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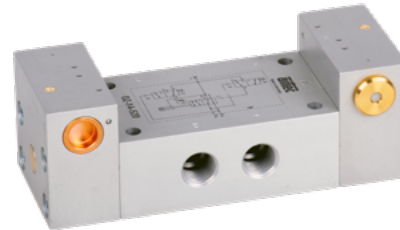
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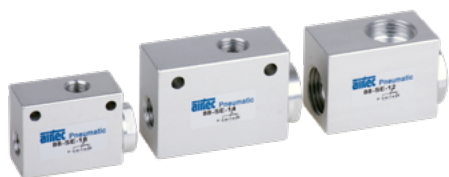
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## Technical details

<b>Temperature range</b>	-10°C ... +70°C (-10°C...+60°C for use in ATEX areas)
<b>Medium</b>	Filtered, oil-free and dried compressed air according to ISO 8573-1:2010, Class 7:2:4, instrument air, free of aggressive additives. Differing the pressure dew point must be at least 10°C below lowest occurring ambient temperature.
<b>Materials</b>	Body: Al (anodized), seals: NBR and POM, inner parts: Al, stainless steel and brass
	Products without their own potential ignition source in accordance with Directive 2014/34/EU, suitable for use in hazardous areas (chap. 12)



This valve may be used either normally open or normally closed.

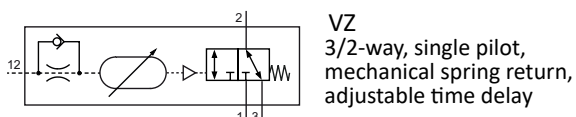
Normally closed: pressure inlet port 1 (P).

Normally open: pressure inlet port 3 (R).

A signal arriving at 12 (Z) switches the flow of the valve from 1 (P) to 2 (A) and closes port 3 (R) after the set time has expired.

Instead of supplying main pressure to either port 1 or 3, the branched signal line can be connected to 1 or 3. The signal line to port 1 or 3 must not be longer than the signal line to port 12.

## 3/2-way-valves

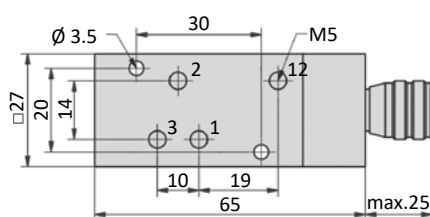


## Technical data

Model-no.:	VZ-25-310	VZ-18-310	VZ-18-310-20
<b>Connection</b>	M5	G1/8	G1/8
<b>Nominal size (mm)</b>	3.2	6	6
<b>Operating pressure (bar)</b>	3 ... 10	3 ... 10	3 ... 10
<b>Pilot pressure (bar)</b>	3 ... 10	3 ... 10	3 ... 10
<b>Time range (s)</b>	0,25 ... 5	0,5 ... 10	1 ... 20
<b>Flow rate (NI/min)</b>	160	600	600
<b>Weight (kg)</b>	0.135	0.360	0.360

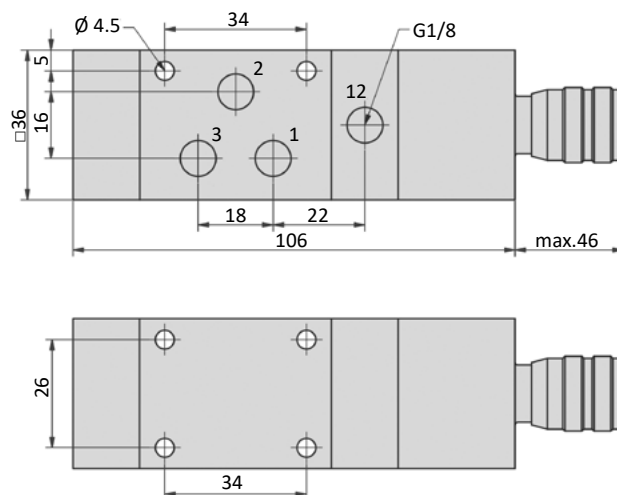
## Dimensions

### VZ-25-310



- 1 = pressure inlet
- 2 = outlet
- 3 = exhaust
- 12 = signal port

### VZ-18-310, VZ-18-310-20



# Series SZ



## Technical details

**Temperature range** -10°C ... +70°C

**Medium**

Filtered, oil-free and dried compressed air according to ISO 8573-1:2010, Class 7:2:4, instrument air, free of aggressive additives. Differing the pressure dew point must be at least 10°C below lowest occurring ambient temperature.

**Materials**

Body: Al (anodized), seals: NBR and POM, inner parts: Al, stainless steel and brass

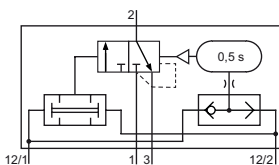


The valve operates after two input signals at 12 arriving within 0.5 s.  
The valve is actuated as long as the signals continue.  
If the input signals do not arrive within 0.5 s, the valve does not operate.  
Both signals must be reset before the valve switches back on.



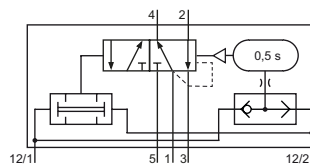
This part is no safety device in the sense of the MRL 2006/42/EG.

## 3/2-way valve



**SZ-18-310**  
two-signal controls,  
3/2-way

## 5/2-way valve



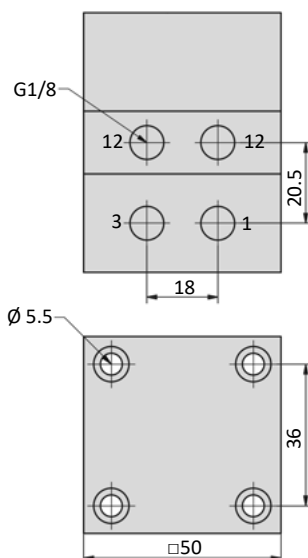
**SZ-14-510**  
two-signal controls,  
5/2-way

## Technical data

Model-no.:	SZ-18-310	SZ-14-510
Connection	G1/8	G1/4
Nominal size (mm)	4	8
Operating pressure (bar)	4 ... 10	4 ... 10
Pilot pressure (bar)	4 ... 10	4 ... 10
Flow rate (NI/min)	280	1300
Weight (kg)	0.360	0.825

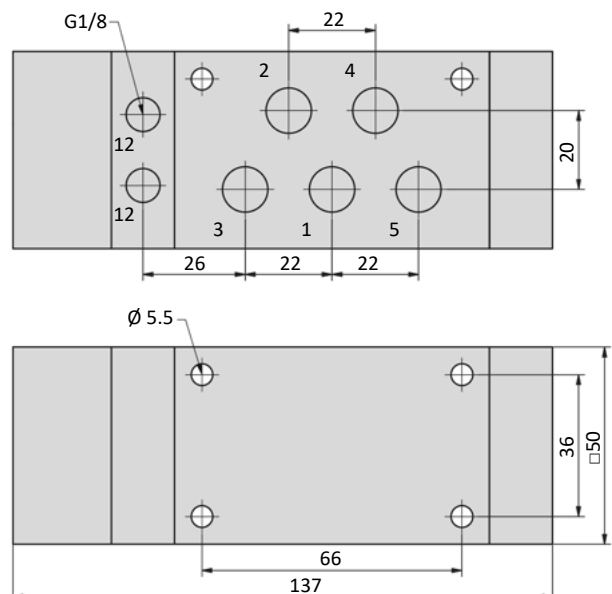
## Dimensions

### SZ-18-310



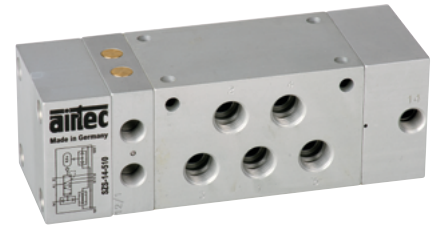
- 1 = pressure inlet
- 2,4 = outlets
- 3,5 = exhausts
- 12 = signal ports

### SZ-14-510



## Technical details

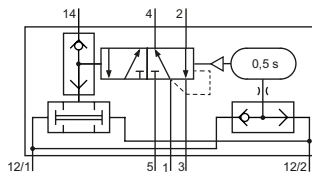
<b>Temperature range</b>	-10°C ... +70°C
<b>Medium</b>	Filtered, oil-free and dried compressed air according to ISO 8573-1:2010, Class 7:2:4, instrument air, free of aggressive additives. Differing the pressure dew point must be at least 10°C below lowest occurring ambient temperature.
<b>Materials</b>	Body: Al (anodized), seals: NBR and POM, inner parts: Al, stainless steel and brass



The valve operates after two input signals at 12 arriving within 0.5 s.  
The valve is actuated as long as the signals continue.  
If the input signals do not arrive within 0.5 s, the valve does not operate.  
Both signals must be reset before the valve switches back on.  
In addition, it has a self-locking device. A signal to 14 actuates the two-signal-control as a standard 5/2-valve. When the signal at 14 ends, the valve resets.

This part is no safety device in the sense of the MRL 2006/42/EG.

## 5/2-way valve



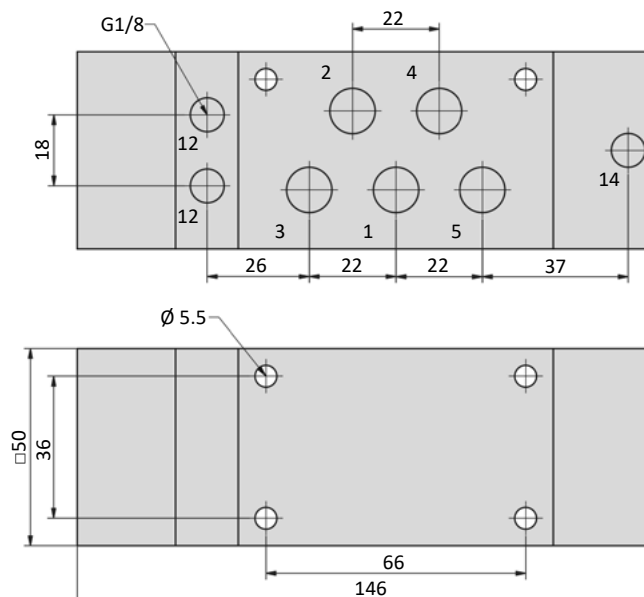
SZS-14-510  
two-signal controls,  
5/2-way

## Technical data

<b>Model-no.:</b>	SZS-14-510
<b>Connection</b>	G1/4
<b>Nominal size (mm)</b>	8
<b>Operating pressure (bar)</b>	4 ... 10
<b>Pilot pressure (bar)</b>	4 ... 10
<b>Flow rate (NI/min)</b>	1300
<b>Weight (kg)</b>	0.885

## Dimensions

### SZS-14-510




- 1 = pressure inlet
- 2,4 = outlets
- 3,5 = exhausts
- 12 = signal ports
- 14 = signal port

## Series SU



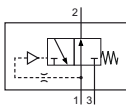
### Technical details

<b>Temperature range</b>	-10°C ... +70°C (-10°C...+60°C for use in ATEX areas)
<b>Medium</b>	Filtered, oil-free and dried compressed air according to ISO 8573-1:2010, Class 7:2:4, instrument air, free of aggressive additives. Differing the pressure dew point must be at least 10°C below lowest occurring ambient temperature.
<b>Materials</b>	Body: Al (anodized), seals: NBR and POM, inner parts: Al, stainless steel and brass
	Products without their own potential ignition source in accordance with Directive 2014/34/EU, suitable for use in hazardous areas (chap. 12)



3/2-way one-shot valve. It converts a continuous pneumatic signal into a 0.3 s pulse.

### 3/2-way valve



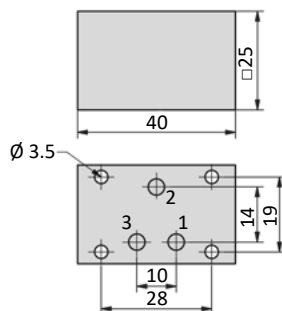
SU-25-310  
signal interrupter,  
3/2-way

### Technical data

<b>Model-no.:</b>	SU-25-310
<b>Connection</b>	M5
<b>Nominal size (mm)</b>	3.2
<b>Operating pressure (bar)</b>	3 ... 10
<b>Pilot pressure (bar)</b>	3 ... 10
<b>Duration of pulse (s)</b>	0.3
<b>Reset time (s)</b>	0.1
<b>Flow rate (NI/min)</b>	160
<b>Weight (kg)</b>	0.063

### Dimensions

#### SU-25-310



- 1 = pressure inlet
- 2 = outlet
- 3 = exhaust

## Technical details

**Temperature range** -10°C ... +70°C

### Medium

Filtered, oil-free and dried compressed air according to ISO 8573-1:2010, Class 7:2:4, instrument air, free of aggressive additives. Differing the pressure dew point must be at least 10°C below lowest occurring ambient temperature.

### Materials

Body: Al (anodized), seals: NBR and POM, inner parts: Al, stainless steel and brass

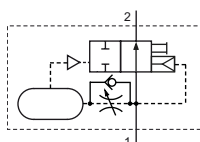


The valve is interrupting a permanent pneumatic signal and provides an impulse. The duration of the impulse is adjustable. Not activated, the incoming air at port 1 has free flow to port 2. Depending on the adjusted time at the adjusting screw (see drawing below), the valve will change position, closing using the model SUZ-18-210-H, or air is vented from port 2 to port 3 using model SUZ-18-310-H.

The valve will maintain this position until there is A new air signal at port one. This will switch the valve back to the NO position and keeps it open based on the adjusted time setting.

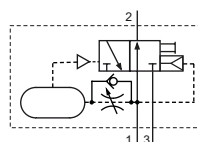
Operating the manual override is switching the valve back to its NO position.

## 2/2-way valve



SUZ-18-210-H  
signal interrupter,  
2/2-way, adjustable time delay,  
manual override non-detend

## 3/2-way valve



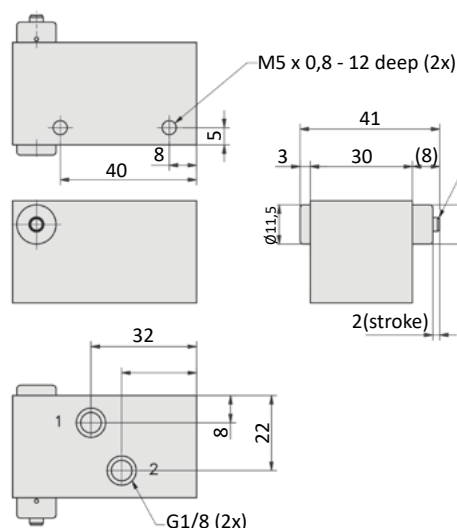
SUZ-18-310-H  
signal interrupter,  
3/2-way, adjustable time delay,  
manual override non-detend

## Technical data

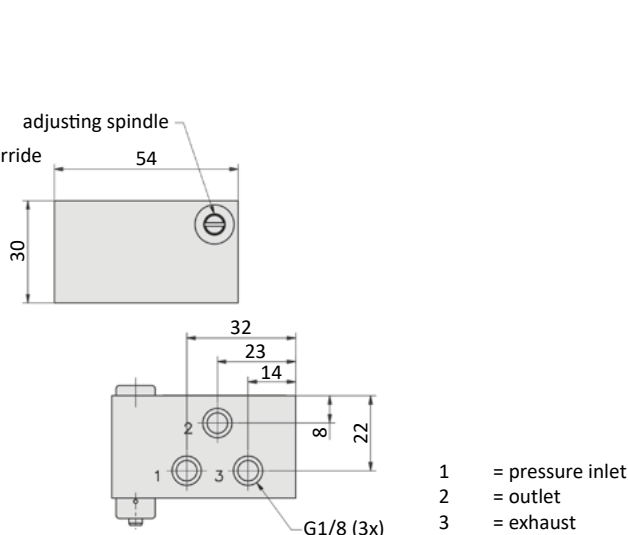
Model-no.:	SUZ-18-210-H	SUZ-18-310-H
Connection	G1/8	G1/8
Nominal size (mm)	6	5,3
Operating pressure (bar)	3 ... 10	3 ... 10
Pilot pressure (bar)	3 ... 10	3 ... 10
Duration of pulse (s)	0,3 ... 5	0,3 ... 5
Reset time (s)	0,1	0,1
Flow rate (NI/min)	500	480
Weight (kg)	0,135	0,135

## Dimensions

### SUZ-18-210-H



### SUZ-18-310-H



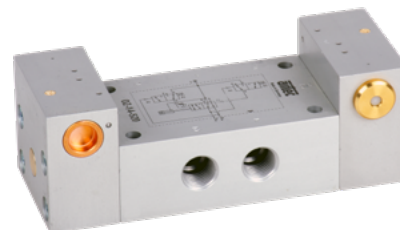
- 1 = pressure inlet
- 2 = outlet
- 3 = exhaust

## Series OZ



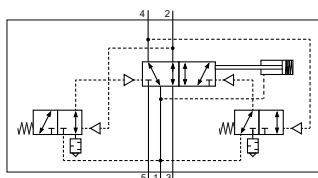
### Technical details

<b>Temperature range</b>	-10°C ... +70°C
<b>Medium</b>	Filtered, oil-free and dried compressed air according to ISO 8573-1:2010, Class 7:2:4, instrument air, free of aggressive additives. Differing the pressure dew point must be at least 10°C below lowest occurring ambient temperature.
<b>Materials</b>	Body: Al (anodized), seals: NBR and POM, inner parts: Al, stainless steel and brass



5/2-way oscillating valve with integrated control lines and pneumatic emergency start function. This prevents an undefined centre position of the valve and ensures safe start-up. The use of throttle silencers in the exhausts is required during operation. This allows the oscillation speed to be adjusted.

### 5/2-way-valve

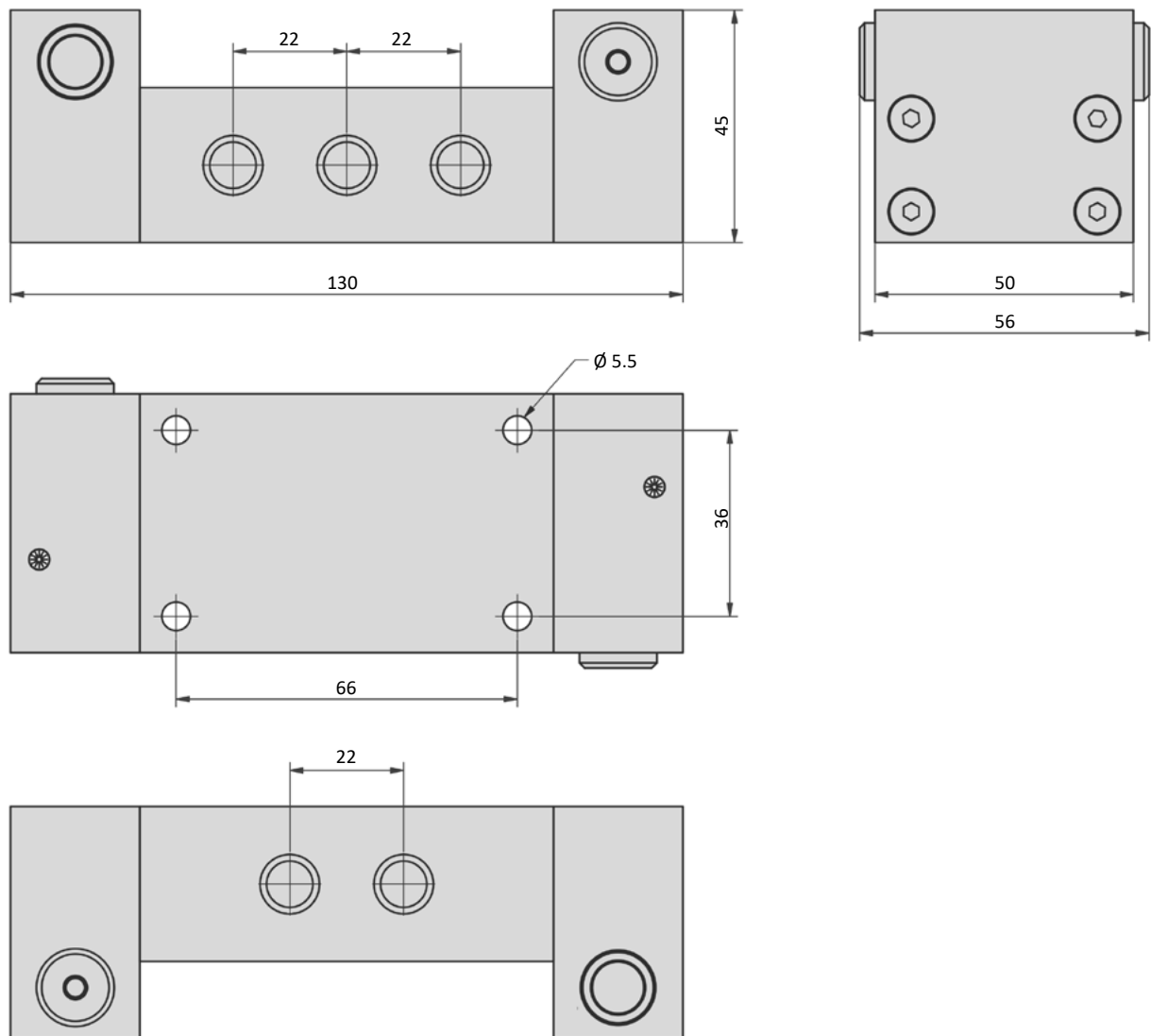


OZ-14-520  
oszillating valve,  
5/2-way

### Technical data

<b>Model-no.:</b>	OZ-14-520
<b>Connection</b>	G1/4
<b>Nominal size (mm)</b>	9
<b>Operating pressure (bar)</b>	2.5 ... 10
<b>Pilot pressure (bar)</b>	2.5 ... 10
<b>Flow rate (l/min)</b>	1580
<b>Weight (kg)</b>	0.620



**Dimensions**


## Series OZP



### Technical details

<b>Temperature range</b>	-10°C ... +70°C
<b>Medium</b>	Filtered, oil-free and dried compressed air according to ISO 8573-1:2010, Class 7:2:4, instrument air, free of aggressive additives. Differing the pressure dew point must be at least 10°C below lowest occurring ambient temperature.
<b>Materials</b>	Body: Al (anodized), seals: NBR and POM, inner parts: Al, stainless steel and brass



5/2-way oscillating valve with internal switch-back function.

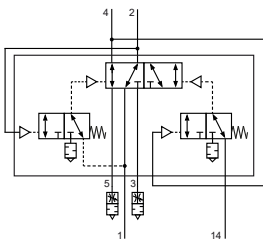
The compressed air is applied to port 1. The air flows from port 1 to port 2 and the cylinder is in its initial position.

The oscillating function is started by applying a continuous pressure signal to pilot port 14. If the pressure at port 14 is switched off, the cylinder always returns to its starting position.

If the operating pressure is interrupted, the cylinder remains in an undefined position, even if the control pressure is still applied.

The valve is supplied fully assembled.

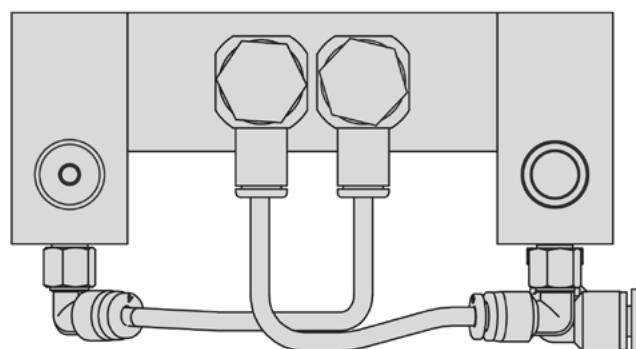
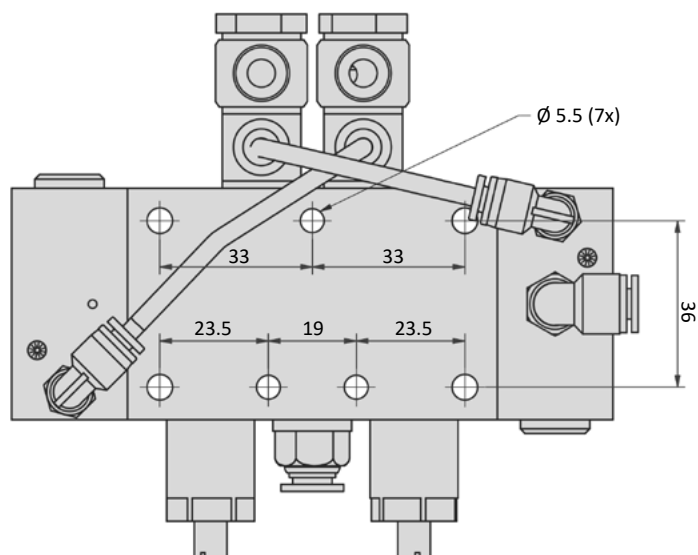
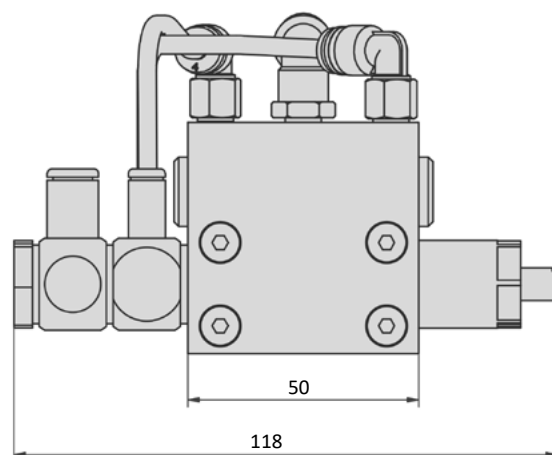
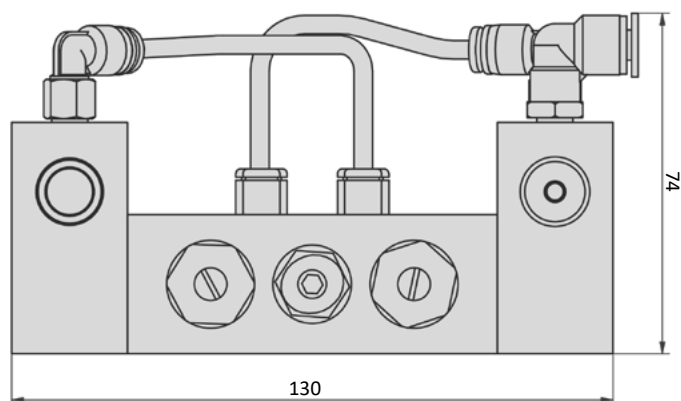
### 5/2-way-valve



OZP-14-520  
oszillating valve,  
5/2-way

### Technical data


<b>Model-no.:</b>	OZP-14-520
<b>Connection</b>	Ø 6 mm, Ø 4 mm signal port
<b>Nominal size (mm)</b>	9
<b>Operating pressure (bar)</b>	3 ... 10
<b>Pilot pressure (bar)</b>	3 ... 10
<b>Flow rate (NI/min)</b>	1580
<b>Weight (kg)</b>	0.760

**Dimensions**


# Series OR



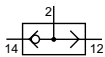
## Technical details

<b>Temperature range</b>	-10°C ... +70°C (-10°C...+60°C for use in ATEX areas)
<b>Medium</b>	Filtered, oil-free and dried compressed air according to ISO 8573-1:2010, Class 7:2:4, instrument air, free of aggressive additives. Differing the pressure dew point must be at least 10°C below lowest occurring ambient temperature.
<b>Materials</b>	Body: Al (anodized), seals: NBR, inner parts: stainless steel and brass
	Products without their own potential ignition source in accordance with Directive 2014/34/EU, suitable for use in hazardous areas (chap. 12)



Output signal is present if one inlet is pressurized. The higher input signal (min. difference 0.2 bar) is dominant.

## OR valves



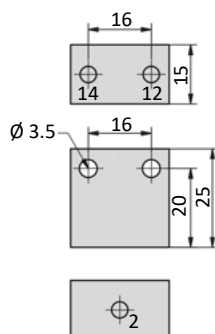
OR-xx  
OR valve

## Technical data

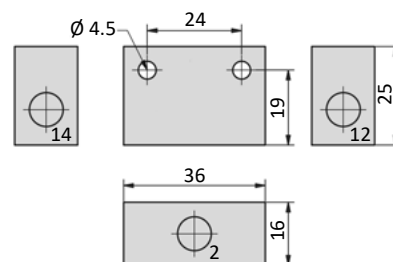
Model-no.:	OR-25	OR-18	OR-14-01
<b>Connection</b>	M5	G1/8	G1/4
<b>Nominal size (mm)</b>	3.2	4	5.5
<b>Operating pressure (bar)</b>	-0.95 ... 10	-0.95 ... 10	-0.95 ... 10
<b>Min. difference (bar)</b>	0.2	0.2	0.2
<b>Flow rate (NI/min)</b>	160	280	900
<b>Weight (kg)</b>	0.026	0.038	0.110

## Dimensions

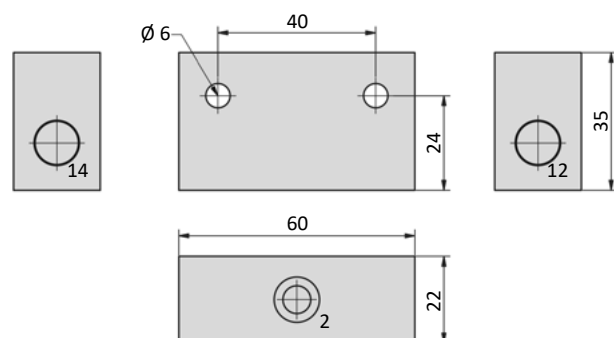
### OR-25



### OR-18




### OR-14-01



12, 14 = signal input  
2 = signal output

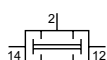
## Technical details

<b>Temperature range</b>	-10°C ... +70°C (-10°C...+60°C for use in ATEX areas)
<b>Medium</b>	Filtered, oil-free and dried compressed air according to ISO 8573-1:2010, Class 7:2:4, instrument air, free of aggressive additives. Differing the pressure dew point must be at least 10°C below lowest occurring ambient temperature.
<b>Materials</b>	Body: Al (anodized), seals: NBR, inner parts: stainless steel and brass
	Products without their own potential ignition source in accordance with Directive 2014/34/EU, suitable for use in hazardous areas (chap. 12)



Output signal at port 2 is present if both inlets 12 and 14 are pressurized.  
If both pressures are different (min. 0.2 bar), the lower pressure is switched to 2.

## AND valves



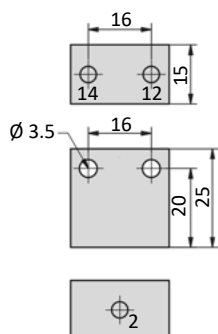
AN-xx  
AND valve

## Technical data

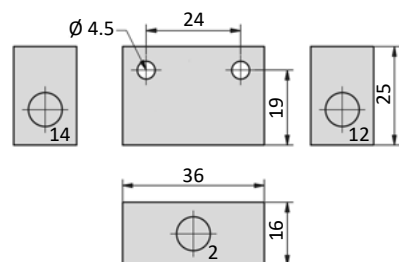
Model-no.:	AN-25	AN-18
<b>Connection</b>	M5	G1/8
<b>Nominal size (mm)</b>	3.2	4
<b>Operating pressure (bar)</b>	-0.95 ... 10	-0.95 ... 10
<b>Min. difference (bar)</b>	0.2	0.2
<b>Flow rate (NI/min)</b>	160	280
<b>Weight (kg)</b>	0.026	0.038

## Dimensions

### AN-25



### AN-18



12, 14 = signal input  
2 = signal output

# Series SE and SEH



## Technical details

### Temperature range

-10°C ... +70°C (SEH: -20°C...+150°C)  
(-10°C...+60°C for use in ATEX areas)

### Medium

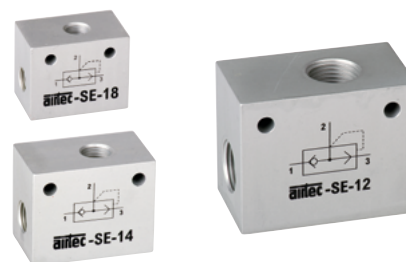
Filtered, oil-free and dried compressed air according to ISO 8573-1:2010, Class 7:2:4, instrument air, free of aggressive additives. Differing the pressure dew point must be at least 10°C below lowest occurring ambient temperature.

### Materials

Body: Al (anodized), seals: NBR (FKM for SEH)

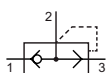


Products without their own potential ignition source in accordance with Directive 2014/34/EU, suitable for use in hazardous areas (chap. 12)



A quick exhaust valve is used to increase the speed of a pneumatic cylinder. The flow from the control valve to the cylinder ports is unrestricted. If valve port 1 is de-pressurized, air is exhausted from 2 to 3.

## SE valves



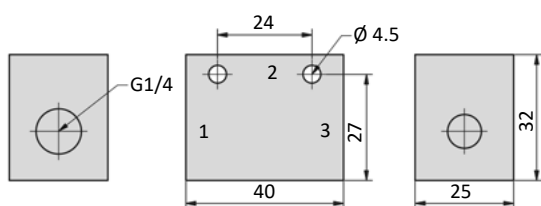
SE-xx, SEH-xx  
quick exhaust valve

## Technical data

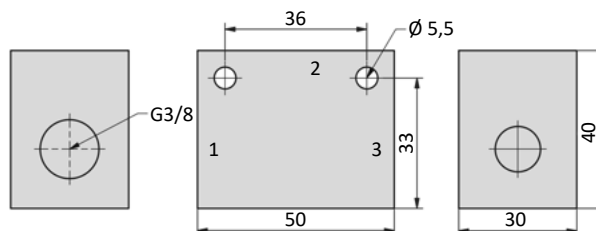
Model-no.:	SE-18, SEH-18	SE-14, SEH-14	SE-12, SEH-12
Connection (1 and 2)	G1/8	G1/4	G1/2
Nominal size 1-2 (mm)	5	7	12
Nominal size 2-3 (mm)	8	10	16
Flow rate 1-2 (l/min)	600	1200	2800
Flow rate 2-3 (l/min)	1200	2400	5600
Operating pressure (bar)	0.5 ... 10	0.5 ... 10	0.5 ... 10
Weight (kg)	0.070	0.125	0.310

## Dimensions

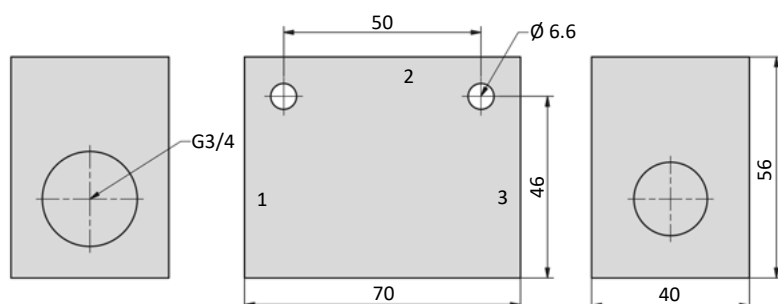
### SE-18, SEH-18



### SE-14, SEH-14



### E-12, SEH-12



1 = inlet from valve  
2 = outlet to cylinder  
3 = exhaust

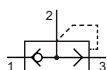
## Technical details

<b>Temperature range</b>	-10°C ... +70°C
<b>Medium</b>	Filtered, oil-free and dried compressed air according to ISO 8573-1:2010, Class 7:2:4, instrument air, free of aggressive additives. Differing the pressure dew point must be at least 10°C below lowest occurring ambient temperature.
<b>Materials</b>	Body: Al (anodized), seals: NBR



A quick exhaust valve is used to increase the speed of a pneumatic cylinder. The flow from the control valve to the cylinder ports is unrestricted. If valve port 1 is de-pressurized, air is exhausted from 2 to 3.

## 88-SE-valves

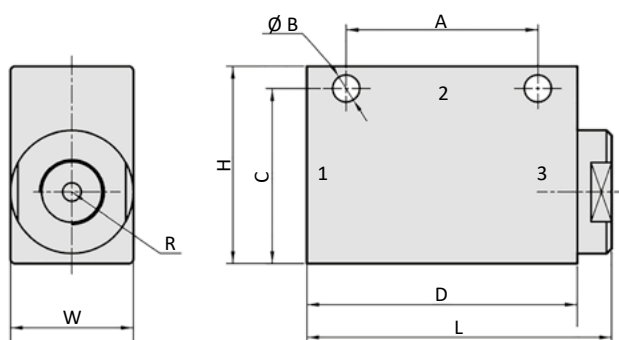


88-SE-xx  
quick exhaust valve

## Technical data

Model-no.:	88-SE-18	88-SE-14	88-SE-38	88-SE-12
<b>Connection (1 and 2)</b>	G1/8	G1/4	G3/8	G1/2
<b>Nominal size (mm)</b>	4.5	7.5	7.5	8
<b>Flow rate 1-2 (NI/min)</b>	410	1160	1160	1250
<b>Flow rate 2-3 (NI/min)</b>	680	1750	1750	1710
<b>Operating pressure (bar)</b>	0.5 ... 10	0.5 ... 10	0.5 ... 10	0.5 ... 10
<b>Weight (kg)</b>	0.058	0.117	0.110	0.094

## Dimensions



1 = inlet from valve  
2 = outlet to cylinder  
3 = exhaust

Model-no.:	A	ØB	C	D	H	L	R	W
<b>88-SE-18</b>	30	4.3	27	40	32	46	G1/4	20
<b>88-SE-14</b>	39	5.5	33	55	40	61	G3/8	25
<b>88-SE-38</b>	39	5.5	33	55	40	61	G3/8	25
<b>88-SE-12</b>	-	-	-	48	36	52.5	G3/8	28

## Series DR



### Technical details

**Temperature range** -10°C ... +70°C

**Medium**

Filtered, oil-free and dried compressed air according to ISO 8573-1:2010, Class 7:2:4, instrument air, free of aggressive additives. Differing the pressure dew point must be at least 10°C below lowest occurring ambient temperature.

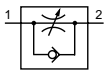
**Materials**

Body: Al (anodized), seals: NBR



This valve is used for the speed control of a pneumatic cylinder. The flow rate can be regulated by turning the adjusting screw.

### DR-Ventile

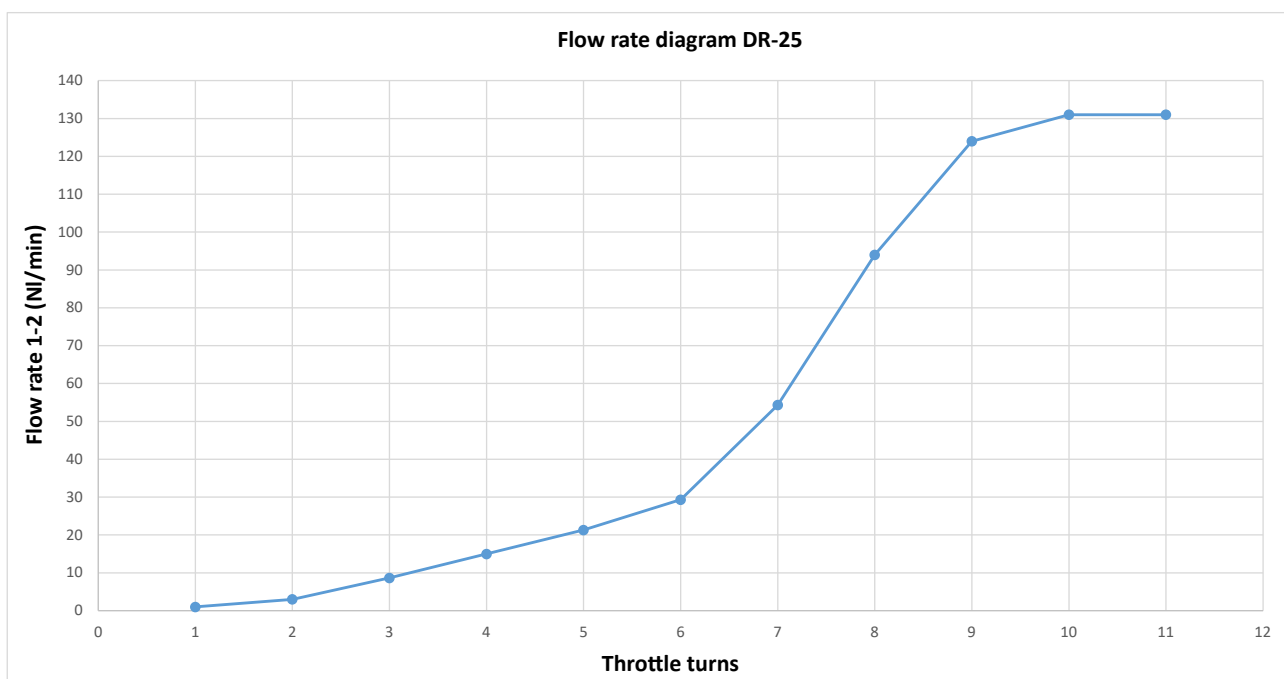


DR-xx  
flow control valve

### Technical data

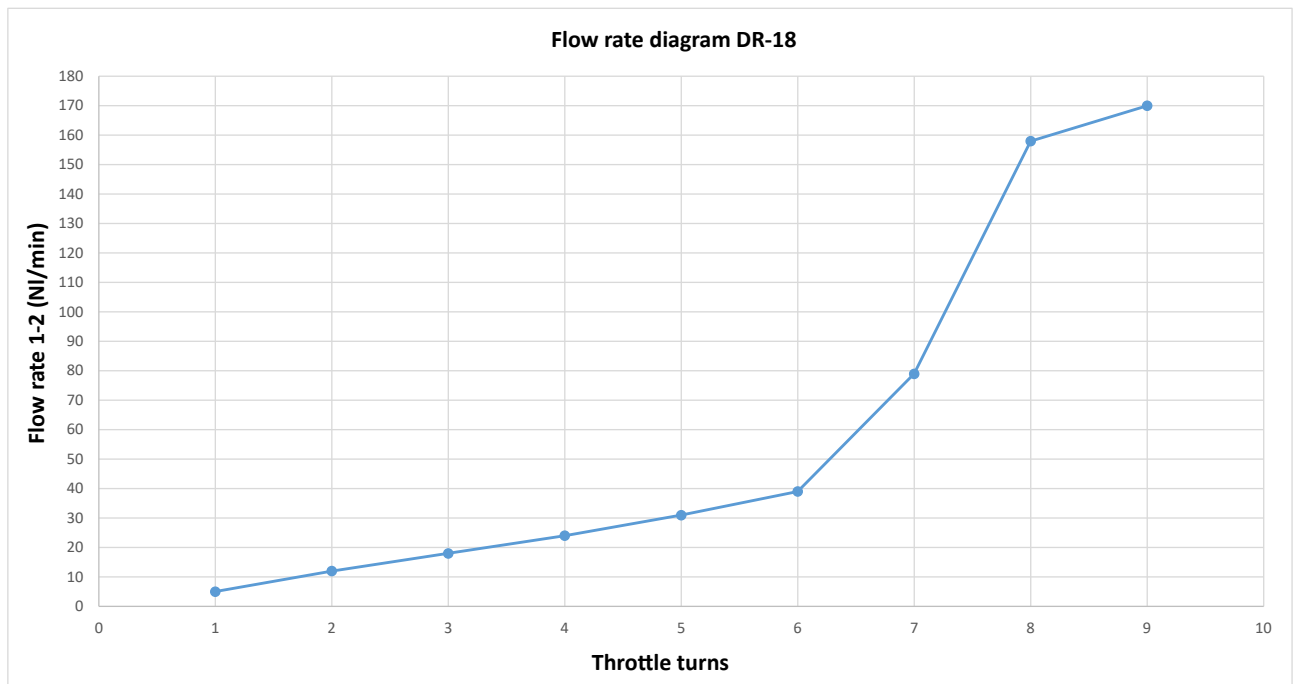
Model-no.:	DR-25	DR-18	DR-14	84-DR-12
Connection	M5	G1/8	G1/4	G1/2
Nominal size 1-2 (mm)	0.5 ... 1.5	0.5 ... 2	1 ... 5	1 ... 4
Nominal size 2-1 (mm)	2.5	4.5	7.5	4
Flow rate 1-2 (l/min)	5 ... 40	5 ... 90	50 ... 600	50 ... 400
Flow rate 2-1 (l/min)	120	480	1300	430
Operating pressure (bar)	0.5 ... 10	0.5 ... 10	0.5 ... 10	0 ... 10
Weight (kg)	0.034	0.040	0.098	0.098

### Flow rate diagram

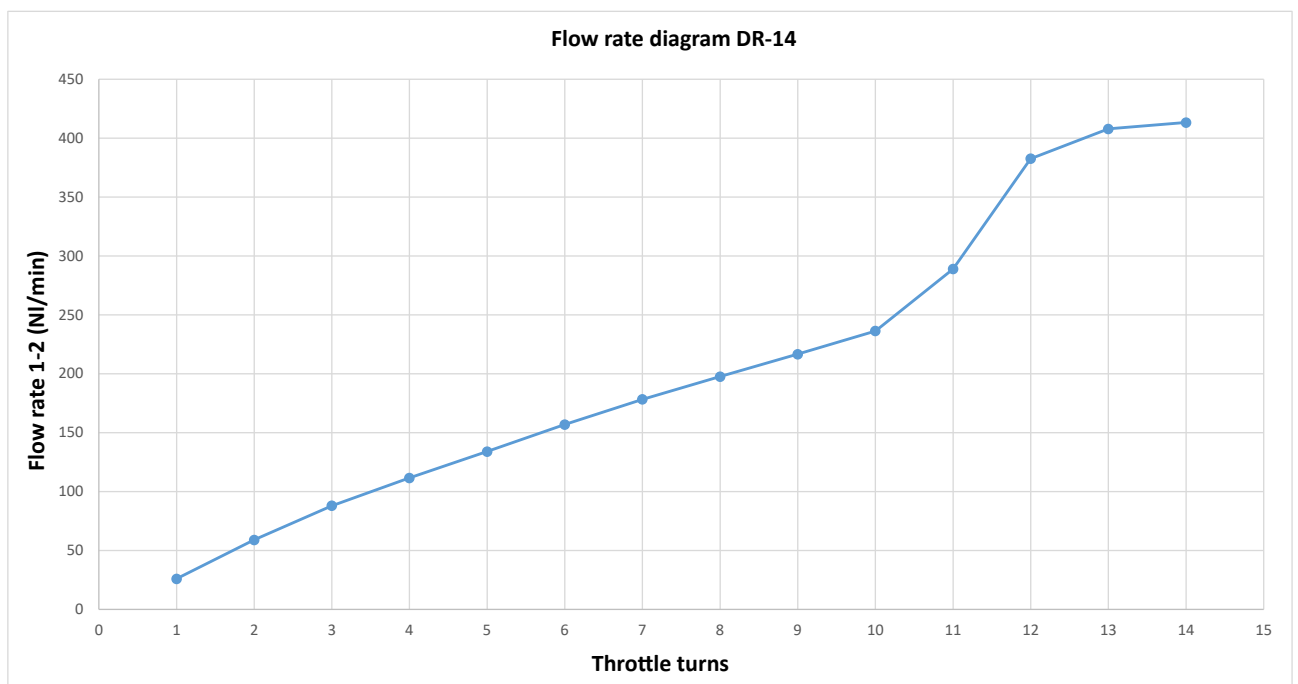




## Flow rate diagram



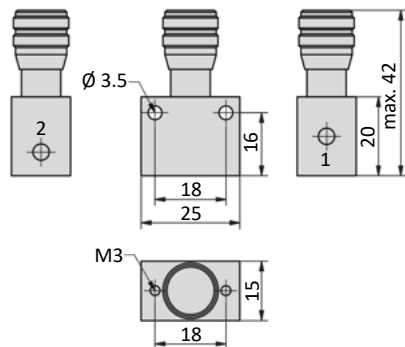
## Flow rate diagram



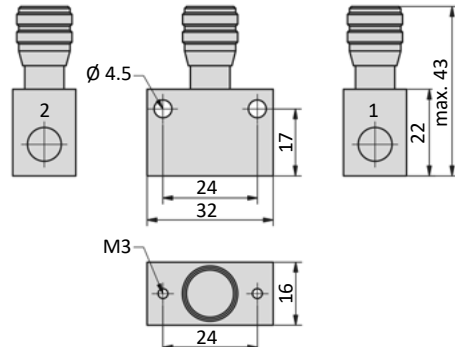
## Series DR

### Dimensions

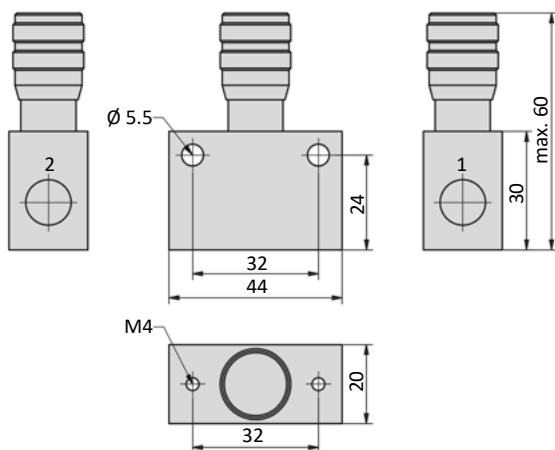
#### DR-25



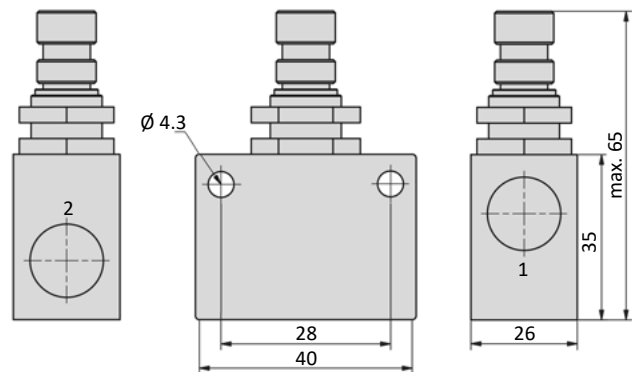
#### DR-18



#### DR-14



#### 84-DR-12



1 = pressure inlet  
2 = outlet

## Technical details

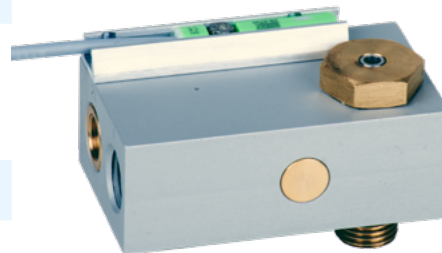
**Temperature range** -10°C ... +60°C

**Medium**

Filtered, oil-free and dried compressed air according to ISO 8573-1:2010, Class 7:2:4, instrument air, free of aggressive additives. Differing the pressure dew point must be at least 10°C below lowest occurring ambient temperature.

**Materials**

Body: Al (anodized), seals: NBR, inner parts: Al, brass, stainless steel

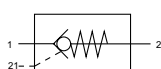


## Function

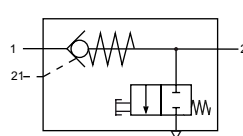
Check valve, pneumatically unlockable for space-saving installation on the actuator. The installation position can be rotated by 180° by repositioning the banjo bolt.

The valve is equipped with a manual venting option. This can be operated with a pointed tool. The valve can optionally be supplied without manual venting.

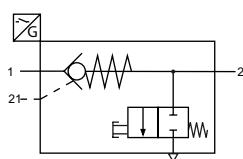
The valve can optionally be equipped with a switching position detection system. The detection via standard sensors for T-slots enables the detection of the open or closed position.



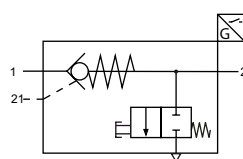
ERV-xx-02-x



ERV-xx-00-x



ERV-xx-01-x-C-x



ERV-xx-01-x-O-x

## Order code

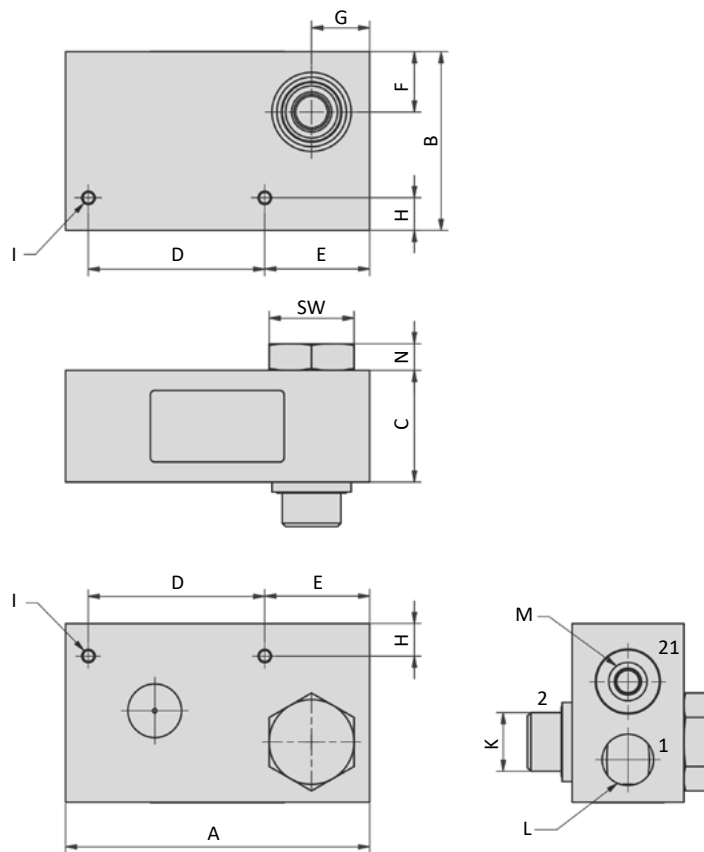
ERV-**-**-**-**			
Series		Type of switch	
		1	ZS-6600
		2	ZS-6601
		3	ZS-6700
		4	ZS-6701
Size / Connection		Detected switching position	
01	150 l/min / M5	C	closed
03	360 l/min / G1/8	O	open
06	650 l/min / G1/4		
12	1200 l/min / G3/8		
24	2400 l/min / G1/2		
Function			
00	with manual venting (standard)		
01	with manual venting and switching position monitoring		
02	without manual venting		
03	without manual venting, with switching position monitoring		

## Series ERV

### Technical data

Model-no.:	ERV-03	ERV-06	ERV-12	ERV-24
Flow rate 1-2 (NI/min)	360	650	1200	2400
Flow rate 2-1 (NI/min)	360	650	1200	2400
Operating pressure (bar)	0...10	0...10	0...10	0...10
Pilot pressure (bar)	1...10	1...10	1...10	1...10

### Dimensions



Model-no.:	A	B	C	D	E	F	G	H	I	K	L	M	N	SW
ERV-03	68.1	36	25	39.5	23	12.5	12	6	M3	G1/8	G1/8	G1/8	6	14
ERV-06	68.1	40	25	39.5	23.5	13.5	13	7.3	M3	G1/4	G1/4	G1/8	6	19
ERV-12	80	45	30	51.5	23.5	14.5	15	7.3	M3	G3/8	G3/8	G1/8	9	24
ERV-24	80	50	30	51.5	23.5	16	16	7.3	M3	G1/2	G1/2	G1/8	9	27

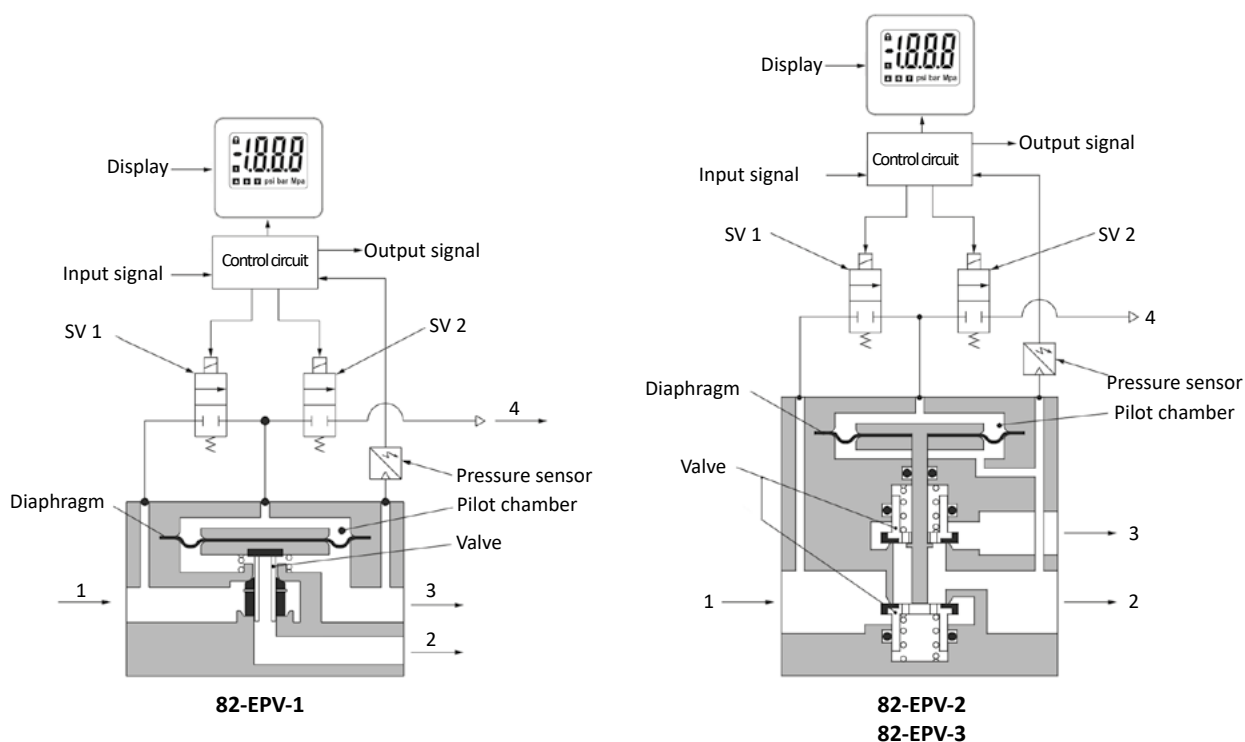
## Technical details

<b>Temperature range</b>	0°C ... +50°C
<b>Medium</b>	Filtered, oil-free and dried compressed air according to ISO 8573-1:2010, Class 7:2:4, instrument air, free of aggressive additives. Differing the pressure dew point must be at least 10°C below lowest occurring ambient temperature.
<b>Materials</b>	Body: Al (anodized), plastic, seals: NBR, inner parts: Al, steel and brass



## Function

With an increasing input signal, the solenoid valve SV1 (air supply) is switched ON while at the same time the solenoid valve SV2 (air exhaust) remains closed. Air is supplied to the pilot chamber. The pressure in the pilot chamber increases and is applied to the upper side of the membrane. The valve which is connected to the membrane opens, and air flows towards the valve outlet. The outlet pressure is monitored by a pressure sensor which transmits a corresponding electrical signal to the control circuit. The control circuit adjusts the valve so that the outlet pressure is proportional to the input pressure. The pressure sensor continually controls the outlet pressure and keeps it proportional to the inlet pressure.



- 1 = pressure inlet
- 2 = outlet
- 3 = exhaust
- 4 = exhaust

## Series 82-EPV



## Order code

82-EPV-***-F-***	
Series	Accessories
Type / Nominal size	without accessories
1 2 mm	OC without bracket with cable connector, straight, 3m
2 7 mm	OL without bracket with cable connector, right angle, 3m
3 11 mm	C0 with flat bracket without cable connector
	L0 with L-type bracket without cable connector
Output range	CC with flat bracket with cable connector, straight, 3m
1 0,05 ... 1 bar	CL with flat bracket with cable connector, right angle, 3m
3 0,05 ... 5 bar	LC with L-type bracket with cable connector, straight, 3m
5 0,05 ... 9 bar	LL with L-type bracket with cable connector, right angle, 3m
Input signal	Connection
0 4 ... 20 mA DC	F1 G1/8 (only type 1)
3 0 ... 10 V DC	F2 G1/4
	F3 G3/8 (only type 2 and 3)
	F4 G1/2 (only type 3)
	Output signal
	1 1 ... 5 V DC
	2 switch, NPN output
	3 switch, PNP output
	4 4 ... 20 mA DC

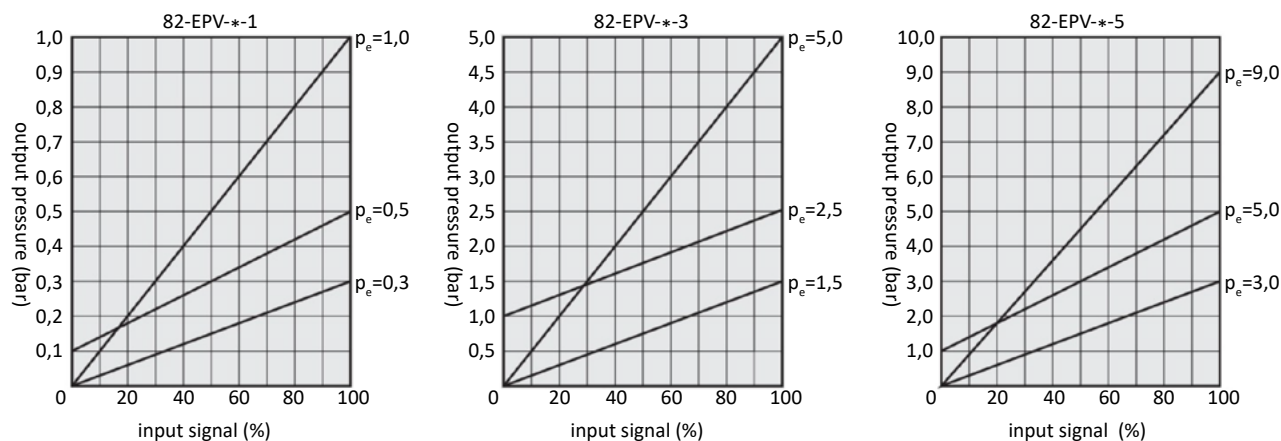
## Accessories

Model-no.:	82-EPV-MB-L	Model-no.:	86-ST-EPV-C-3
	L-type bracket		Cable connector, straight, 3m
Model-no.:	82-EPV-MB-C	Model-no.:	86-ST-EPV-L-3
	Flat bracket		Cable connector, right angle, 3m

## Technical data

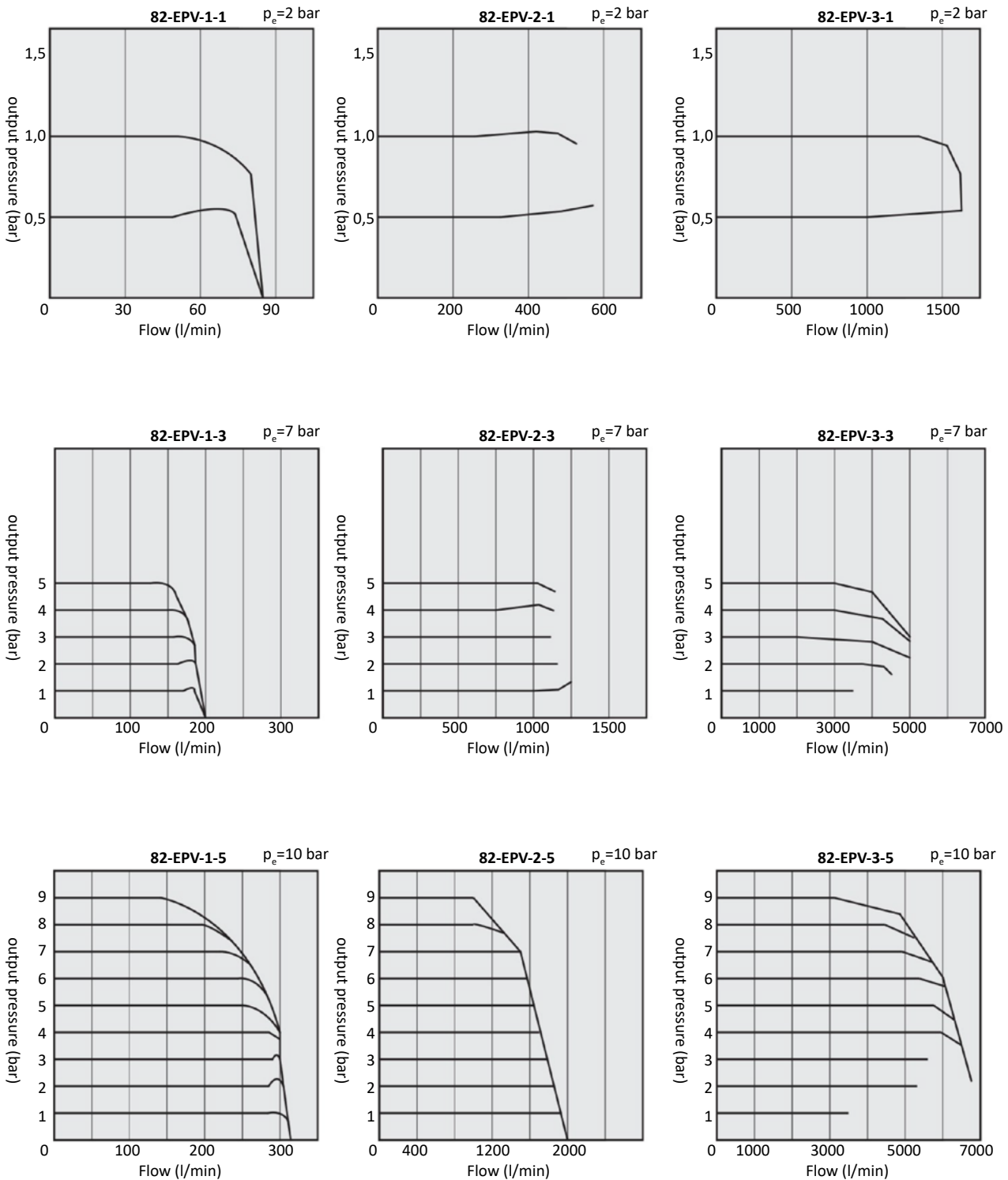
<b>Model-no.:</b>	82-EPV-1-1 82-EPV-2-1 82-EPV-3-1	82-EPV-1-3 82-EPV-2-3 82-EPV-3-3	82-EPV-1-5 82-EPV-2-5 82-EPV-3-5
<b>Input range (bar)</b>	1 ... 2	1 ... 10	1 ... 10
<b>Output range (bar)</b>	0,05 ... 1	0,05 ... 5	0,05 ... 9
<b>Input signal</b>	0 ... 10 V or 4 ... 20 mA		
<b>Input impedance</b>	ca. 6,5 k $\Omega$ (0 ... 10 V) $\leq$ 250 $\Omega$ (4 ... 20 mA)		
<b>Output signal (analog)</b>	1 ... 5 V or 4 ... 20 mA		
<b>Output signal (switch)</b>	NPN or PNP (max. 30 V, 80 mA)		
<b>Repeatability</b>	$\pm$ 0,5% (full span)		
<b>Linearity</b>	$\pm$ 1% (full span)		
<b>Hysteresis</b>	0,5% (full span)		
<b>Temperature characteristics</b>	2% (full span)/K		
<b>Display precision</b>	$\pm$ 2% (full span)		
<b>Electrically connection</b>	M12-plug, 4-pin		
<b>Nominal voltage</b>	24 V DC $\pm$ 10%		
<b>Power consumption</b>	max. 3 W		
<b>Protection</b>	IP 65 according to EN 60529		
<b>Weight (kg)</b>	82-EPV-1	0,25	
	82-EPV-2	0,37	
	82-EPV-3	0,66	

## Linearity



## Technical data

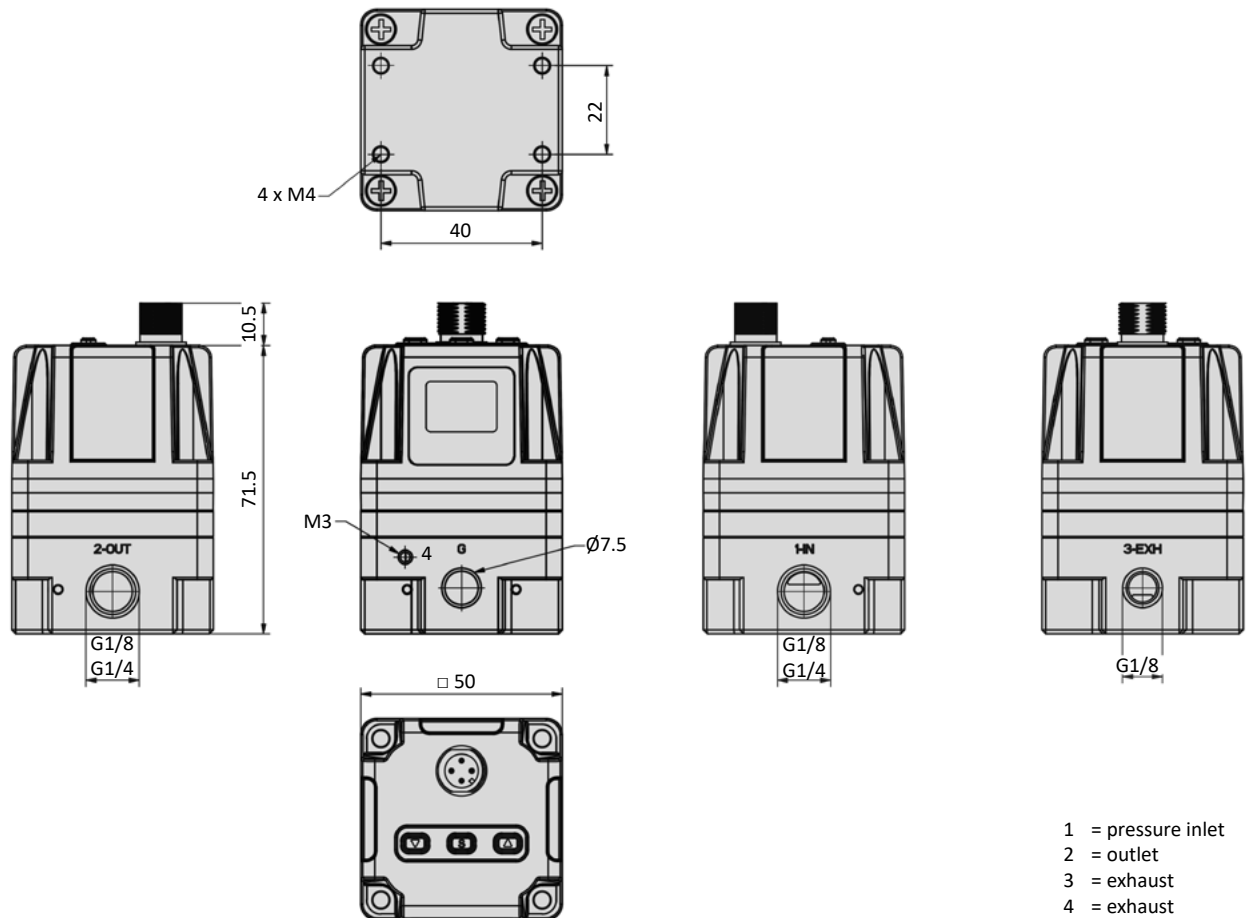
## Flow characteristics



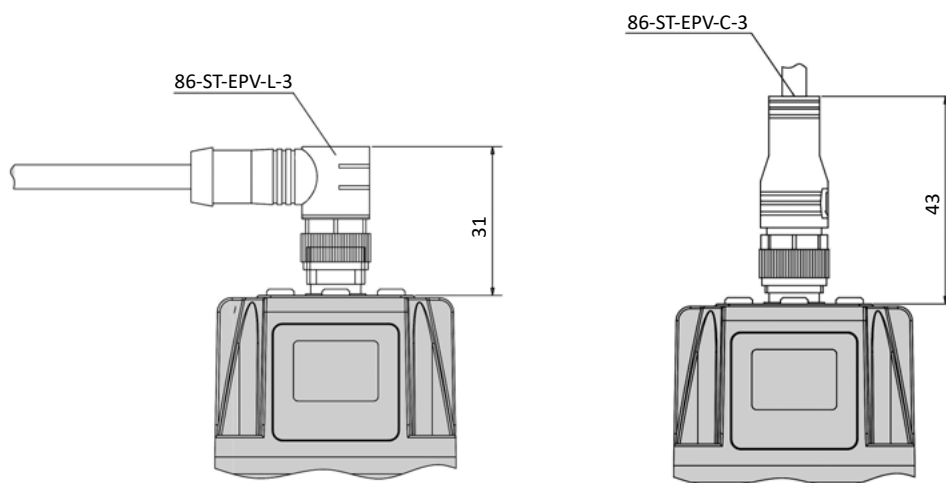


## Dimensions

### 82-EPV-1



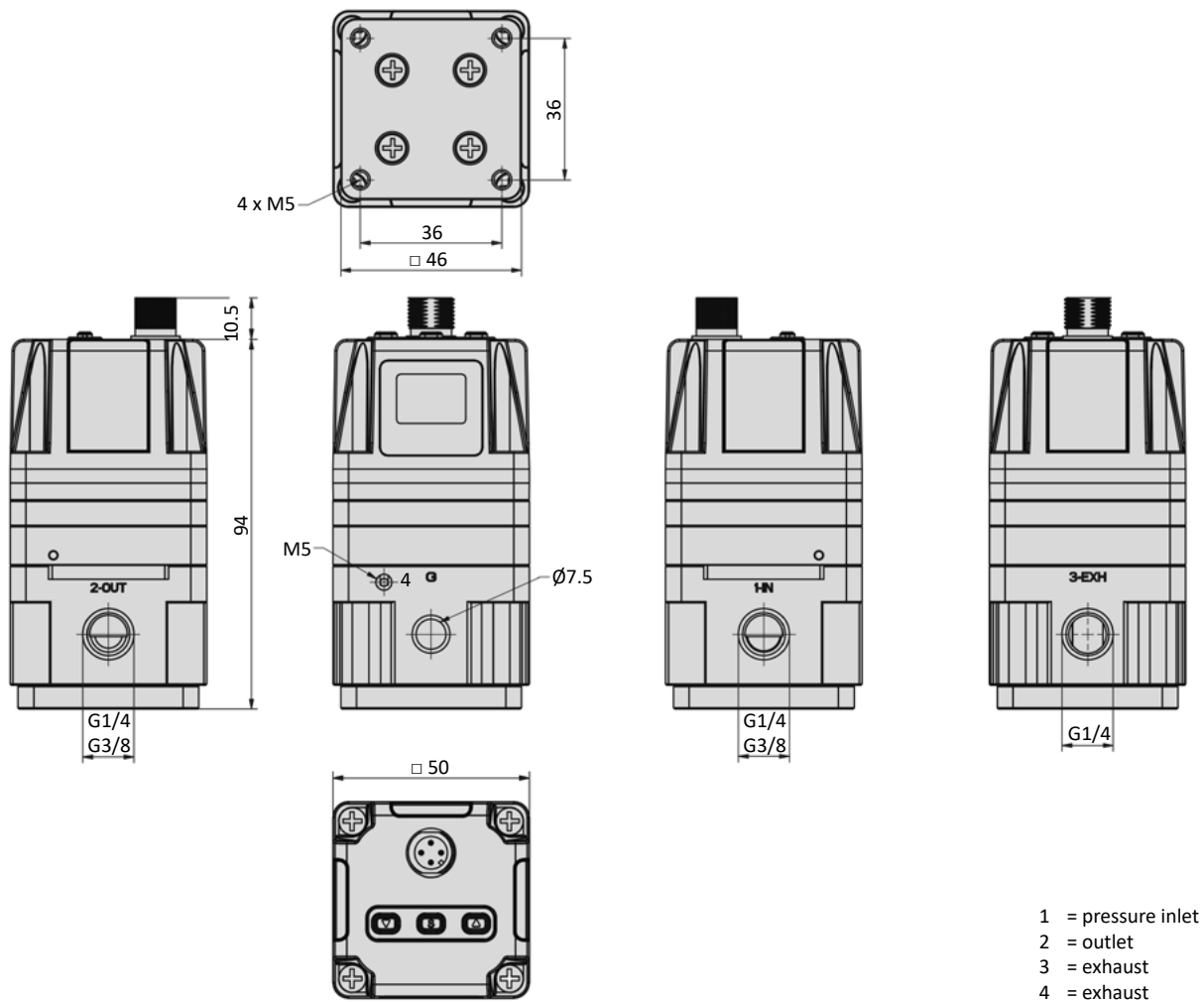
## Cable connector



## Series 82-EPV

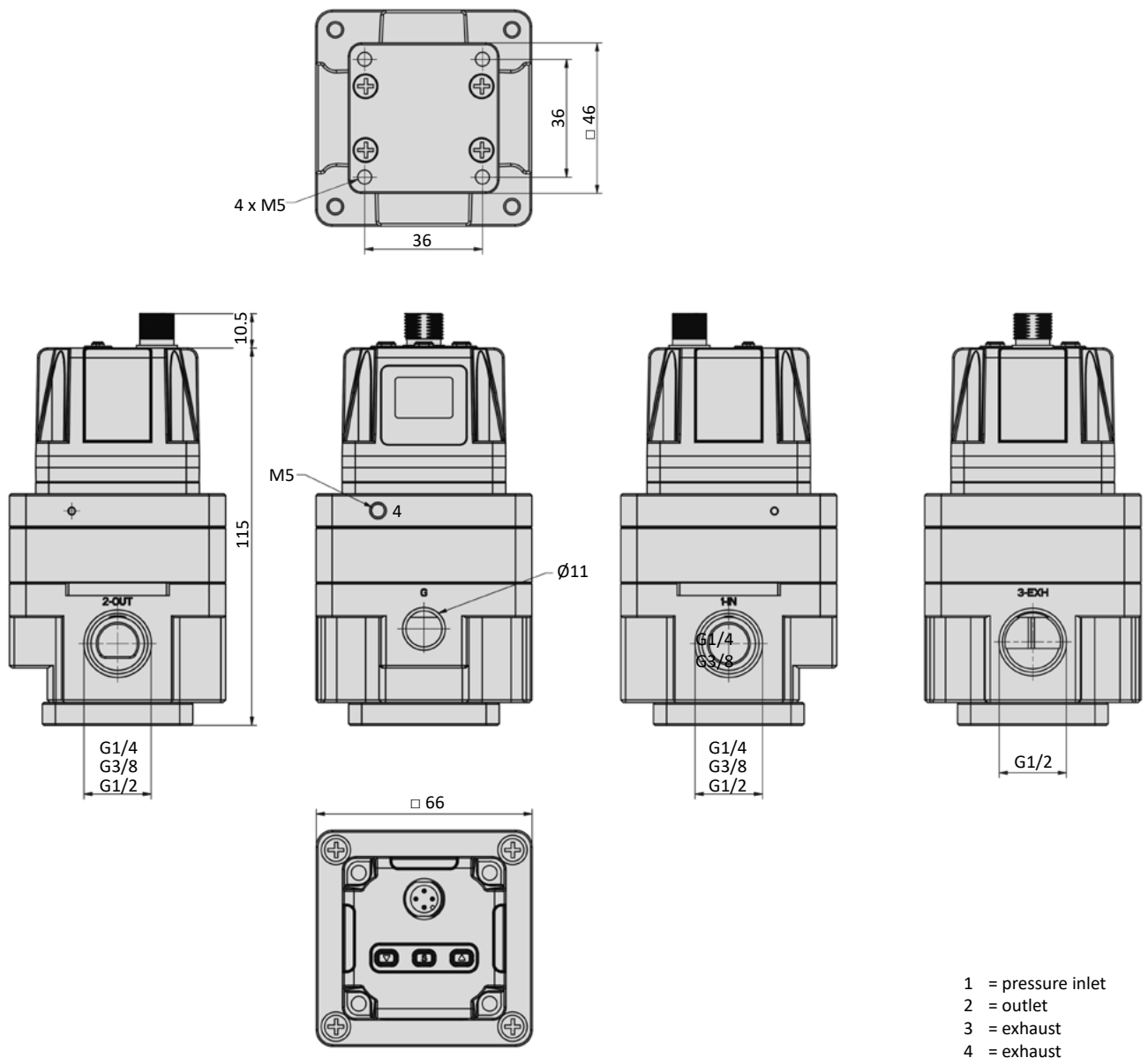
### Dimensions

#### 82-EPV-2



## Dimensions

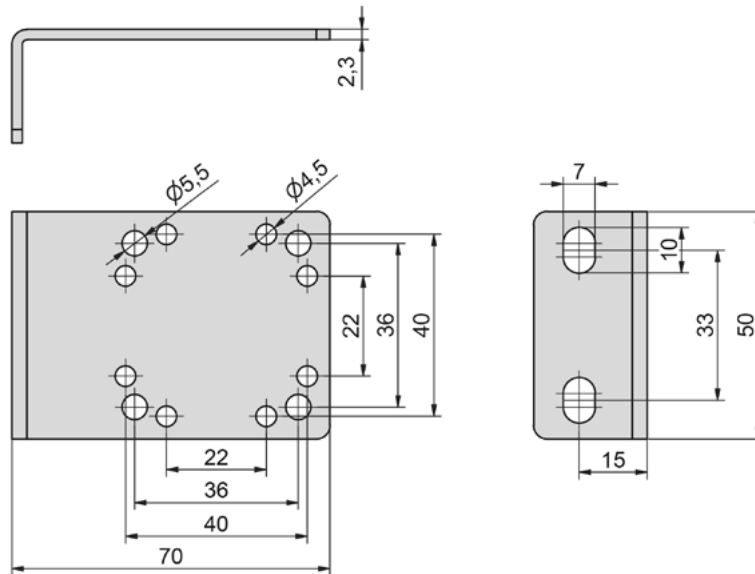
### 82-EPV-3



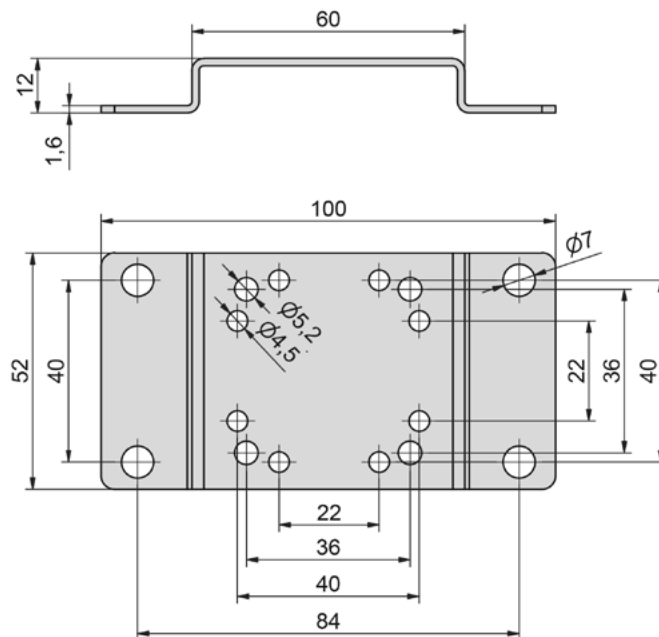
## Series 82-EPV

### Dimensions

#### Bracket 82-EPV-MB-L



#### Bracket 82-EPV-MB-C



## Technical details

<b>Temperature range</b>	0°C ... +50°C
<b>Medium</b>	Filtered, oil-free and dried compressed air according to ISO 8573-1:2010, Class 7:2:4, instrument air, free of aggressive additives. Differing the pressure dew point must be at least 10°C below lowest occurring ambient temperature.
<b>Materials</b>	Body: plastic, seals: NBR, pressure connector: brass, zinc plated



## Function

Adjustable, digital pressure switch with 2 colour LCD display. The pressure provides a wide range of output options (see table below).  
The 2m connection cable is included.

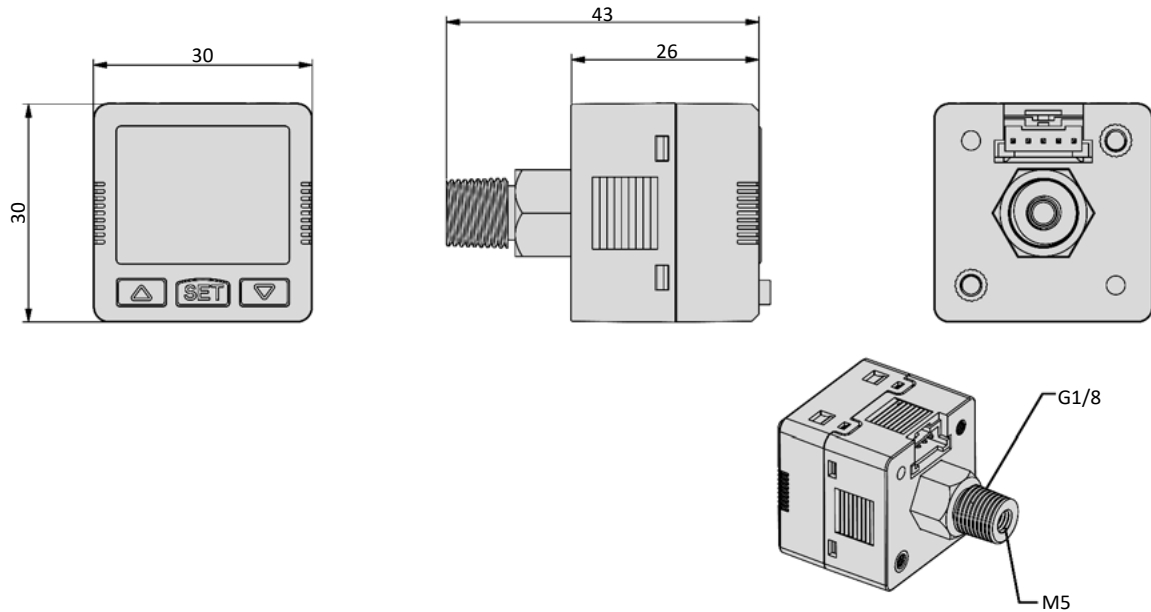
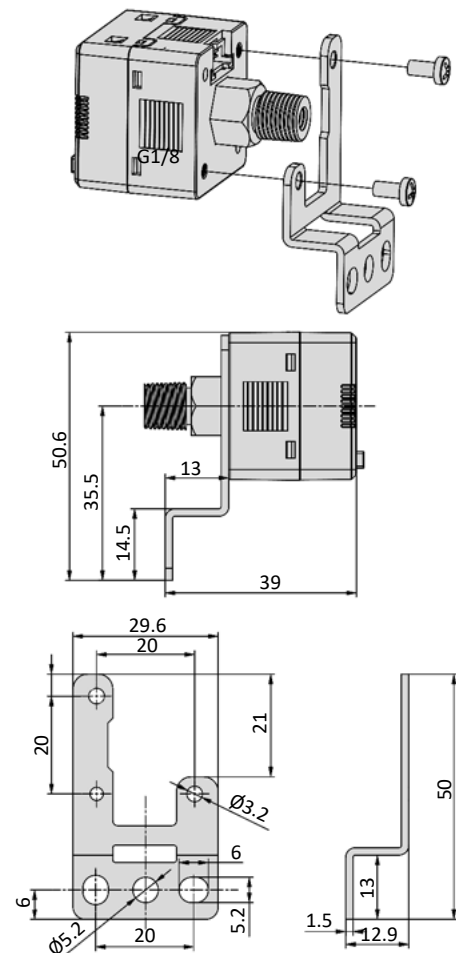
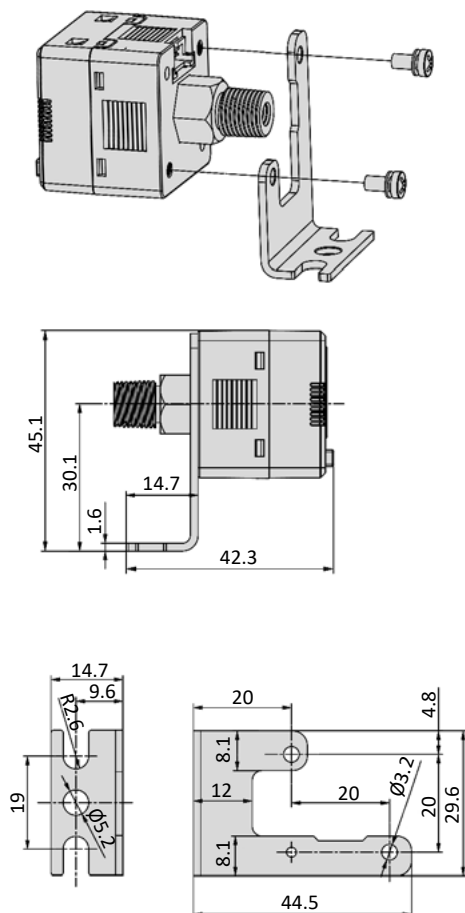
## Order code

82-DPS-***-***-***			
Series	←	←	Outputs
Version / Outputs	←	←	NN* 2 x switch, NPN
2 Standard, 2 electrical outputs			PP* 2 x switch, PNP
3 Standard, 1 electrical output			NV 1(2) x switch, NPN 1 x analog, 1 ... 5 V
5 Enhanced humidity resistance, 2 electrical outputs		→	PV 1(2) x switch, PNP 1 x analog, 1 ... 5 V
Measurement range / Setting range	←		NA 1(2) x switch, NPN 1 x analog, 4 ... 20 mA
01 -1 ... 1 bar			PA 1(2) x switch, PNP 1 x analog, 4 ... 20 mA
10 -1 ... 10 bar			PN** 2 x switch, PNP or NPN
20* -1 ... 20 bar			
* only 82-DPS-5...		* only 82-DPS-2 ** only 82-DPS-3 (2) only 82-DPS-5	

## Series 82-DPS

### Technical data

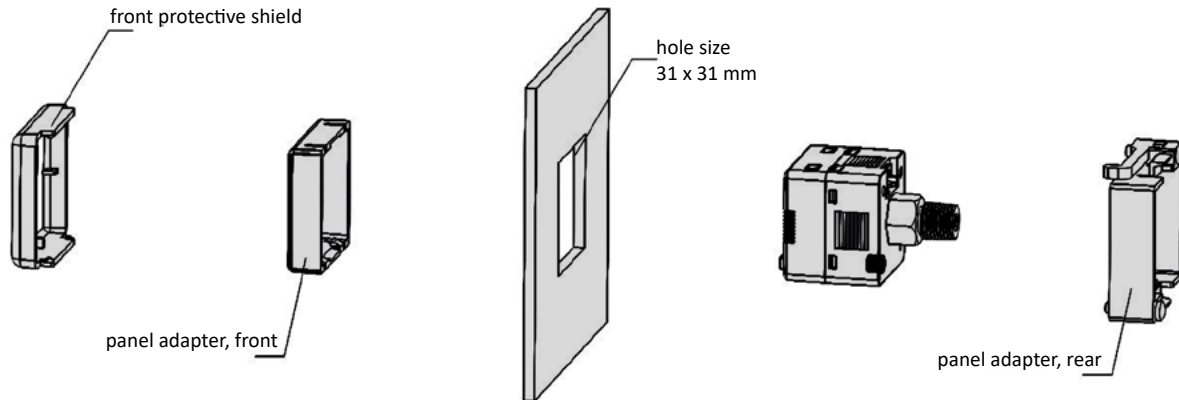
Model-no.:	82-DPS-	2-01-PN	2-10-PN	3-01-xx	3-10-xx	5-01-xx	5-10-xx	5-20-xx
Measurement range (bar)		-1 ... 1	-1 ... 10	-1 ... 1	-1 ... 10	-1 ... 1	-1 ... 10	-1 ... 20
Setting range (bar)		-1 ... 1	-1 ... 10	-1 ... 1	-1 ... 10	-1 ... 1	-1 ... 10	-1 ... 20
Withstand pressure (bar)		5	15	5	15	3	30	30
Output signal (switch)		NN: 2 x NPN, PP: 2 x PNP, Nx: 1 x NPN, Px: 1 x PNP		NPN or PNP		NN: 2 x NPN, PP: 2 x PNP, Nx: 1 x NPN, Px: 1 x PNP		
Switch function		NO or NC (programmable)						
Output modus		hysteresis mode, window comparator mode, output off						
Max. contact voltage		28 V						
Max. load current		80 mA						
Voltage drop		≤ 1 V						
Response time (ms)		adjustable: 2,5, 20, 100, 500, 1000, 2000						
Short-circuit protection		yes						
Output signal (analog)		xV: 1 ... 5 V, load impedance ≥ 1 kΩ xA: 4 ... 20 mA, load impedance ≤ 400 Ω		-		xV: 1 ... 5 V, load impedance ≥ 1 kΩ xA: 4 ... 20 mA, load impedance ≤ 400 Ω		
Display accuracy		± 2% full span (at 25°C)						
Temperature characteristics		± 3% full span (0 ... 50°C)						
Hysteresis		adjustable						
Pressure units		mHg, psi, bar, MPa, kPa						
Display		2-line LCD-display, four digit, 1.line red/green, 2.line orange		single-line LCD-display, four digit, red/green, output status display				
Electrical connection		flat plug, 5-pin				round plug with bayonet coupling, 5-pin		
Nominal voltage		12 ... 24 V DC ± 10%						
Power consumption		max. 40 mA						
Protection		IP 40 according to EN 60529				IP 65 according to EN 60529		
Connection		G(NPT)1/8 male and M5 female				G(NPT)1/4 male and M5 female		
Weight (kg)		0,036				0,052		

**Dimensions 82-DPS-2 and 82-DPS-3**

**82-DPS-2-3-MB-L**
**82-DPS-2-3-MB-S**


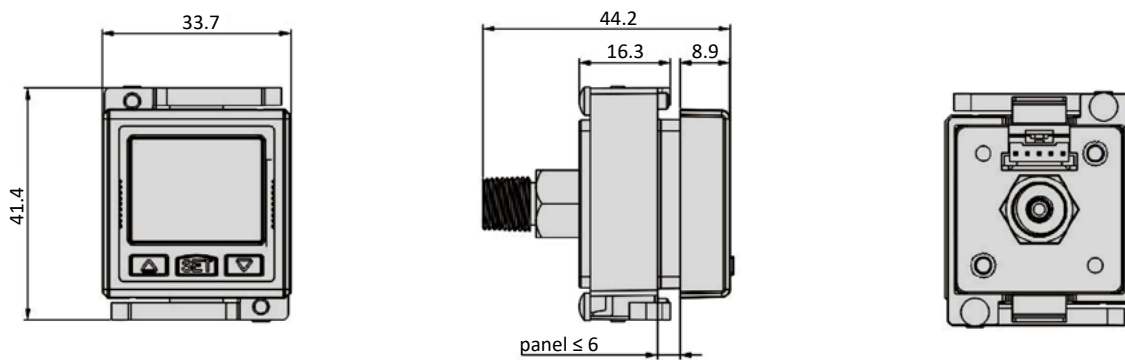
## Series 82-DPS

### Dimensions

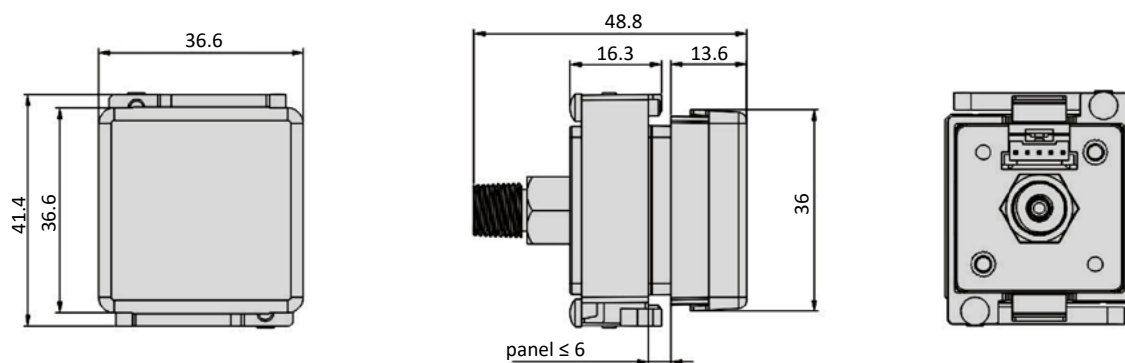
#### Panel mounting 82-DPS-2 and 82-DPS-3, functional principle



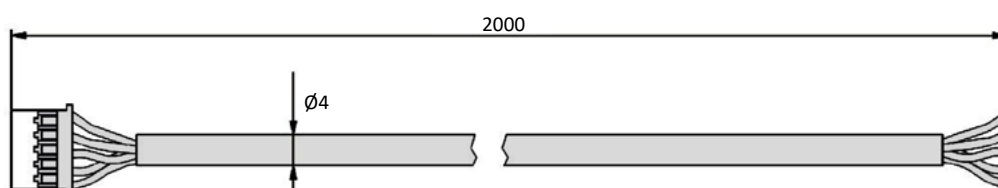
#### 82-DPS-2-3-PM



#### 82-DPS-2-3-PMS

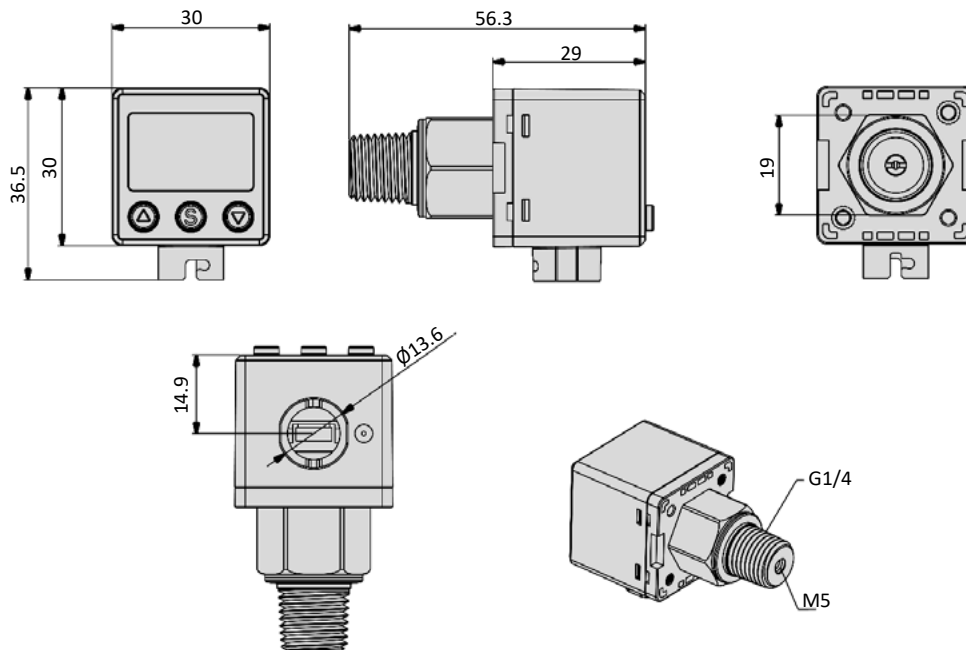


#### 86-ST-DPS-2

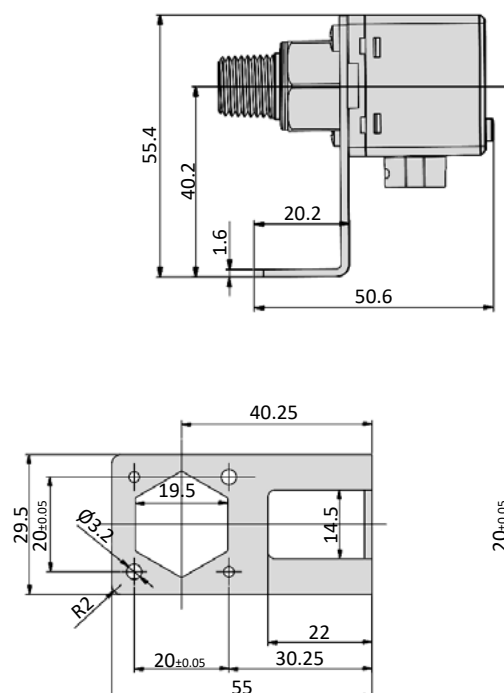
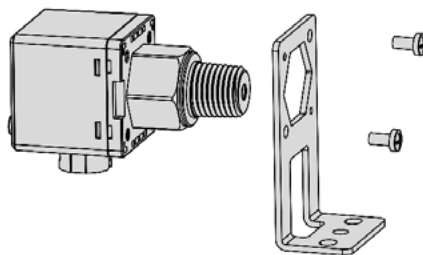




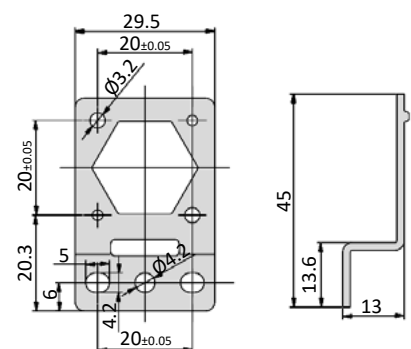
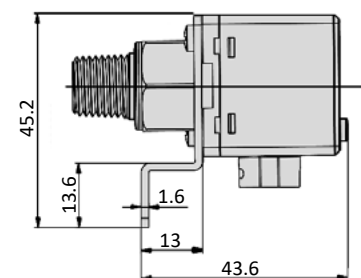
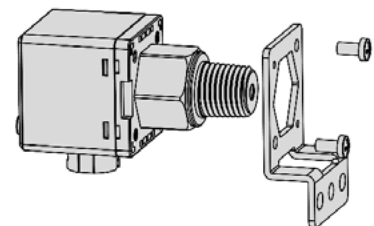
## Dimensions 82-DPS-5



**82-DPS-5-MB-L**



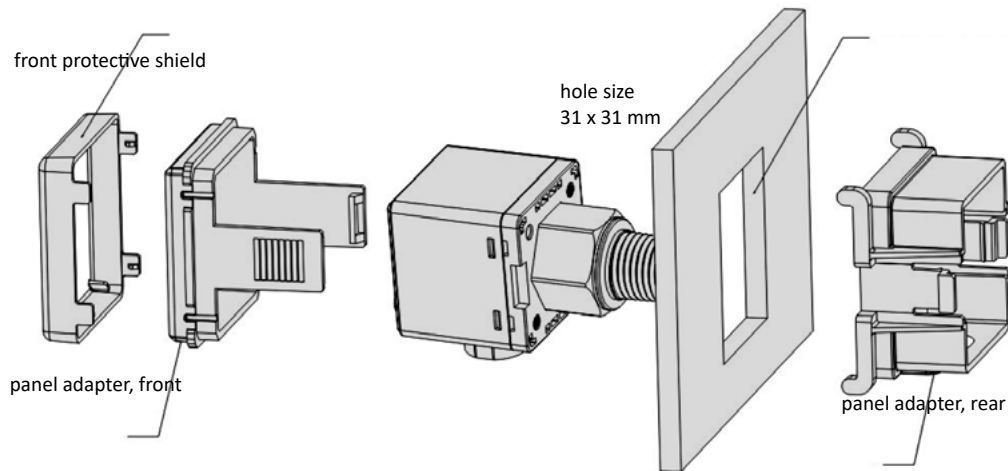
## 82-DPS-5-MB-S



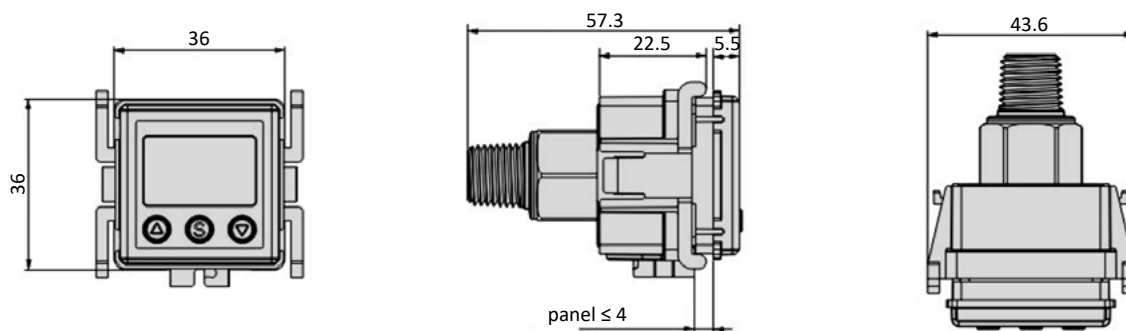
## Series 82-DPS

### Dimensions

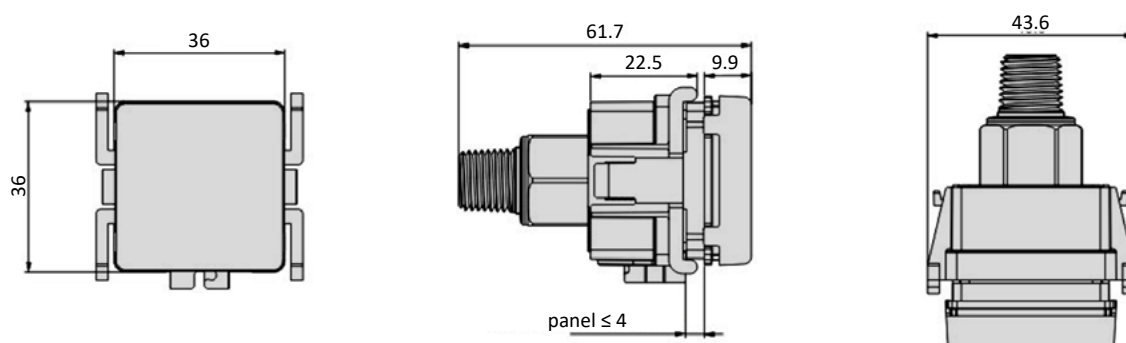
#### Panel mounting 82-DPS-2 and 82-DPS-3, functional principle



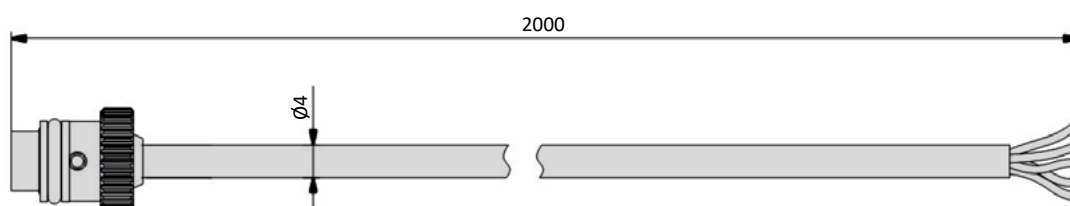
#### 82-DPS-5-PM



#### 82-DPS-5-PMS



#### 86-ST-DPS-5-2



## Accessories

**Model-no.:**

82-DPS-2-3-MB-L

L-type bracket


**Model-no.:**

82-DPS-5-MB-L

L-type bracket


**Model-no.:**

82-DPS-2-3-MB-S

S-type bracket


**Model-no.:**

82-DPS-5-MB-S

S-type bracket

**Model-no.:**

82-DPS-2-3-PM

panel mount adapter


**Model-no.:**

82-DPS-5-PM

panel mount adapter

**Model-no.:**

82-DPS-2-3-PMS

panel mount adapter with front protective shield


**Model-no.:**

82-DPS-5-PMS

panel mount adapter with front protective shield

**Model-no.:**

86-ST-DPS-2-3-2

Cable connector, 2m  
(part of delivery)

**Model-no.:**

86-ST-DPS-5-2

Cable connector, 2m  
(part of delivery)

**Model-no.:**

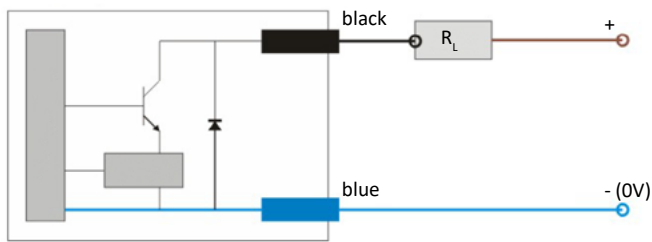
86-ST-DPS-10

Cable connector, 10 m

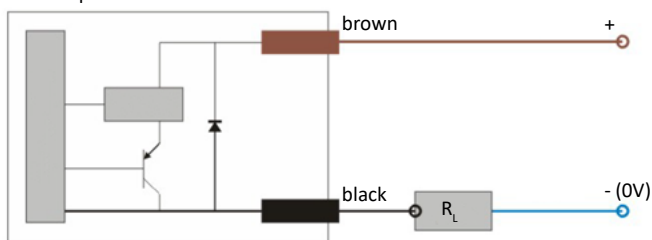


## Elektrical connection

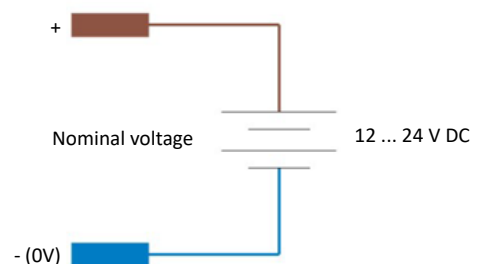
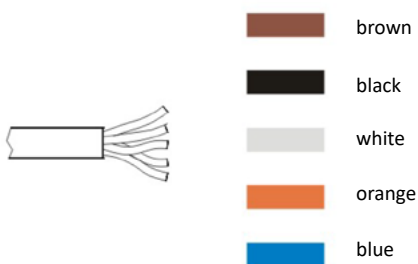
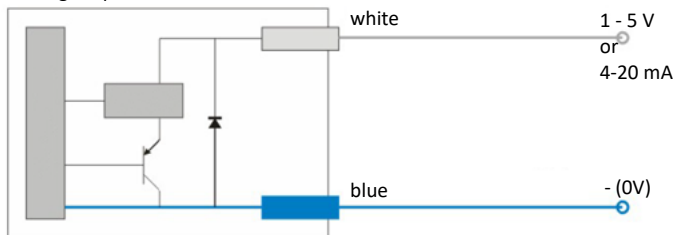
NPN output



PNP output

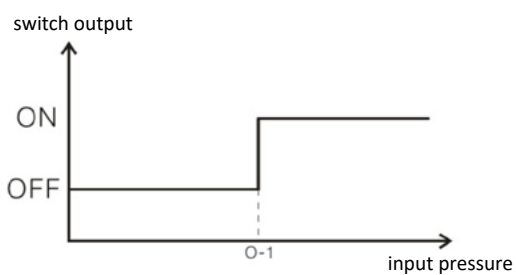


Analog output

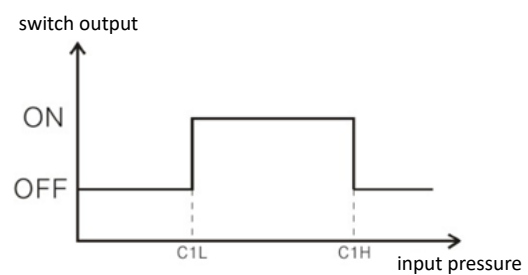


## Output function

### Hysteresis mode



### Window comparator mode

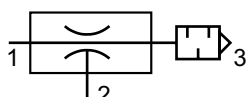


## Technical details

<b>Temperature range</b>	0°C ... +60°C
<b>Medium</b>	Filtered, oil-free and dried compressed air according to ISO 8573-1:2010, Class 7:2:4, instrument air, free of aggressive additives. Differing the pressure dew point must be at least 10°C below lowest occurring ambient temperature.
<b>Materials</b>	Body: Al (anodized), fittings: brass, nickel plated, silencer: plastic



Vacuum ejectors work according to the Venturi principle. The pressure and vacuum connection have an integrated filter which protects against large dirt particles. The granulate silencer is part of delivery. The HV series is developed for high vacuum level.



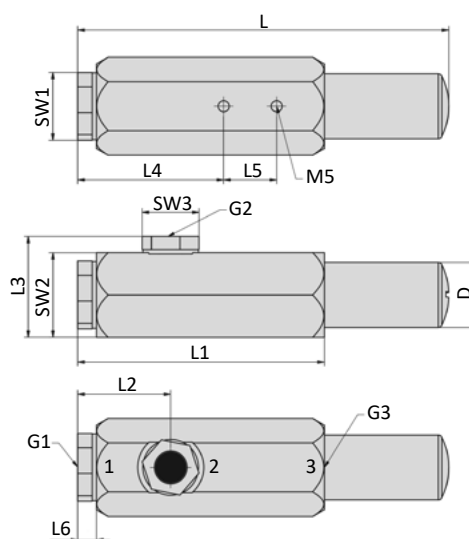
## Technical data

Model-no.:	HV-33	HV-63	HV-93	HV-133	HV-333	HV-533
<b>Max. vacuum level (%)</b>	95	95	95	95	95	95
<b>Flow rate (l/min)**</b>	4	10	15	30	40	45
<b>Air consumption (l/min)*</b>	25	45	70	120	300	480
<b>Time to evacuate (s/l)**</b>	7.50	3.20	2.00	0.95	0.53	0.42
<b>Nozzle-Ø (mm)</b>	0.7	1.1	1.3	1.7	2.5	3.0
<b>Operating pressure (bar)</b>	4 ... 6	4 ... 6	4 ... 6	4 ... 6	4 ... 6	4 ... 6
<b>Weight (kg)</b>	0.052	0.131	0.131	0.242	0.368	0.385

\* at 5 bar operating pressure

\*\* at 70% vacuum level and 5 bar operating pressure

## Dimensions



- 1 = pressure inlet
- 2 = vacuum inlet
- 3 = exhaust

Model-no.:	L	L1	L2	L3	L4	L5	L6	SW1	SW2	SW3	G1	G2	G3	Ø D
<b>HV-33</b>	76	49.5	23.5	27.8	-	-	6.5	17	17	13	G1/8	G1/8	G1/8	15
<b>HV-63</b>	129.5	82.5	33.5	34.5	47	16	6.5	24	19	13	G1/4	G1/8	G3/8	24.5
<b>HV-93</b>	129.5	82.5	33.5	34.5	47	16	6.5	24	19	13	G1/4	G1/8	G3/8	24.5
<b>HV-133</b>	140	93	35	38	55	20	7	32	24	19	G1/4	G1/4	G1/2	24.5
<b>HV-333</b>	207	110	35	38.1	52	29	7	32	24	19	G1/4	G1/4	G3/4	48
<b>HV-533</b>	207	110	35	38.1	52	29	7	32	24	19	G1/4	G1/4	G3/4	48

## Series HF

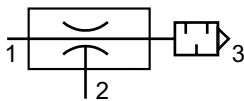


### Technical details

<b>Temperature range</b>	0°C ... +60°C
<b>Medium</b>	Filtered, oil-free and dried compressed air according to ISO 8573-1:2010, Class 7:2:4, instrument air, free of aggressive additives. Differing the pressure dew point must be at least 10°C below lowest occurring ambient temperature.
<b>Materials</b>	Body: Al (anodized), fittings: brass, nickel plated, silencer: plastic



Vacuum ejectors work according to the Venturi principle. The pressure and vacuum connection have an integrated filter which protects against large dirt particles. The granulate silencer is part of delivery. The HF series is developed for high flow rates.



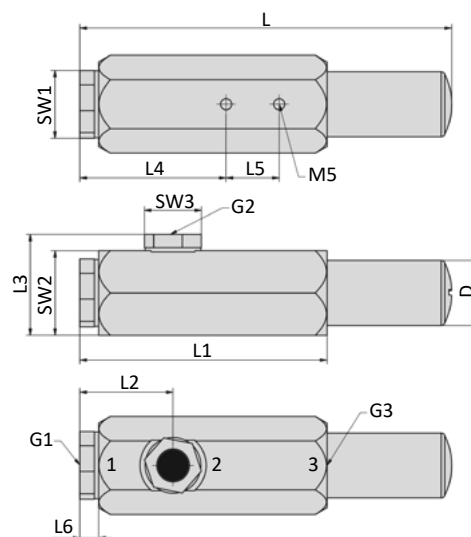
### Technical data

Model-no.:	HF-133	HF-333	HF-533
<b>Max. vacuum level (%)</b>	60	65	80
<b>Flow rate (l/min)**</b>	80	190	215
<b>Air consumption (l/min)*</b>	110	300	480
<b>Time to evacuate (s/l)**</b>	0.22	0.12	0.09
<b>Nozzle-Ø (mm)</b>	1.7	2.5	3.0
<b>Operating pressure (bar)</b>	4 ... 6	4 ... 6	4 ... 6
<b>Weight (kg)</b>	0.242	0.368	0.385

\* at 5 bar operating pressure

\*\* at 40% vacuum level and 5 bar operating pressure

### Dimensions



- 1 = pressure inlet
- 2 = vacuum inlet
- 3 = exhaust

Model-no.:	L	L1	L2	L3	L4	L5	L6	SW1	SW2	SW3	G1	G2	G3	Ø D
<b>HF-133</b>	140	93	35	38	55	20	7	32	24	19	G1/4	G1/4	G1/2	24.5
<b>HF-333</b>	207	110	35	38.1	52	29	7	32	24	19	G1/4	G1/4	G3/4	48
<b>HF-533</b>	207	110	35	38.1	52	29	7	32	24	19	G1/4	G1/4	G3/4	48

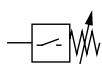
## Technical details

<b>Temperature range</b>	-10°C ... +80°C
<b>Medium</b>	Filtered, oil-free and dried compressed air according to ISO 8573-1:2010, Class 7:2:4, instrument air, free of aggressive additives. Differing the pressure dew point must be at least 10°C below lowest occurring ambient temperature.
<b>Materials</b>	Body: Zinc coated steel, seals: NBR (PE-14), FKM (PE-18)



Adjustable diaphragm pressure switch. Optional, the switches are available with a pre-adjusted switching point at 4 bar. The protective cup (PE-18-01) and plug connector (PE-14-01) are included.

## Pressure switch



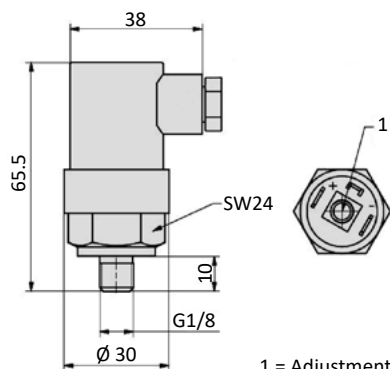
PE  
pressure switch

## Technical data

Model-no.:	PE-18-01		PE-14-01	
<b>Connection</b>	G1/8		G1/4	
<b>Pressure range (bar)</b>	1 ... 10		1 ... 12	
<b>Overpressure safety (bar)</b>	300		300	
<b>Repeatability (bar at 20°C)</b>	± 0.5		± 0.3	
<b>Contact function</b>	NO		Change-over contact	
<b>Max. operating voltage</b>	30 V DC	250 V AC	30 V DC	250 V AC
<b>Max. current</b>	1 A	0.5 A	3 A	1 A
<b>Protection</b>	IP 65 according to EN 60529		IP 65 according to EN 60529	
<b>Weight (kg)</b>	0.070		0.140	

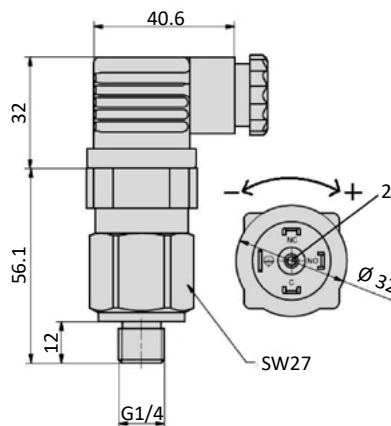
## Dimensions

### PE-18-01



1 = Adjustment of pressure range  
(with screwdriver)

### PE-14-01



2 = Adjustment of pressure range  
(with hex key 1,5 mm)

