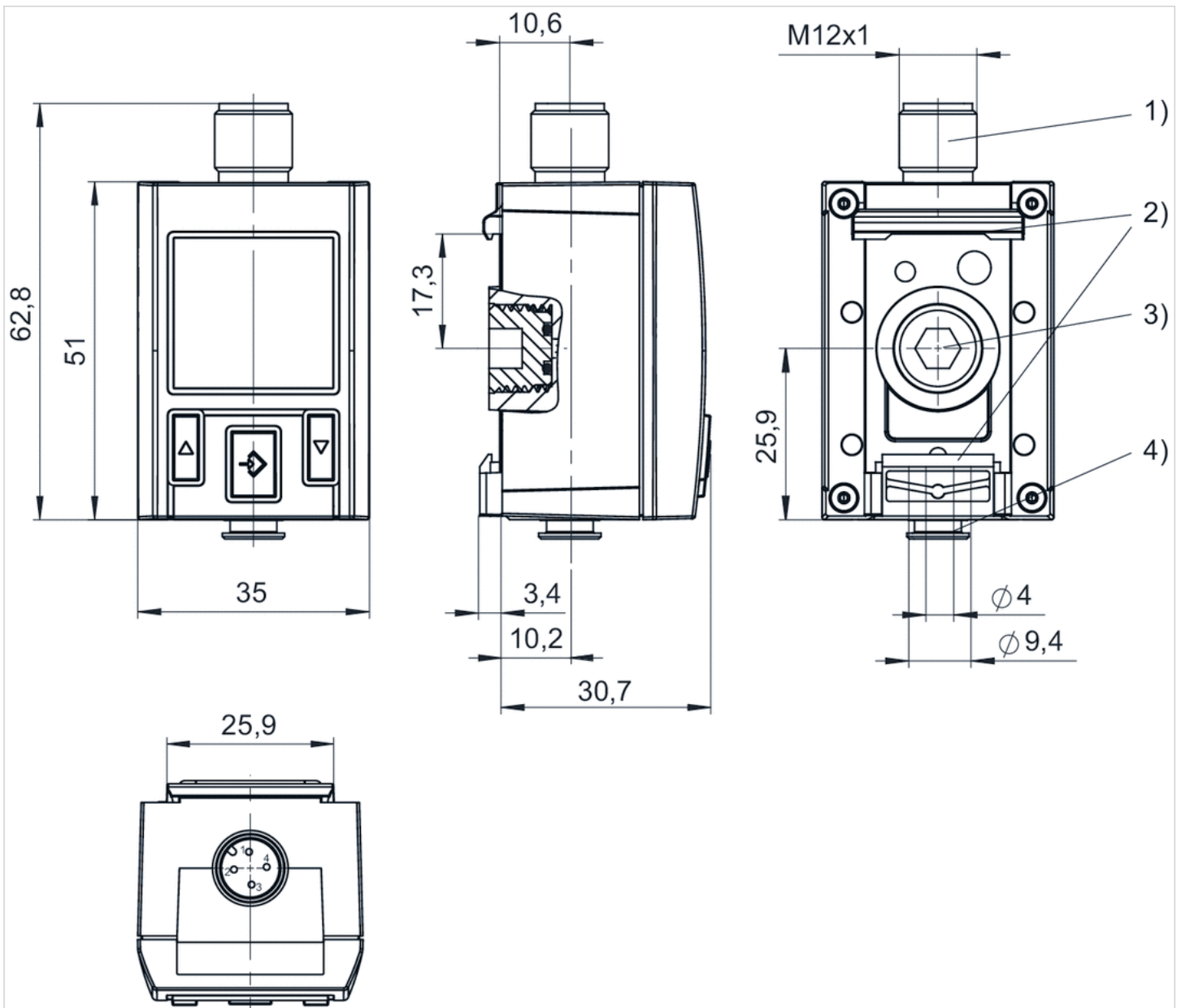
## Dimensions

Fig. 1



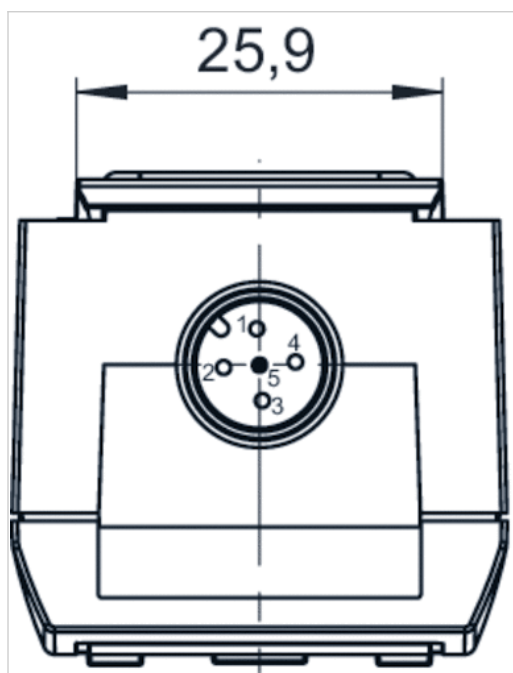
- 1) M12x1 electrical connection
- 2) Mounting for hat rail and wall mounting
- 3) Alternative pressure connection (G1/4) closed with plug
- 4) Pressure connection G1/4

Fig. 2

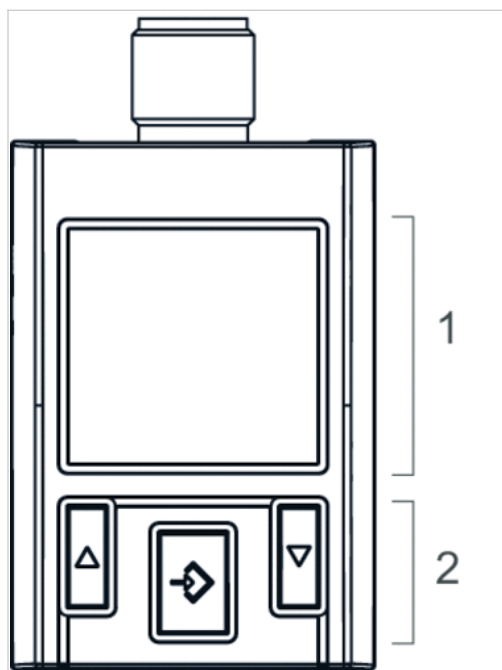


- 1) M12x1 electrical connection
- 2) Mounting for hat rail and wall mounting
- 3) Alternative pressure connection (G1/4) closed with plug
- 4) Pressure connection, tubing Ø 4 mm

Fig. 3, Electr. connection for leak test



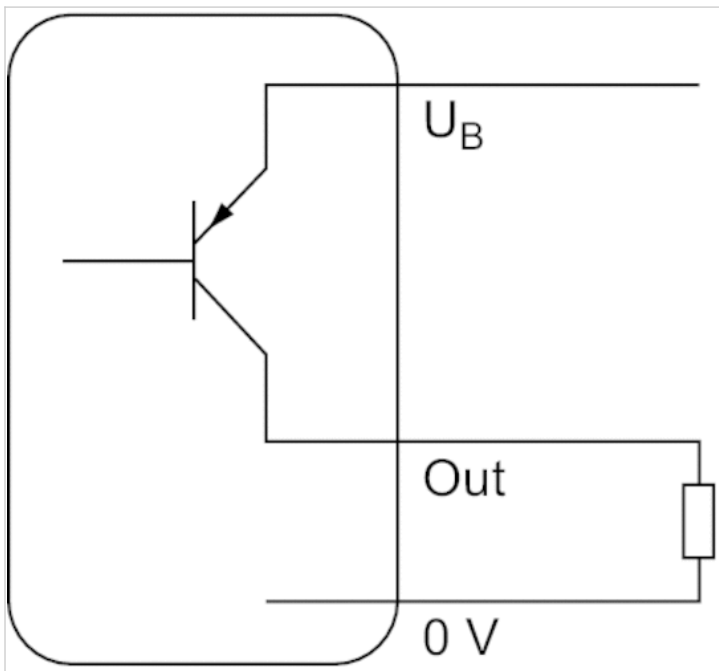
Display and operation area



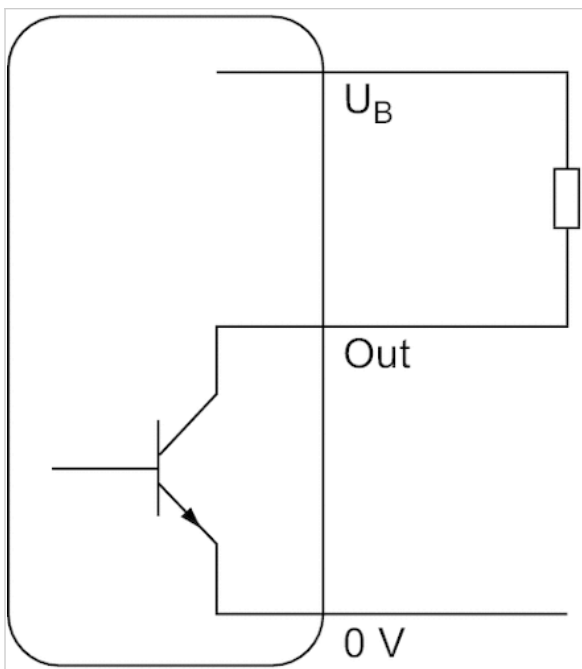
- 1) LCD display
- 2) Control panel with 3 buttons

## Diagrams

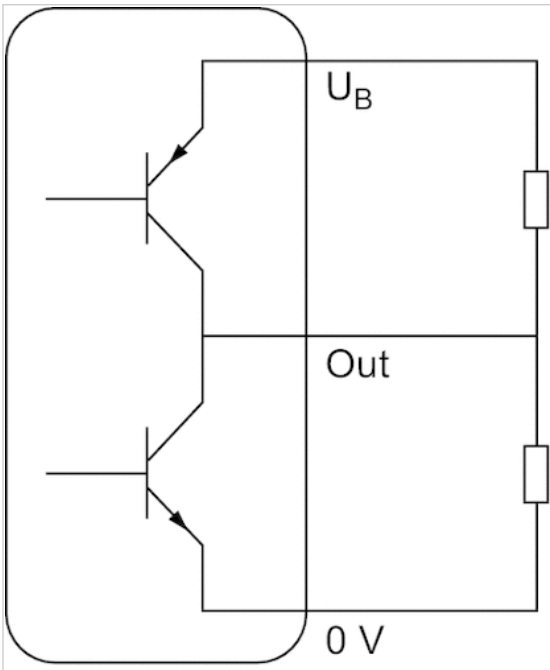
## Operating mode, PNP



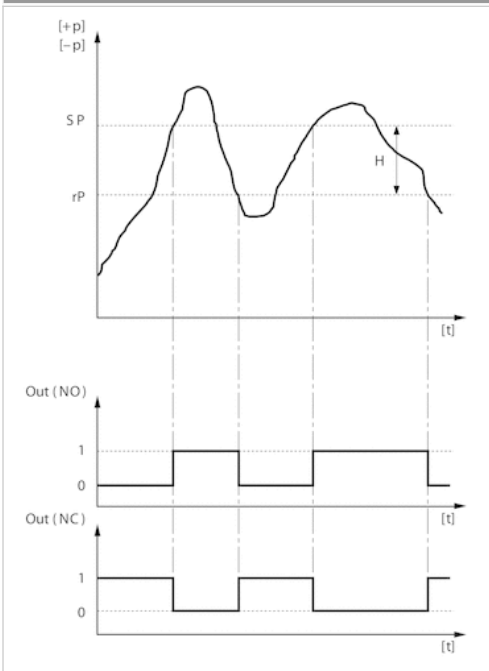
## Operating mode, NPN



Operating mode, Push-pull



Hysteresis function: switching and resetting behavior dependent on pressure p and time t, in case of overpressure



H: Hysteresis

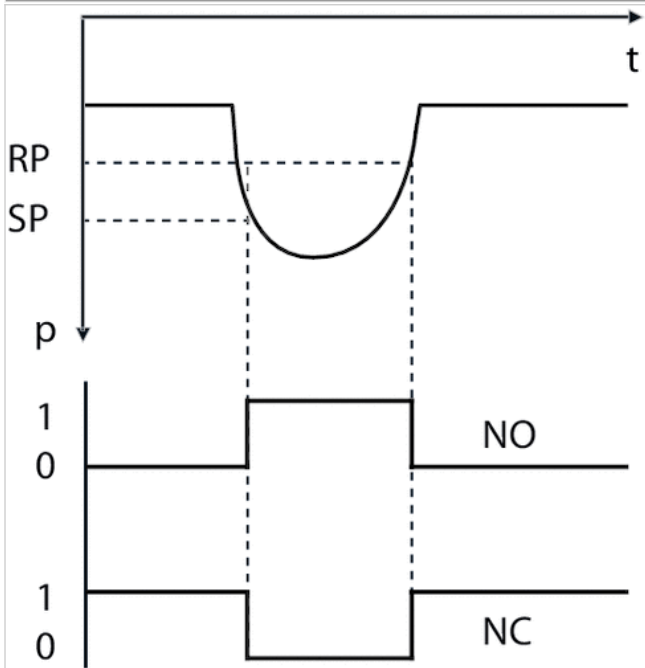
SP = switching point

RP = resetting point

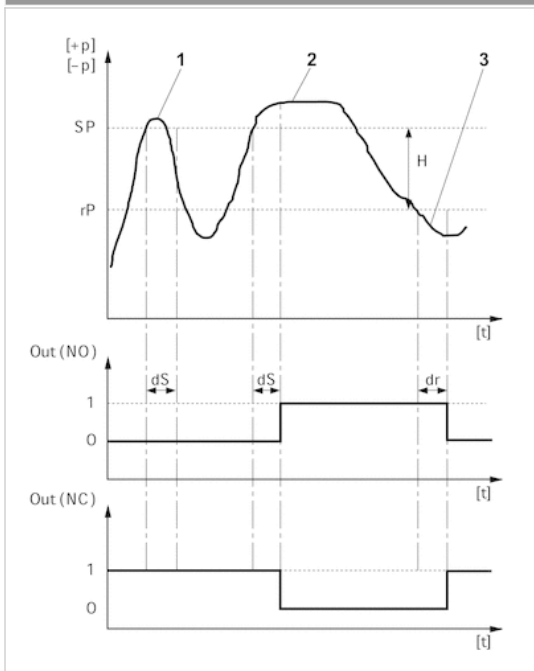
Out (NC): switch output, break contact

Out (NO): switch output, make contact

Hysteresis function: switching and resetting behavior dependent on pressure  $p$  and time  $t$ , in case of underpressure



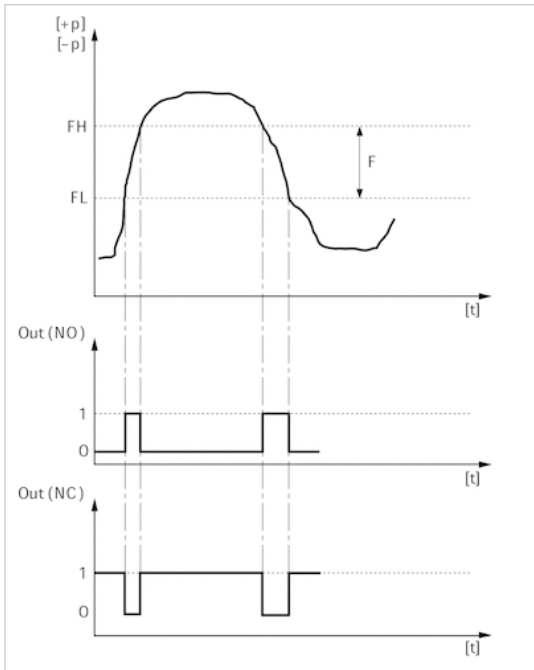
Delayed hysteresis function: switching and resetting behavior depending on pressure  $p$  and time  $t$



- H: Hysteresis
- SP = switching point
- RP = resetting point
- Out (NC): switch output, break contact
- Out (NO): switch output, make contact
- dS: switching delay
- dR = reset delay
- 1) period of pressure over the switching point  $dS$ : pressure sensor does not switch
- 2) Period of pressure over the switching point  $> dS$ : pressure sensor switches
- 3) Period of pressure under the resetting point  $> dR$ : pressure sensor switches

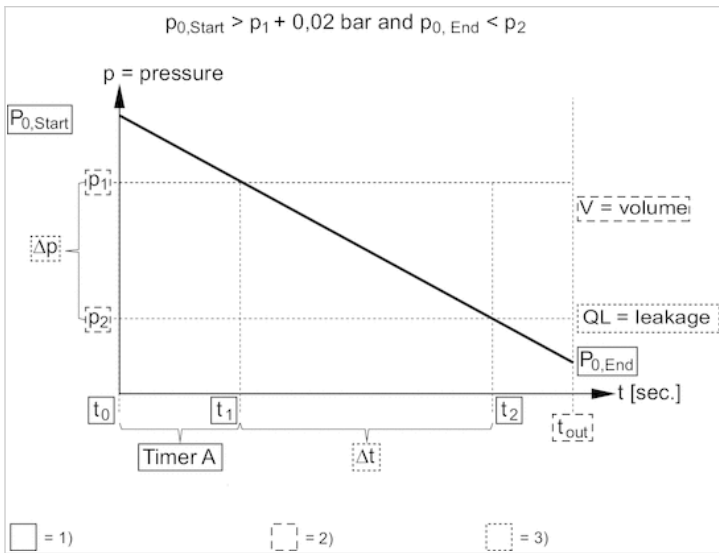


Window function: switching and resetting behavior depending on pressure p and time t



FH: pressure band, upper value  
 FL: pressure band, lower value  
 Out (NC): switch output, break contact  
 Out (NO): switch output, make contact

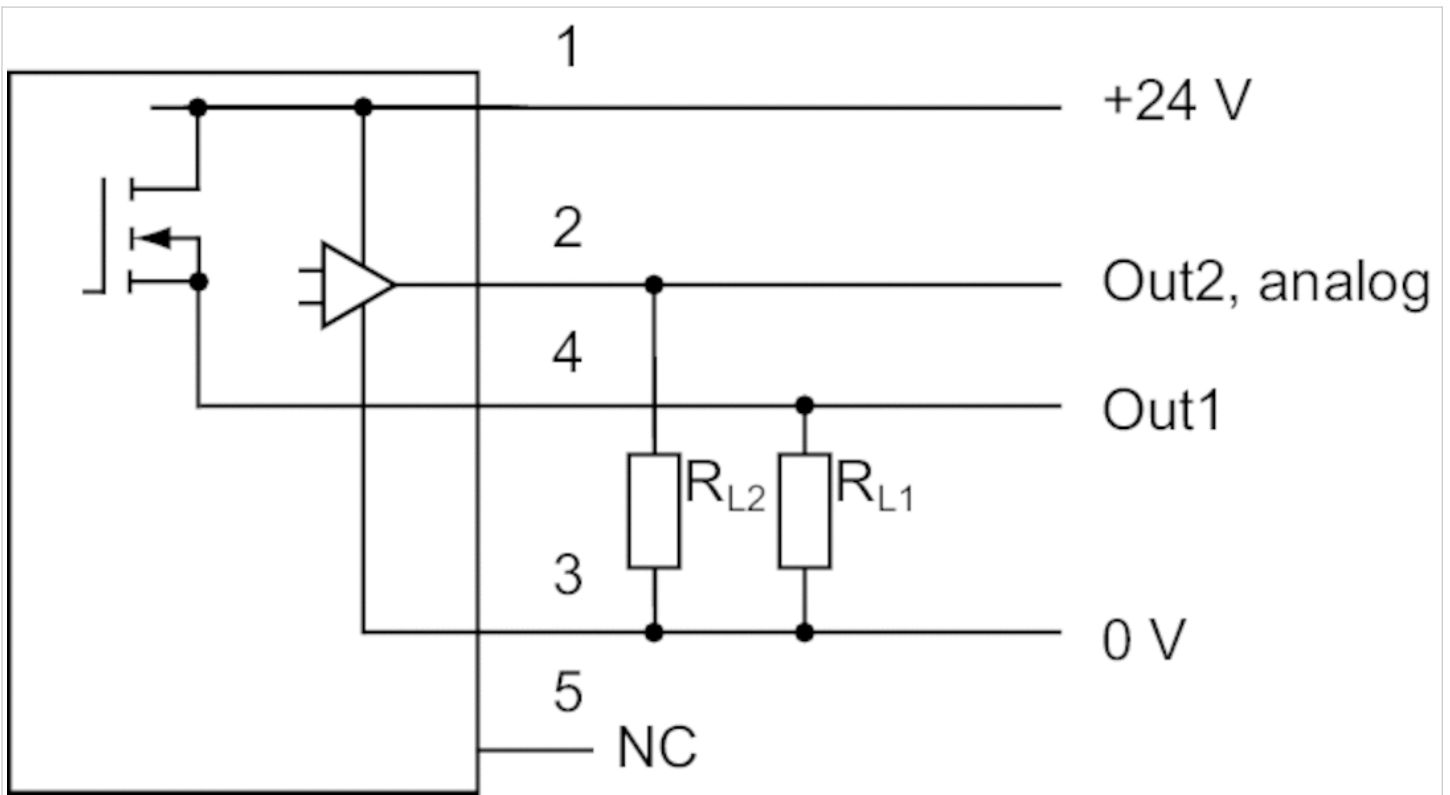
Leakage characteristic



- 1) Internally stored parameter
- 2) Adjustable parameter
- 3) Output value

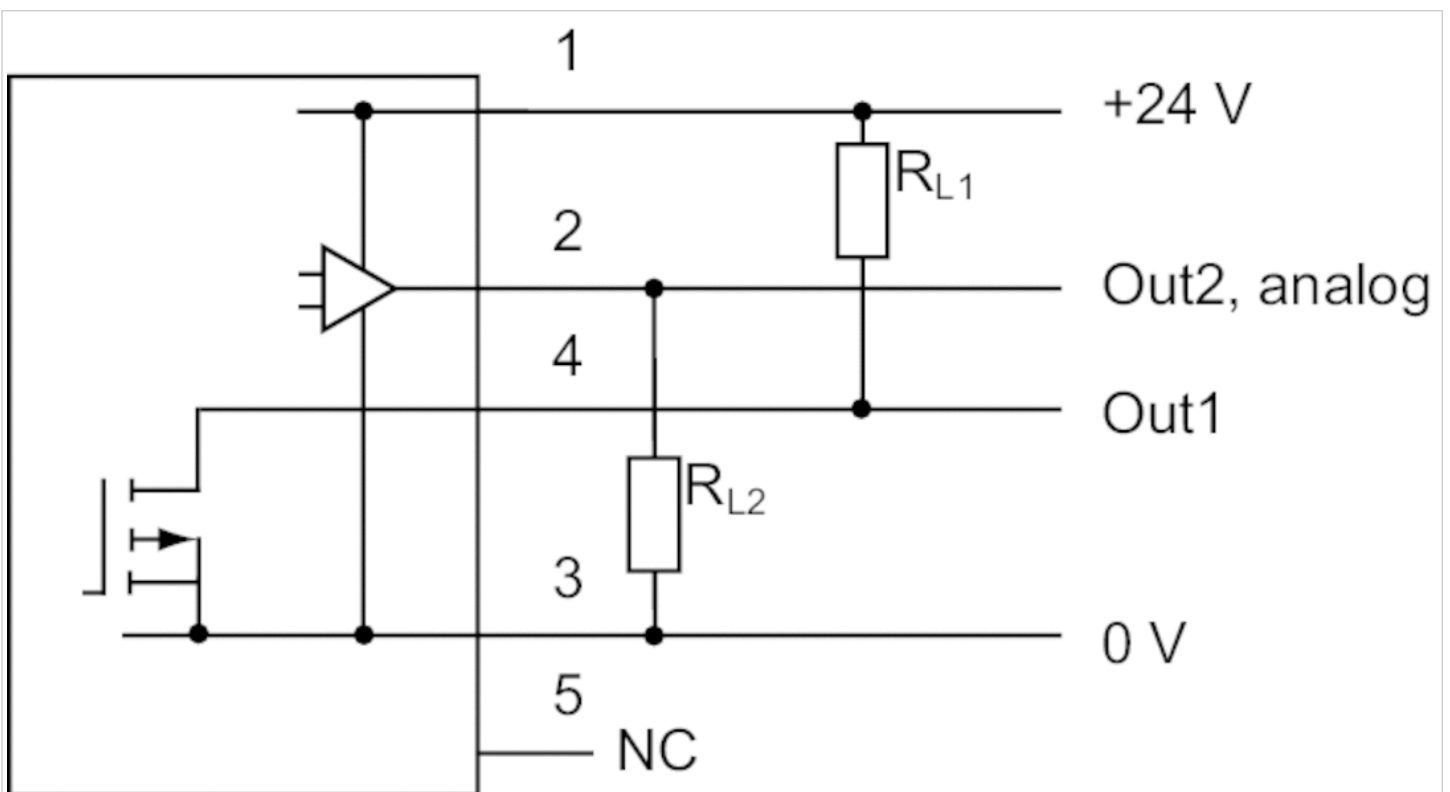
Circuit diagram

Block diagram, 1x PNP and 1x analog



RL = storable position

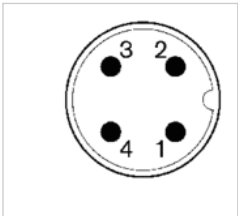
Block diagram, 1x NPN and 1x analog



RL = storable position

## Pin assignments

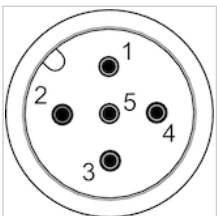
### Pin assignments, M12x1, 4-pin



Pin	1
Allocation	operational voltage + UB
	2
	3
	switch output Out2, analog: A or V, digital: PNP, NPN, push-pull
	0 V
	4
	switch output Out1, digital: PNP, NPN, push-pull

## Pin assignments

### Pin assignments, M12x1, 5-pin



Pin	1	2	3
Allocation	Supply Voltage	Switch output PNP/NPN/push-pull, switchable	0 V
		4	
		Switch output PNP/NPN/push-pull/leakage mode, digital switch input PNP	
		5	
		Analog output ( 0 to 10 V DC, 4 to 20 mA)	








# Pressure sensor, Series PE2

- Operating pressure -1 ... 1 0 ... 16 bar
- electronic
- Output signal analog 1 x PNP, 1 x analog 4-20 mA
- Electr. connection Plug M12x1 5-pin
- Compressed air connection Internal thread G 1/4



Type	electronic
Function	1 x PNP, 2 x PNP 1x PNP and 1x analog
Mounting orientation	Any
Certificates	CE declaration of conformity EMV
Compressed air connection	Internal thread G 1/4
Working pressure min./max.	See table below
Ambient temperature min./max.	-10 ... 75 °C
Medium temperature min./max.	-10 ... 75 °C
Medium	Compressed air Neutral gases
Measurement	Relative pressure
Display	OLED
Units displayed	bar mbar psi kPa MPa %
Switching logic	Hysteresis function NO/NC (programmable) Window function NO/NC (programmable)
Operating pressure display	2 LED
Shock resistance max.	30 g
Vibration resistance	5 g (10 - 150 Hz)
Precision (% of full scale value)	± 1 % including temperature drift
Switching time	10 ms at loads 100 kΩ > 10 ms at loads > 100 kΩ
Switching point	Adjustable ≥ 0.5% ... 100% FS
Resetting point	Adjustable 0% FS to SP -0.5% FS (or +0.5% FS when SP 0)
Hysteresis	adjustable
Switching/reset delay	adjustable
DC operating voltage min./max.	15 ... 32 V DC
Analog output	1 x PNP, 1 x analog 4-20 mA
Quiescent current consumption	50 mA
Maximum load (analog current output)	600 Ω
Short circuit resistance	short circuit resistant
Mounting types	via through holes
Protection class	IP65
Electr. connection	Plug M12x1 5-pin
Weight	0.3 kg

## Technical data

Part No.		Type	Operating pressure range
			min./max.
R412010848		PE2-P1-G014-V10-010-M012	-1 ... 1 bar
R412010853		PE2-P2-G014-V10-010-M012	-1 ... 1 bar
R412010856		PE2-PA-G014-V10-010-M012	-1 ... 1 bar
R412010850		PE2-P1-G014-000-160-M012	0 ... 16 bar
R412010854		PE2-P2-G014-000-160-M012	0 ... 16 bar
R412010857		PE2-PA-G014-000-160-M012	0 ... 16 bar

Part No.	Protection against overpressure	Output signal	Output signal	Fig.
		Analog	digital	
R412010848	10 bar	-	1 x PNP	Fig. 1
R412010853	10 bar	-	2 x PNP	Fig. 1
R412010856	10 bar	4 ... 20 mA	1 x PNP	Fig. 1
R412010850	40 bar	-	1 x PNP	Fig. 1
R412010854	40 bar	-	2 x PNP	Fig. 1
R412010857	40 bar	4 ... 20 mA	1 x PNP	Fig. 1

## Technical information

Menu navigation is based on the VDMA specification with an additional plain text menu.

## Technical information

Material	
Housing	Aluminum, Vibration-ground
Seals	Fluorocautchouc
Electr. connection	Aluminum with polymer insert
flange connection	Nitrile butadiene rubber, Fluorocautchouc

# Dimensions

Fig. 1

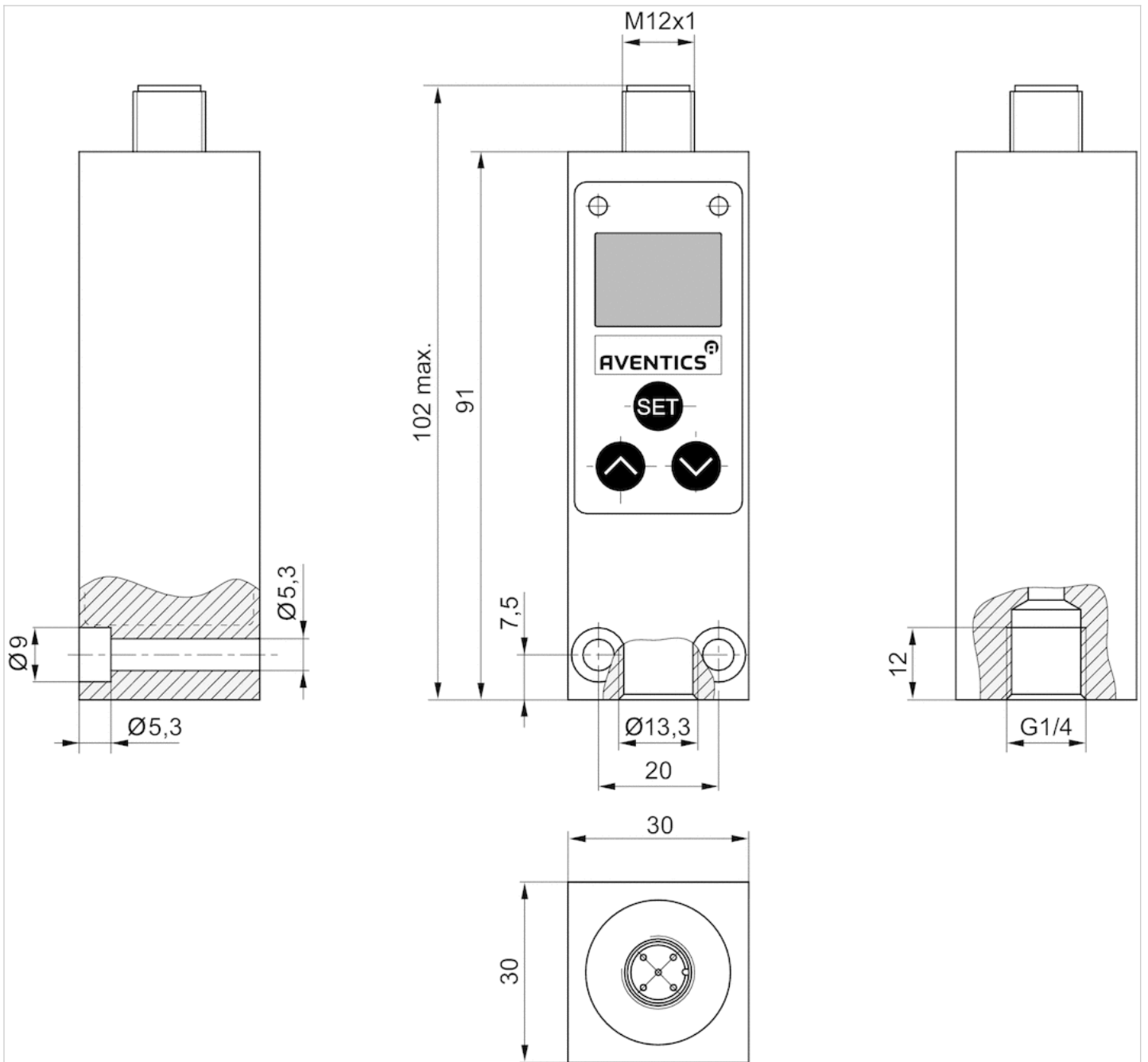
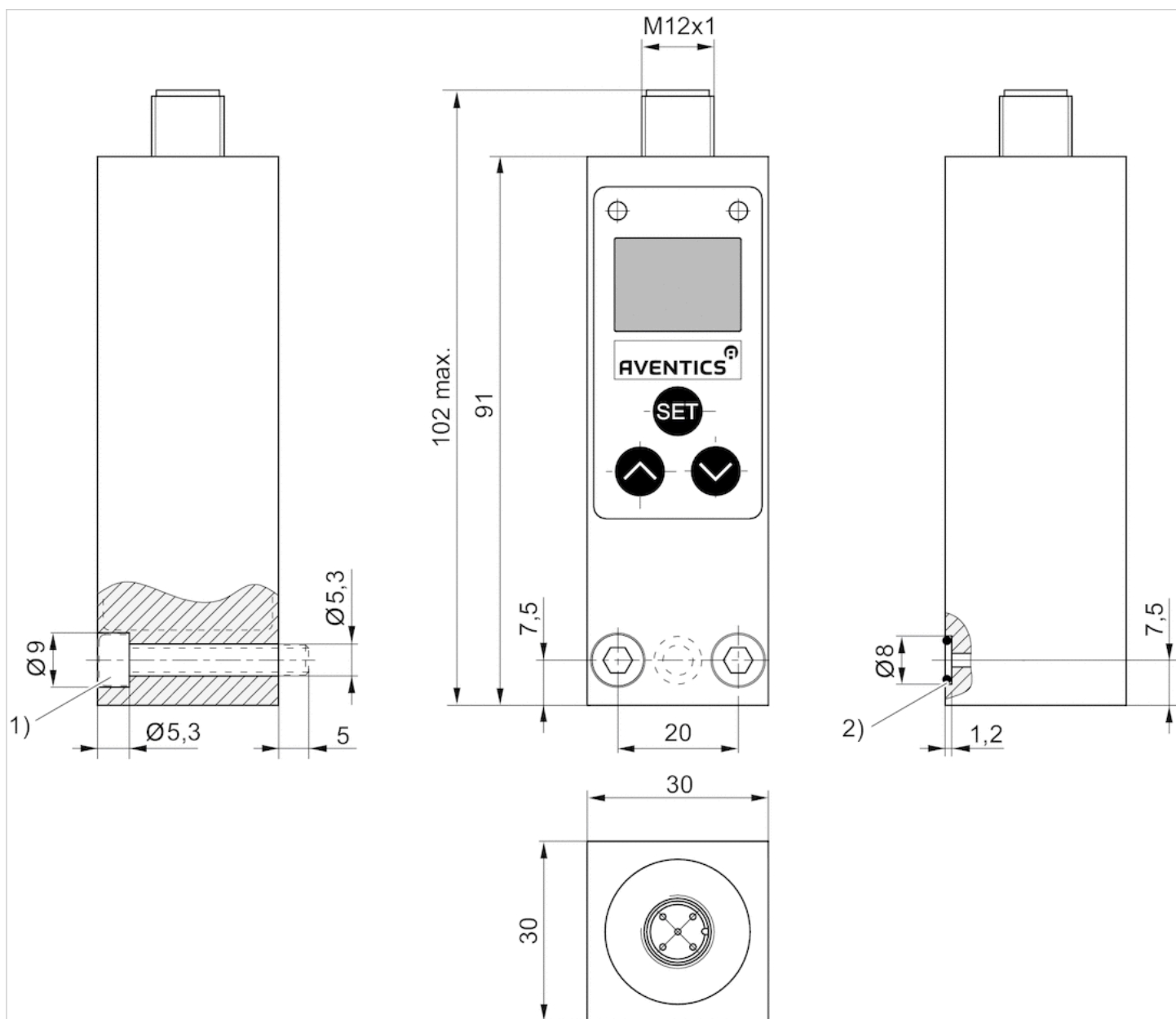


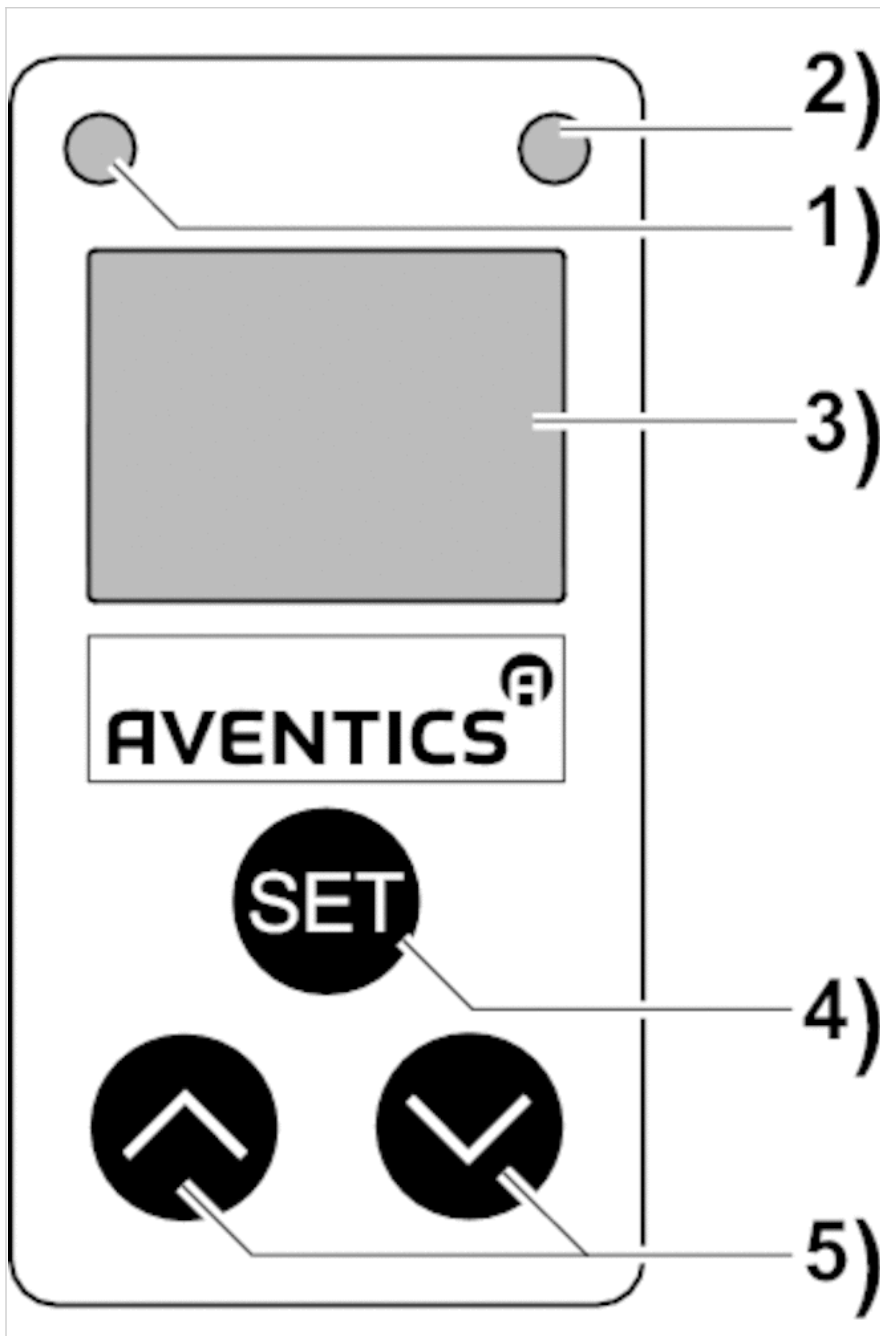
Fig. 2



1) cylinder screw M5x35 (included in scope of delivery)

2) O-ring  $\varnothing 5 \times 1,5$  (included)

## Display and operation area

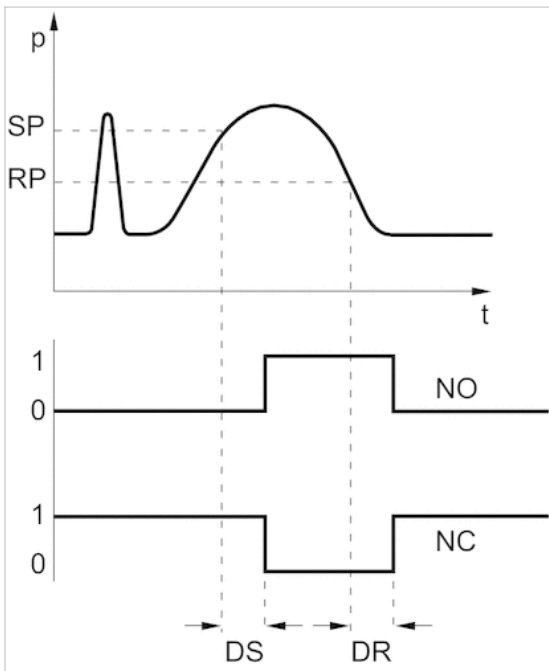


- 1) LED for switch output 1
- 2) LED for switch output 2
- 3) Display (pressure, operating modes, navigation)
- 4) Confirm menu/menu item selection
- 5) Button for menu item/parameter change selection



## Diagrams

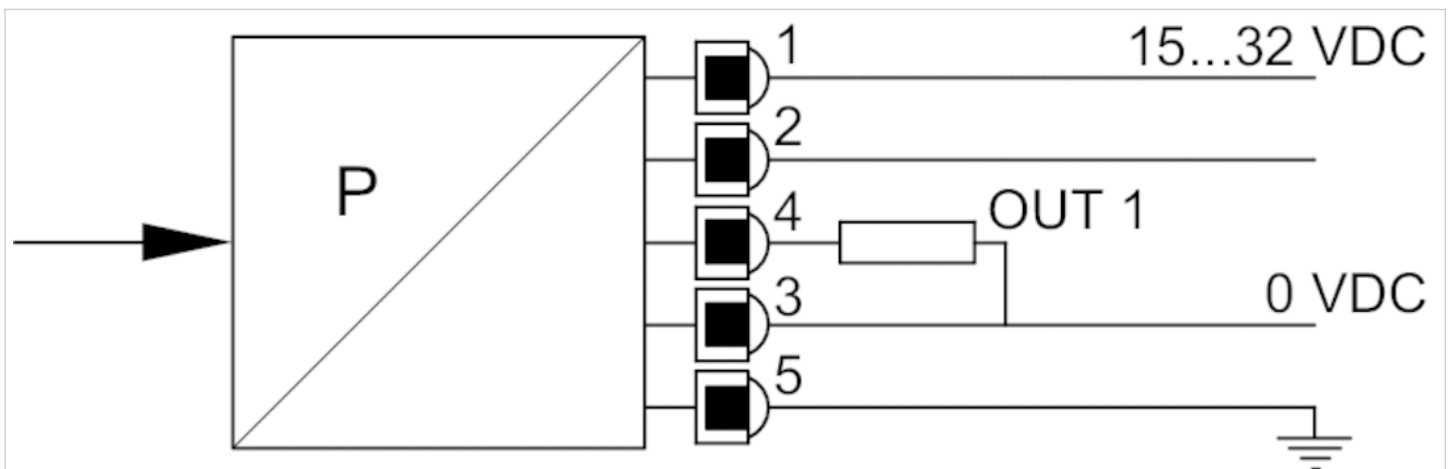
### Pressure-voltage characteristics curve



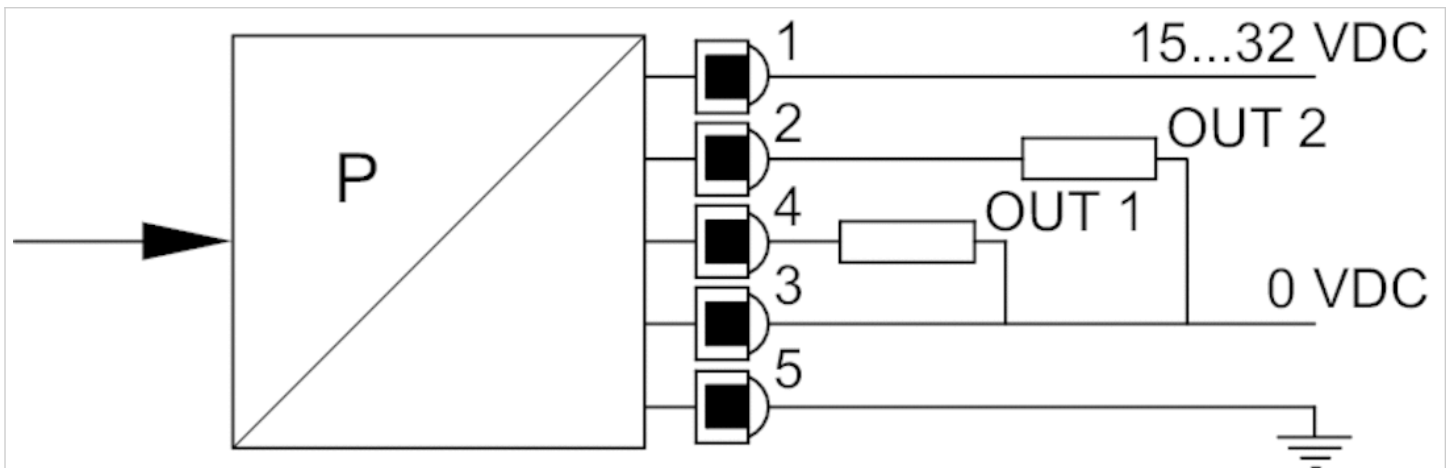
- SP = switching point
- RP = resetting point
- NO = Switching function open
- NC = Switching function closed without current
- DS = Delay for the switching point
- DR = Delay for the resetting point

## Circuit diagram

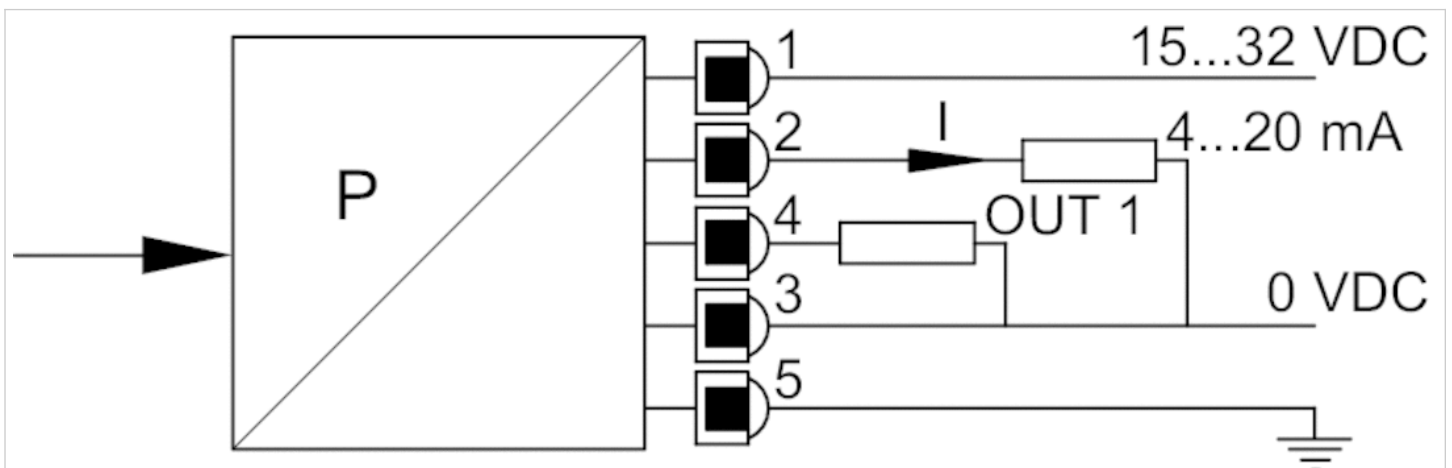
### Block diagram, 1 x PNP



Block diagram, 2 x PNP

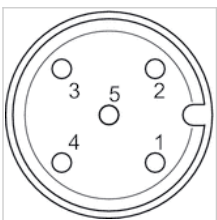


Block diagram, 1x PNP and 1x analog



Pin assignments

Pin assignments



pin 1: signal + UB, color: brown pin 2: signal: out 2 (PNP)/analog 4 - 20 mA, color: white pin 3: signal: 0 volt, color: blue pin 4: signal: out 1 (PNP), color: black pin 5: signal: FE, color: gray





# Pressure Switches, Series PM1

- Operating pressure -0.9 ... 0 -0.9 ... 3 0.2 ... 16 bar
- Mechanical
- Spring-loaded bellows, adjustable
- Electr. connection Plug EN 175301-803, form A
- Compressed air connection Internal thread G 1/4
- PM1-M3-G014



Type	Mechanical
Function	change-over contact (mechanical)
Mounting orientation	Any
Compressed air connection	Internal thread G 1/4
Working pressure min./max.	See table below
Ambient temperature min./max.	-20 ... 80 °C
Medium temperature min./max.	-10 ... 80 °C
Medium	Compressed air Hydraulic oil
Measurement	Relative pressure
Switching element	microswitch (input/output)
Protection against overpressure	80 bar
Max. switching frequency	1,5 Hz
Shock resistance max.	15 g
Vibration resistance	10 g (60 - 500 Hz)
Repeatability (% of full scale value)	± 1 %
Switching point	adjustable
Hysteresis	max. switching pressure difference
DC operating voltage min./max.	12 ... 30 V DC
Operational voltage AC min./max.	12 ... 250 V AC
Mounting types	via through holes
Protection class	IP65
Electr. connection	Plug EN 175301-803, form A
Weight	0.16 kg

## Technical data

Part No.		Type	Operating pressure range	Scope of delivery
			min./max.	
R412010711		PM1-M3-G014	-0.9 ... 0 bar	With valve plug connector
R412022752		PM1-M3-G014	-0.9 ... 3 bar	Without valve plug connector
R412010712		PM1-M3-G014	0.2 ... 16 bar	Without valve plug connector
R412010713		PM1-M3-G014	0.2 ... 16 bar	With valve plug connector

Part No.	Fig.	
R412010711	Fig. 1	-
R412022752	Fig. 1	-
R412010712	Fig. 1	1)
R412010713	Fig. 1	1)

1) Min. switching pressure range 0.2 bar falling/0.5 bar rising

## Technical information

Switching function increasing pressure: contact switches from 1-2 to 1-3.

Switching function decreasing pressure: contact switches from 1-3 to 1-2.

Notice: Too-high currents can damage contacts. Inductive or capacitive loads must be equipped with appropriate spark-quenching!

The microswitch has silver-plated contacts.

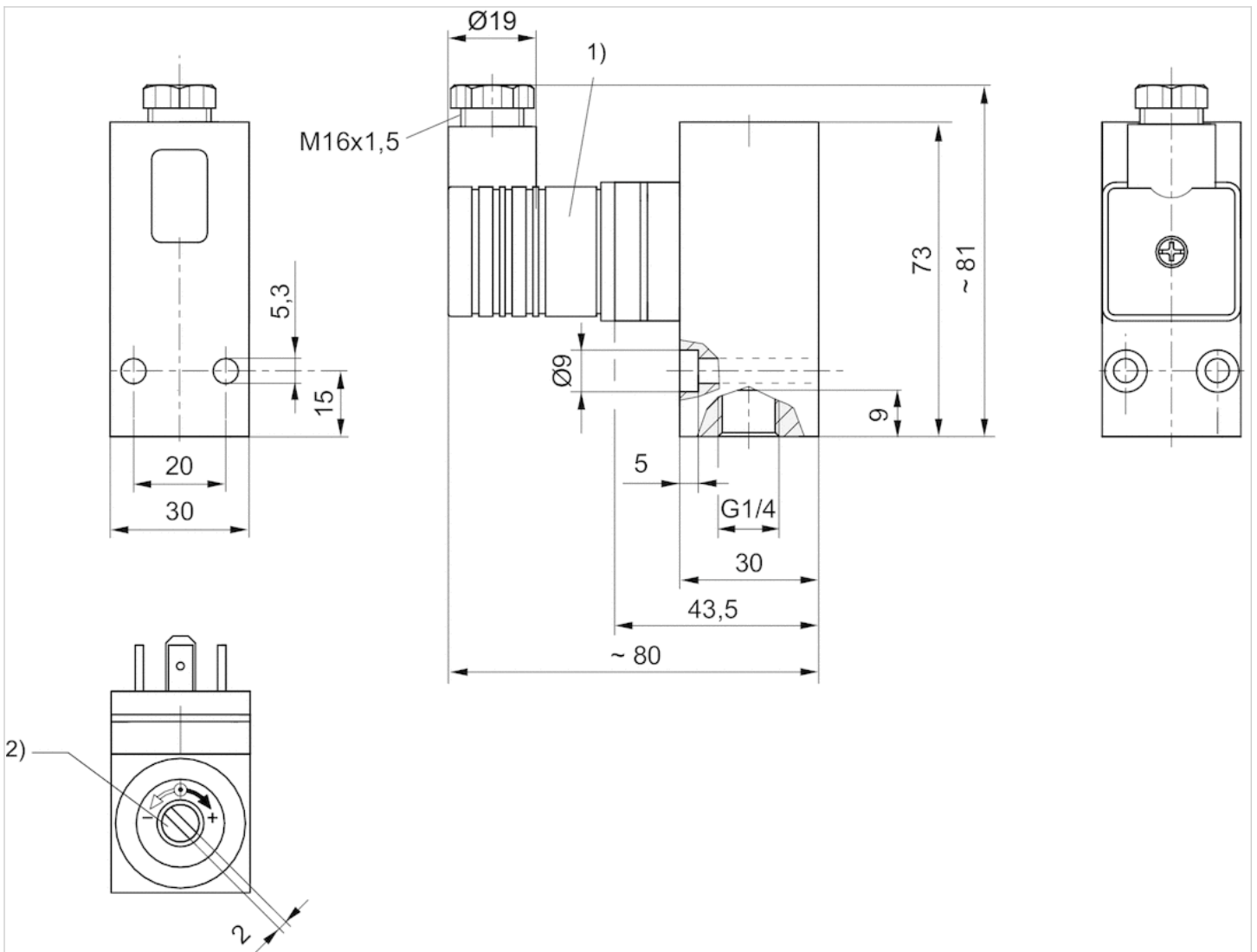
Please observe the pin assignment when selecting plug connectors.

## Technical information

Material	
Housing	Aluminum
Seals	Acrylonitrile butadiene rubber
Electr. connection	Brass, nickel-plated

## Dimensions

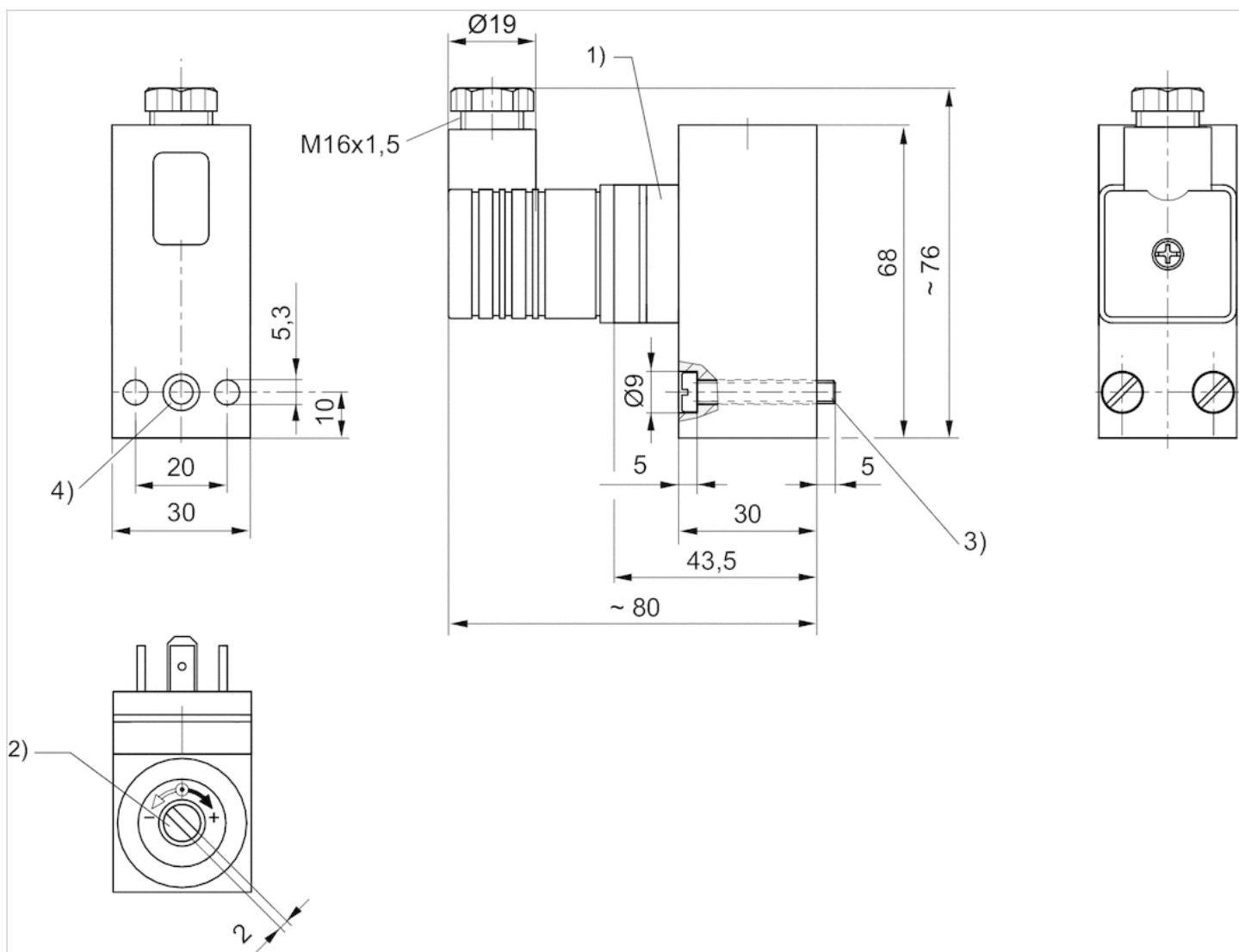
Fig. 1



1) Valve plug connector

## 2) Adjustment screw, self-holding

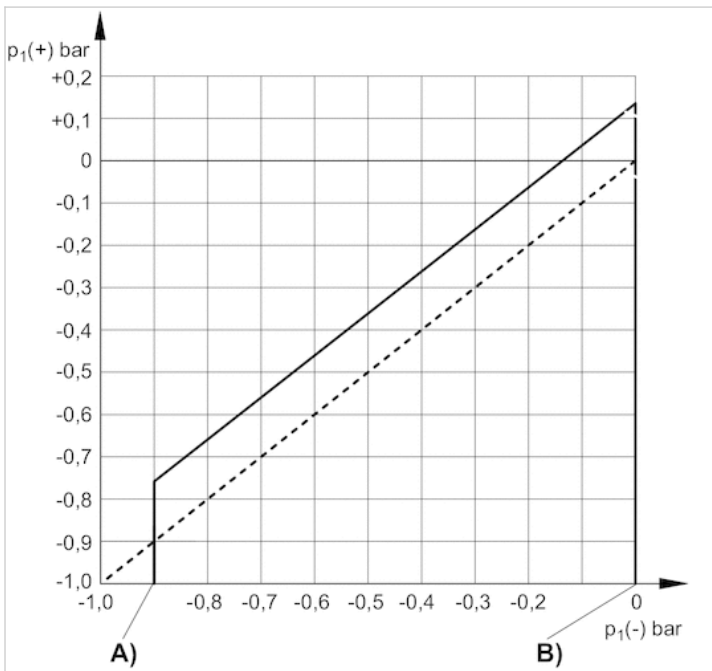
Fig. 2



- 1) Valve plug connector
- 2) Adjustment screw, self-holding
- 3) cylinder screw M5x30 (included in scope of delivery)
- 4) O-ring  $\text{Ø}5 \times 1,5$  (included)

## Diagrams

### differential switching pressure characteristic curve (-0,9 - 0 bar)



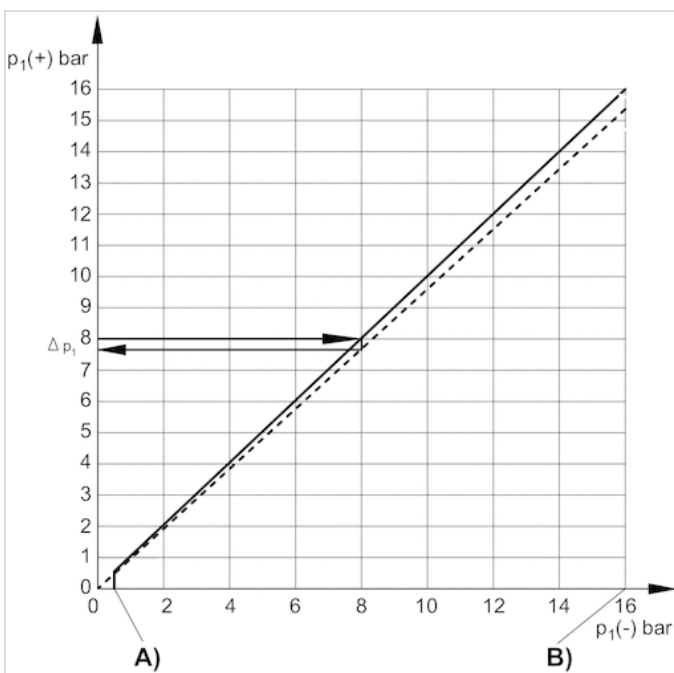
A)  $p_1(-)$ , min.

B)  $p_1(-)$ , max.

$p_1(+)$  = upper switching pressure with increasing pressure

$p_1(-)$  = lower switching pressure with decreasing pressure

### differential switching pressure characteristic curve (0,2 - 16 bar)



A)  $p_1(-)$ , min.

B)  $p_1(-)$ , max.

$p_1(+)$  = upper switching pressure with increasing pressure

$p_1(-)$  = lower switching pressure with decreasing pressure

$\Delta p_1$  = max. operating pressure difference or hysteresis

Example:

$p_1 (+) = 8 \text{ bar} > p_1 (-) = 7.6 \text{ bar}$   
 $\Delta p_1 = 0.4 \text{ bar}$

max. permissible continuous current  $I_{\text{max.}}$  [A] with ohmic load

U [V]	I [A] 1)	I [A] 2)
30	5	3
48	5	1,2
60	5	0,8
125	5	0,4
250	5	–

reference cycle: 30/min., reference temperature: + 30 °C

- 1) AC
- 2) DC

max. permissible continuous current  $I_{\text{max.}}$  [A] with inductive load

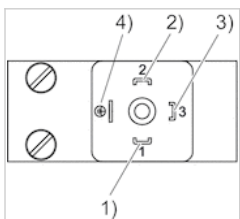
U [V]	I [A] 1) 3)	I [A] 2) 4)
30	3	2
48	3	0.55
60	3	0.4
125	3	0.15
250	3	–

reference cycle: 30/min., reference temperature: + 30 °C

- 1) AC
- 2) DC
- 3)  $\cos \approx 0,7^\circ$
- 4) L/R  $\approx 10 \text{ ms}$

## Pin assignments

PIN assignment for valve plug connectors



Pin	1	2	3	4
Allocation	+UB	break contact	NO (make contact)	GND



# Pressure Switches, Series PM1

- Operating pressure -0.9 ... 0 0.2 ... 16 bar
- Mechanical
- Spring-loaded bellow, adjustable
- Electr. connection Plug M12x1
- Compressed air connection Internal thread G 1/4
- PM1-M3-G014



Type	Mechanical
Function	change-over contact (mechanical)
Mounting orientation	Any
Compressed air connection	Internal thread G 1/4
Working pressure min./max.	See table below
Ambient temperature min./max.	-20 ... 80 °C
Medium temperature min./max.	-10 ... 80 °C
Medium	Compressed air Hydraulic oil
Measurement	Relative pressure
Switching element	microswitch (input/output)
Protection against overpressure	80 bar
Max. switching frequency	1,5 Hz
Shock resistance max.	15 g
Vibration resistance	10 g (60 - 500 Hz)
Repeatability (% of full scale value)	± 1 %
Switching point	adjustable
Hysteresis	max. switching pressure difference
DC operating voltage min./max.	12 ... 30 V DC
Operational voltage AC min./max.	12 ... 30 V AC
Mounting types	via through holes
Protection class	IP67
Electr. connection	Plug M12x1
Weight	0.15 kg

## Technical data

Part No.		Type	Operating pressure range	Fig.	
			min./max.		
R412010716		PM1-M3-G014	-0.9 ... 0 bar	Fig. 1	-
R412010717		PM1-M3-G014	0.2 ... 16 bar	Fig. 1	1)

1) Min. switching pressure range 0.2 bar falling/0.5 bar rising

## Technical information

Switching function increasing pressure: contact switches from 1-2 to 1-3.

Switching function decreasing pressure: contact switches from 1-3 to 1-2.

Notice: Too-high currents can damage contacts. Inductive or capacitive loads must be equipped with appropriate spark-quenching!  
The microswitch has silver-plated contacts.

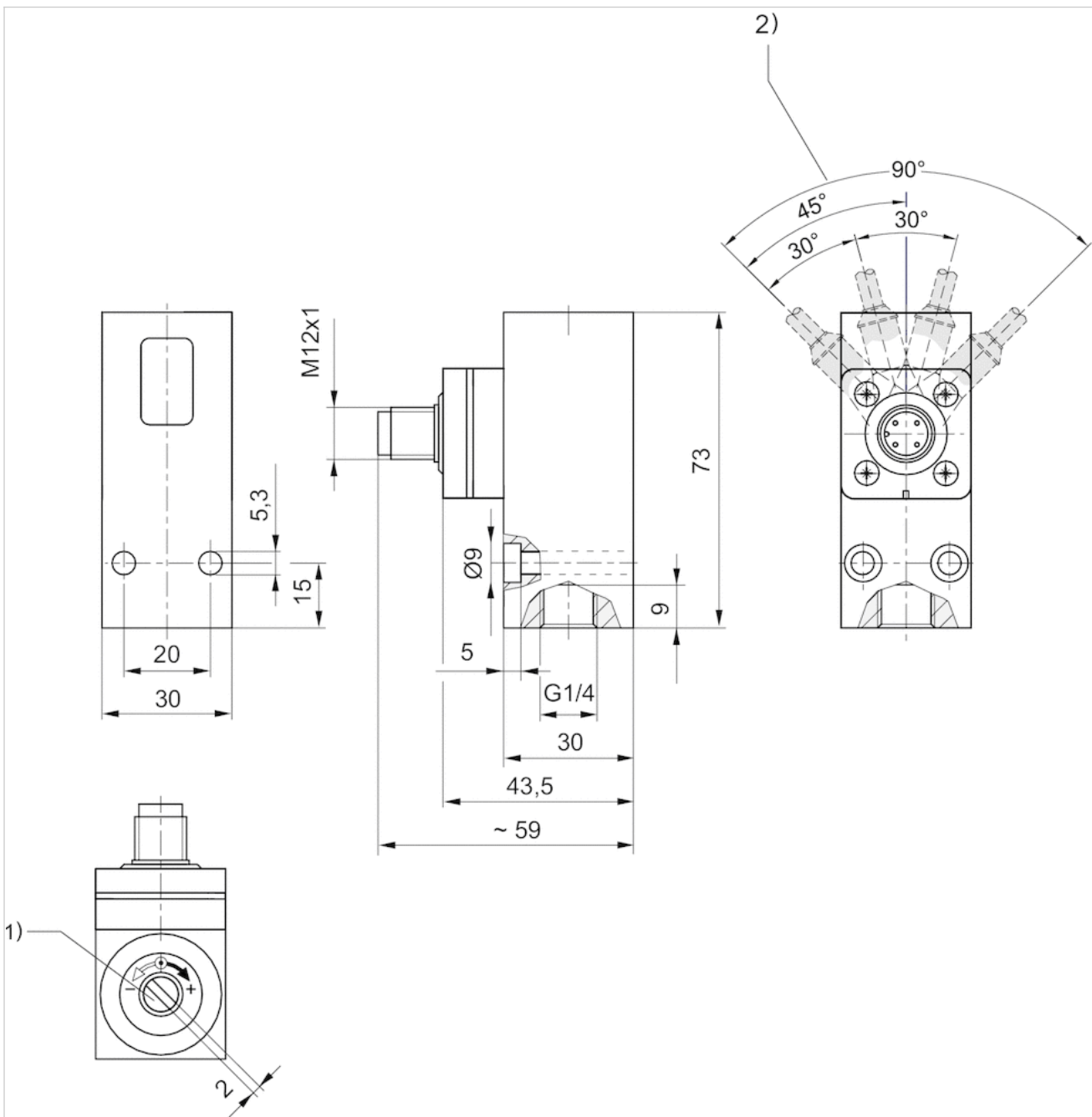


## Technical information

Material	
Housing	Aluminum
Seals	Acrylonitrile butadiene rubber
Electr. connection	Brass, nickel-plated

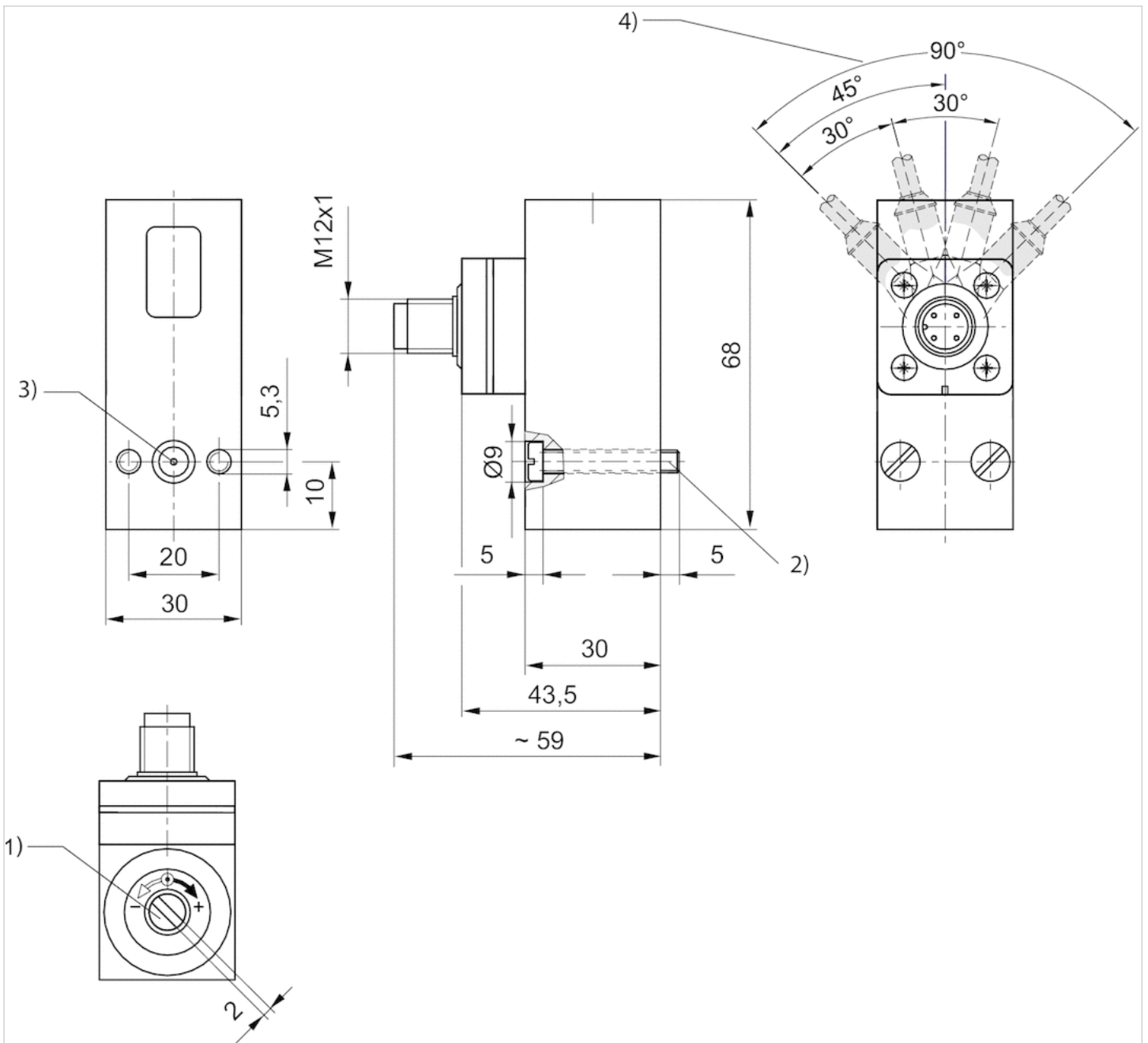
## Dimensions

Fig. 1



- 1) Adjustment screw, self-holding
- 2) Detent position

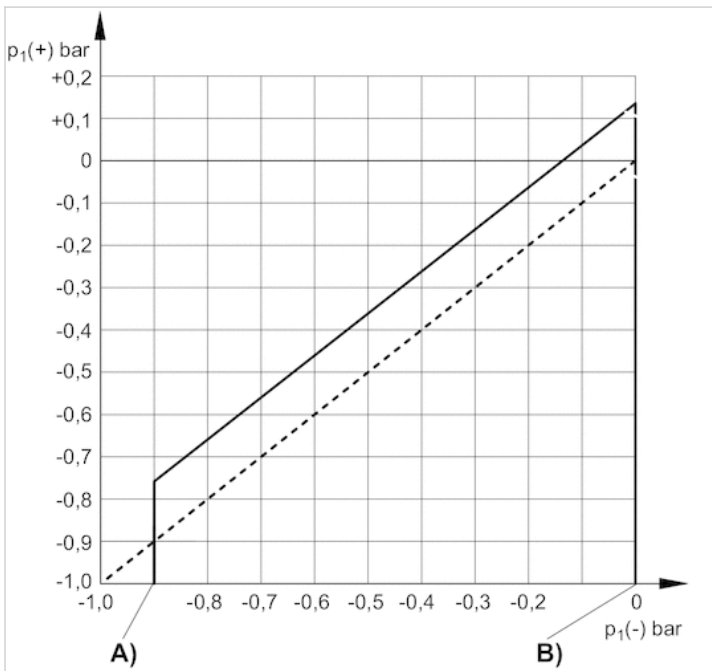
Fig. 2



- 1) Adjustment screw, self-holding
- 2) cylinder screw M5x30 (included in scope of delivery)
- 3) O-ring Ø5x1,5 (included)
- 4) Detent position

## Diagrams

### differential switching pressure characteristic curve (-0,9 - 0 bar)



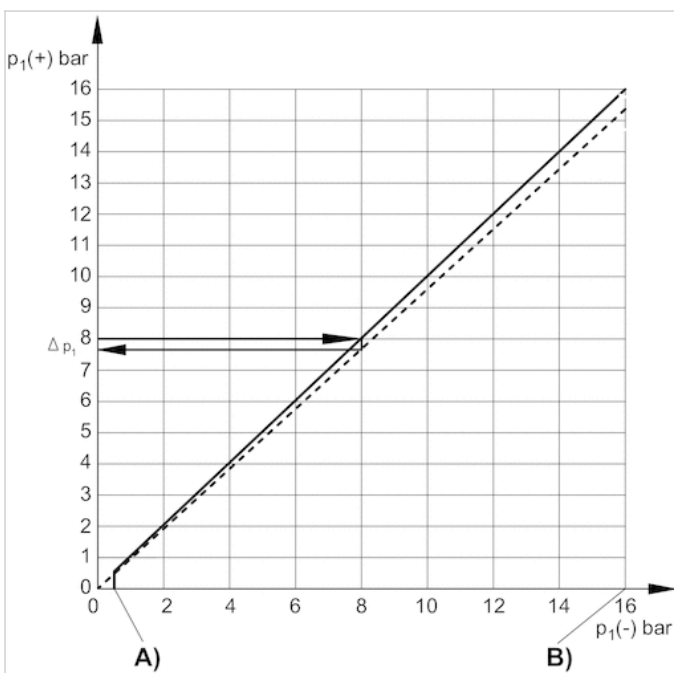
A)  $p_1(-)$ , min.

B)  $p_1(-)$ , max.

$p_1(+)$  = upper switching pressure with increasing pressure

$p_1(-)$  = lower switching pressure with decreasing pressure

### differential switching pressure characteristic curve (0,2 - 16 bar)



A)  $p_1(-)$ , min.

B)  $p_1(-)$ , max.

$p_1(+)$  = upper switching pressure with increasing pressure

$p_1(-)$  = lower switching pressure with decreasing pressure

$\Delta p_1$  = max. operating pressure difference or hysteresis

Example:

$p_1 (+) = 8 \text{ bar} > p_1 (-) = 7.6 \text{ bar}$   
 $\Delta p_1 = 0.4 \text{ bar}$

max. permissible continuous current  $I_{max.}$  [A] with ohmic load

U [V]	I [A] 1)	I [A] 2)
30-250	3A	
30 / 48 / 60 / 125		3 / 1,2 / 0,8 / 0,4

reference cycle: 30/min., reference temperature: + 30 °C

- 1) AC
- 2) DC

max. permissible continuous current  $I_{max.}$  [A] with inductive load

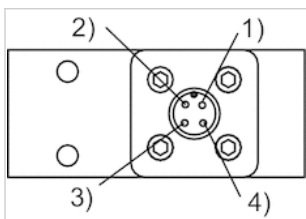
U [V]	I [A] 1) 3)	I [A] 2) 4)
30-250	3A	
30 / 48 / 60 / 125		2 / 0,55 / 0,4 / 0,2

reference cycle: 30/min., reference temperature: + 30 °C

- 1) AC
- 2) DC
- 3)  $\cos \approx 0,7^\circ$
- 4)  $L/R \approx 10 \text{ ms}$

Pin assignments

Pin assignments



Pin	1	2	3	4
Allocation	+UB	break contact	No function	NO (make contact)

## QR1-S-RPN standard series

- Straight fitting
- External thread
- G 1/8 G 1/4
- push-in fitting
- Ø 4 Ø 6 Ø 8 Ø 10 Ø 12
- QR1-S-RPN



Working pressure min./max.	-0.95 ... 10 bar
Ambient temperature min./max.	0 ... 60 °C
Weight per piece	See table below

### Technical data

Part No.	Port G	Port D	Delivery unit	Weight per piece
2121004180	G 1/8	Ø 4	10 piece	0.014 kg
2121006180	G 1/8	Ø 6	10 piece	0.016 kg
2121008180	G 1/8	Ø 8	10 piece	0.022 kg
R412005002	G 1/8	Ø 10	10 piece	0.024 kg
R412005003	G 1/8	Ø 12	10 piece	0.036 kg
2121004140	G 1/4	Ø 4	10 piece	0.02 kg
2121006140	G 1/4	Ø 6	10 piece	0.021 kg
2121008140	G 1/4	Ø 8	10 piece	0.024 kg
2121010140	G 1/4	Ø 10	10 piece	0.026 kg
2121012140	G 1/4	Ø 12	10 piece	0.039 kg

### Technical information

The series QR1 (plastic) and QR2 (metal) can not be combined  
Thread seal with captive O-ring

For further information about assembling and tolerances of adaptable tubing can be found in the "Technical information" document (available in the MediaCentre).

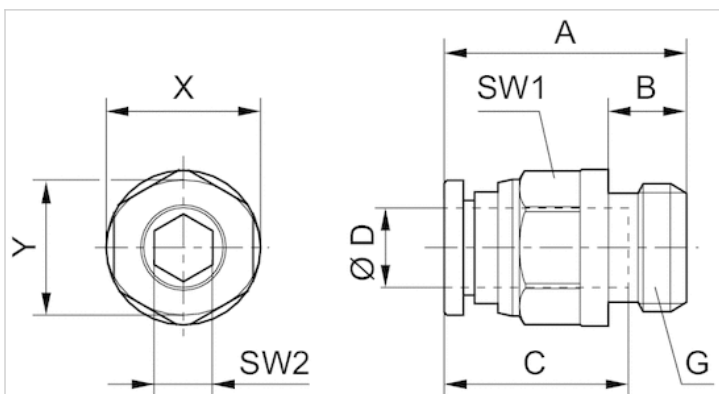
### Technical information

Material	
Material	nickel-plated
Housing	Brass, nickel-plated

Material	
Seal	Acrylonitrile butadiene rubber
Tooth lock washer	Stainless steel
Release ring	Polyoxymethylene
Release ring holder	Die cast zinc Brass, nickel-plated
Thread	Brass, nickel-plated

## Dimensions

### Dimensions



### Dimensions

Part No.	Port D	Port G	A	B	C	SW1	SW2	X	Y
2121004180	Ø 4	G 1/8	20.1	5	16	10	3	12	10
2121006180	Ø 6	G 1/8	24.6	5	17	12	4	14	12
2121008180	Ø 8	G 1/8	26.5	5	18.5	14	5	16	14
R412005002	Ø 10	G 1/8	28.9	5	21	17	4	19	17
R412005003	Ø 12	G 1/8	33.5	5	22.5	21	4	23	21
2121004140	Ø 4	G 1/4	19.1	6	16	10	3	12	10
2121006140	Ø 6	G 1/4	21.6	6	17	12	4	14	12
2121008140	Ø 8	G 1/4	22.4	6	18.5	14	6	16	14
2121010140	Ø 10	G 1/4	29.9	6	21	17	7	19	17
2121012140	Ø 12	G 1/4	33.4	6	22.5	21	7	23	21

## QR1-S-RVT standard series

- Elbow fitting
- External thread
- G 1/8 G 1/4
- push-in fitting
- Ø 4 Ø 6 Ø 8 Ø 10 Ø 12
- QR1-S-RVT



Working pressure min./max.	-0.95 ... 10 bar
Ambient temperature min./max.	0 ... 60 °C
Weight per piece	See table below

### Technical data

Part No.	Port G	Port D	Delivery unit	Weight per piece
2122004180	G 1/8	Ø 4	10 piece	0.012 kg
2122006180	G 1/8	Ø 6	10 piece	0.013 kg
2122008180	G 1/8	Ø 8	10 piece	0.015 kg
R412005094	G 1/8	Ø 10	10 piece	0.028 kg
R412005095	G 1/8	Ø 12	10 piece	0.039 kg
2122004140	G 1/4	Ø 4	10 piece	0.017 kg
2122006140	G 1/4	Ø 6	10 piece	0.019 kg
2122008140	G 1/4	Ø 8	10 piece	0.023 kg
2122010140	G 1/4	Ø 10	10 piece	0.029 kg
2122012140	G 1/4	Ø 12	10 piece	0.042 kg

### Technical information

The series QR1 (plastic) and QR2 (metal) can not be combined  
Thread seal with captive O-ring

For further information about assembling and tolerances of adaptable tubing can be found in the "Technical information" document (available in the MediaCentre).

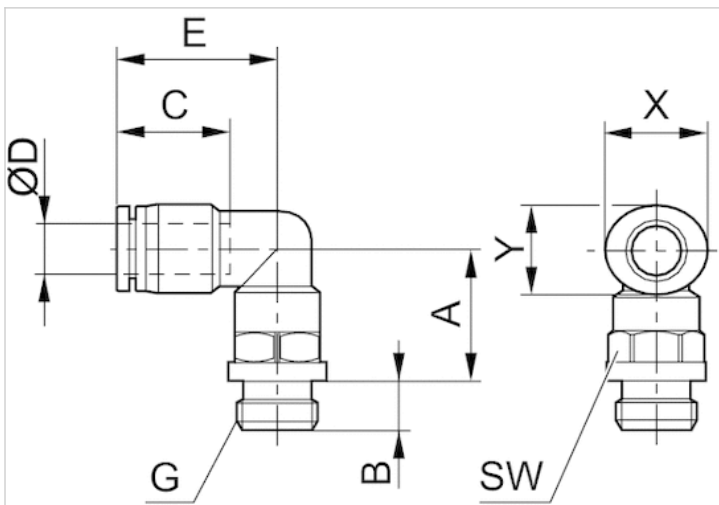
### Technical information

Material	
Material	nickel-plated
Housing	Polybutyleneterephthalate

Material	
Seal	Acrylonitrile butadiene rubber
Tooth lock washer	Stainless steel
Release ring	Polyoxymethylene
Release ring holder	Die cast zinc Brass, nickel-plated
Thread	Brass, nickel-plated

## Dimensions

### Dimensions



### Dimensions

Part No.	Port D	Port G	A	B	C	E	SW	X	Y
2122004180	Ø 4	G 1/8	9.5	5	16	18.5	13	12	10
2122006180	Ø 6	G 1/8	10.7	5	17	20.3	13	14	12
2122008180	Ø 8	G 1/8	14.4	5	18.5	22.6	13	16	14
R412005094	Ø 10	G 1/8	16.5	5	21	27	16	19	17
R412005095	Ø 12	G 1/8	18.2	5	22.5	29.2	16	23	21
2122004140	Ø 4	G 1/4	9.5	6	16	18.5	16	12	10
2122006140	Ø 6	G 1/4	10.7	6	17	20.3	16	14	12
2122008140	Ø 8	G 1/4	11.5	6	18.5	22.6	16	16	14
2122010140	Ø 10	G 1/4	16.5	6	21	27	16	19	17
2122012140	Ø 12	G 1/4	18.3	6	22.5	29.2	16	23	21



## Series QR2-S-RPN standard

- Straight fitting
- External thread
- G 1/8 G 1/4
- push-in fitting
- Ø 4 Ø 5 Ø 6 Ø 8 Ø 10 Ø 12
- QR2-S-RPN



Working pressure min./max.

-0.95 ... 16 bar

Ambient temperature min./max.

-20 ... 80 °C

Weight per piece

See table below

### Technical data

Part No.	Port G	Port D	Delivery unit	Weight per piece	Fig.
1823373041	G 1/8	Ø 4	25 piece	0.005 kg	Fig. 1
1823373042	G 1/8	Ø 5	10 piece	0.01 kg	Fig. 1
1823373043	G 1/8	Ø 6	25 piece	0.011 kg	Fig. 1
1823373044	G 1/8	Ø 8	25 piece	0.012 kg	Fig. 1
1823373045	G 1/4	Ø 4	25 piece	0.012 kg	Fig. 1
1823373046	G 1/4	Ø 5	10 piece	0.013 kg	Fig. 1
1823373047	G 1/4	Ø 6	25 piece	0.015 kg	Fig. 1
1823373048	G 1/4	Ø 8	10 piece	0.016 kg	Fig. 1
1823373049	G 1/4	Ø 10	10 piece	0.026 kg	Fig. 1
1823391809	G 1/4	Ø 12	10 piece	0.031 kg	Fig. 1
R412004708	G 1/4	Ø 12	10 piece	0.022 kg	Fig. 2

### Technical information

The series QR1 (plastic) and QR2 (metal) can not be combined  
Thread seal with captive O-ring

For further information about assembling and tolerances of adaptable tubing can be found in the "Technical information" document (available in the MediaCentre).

## Technical information

Material	
Housing	Brass, nickel-plated
Seal	Acrylonitrile butadiene rubber
Tooth lock washer	Stainless steel
Release ring	Brass, nickel-plated
Thread	Brass, nickel-plated

## Dimensions

Fig. 1

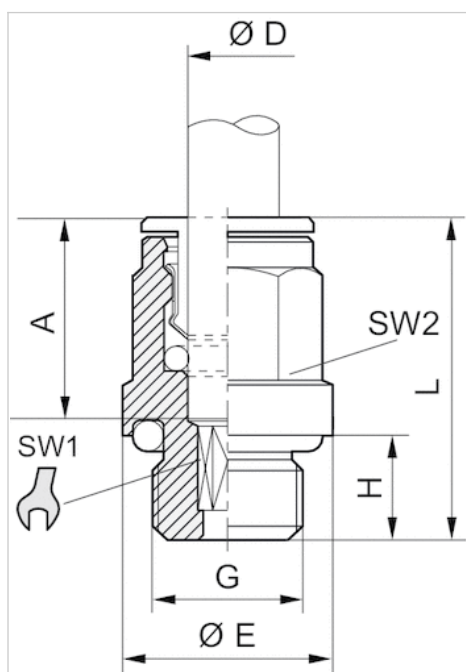
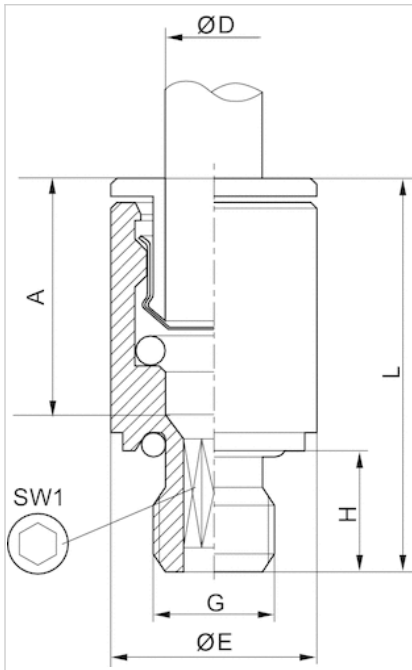


Fig. 2



### Dimensions

Part No.	Port D	Port G	Ø E	H	L	A Insertion depth	SW 1	SW 2	Fig.
1823373041	Ø 4	G 1/8	13.5	6	20	15	2.5	9	Fig. 1
1823373042	Ø 5	G 1/8	13.5	6	22	16	4	10	Fig. 1
1823373043	Ø 6	G 1/8	13.5	6	24	16	4	11	Fig. 1
1823373044	Ø 8	G 1/8	13	6	26.5	18	5	13	Fig. 1
1823373045	Ø 4	G 1/4	17	8	21	15	2.5	9	Fig. 1
1823373046	Ø 5	G 1/4	17	8	22	16	4	10	Fig. 1
1823373047	Ø 6	G 1/4	17	6.5	22.5	16	4	11	Fig. 1
1823373048	Ø 8	G 1/4	17	8	25	18	6	13	Fig. 1
1823373049	Ø 10	G 1/4	16	8	29.5	19	7	16	Fig. 1
1823391809	Ø 12	G 1/4	16	6.5	30	20	7	18	Fig. 1
R412004708	Ø 12	G 1/4	17	8.3	31	7	-	-	Fig. 2

## Series QR2-S-RVT standard

- Elbow fitting, rotatable
- External thread
- G 1/8 G 1/4
- push-in fitting
- Ø 4 Ø 6 Ø 8 Ø 10 Ø 12
- QR2-S-RVT



Working pressure min./max.	-0.95 ... 16 bar
Ambient temperature min./max.	-20 ... 80 °C
Weight per piece	See table below

### Technical data

Part No.	Port G	Port D	Delivery unit	Weight per piece
1823391710	G 1/8	Ø 4	10 piece	0.018 kg
1823391711	G 1/8	Ø 6	10 piece	0.02 kg
1823391712	G 1/8	Ø 8	10 piece	0.022 kg
R412007687	G 1/8	Ø 10	5 piece	0.032 kg
1823391713	G 1/4	Ø 4	10 piece	0.024 kg
1823391714	G 1/4	Ø 6	10 piece	0.025 kg
1823391715	G 1/4	Ø 8	10 piece	0.027 kg
1823391718	G 1/4	Ø 10	5 piece	0.031 kg
1823391843	G 1/4	Ø 12	5 piece	0.042 kg

### Technical information

The series QR1 (plastic) and QR2 (metal) can not be combined  
Thread seal with captive O-ring

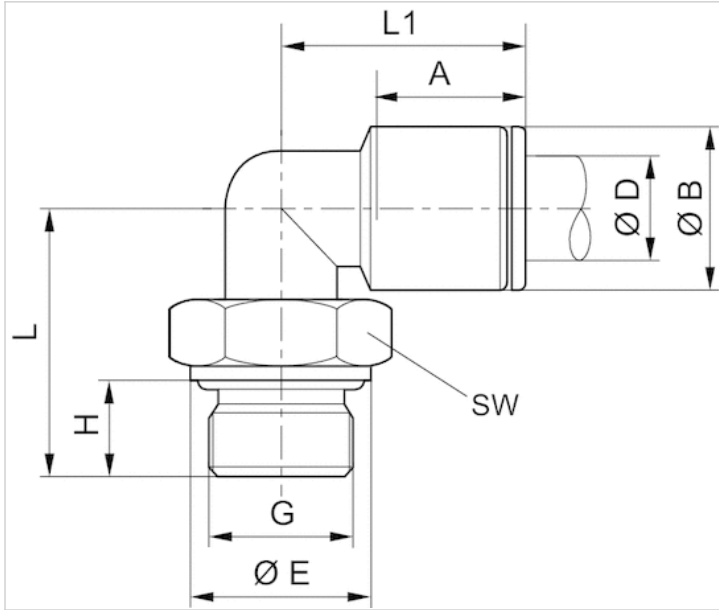
For further information about assembling and tolerances of adaptable tubing can be found in the "Technical information" document (available in the MediaCentre).

### Technical information

Material	
Housing	Brass, nickel-plated
Seal	Acrylonitrile butadiene rubber
Tooth lock washer	Stainless steel

Material	
Release ring	Brass, nickel-plated
Thread	Brass, nickel-plated

## Dimensions



## Dimensions

Part No.	Port D	Port G	ØB	ØE	H	L	L1	A Insertion depth	SW
1823391710	Ø 4	G 1/8	9	13	6	20	19	15	13
1823391711	Ø 6	G 1/8	11	13	6	20	21	16	13
1823391712	Ø 8	G 1/8	13	13	6	20	24	18	13
R412007687	Ø 10	G 1/8	15	13	6	24	27	19	13
1823391713	Ø 4	G 1/4	9	16	8	24	19	15	13
1823391714	Ø 6	G 1/4	11	16	8	24	21	16	13
1823391715	Ø 8	G 1/4	13	16	8	24	24	18	13
1823391718	Ø 10	G 1/4	15	16	8	24	27	19	16
1823391843	Ø 12	G 1/4	17	16	8	30.5	29	20	16

## Series NU2

- Swivel banjo connection 1-fold
- External thread
- G 1/4
- plug-in with tube nut
- Ø 6 Ø 8 Ø 9
- NU2-S-RW1



Working pressure min./max.	-0.95 ... 10 bar
Ambient temperature min./max.	-10 ... 60 °C
Weight per piece	See table below

### Technical data

Part No.	Port G	Port D	Delivery unit	Weight per piece
1823391294	G 1/4	Ø 6	2 piece	0.034 kg
1823391295	G 1/4	Ø 8	2 piece	0.044 kg
R412010658	G 1/4	Ø 9	2 piece	0.276 kg

### Technical information

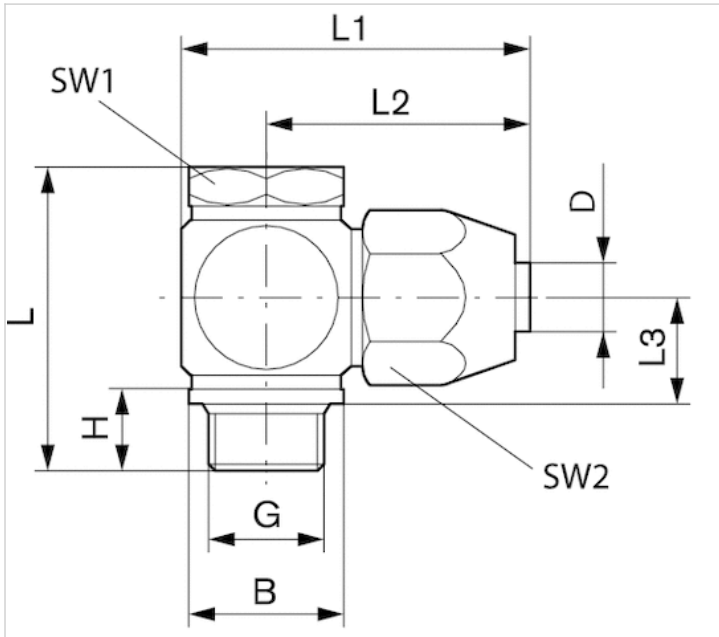
For further information about assembling and tolerances of adaptable tubing can be found in the "Technical information" document (available in the MediaCentre).

### Technical information

Material	
Housing	Aluminum, anodized
Seal	Polyvinyl chloride

## Dimensions

### Dimensions



for fabric-reinforced plastic tubing

## Dimensions

Part No.	Port D	Port G	B	H	L	L1	L2	L3	SW1	SW2
1823391294	Ø 6	G 1/4	18	12.5	39	39.5	30	14.5	17	19
1823391295	Ø 8	G 1/4	18	12.5	42	42	32.5	16	17	22
R412010658	Ø 9	G 1/4	18.9	7.9	40	42	32.5	15.6	17	24

Connection D = inside diameter of the tubing to be used

# Double nipple, Series PE5

- External thread



Weight per piece

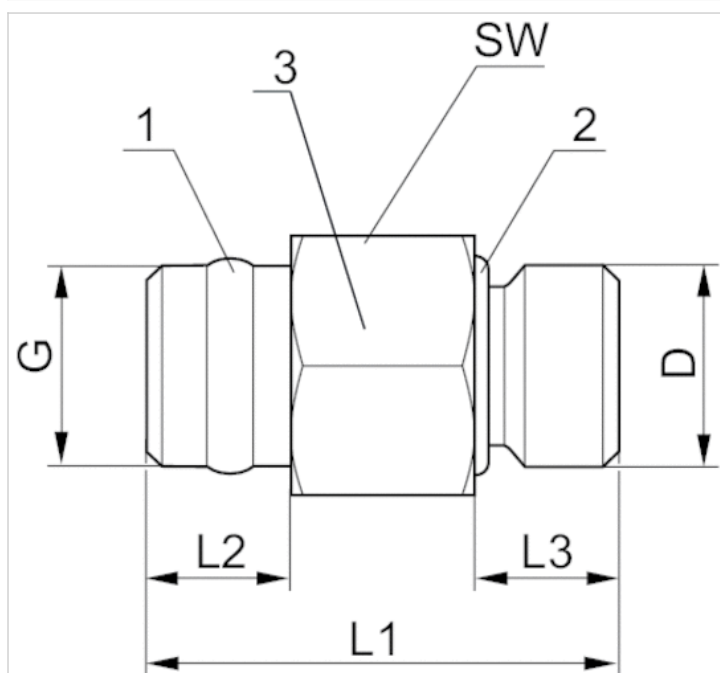
0.04 kg

## Technical data

Part No.	Port G	Port D	Delivery unit
R412010015	G 1/4	G 1/8	2 piece
R412010016	G 1/4	G 1/4	2 piece

## Dimensions

### Dimensions



- 1) sealing ring Polytetrafluorethylen
- 2) O-ring - acrylonitrile butadiene rubber
- 3) Housing - brass, nickel-plated



## Dimensions

Part No.	Port G	Port D	L1	L2	L3	SW
R412010015	G 1/4	G 1/8	30	10	8.5	17
R412010016	G 1/4	G 1/4	30	10	8.5	17

# Blanking screw

- External thread
- G 1/8 G 1/4
- FPT-S-RIO



Working pressure min./max.

0 ... 16 bar

Ambient temperature min./max.

-20 ... 80 °C

## Technical data

Part No.	Port G	Delivery unit
1823462004	G 1/8	10 piece
1823462003	G 1/4	10 piece

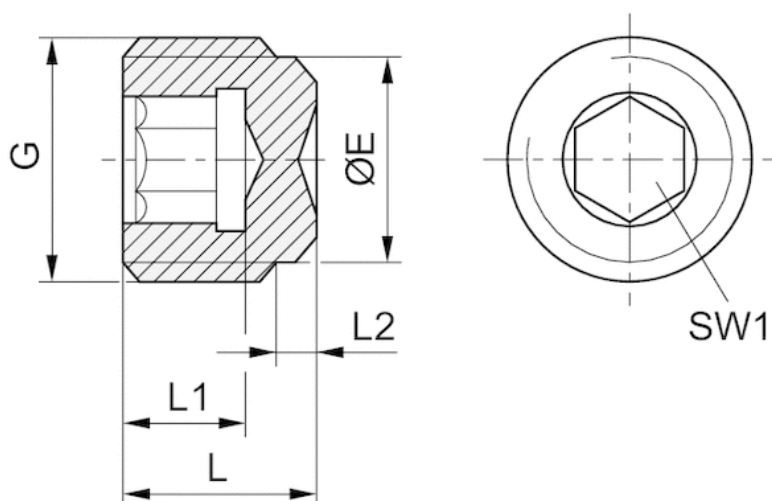
## Technical information

Material

Material	Brass
----------	-------

## Dimensions

Dimensions



## Dimensions in mm

Port G	ØE	L	L1	L2	SW1
G 1/8	8	8	5	2	5
G 1/4	11	11	7	3.5	6

# Blanking screw, gasket

- G 1/8 G 1/4 G 3/8 G 1/2 G 3/4 G 1

- FPT-S-RBI



Working pressure min./max.

0 ... 16 bar

Ambient temperature min./max.

-20 ... 80 °C

The delivered product may vary from that in the illustration.

## Technical data

Part No.	Port G	Delivery unit
1823462028	G 1/8	25 piece
1823462029	G 1/4	25 piece
1823462030	G 3/8	25 piece
1823462031	G 1/2	25 piece
1823462032	G 3/4	10 piece
1823462033	G 1	5 piece

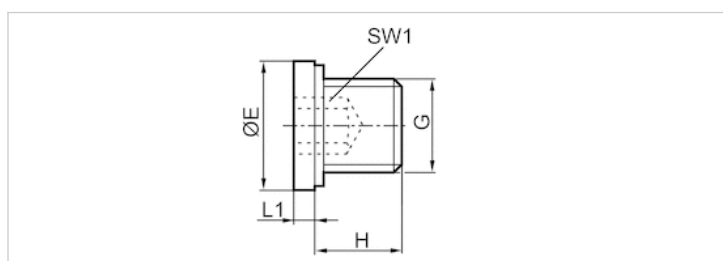
## Technical information

### Material

Material	Steel, galvanized
Seal	Polyvinyl chloride, hard

## Dimensions

### Dimensions



## Dimensions

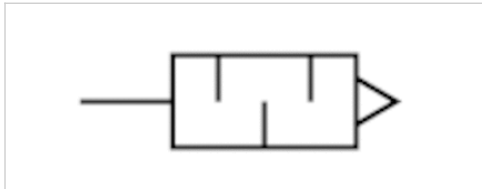
Port G	Ø E	H	L1	SW1
G 1/8	14	8	3	5
G 1/4	18	12	3	6
G 3/8	22	12	3	8
G 1/2	26	14	4	10
G 3/4	32	16	4	12
G 1	39	16	5	17

# 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

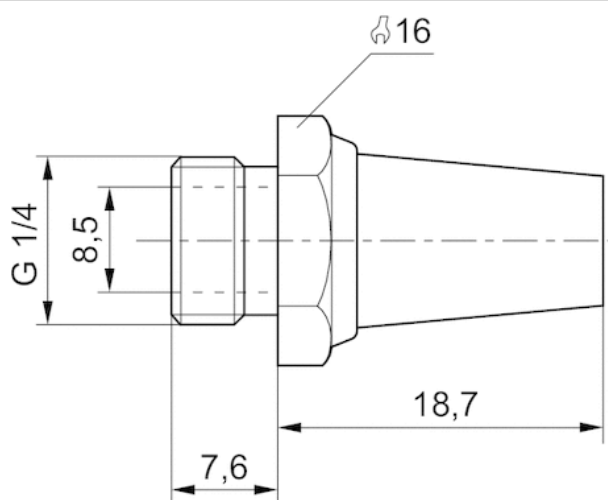
Nominal flow Qn at p1 = 6 bar (absolute) freely discharged. Sound pressure level measured at 6 bar against atmosphere at 1 m distance.

## Technical information

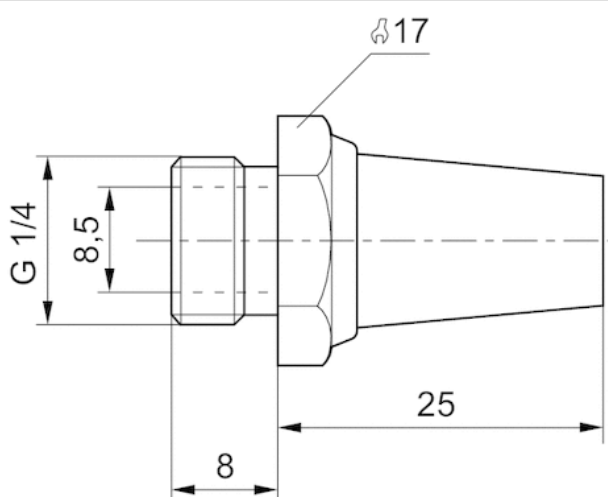
Material	
Silencer	Sintered bronze
Thread	Brass

## Dimensions

## Dimensions in mm



## Dimensions in mm

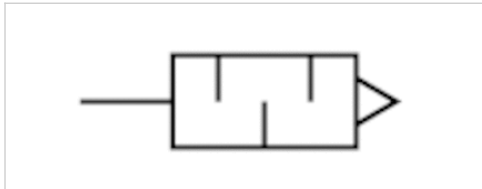


# Silencers, series SI1

- G 1/4
- Polyethylene



Working pressure min./max.	0 ... 10 bar
Ambient temperature min./max.	-25 ... 80 °C
Medium	Compressed air
Sound pressure level	80 dB
Weight	0.003 kg



## Technical data

Part No.	Compressed air connection	Flow	Delivery unit
		Qn	
1827000020	G 1/4	3447 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

Flow characteristic curves can be found under "Diagrams".

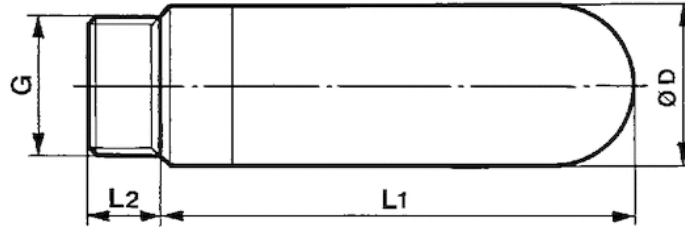
## Technical information

Material	
Silencer	Polyethylene
Thread	Polyethylene



## Dimensions

### Dimensions

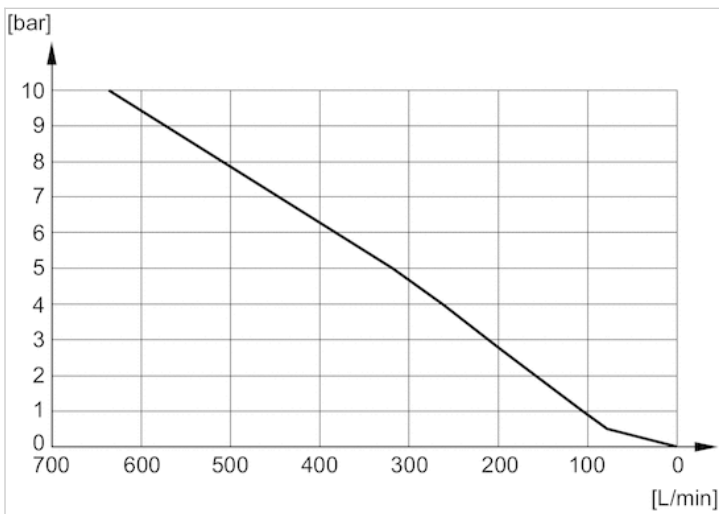


## Dimensions

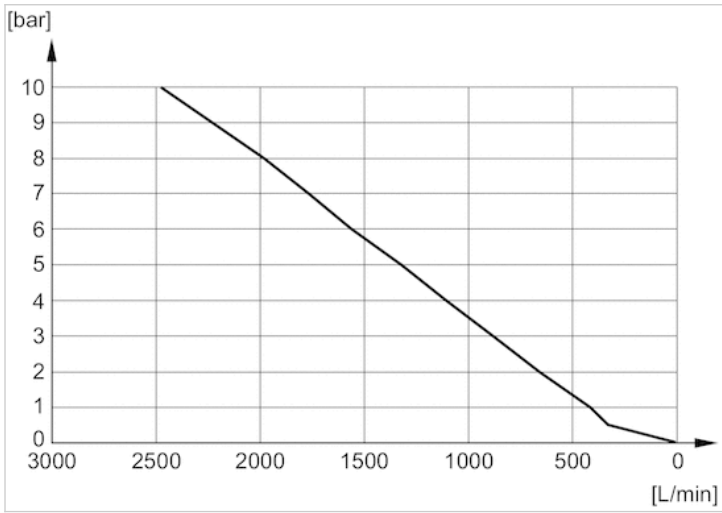
Part No.	Port G	Ø D	L1	L2
1827000020	G 1/4	15.5	34.5	8

## Diagrams

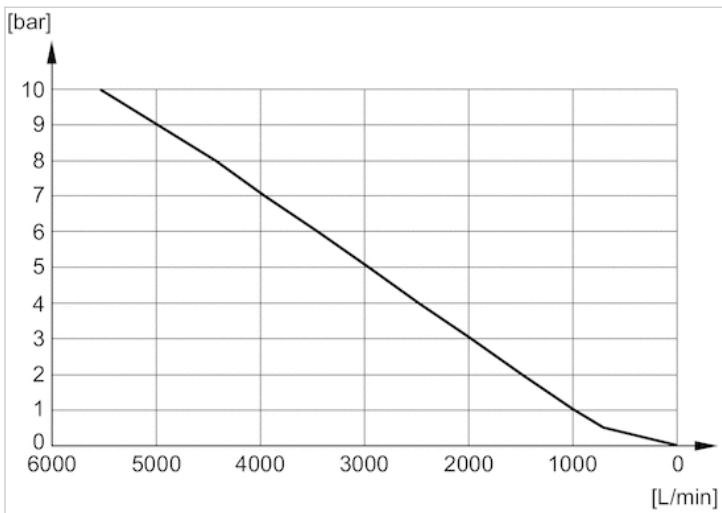
### Flow diagram, 1827000018



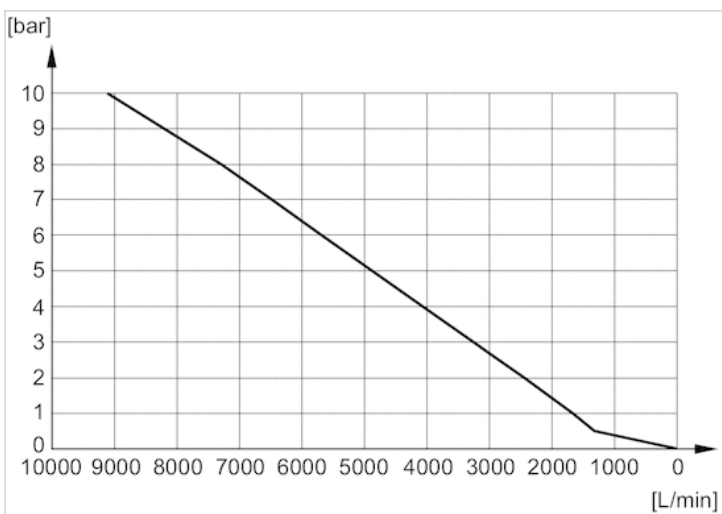
Flow diagram, 1827000019



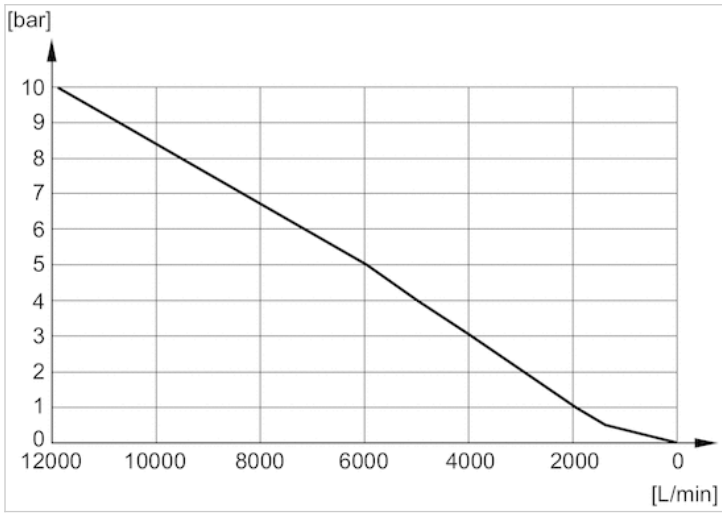
Flow diagram, 1827000020



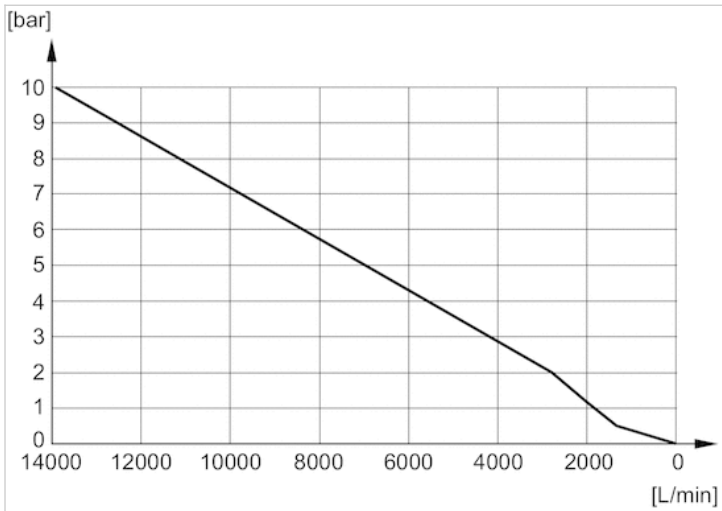
Flow diagram, 1827000021



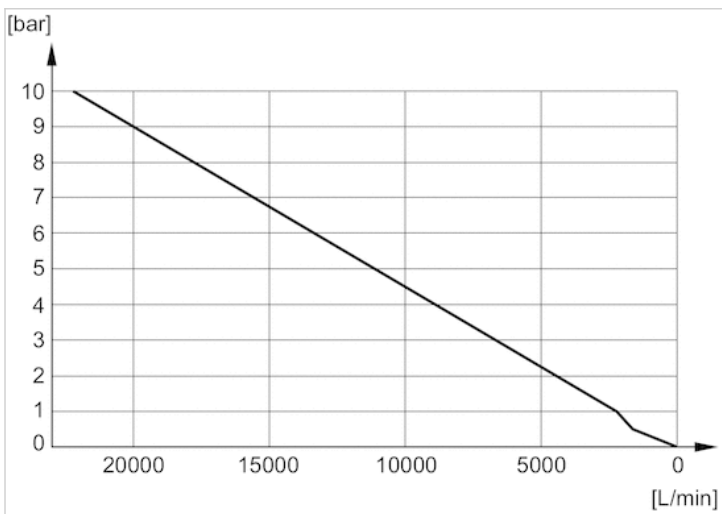
Flow diagram, 1827000022



Flow diagram, 1827000023



Flow diagram, 1827000024

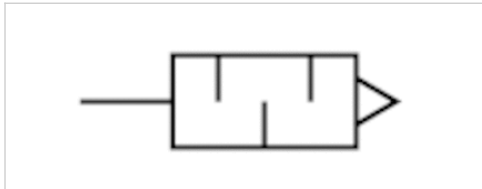


# Silencers, series SI1

- G 1/4
- Stainless steel



Working pressure min./max.	0 ... 12 bar
Ambient temperature min./max.	-20 ... 150 °C
Medium	Compressed air
Sound pressure level	93 dB
Weight	0.021 kg
Comment	Flow characteristic curves can be found under "Diagrams".



## Technical data

Part No.	Compressed air connection	Flow	Delivery unit
		Qn	
R412010082	G 1/4	1852 l/min	1 piece

Weight per piece

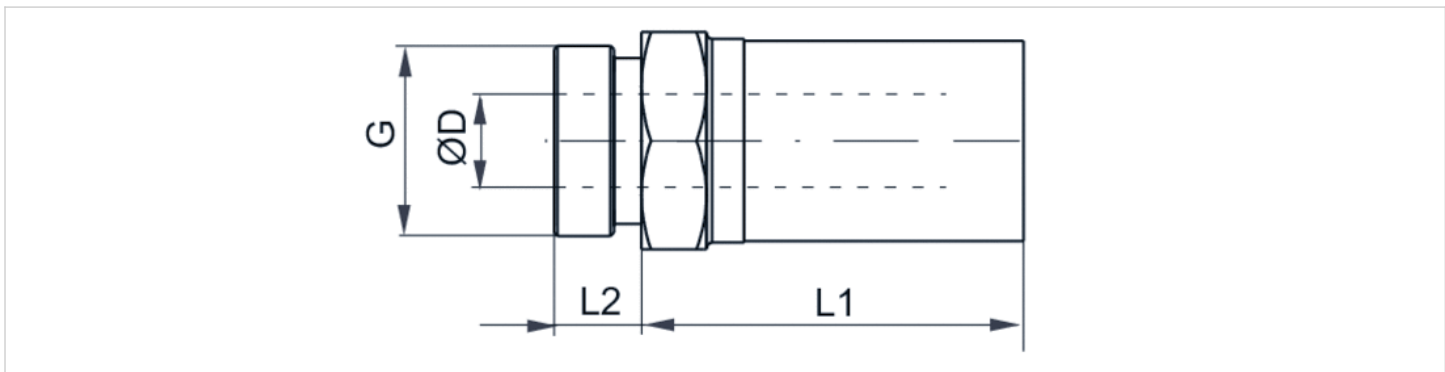
Nominal flow Qn at p1 = 6 bar (absolute) freely discharged. Sound pressure level measured at 6 bar against atmosphere at 1 m distance.

## Technical information

Material	
Silencer	Stainless steel
Thread	Stainless steel

## Dimensions

### Dimensions

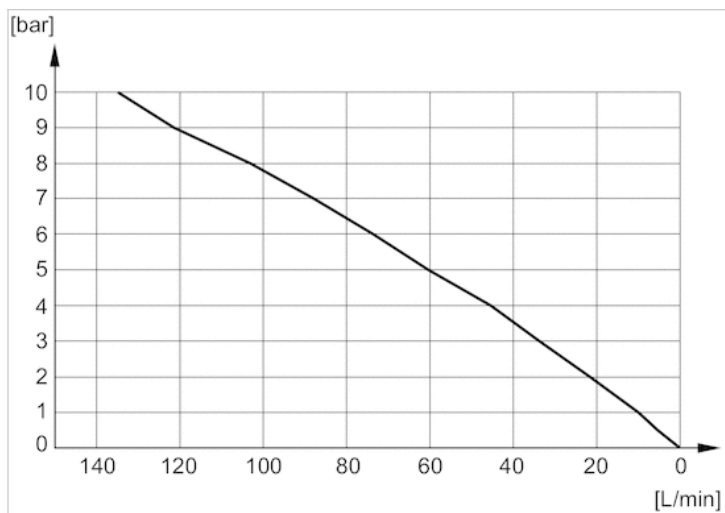


## Dimensions

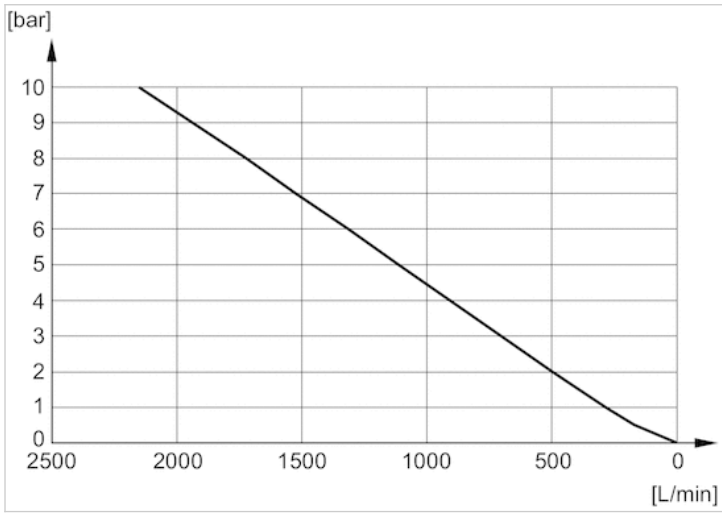
Part No.	Port G	SW	Ø D	L1	L2
R412010082	G 1/4	16	8.6	29.5	7.5

## Diagrams

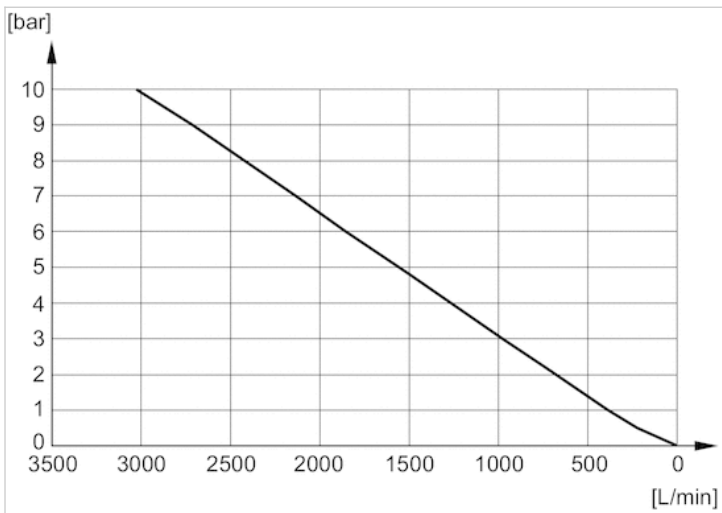
### Flow diagram, R412010090



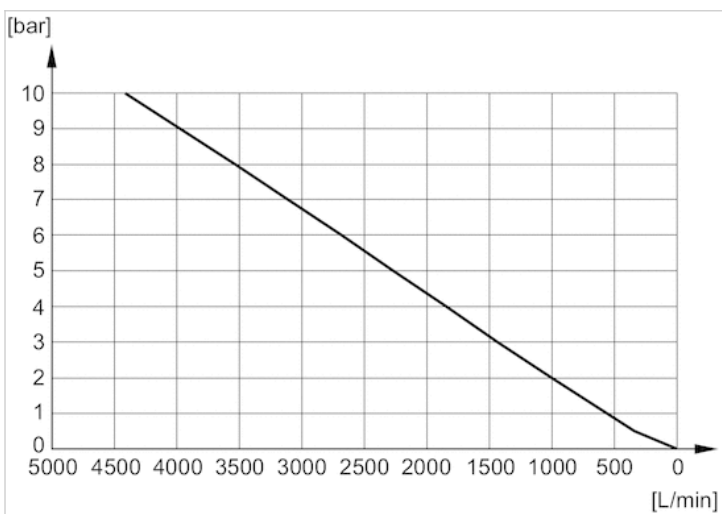
Flow diagram, R412010081



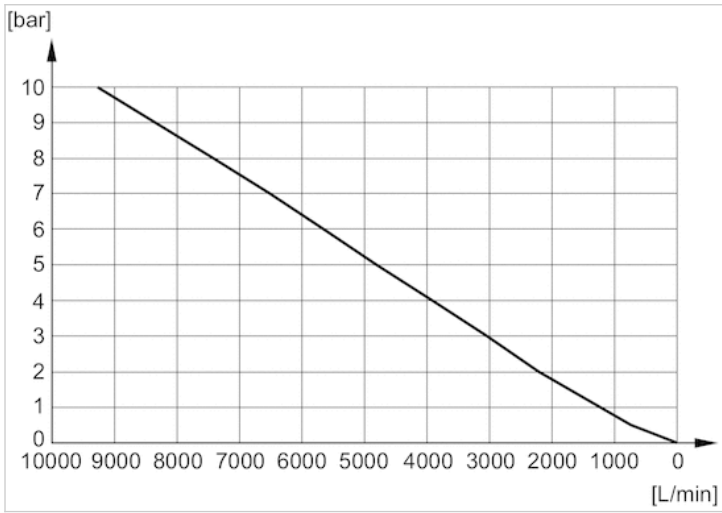
Flow diagram, R412010082



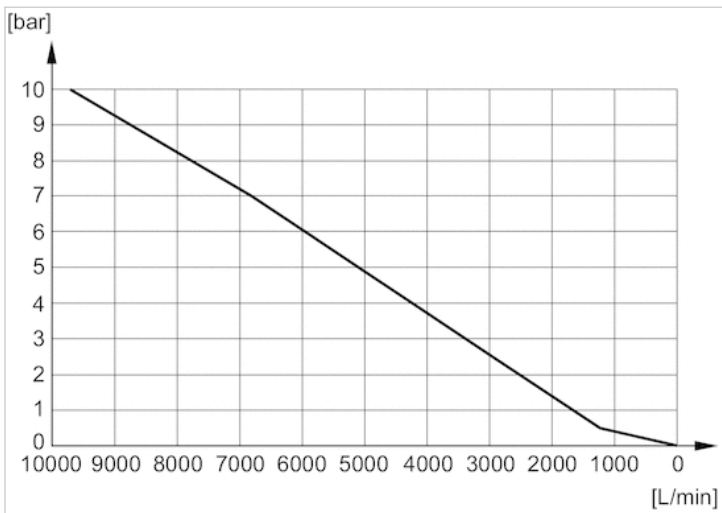
Flow diagram, R412010083



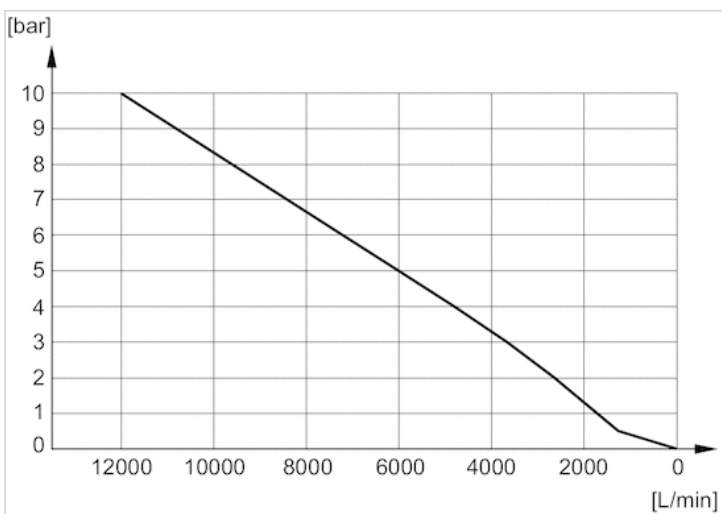
Flow diagram, R412010084



Flow diagram, R412010085



Flow diagram, R412010086

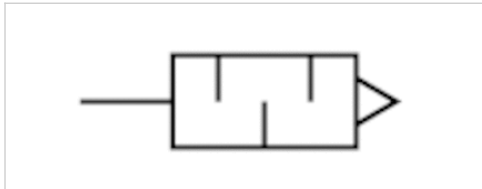


# Silencers, series SI1

- 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	88 dB
Weight	0.01 kg
Comment	Flow characteristic curves can be found under "Diagrams".



## Technical data

Part No.	Compressed air connection	Flow	Delivery unit
		Qn	
1827000033	G 1/4	1116 l/min	10 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.

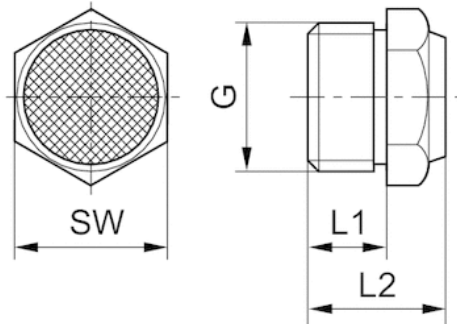
## Technical information

Material	
Silencer	Sintered bronze
Thread	Brass



## Dimensions

### Dimensions



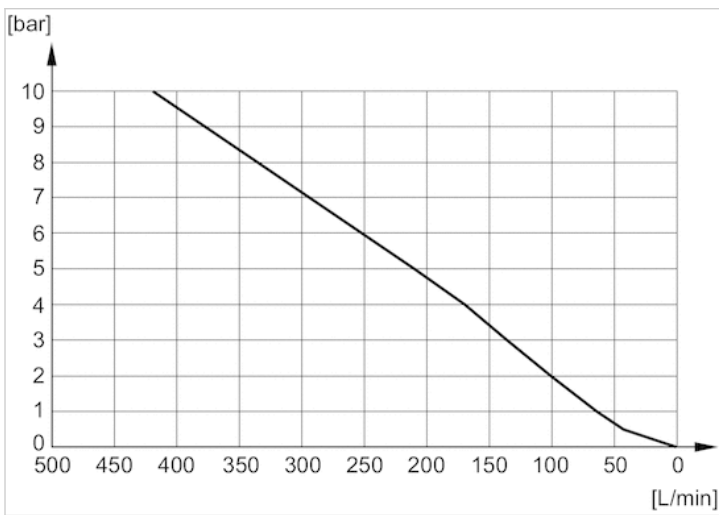
## Dimensions

Part No.	Port G	L1	L2	SW
1827000033	G 1/4	8	13.5	17

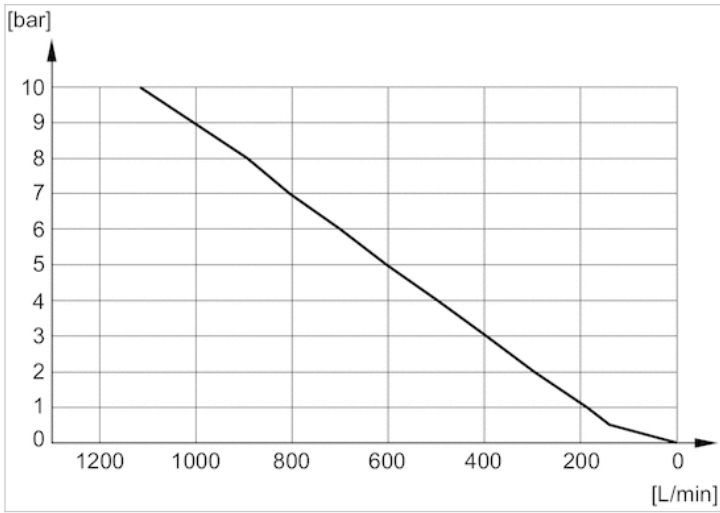
Sound pressure level measured at 6 bar at 1 m distance

## Diagrams

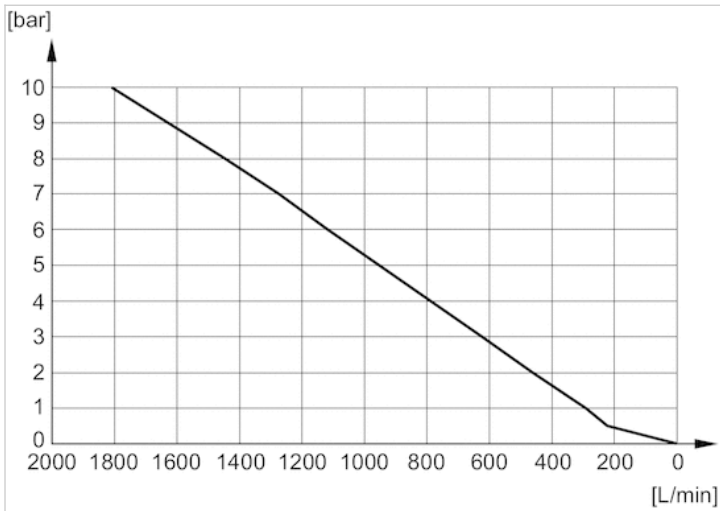
### Flow diagram, 1827000032



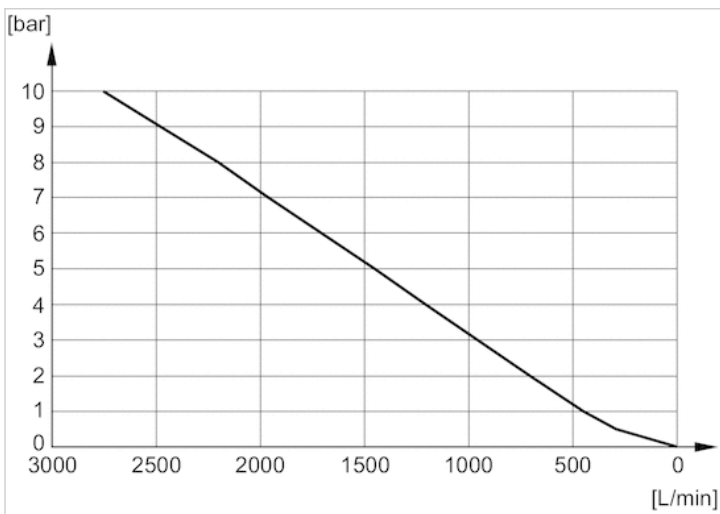
Flow diagram, 1827000031



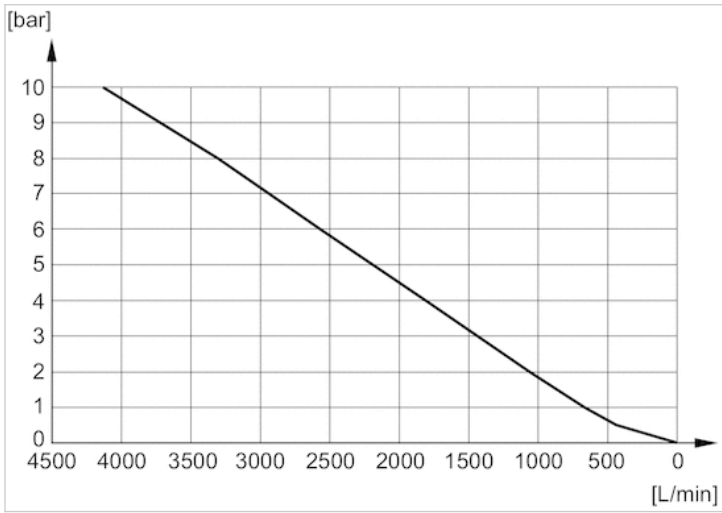
Flow diagram, 1827000033



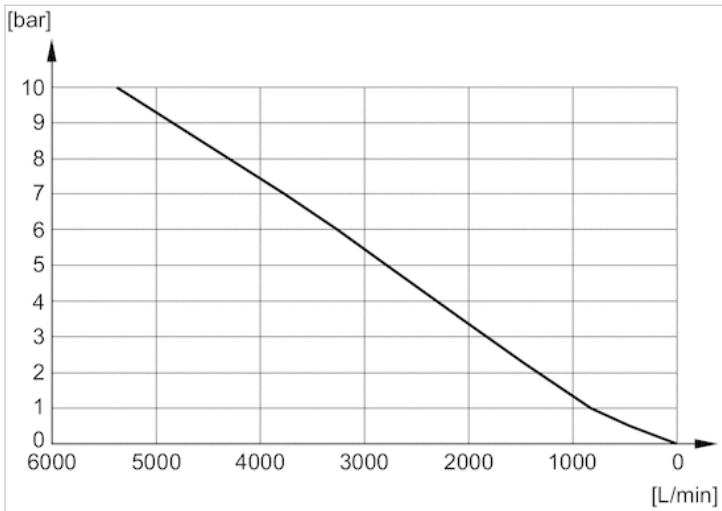
Flow diagram, 1827000034



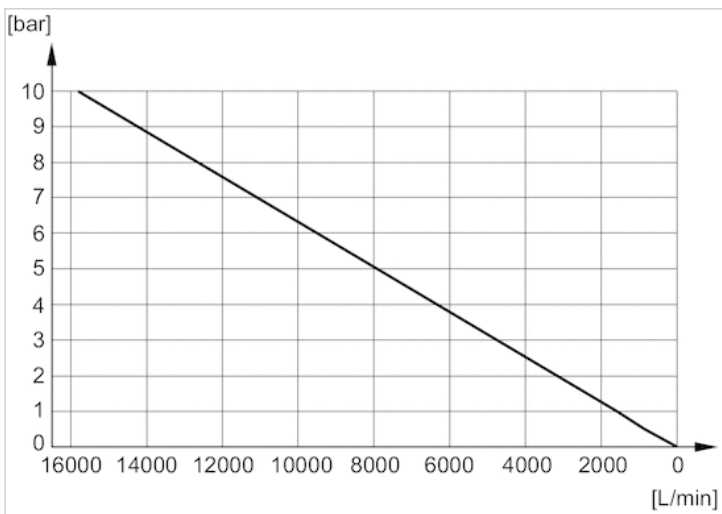
Flow diagram, 1827000035



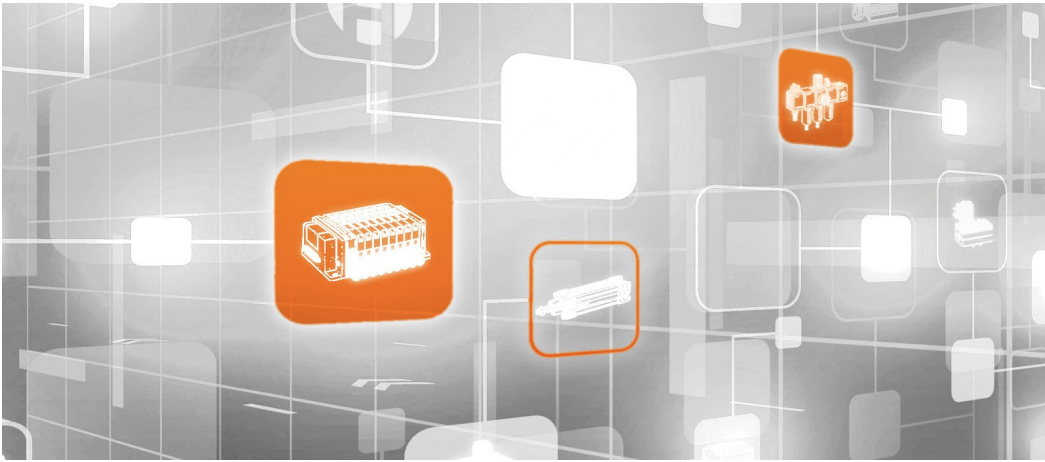
Flow diagram, 8145003400



Flow diagram, 8145001000



# Efficient pneumatic solutions, our program: cylinders and drives, valves and valve systems, air supply management



Visit us: [Emerson.com/Aventics](https://www.emerson.com/Aventics)

Your local contact: [Emerson.com/contactus](https://www.emerson.com/contactus)



[Emerson.com](https://www.emerson.com)



[Facebook.com/EmersonAutomationSolutions](https://www.facebook.com/EmersonAutomationSolutions)



[LinkedIn.com/company/Emerson-Automation-Solutions](https://www.linkedin.com/company/Emerson-Automation-Solutions)



[Twitter.com/EMR\\_Automation](https://twitter.com/EMR_Automation)

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

The Emerson logo is a trademark and service mark of Emerson Electric Co. Brand logotype are registered trademarks of one of the Emerson family of companies. All other marks are the property of their respective owners. © 2017 Emerson Electric Co. All rights reserved.  
2022-08-05



**CONSIDER IT SOLVED™**