

**Overview**

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## Electronically controlled proportional pressure regulating valves

*Series airfit control  
G1/4 – G2*

*Series tecno basic  
NW 2.5, G1/8*

*Series tecno plus  
NW 6, G1/4*



# Electronically controlled proportional pressure regulating valves

Series airfit control  
G1/4 – G2

## Characteristics

Special solutions (e.g. temperature, pressure, medium ...) and customized solutions on request



Pressures quoted as gauge pressure

Characteristics	Symbol	Unit	Description			
System			Piston-type pressure regulating valve, pilot operated, with pneumatic and electric feedback		Piston-type pressure regulating valve, pilot operated, with pneumatic and electric feedback	
Type			SRE-1/4	SRE-3/8	CRE-3/8	CRE-1/2
Material			Diecast zinc			
– Housing			NBR			
– Diaphragm			NBR			
– Standard sealings			NBR			
Port size			G1/4	G3/8	G3/8	G1/2
Installation			In any position		In any position	
Weight (mass)		kg	0.6	0.6	0.95	0.95
Medium and ambient temperatures	$T_{min}$	°C	0	0	0	0
	$T_{max}$	°C	+50	+50	+50	+50
Medium			Filtered, lubricated, or oil-free compressed air, inert gases			
Pneumatic characteristics						
Operating pressure range – inlet pressure <sup>1)</sup>	$p_{1min}$	bar	0	0	0	0
	$p_{1max}$	bar	16	16	16	16
Operating pressure range – outlet pressure	$p_{2min}$	bar	0	0	0	0
	$p_{2max}$	bar	10	10	10	10
Maximum flow <sup>2)</sup>	$Q_N$	l/min	2200	2500	4500	6000
		m <sup>3</sup> /h	132	150	270	360
Hysteresis <sup>3)</sup>	$p_{2max}$	%	< 1	< 1	< 1	< 1
Repeatability <sup>3)</sup>	$p_{2max}$	%	< 0.5	< 0.5	< 0.5	< 0.5
Sensitivity <sup>3)</sup>	$p_{2max}$	%	< 0.5	< 0.5	< 0.5	< 0.5
Linearity <sup>3)</sup>	$p_{2max}$	%	< 1	< 1	< 1	< 1
Electrical characteristics						
Nominal voltage	$U_N$	V DC	24 V = ± 10%	24 V = ± 10%	24 V = ± 10%	24 V = ± 10%
Residual ripple		%	10	10	10	10
Power consumption	$I_{Bmax}$	A	0.15	0.15	0.15	0.15
Set value input	$U_w$	V	0–10	0–10	0–10	0–10
		mA	0–20	0–20	0–20	0–20
		mA	4–20	4–20	4–20	4–20
Input resistance	$R_E$	kΩ	200	200	200	200
Actual value output	$U_x$	V	0–10	0–10	0–10	0–10
Output current	$I_{Amax}$	mA	20	20	20	20
Degree of protection		IP	65 to DIN 40050, EN 60529		65 to DIN 40050, EN 60529	

<sup>1)</sup>  $p_1 \geq p_2 + 10\% p_2$

<sup>2)</sup> at  $p_1 = 10$  bar to  $p_2 = 6.3$  bar

<sup>3)</sup> see explanation on page 122

## Electronically controlled proportional pressure regulating valves

Series airfit control  
G1/4 – G2

Characteristics

Piston-type pressure regulating valve, pilot operated, with pneumatic and electric feedback		Diaphragm-type pressure regulating valve, pilot operated, with pneumatic and electric feedback	
A25RE-3/4	A25RE-1	A50RE-11/2	A50RE-2
Diecast aluminum			
NBR			
NBR			
G3/4	G1	G11/2	G2
In any position	In any position	In any position	In any position
1.2	1.2	4.1	4.1
0 +50	0 +50	0 +50	0 +50
Filtered, lubricated, or oil-free compressed air, inert gases			
0	0	0	0
16	16	16	16
0	0	0	0
10	10	10	10
20000	20000	> 40000	> 40000
1200	1200	> 2400	> 2400
< 1	< 1	< 1	< 1
< 0.5	< 0.5	< 0.5	< 0.5
< 0.5	< 0.5	< 0.5	< 0.5
< 1	< 1	< 1	< 1
24 V = ± 10%	24 V = ± 10%	24 V = ± 10%	24 V = ± 10%
10	10	10	10
0.15	0.15	0.15	0.15
0–10 0–20 (on request) 4–20 (on request)	0–10 0–20 (on request) 4–20 (on request)	0–10 0–20 (on request) 4–20 (on request)	0–10 0–20 (on request) 4–20 (on request)
243	243	243	243
0–10	0–10	0–10	0–10
10	10	10	10
65 to DIN 40050, EN 60529	65 to DIN 40050, EN 60529	65 to DIN 40050, EN 60529	65 to DIN 40050, EN 60529



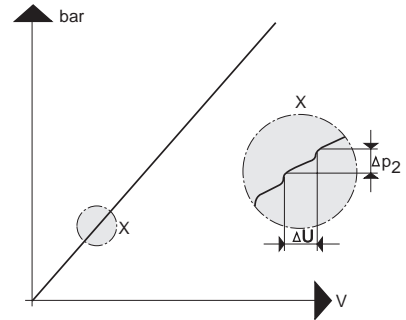
# Electronically controlled proportional pressure regulating valves

Series airfit control  
G1/4 – G2

## Definitions

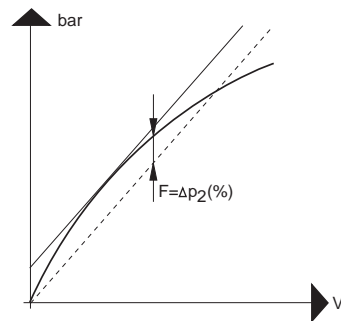
### Sensitivity

The smallest deviation from set output pressure that leads to a change in actual output pressure is referred to as sensitivity and this is expressed as a percentage of maximum output pressure. Sensitivity of the XRE II valve is below 0.5%, which allows output pressure to be set very precisely.



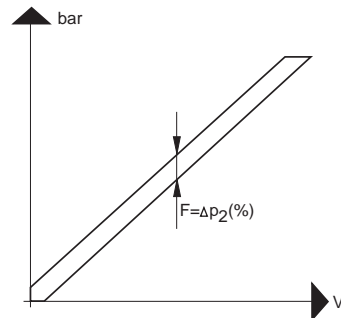
### Linearity

The ideal curve showing output pressure in relation to electronic signal would be a straight (linear) line (see dotted line), to predict exactly which pressure can be expected at a given voltage. The deviation can be calculated from the maximal deviation from the straight line, in relation to the highest possible pressure.



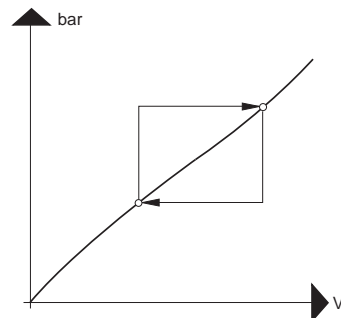
### Hysteresis

The same set output pressure generates slightly different actual output pressures, depending on whether the previous setting was higher or lower. This difference, known as hysteresis, is caused by friction and temporary deformation of elastic components. The hysteresis of the SRE valve is below 0.1 bar.

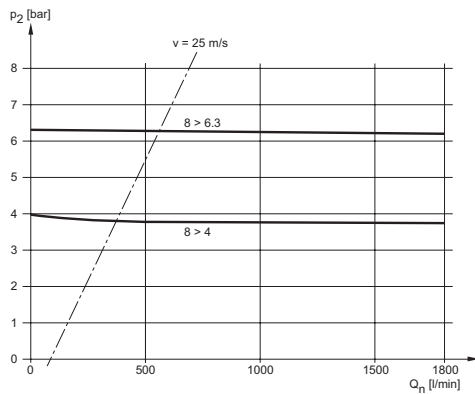


### Repeatability

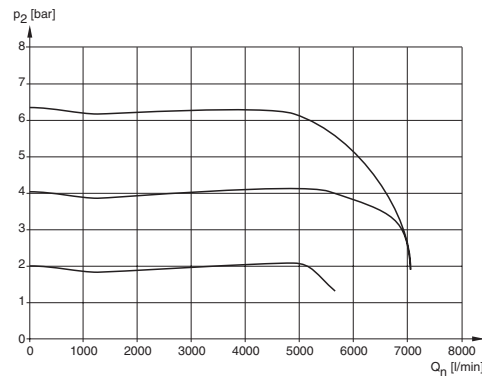
Control components for a given set value usually produce repeated actual values that differ less from each other than from the absolute set value, because the relatively large linearity deviation is excluded. Repeatability is improved if hysteresis is minimized.



Output pressure as function of input voltage  
Type: SRE-1/4



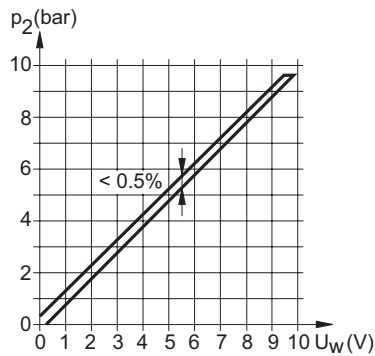
Type: CRE-1/2



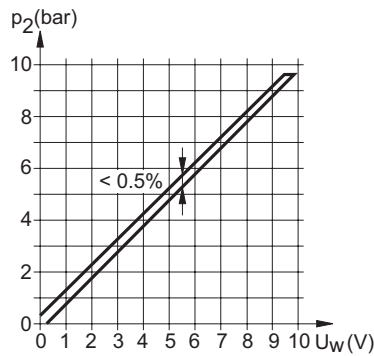
## Electronically controlled proportional pressure regulating valves

Series airfit control  
G1/4 – G2

Output pressure as function of input voltage  
Type: SRE-1/4

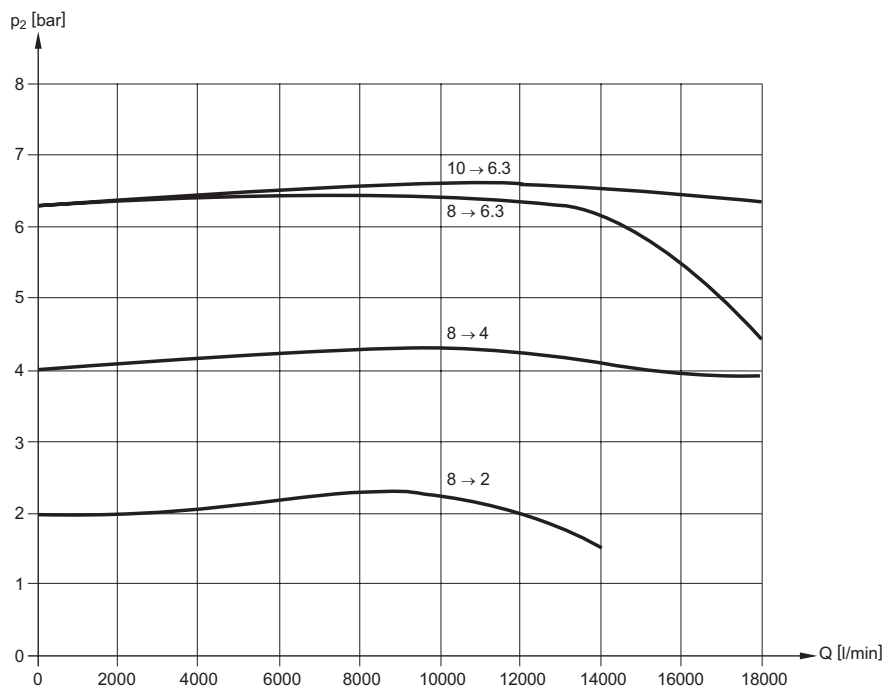


Output pressure as function of input voltage  
Type: CRE-1/2



Flow characteristics

Type: A25RE-1

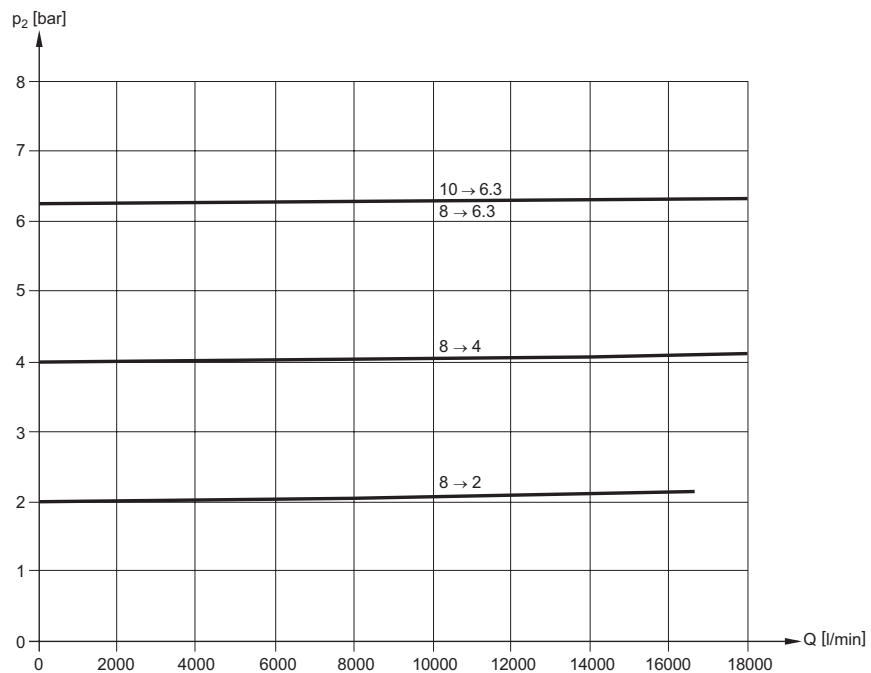


# Electronically controlled proportional pressure regulating valves

Series airfit control  
G1/4 – G2

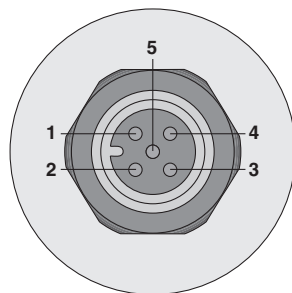
Flow characteristics

Type: A50RE-2



## Connection diagram Type: SRE-..., CRE-..., A25RE-..., A50-..

Connector M12x1



### Pin 1:

Power supply  
Plus +24 V DC ± 10%  
0.15 A  
Residual ripple 10%

### Pin 2:

Power supply 0 V  
Reference and mass capacity  
for set value and actual value

### Pin 3:

Set value input  
0–10 V

### Pin 4:

0 V target signal  
(connected on board  
with pin 2 as standard)

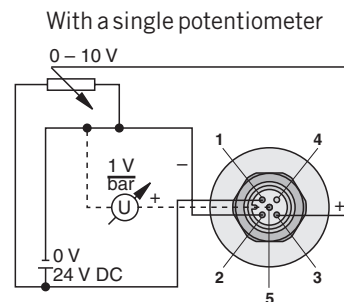
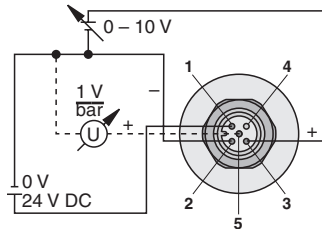
### Pin 5:

Analog actual value output  
0–10 V  
Tolerance ± 0.15 V

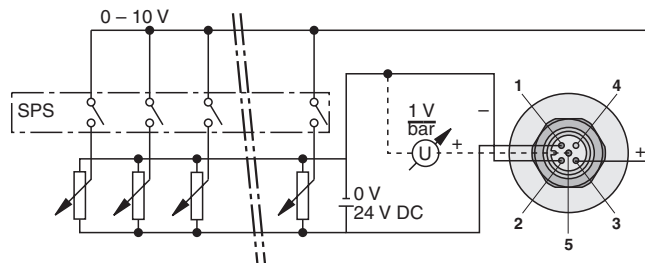


**Control options – Type: SRE-..., CRE-...**

Analog voltage



PLC in connection with several potentiometers



The total resistance of the potentiometer series should not be less than 500  $\Omega$

The resistance of the potentiometer should range between 500  $\Omega$  and 100 k $\Omega$

## Electronically controlled proportional pressure regulating valves

*Series airfit control G1/4 – G2*

*Characteristics*

*Connection diagrams*

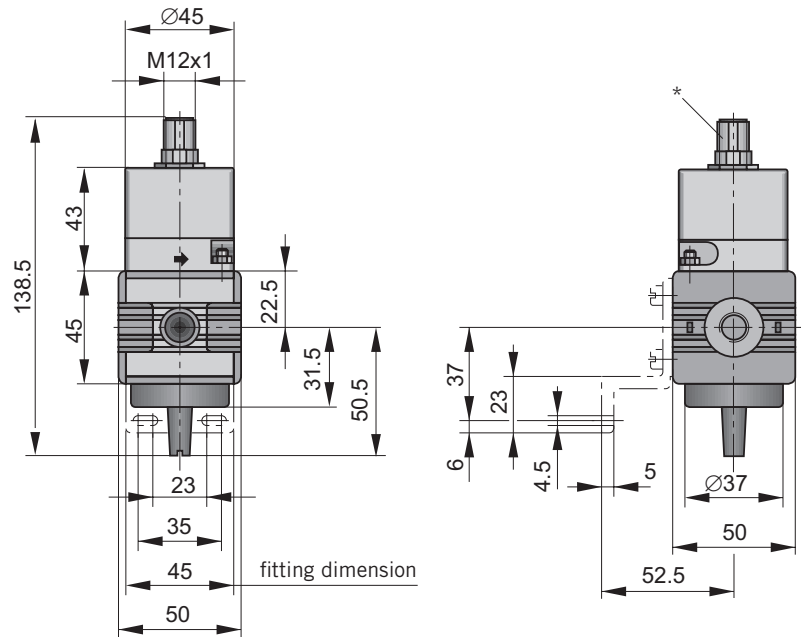


# Electronically controlled proportional pressure regulating valves

Series airfit control  
G1/4 – G2

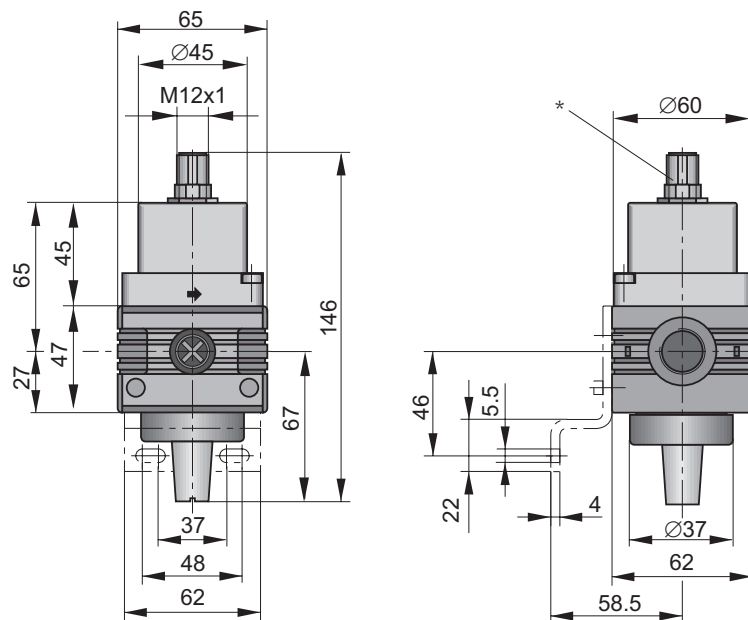
Dimensions

Type: SRE-1/4, -3/8



\* Connection for 5-pin plug M12x1

Type: CRE-3/8, -1/2



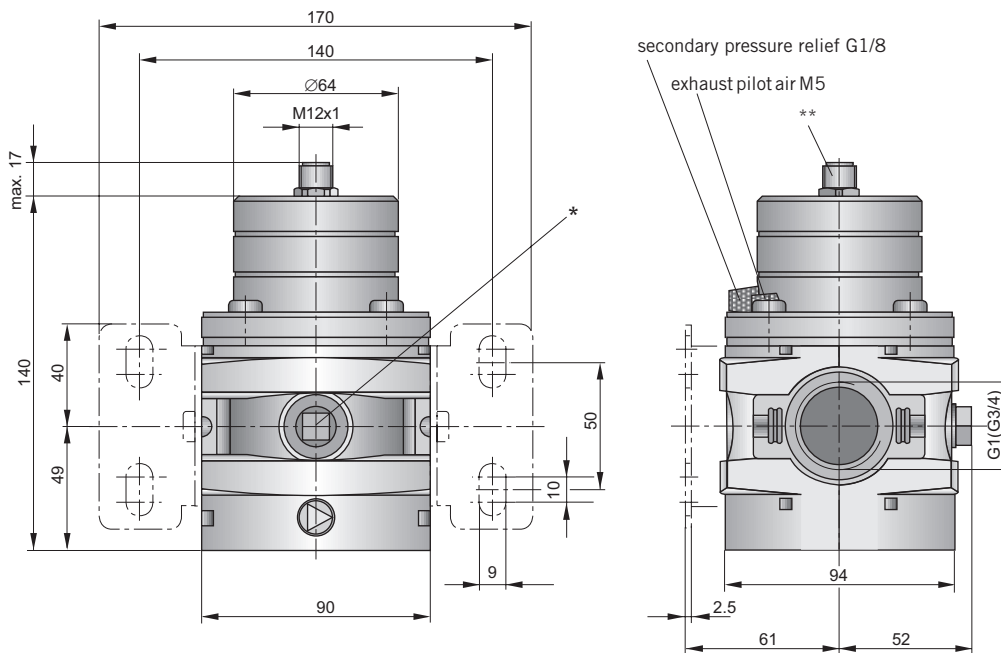
\* Connection for 5-pin plug M12x1



For order instructions see page 130, for characteristics see page 120–125,  
for accessories see page 131

Dimensions in mm

Type: A25RE-3/4, -1



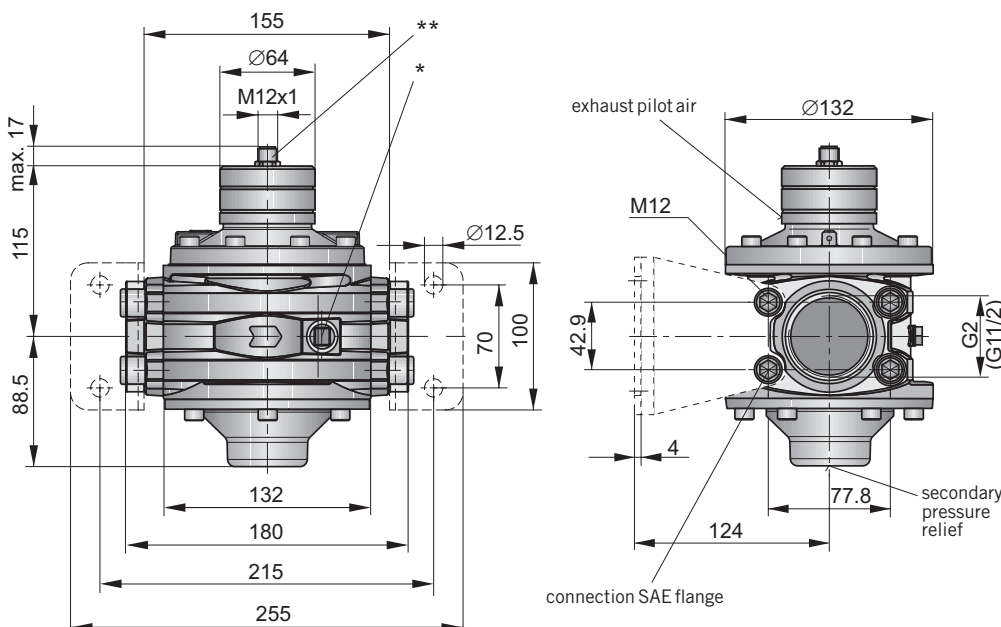
\* Two opposite gauge ports G1/4, plug screw mounted  
 \*\* Connection for 5-pin plug M12x1

## Electronically controlled proportional pressure regulating valves

Series airfit control  
 G1/4 – G2

Dimensions

Type: A50RE-11/2, -2



\* Two opposite gauge ports G1/4, plug screw mounted  
 \*\* Connection for 5-pin plug M12x1



For order instructions see page 130, for characteristics see page 120–125, for accessories see page 131

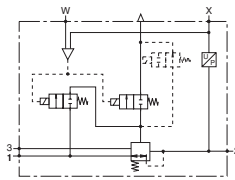
Dimensions in mm

## Electronically controlled proportional pressure regulating valves

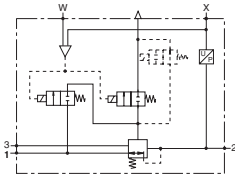
Series airfit control  
G1/4 – G2

Order instructions

### airfit control G1/4, G3/8

Description	Max. outlet pressure (bar)	Symbol	Port size	Type	Order No.
Basic version for set value 0–10 V, NC (normally closed)	10		G1/4	SRE-U-1/4 NG	PB 59849-10000N-XXX
	10		G3/8	SRE-U-3/8 NG	PB 59949-10000N-XXX
Version for set value 4–20 mA, NC (normally closed)	10		G1/4	SRE-I-1/4 NG	PB 59849-10100N-XXX
	10		G3/8	SRE-I-3/8 NG	PB 59949-10100N-XXX
Version for set value 4–20 mA, NC (normally closed)	10		G1/4	SRE-I-1/4 NG	PB 59849-10200N-XXX
	10		G3/8	SRE-I-3/8 NG	PB 59949-10200N-XXX
Version for set value 0–10 V, NO (normally open)	10		G1/4	SRE-U-1/4 NO	PB 59849-10010N-XXX
	10		G3/8	SRE-U-3/8 NO	PB 59949-10010N-XXX
Version for set value 4–20 mA, NO (normally open)	10		G1/4	SRE-I-1/4 NO	PB 59849-10110N-XXX
	10		G3/8	SRE-I-3/8 NO	PB 59949-10110N-XXX
Version for set value 4–20 mA, NO (normally open)	10		G1/4	SRE-I-1/4 NO	PB 59849-10210N-XXX
	10		G3/8	SRE-I-3/8 NO	PB 59949-10210N-XXX

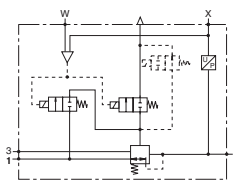
### airfit control G3/4, G1

Description	Max. outlet pressure (bar)	Symbol	Port size	Type	Order No.	
Basic version for set value 0–10 V, NC (normally closed)	10		G3/4	A25RE-U-3/4-NG	PB 64349-10000N-XXX	
	10		G1	A25RE-U-1-NG	PB 64449-10000N-XXX	
Versions for set value 0–20 mA and 4–20 mA			G3/4, G1	On request	On request	
Versions for NO (normally open) functions			G3/4, G1	On request	On request	

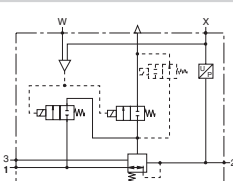


For configurable order code of proportional pressure regulating valves see page 130

### airfit control G3/8, G1/2

Description	Max. outlet pressure (bar)	Symbol	Port size	Type	Order No.
Basic version for set value 0–10 V, NC (normally closed)	10		G3/8	CRE-U-3/8 NG	PB 60149-10000N-XXX
	10		G1/2	CRE-U-1/2 NG	PB 60249-10000N-XXX
Version for set value 4–20 mA, NC (normally closed)	10		G3/8	CRE-I-3/8 NG	PB 60149-10100N-XXX
	10		G1/2	CRE-I-1/2 NG	PB 60249-10100N-XXX
Version for set value 4–20 mA, NC (normally closed)	10		G3/8	CRE-I-3/8 NG	PB 60149-10200N-XXX
	10		G1/2	CRE-I-1/2 NG	PB 60249-10200N-XXX
Version for set value 0–10 V, NO (normally open)	10		G3/8	CRE-U-3/8 NO	PB 60149-10010N-XXX
	10		G1/2	CRE-U-1/2 NO	PB 60249-10010N-XXX
Version for set value 4–20 mA, NO (normally open)	10		G3/8	CRE-I-3/8 NO	PB 60149-10110N-XXX
	10		G1/2	CRE-I-1/2 NO	PB 60249-10110N-XXX
Version for set value 4–20 mA, NO (normally open)	10		G3/8	CRE-I-3/8 NO	PB 60149-10210N-XXX
	10		G1/2	CRE-I-1/2 NO	PB 60249-10210N-XXX

### airfit control G11/2, G2

Description	Max. outlet pressure (bar)	Symbol	Port size	Type	Order No.	
Basic version for set value 0–10 V, NC (normally closed)	10		G11/2	A50RE-U-11/2-NG	PB 60549-10000N-XXX	
	10		G2	A50RE-U-2-NG	PB 60649-10000N-XXX	
Versions for set value 0–20 mA and 4–20 mA			G11/2, G2	On request	On request	
Versions for NO (normally open) functions			G11/2, G2	On request	On request	

### Accessories

Description	For series	Type	Order No.
Mounting kit	airfit swing	SRE	PL16965
Coupling kit	airfit swing	SRE	PL16959
Mounting kit	airfit comfort	CRE	PL17518
Coupling kit	airfit comfort	CRE	PL17608
Mounting kit	airfit A25	A25RE	PL18988
Coupling kit	airfit A25	A25RE	PL16987
Mounting kit	airfit A50	A50RE	PL18672
Coupling kit	airfit A50	A50RE	PL18735
Connection flange G11/2 (kit)	airfit A50	A50RE	PL18660
Connection flange G2 (kit)	airfit A50	A50RE	PL18662

For configurable order code of proportional pressure regulating valves see page 130



# Electronically controlled proportional pressure regulating valves

Series airfit control  
G1/4 – G2

Order instructions

## Configurable electronically proportional pressure regulating valve airfit control

Order No.	PB	598	49	-	01	0	0	0	N	-	XXX
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Series	
598	SRE-1/4
599	SRE-3/8
601	CRE-3/8
602	CRE-1/2
643	A25RE-3/4
644	A25RE-1
605	A50RE-11/2
606	A50RE-2

Outlet pressure range	
01	0–1 bar
02	0–2 bar
03	0–3 bar
04	0–4 bar
05	0–5 bar
06	0–6 bar
07	0–7 bar
08	0–8 bar
09	0–9 bar
10	0–10 bar
XX	Special pressure range

Set value input	
0	0–10 V
1	4–20 mA
2	0–20 mA
X	Special set value input

Version	
0	NC (normally closed)
1	NO (normally open)

3-digit special number	
XXX	Standard design or as plain text e.g. special connector, special resistance, special setting areas, accessories fitted etc.

Sealing material	
N	NBR (standard)
V	Viton (e.g. for oxygen)
X	Special material

Actual output	
0	0–10 V
1	0–1 V
2	0–2 V
3	0–3 V
4	0–4 V
5	0–5 V
6	0–6 V
7	0–7 V
8	0–8 V
9	0–9 V
X	Special actual output



Mounting kit  
for Type: SRE-..



Order No. PL16965

Mounting kit  
for Type: CRE-..



Order No. PL17518

Mounting kit  
for Type: A25RE-..



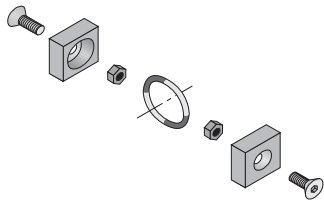
Order No. PL18988

## Electronically controlled proportional pressure regulating valves

*Series airfit control  
G1/4 – G2*

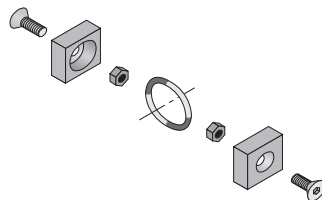
*Accessories  
– Mounting kit  
– Coupling kit*

Coupling kit  
for Type: SRE-..



Order No. PL16959

Coupling kit  
for Type: CRE-..



Order No. PL17608

Coupling kit  
for Type: A25RE-..



Order No. PL18987

Mounting kit  
for Type: A50RE-..



Order No. PL18672

Coupling kit  
for Type: A50RE-..



Order No. PL18735

## Electronically controlled proportional pressure regulating valves

with  
PIEZO control

Series tecno basic  
G1/8, NW 2.5

Series tecno plus  
G1/4, NW 6

### Characteristics

- <sup>1)</sup> Other pressure ranges on request.
- <sup>2)</sup> At  $p_1 = 10$  bar and  $p_2 = 6.3$  bar,  $\Delta p = 1$  bar.
- <sup>3)</sup> At ambient temperature 20°C.
- <sup>4)</sup> Relative to  $p_{2max}$ .
- <sup>5)</sup> At  $p_1$  max.
- <sup>6)</sup> 2-wire technology, i.e. power supply and set value via the same cable.
- <sup>7)</sup> Higher voltage will damage the valve.
- <sup>8)</sup> Flange plates with screw thread, see accessories.
- <sup>9)</sup> Output is switching "ON" when output pressure is equivalent  $\pm$  tolerances to set value, and "OFF" when the output pressure is outside this limit.
- <sup>10)</sup> With connector and exhaust ported, booster (3) and pilot (y)
- <sup>11)</sup> During connection with protected cable and plug. Screen only presented on main unit.
- <sup>12)</sup> Plus taken output current of digital output pressure reached



Pressures quoted as gauge pressure

Characteristics	Symbol	Unit	Description	
System			Piezo pilot controlled 3-way proportional pressure regulating valve, electronic closed loop control	
Type			tecno basic PRE-U, PRE-I	tecno basic PRE-U, PRE-I
Version <sup>1)</sup>			0–8 bar	0–2 bar
Port size			G1/8	G1/8
Mounting			Flange <sup>8)</sup>	Flange <sup>8)</sup>
Nominal size	NW	mm	2.5	2.5
Installation			In any position	In any position
Weight (mass)		kg	0.101 without base plate 0.155 with base plate	0.101 without base plate 0.155 with base plate
Medium and ambient temperature range	$T_{min}$ $T_{max}$	°C °C	0 +50	0 +50
Storage temperature	$T_{min}$ $T_{max}$	°C °C	-20 +60	-20 +60
Medium			Filtered, dry, lubricated <sup>1)</sup> or oil-free compressed air 30µm (recommended 5 µm) dried to ISO8573-1, Kl. 3	
Lubrication			Oil-free or max. 30 mg/m <sup>3</sup> mineral oil Type VG 32 to ISO 3448	
Flow direction			On: 1 → 2 Off: 2 → 3	On: 1 → 2 Off: 2 → 3
Material			Aluminum, brass, spring steel, plastic, elastomer	
Pneumatic characteristics				
Nominal pressure	$p_n$	bar	6.3	6.3
Pressure range, inlet	$p_{1min}$	bar	1.5	1.5
	$p_{1max}$	bar	10	6
Pressure range, outlet <sup>1)</sup>	$p_{2min}$	bar	0	0
	$p_{2max}$	bar	8	2
Maximum flow rate <sup>2)</sup>	$Q_N$	l/min	350 <sup>2)</sup>	200 <sup>2)</sup>
		m <sup>3</sup> /h	21	12
Hysteresis <sup>4)</sup>	$p_{2max}$	%	< 0.2	< 0.2
Repeatability <sup>4)</sup>	$p_{2max}$	%	< 0.2	< 0.2
Responsiveness <sup>4)</sup>	$p_{2max}$	%	< 0.1	< 0.1
Linearität <sup>4)</sup>	$p_{2max}$	%	≤ 0.6	≤ 0.5
Own air consumption <sup>5)</sup>		NI/min	< 0.5	< 0.5
Electrical characteristics – Type PRE-U				
Nominal voltage	$U_N$	V DC	24 ± 10%	24 ± 10%
Nominal power	$P_N$	W	0.4	0.4
Residual ripple	$U_N$	%	10	10
Current consumption	$I_{Bmax}$	A	15	15
Set value input	$U_w$	V	0–10	0–10
Input resistance	$R_E$	kΩ	66	66
Scale	$W/p_2$	V/bar	1	5

for further characteristics see page 135–136

## Electronically controlled proportional pressure regulating valves

with  
PIEZO control

Series tecno basic  
G1/8, NW 2.5

Series tecno plus  
G1/4, NW 6

Characteristics

Piezo pilot controlled 3-way proportional pressure regulating valve, electronic closed loop control				
	tecno basic PRE-U, PRE-I	tecno plus PRE-U, PRE-I	tecno plus PRE-U, PRE-I	tecno plus PRE-U, PRE-I
	0-0.2 bar	0-10 bar	0-6 bar	0-2 bar
	G1/8	G1/4	G1/4	G1/4
	Flange <sup>8)</sup>	Flange <sup>8)</sup>	Flange <sup>8)</sup>	Flange <sup>8)</sup>
	2.5	6	6	6
	In any position	In any position	In any position	In any position
	0.101 without base plate 0.155 with base plate	0.360 without base plate 0.430 with base plate	0.360 without base plate 0.430 with base plate	0.360 without base plate 0.430 with base plate
	0 +50	0 +50	0 +50	0 +50
	-20 +60	-20 +60	-20 +60	-20 +60
		Filtered, dry, lubricated <sup>1)</sup> or oil-free compressed air 30µm (recommended 5 µm) dried to ISO8573-1, Kl. 3 other neutral gases on request		
		Oil-free or max. 30 mg/m <sup>3</sup> mineral oil Type VG 32 to ISO 3448		
	On: 1 → 2 Off: 2 → 3	On: 1 → 2 Off: 2 → 3	On: 1 → 2 Off: 2 → 3	On: 1 → 2 Off: 2 → 3
		Aluminum, brass, spring steel, plastic, elastomer		
	6.3	6.3	6.3	6.3
	0 2.5	1.5 12	1.5 10	1.5 7
	0 0.2	0 10	0 6	0 2
	100 <sup>2)</sup> 6	1600 <sup>2)</sup>	1600 <sup>2)</sup>	1100 <sup>2)</sup>
	< 0.5	< 0.2	< 0.2	< 0.2
	< 0.5	< 0.2	< 0.2	< 0.2
	< 0.5	< 0.2	< 0.2	< 0.2
	≤ 0.5	≤ 0.5	≤ 0.5	≤ 0.5
	< 1.0	< 1.5	< 1.5	< 1.5
	24 ± 10%	24 ± 10%	24 ± 10%	24 ± 10%
	0.4	0.8	0.8	0.8
	10	10	10	10
	15	30	30	30
	0-10	10	10	10
	66	> 55	> 55	> 55
	50	1	1.667	5



# Electronically controlled proportional pressure regulating valves

with  
PIEZO control

Series tecno basic  
G1/8, NW 2.5

Series tecno plus  
G1/4, NW 6

## Characteristics

Pressures quoted as gauge pressure

Characteristics	Symbol	Unit	Description	
System			Piezo pilot controlled 3-way proportional pressure regulating valve, electronic closed loop control	
Type			tecno basic PRE-U, PRE-I	tecno basic PRE-U, PRE-I
Electrical characteristics – Type PRE-I				
Power supply <sup>6)</sup>	$I_B$	mA	4	4
Set value input	W	mA	4–20	4–20
Input resistance	$R_E$	k $\Omega$	$\leq 550$	$\leq 550$
Scale	W/ $p_2$	V/bar	2	8
Input voltage max. <sup>7)</sup>	$U_{Wmax}$	V	12.5	12.5
General electrical characteristics				
Actual value output			Optional	Optional
Output voltage <sup>13)</sup>	$U_x$	V	$p_2$ 0 bar = 0 $p_{2max}$ = 10	$p_2$ 0 bar = 0 $p_{2max}$ = 10
Output current max.	$I_{xmax}$	mA	1 (short circuit proof)	1 (short circuit proof)
Accuracy	$p_{2max}$	%	–	–
Cable connector			3 PIN connector, M8 or 4 PIN connector, M8	
EMC (electromagnetic compatibility)			Shielded connecting cables must be used <sup>11)</sup>	
Resistance to interferences			To EN 61000-6-2	To EN 61000-6-2
Emissions			To EN 61000-6-4	To EN 61000-6-4
Degree of protection		IP	30 DIN EN 60529	30 DIN EN 60529
Reaction to power failure			Port 2 exhaust	Port 2 exhaust
Digital output pressure reached <sup>9)</sup>				
Output voltage	$U_{out}$	VDC		
Output current	$I_{out}$	mA		
Tolerance	$p_{2max}$	%		

<sup>1)</sup> Other pressure ranges on request.

<sup>2)</sup> At  $p_1 = 10$  bar and  $p_2 = 6.3$  bar,  $\Delta p = 1$  bar.

<sup>3)</sup> At ambient temperature 20°C.

<sup>4)</sup> Relative to  $p_{2max}$ .

<sup>5)</sup> At  $p_1$  max.

<sup>6)</sup> 2-wire technology, i.e. power supply and set value via the same cable.

<sup>7)</sup> Higher voltage will damage the valve.

<sup>8)</sup> Flange plates with screw thread, see accessories.

<sup>9)</sup> Output is switching "ON" when output pressure is equivalent  $\pm$  tolerances to set value, and "OFF" when the output pressure is outside this limit.

<sup>10)</sup> With connector and exhaust ported, booster (3) and pilot (y)

<sup>11)</sup> During connection with protected cable and plug.

Screen only presented on main unit.

<sup>12)</sup> Plus taken output current of digital output pressure reached

<sup>13)</sup> Only type PRE-U



## Electronically controlled proportional pressure regulating valves

with  
PIEZO control

Series tecno basic  
G1/8, NW 2.5

Series tecno plus  
G1/4, NW 6

Characteristics

Piezo pilot controlled 3-way proportional pressure regulating valve, electronic closed loop control				
	tecno basic PRE-U, PRE-I	tecno plus PRE-U, PRE-I	tecno plus PRE-U, PRE-I	tecno plus PRE-U, PRE-I
	4	–	–	–
	4–20	0 (4–20)	0 (4–20)	0 (4–20)
	≤ 550	500	500	500
	80	2	2667	8
	12.5			
	Optional	–	–	–
	p <sub>2</sub> 0 bar = 0 p <sub>2 max</sub> = 10	0–10	0–10	0–10
	1 (short circuit proof)	1 (short circuit proof)	1 (short circuit proof)	1 (short circuit proof)
	–	< 1	< 1	< 1
		5 PIN connector M12x1.5 Shielded connecting cables must be used		
	To EN 61000-6-2	To EN 61000-6-2	To EN 61000-6-2	To EN 61000-6-2
	To EN 61000-6-4	To EN 61000-6-4	To EN 61000-6-4	To EN 61000-6-4
	30 DIN EN 60529	65 <sup>10)</sup> DIN EN 60529	65 <sup>10)</sup> DIN EN 60529	65 <sup>10)</sup> DIN EN 60529
	Port 2 exhaust	Port 2 exhaust	Port 2 exhaust	Port 2 exhaust
		OFF = 0    ON = UN – 0.7V		
		≤ 200 <sup>12)</sup>		
		± 2		



# Electronically controlled proportional pressure regulating valves

with  
PIEZO control

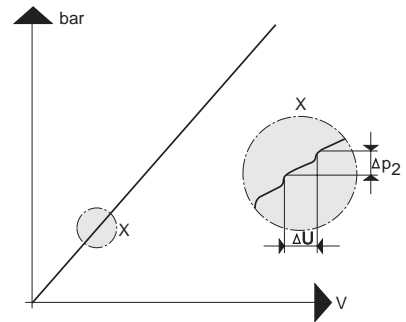
Series tecno basic  
G1/8, NW 2.5

Series tecno plus  
G1/4, NW 6

Characteristics

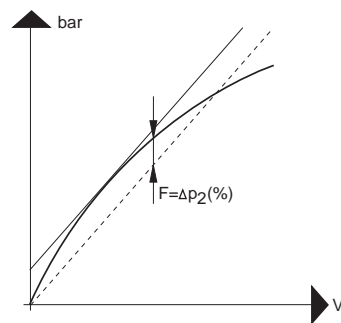
## Sensitivity

The smallest change in the electronic input signal that leads to a change in actual output pressure is referred to as sensitivity. This is expressed as a percentage of maximum output pressure. For the tecno, this value is  $< 0.1\%$  to  $< 0.5\%$  depending on the version.



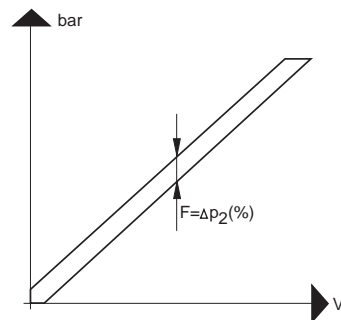
## Linearity

The ideal curve showing output pressure in relation to electronic signal would be a straight line. Linearity is the maximum deviation from the straight line, expressed as a percentage of maximum output pressure.



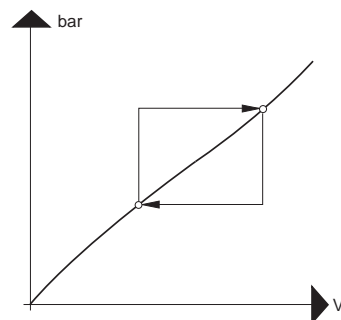
## Hysteresis

The same electronic signal generates slightly different actual output pressures, depending on whether the previous signal was higher or lower. This difference, known as hysteresis, is caused by friction and temporary deformation of elastic components. The hysteresis of the electronically operated pressure regulating valve AIRFIT tecno from HOERBIGER is between  $< 0.2\%$  and  $< 0.5\%$  of the output pressure.



## Repeatability

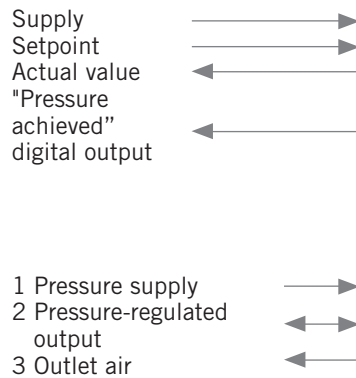
Control components for a given set value usually produce repeated actual values that differ less from each other than from the absolute set value, because the relatively large linearity deviation is excluded.



**Design and Function**

Proportional valves from the tecno series are piezo-controlled pressure regulating valves with electronic pressure regulation. They offer optimum dynamics at the lowest possible power consumption. The main valve ensures high aeration and ventilation output. The pressure sensor measures the current output pressure. An integrated electronic controller compares the sensor signal with the electrical setpoint and regulates the output pressure precisely to the predefined setpoint.

**Diagram**



**Electronically controlled proportional pressure regulating valves**

with  
*PIEZO control*

*Series tecno basic  
G1/8, NW 2.5*

*Series tecno plus  
G1/4, NW 6*

*Design and function*



# Electronically controlled proportional pressure regulating valves

with  
PIEZO control

Series tecno basic  
G1/8, NW 2.5

## Characteristics

## Connection diagrams

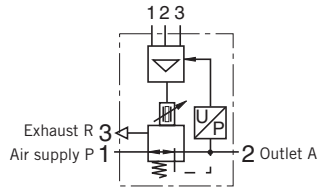
### Versions:

- Voltage controlled (Type PRE-U)
- Current controlled (Type PRE-I)
- 3 pressure ranges
- With actual value output

Electronically controlled pressure regulating valve with PIEZO pilot control and ACTUAL VALUE feedback. An integrated potentiometer ensures that the device can be set to best meet the requirements of any given application. Remote control possible.



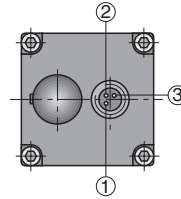
### Symbol 3 PIN version



### Color code

- 1 = blue
- 2 = black
- 3 = brown

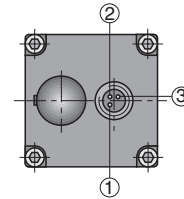
### Connection diagram 1



### Voltage controlled 0-10 V, Type PRE-U

- 1 = power supply 24 V DC/15 mA
- 2 = set value 0-10 V
- 3 = GND set value and power supply

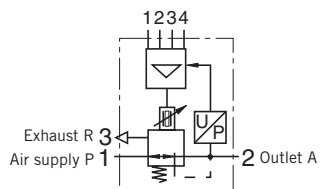
### Connection diagram 2



### Current controlled 4-20 mA, Type PRE-I

- (2-wire technology)
- 1, 2 = set value 4-20 mA, +
- 3 = set value GND

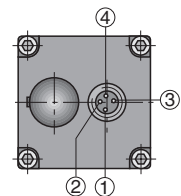
### Symbol 4 PIN version



### Color code

- 1 = blue
- 2 = white
- 3 = brown
- 4 = black

### Connection diagram 3



### Voltage controlled 0-10 V, Type PRE-U

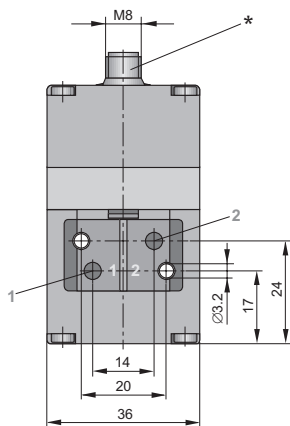
- with actual output
- 1 = power supply 24 V DC
- 2 = set value 0-10 V
- 3 = GND set value and power supply
- 4 = actual value output 0-10 V

For order instructions see page 141, for characteristics see page 132-138, for accessories see page 140, 141

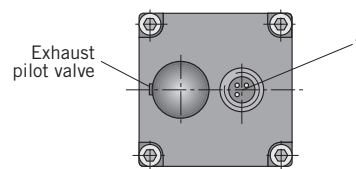
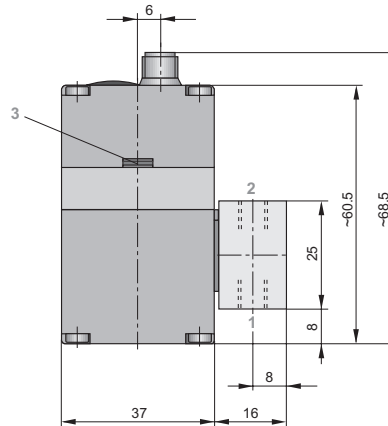
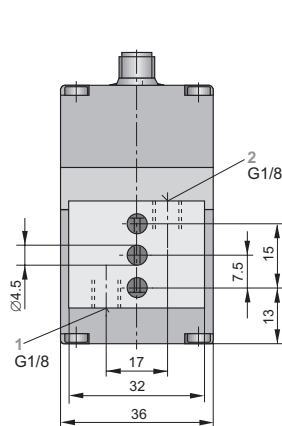
Dimensions in mm

**Dimensions**

without base plate



with single base plate



\* Connection for 3-pin plug M8 (KC3104, KC3106)  
Connection for 4-pin plug M8 (KY000575, KY000576)

**Electronically controlled proportional pressure regulating valves**

with  
PIEZO control

Series tecno basic  
G1/8, NW 2.5

*Dimensions*

**Versions:**

- Voltage controlled (Type PRE-U)
- Current controlled (Type PRE-I)
- 3 pressure ranges
- With actual value output

Electronically controlled pressure regulating valve with PIEZO pilot control and ACTUAL VALUE feedback. An integrated potentiometer ensures that the device can be set to best meet the requirements of any given application. Remote control possible.



For order instructions see page 141, for characteristics see page 132–138,

Dimensions in mm

# Electronically controlled proportional pressure regulating valves

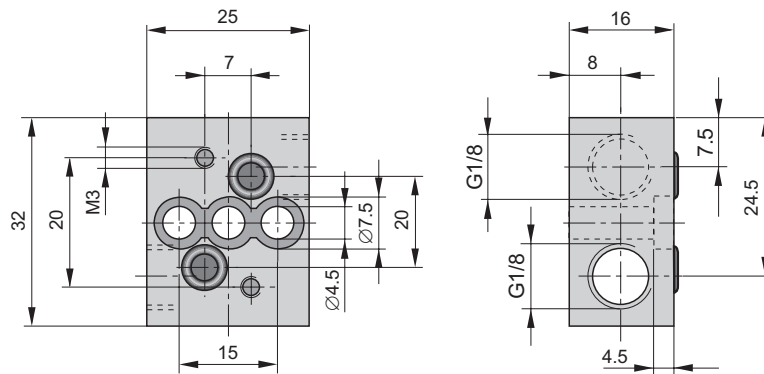
with  
PIEZO control

Series tecno basic  
G1/8, NW 2.5

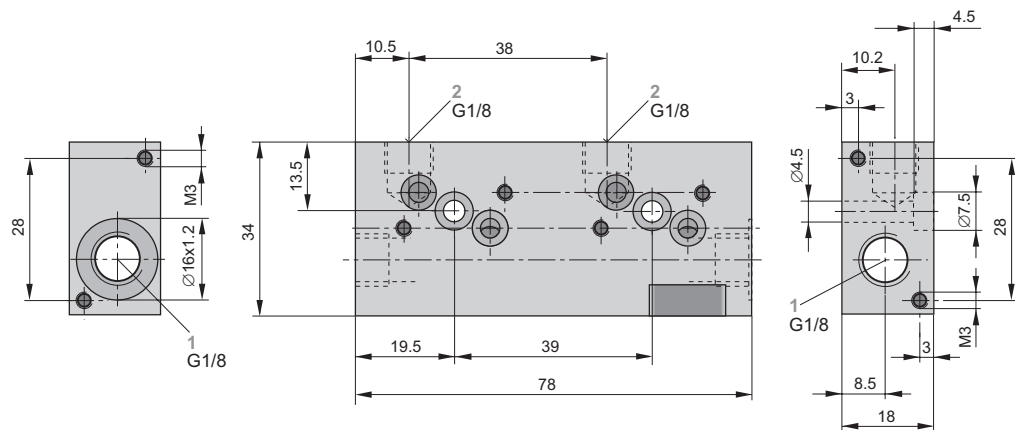
Base plates

Dimensions

Single base plate



2-fold base plate, for serial connection



For order instructions see page 141, for characteristics see page 132–138,  
for accessories see page 140, 141

Dimensions in mm

## Configurable, electronically controlled proportional pressure regulating valve – tecno basic

Order No.	PS	1	2	0	0	-	-	0		
Version (set value type) with 3 PIN connector		00 Voltage		01 Current 4–20 mA						
Version with 4 PIN connector		06 Voltage + actual value output								
Pressure range		002 0.2 bar		020 2 bar		080 8 bar				
Type variation		0 Standard								
Flange		0 Without flange		5 Sidewise G1/8						
Connection cable		0 Without cable		1 Cable, straight 3 PIN		2 Cable, elbow 3 PIN		3 Cable, straight 4 PIN		4 Cable, elbow 4 PIN









## Electronically controlled proportional pressure regulating valves

with  
*PIEZO control*

*Series tecno basic  
G1/8, NW 2.5*

*Order instructions*

### Accessories

Description	Figure	Port size	Order No.
Single base plate		G1/8	PS11112-A-01
2-fold base plate kit, complete, for serial connection		G1/8	PS12407-A
Mounting kit for DIN rail mounting, 35 mm, EN 60715:2001			PS12368-A
Cover plate, complete			PS11160-A
Cable set, straight (5 m) 3 PIN version			KC3104
Cable set, elbow (5 m) 3 PIN version			KC3106
Cable set, straight (5 m) 4 PIN version			KY000575
Cable set, elbow (5 m) 4 PIN version			KY000576



# Electronically controlled proportional pressure regulating valves

with  
PIEZO control

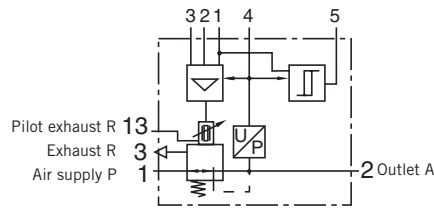
Series *tecno plus*  
G1/4, NW 6

## Dimensions

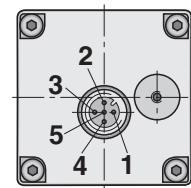
### Versions:

- Voltage controlled (Type PRE-U)
- Current controlled (Type PRE-I)
- 3 pressure ranges
- With actual value output
- With EMC mass

### Symbol



### Connection diagram



Flange side

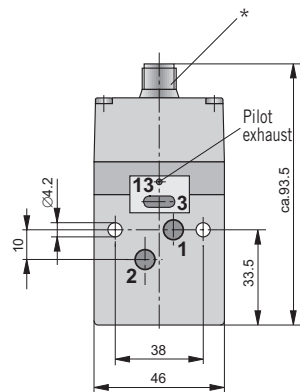
### Color code

- 1 = brown
- 2 = white
- 3 = blue
- 4 = black
- 5 = gray

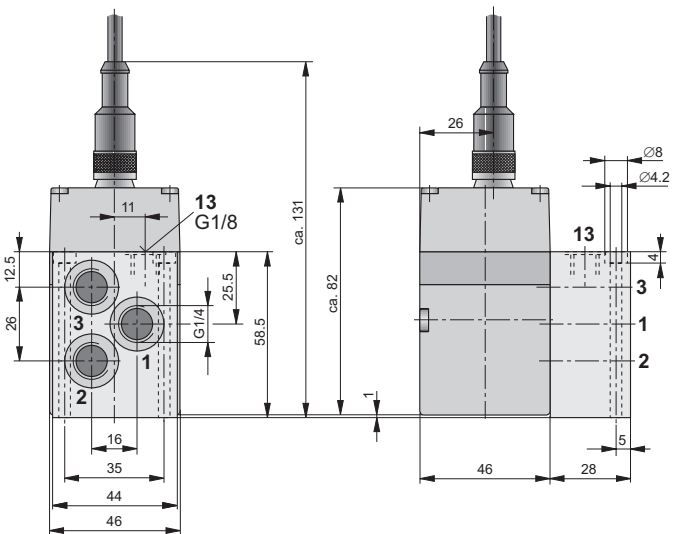
- 1 = power supply 24 V DC
- 2 = set value input
- 3 = mass GND
- 4 = analog output 0-10 V
- 5 = digital output 0/24 V

### Version with 5 PIN connector M12 x 1, straight

#### without base plate



#### with single base plate



\* Connection for 5-pin plug M12 x 1 (PS12315-A)



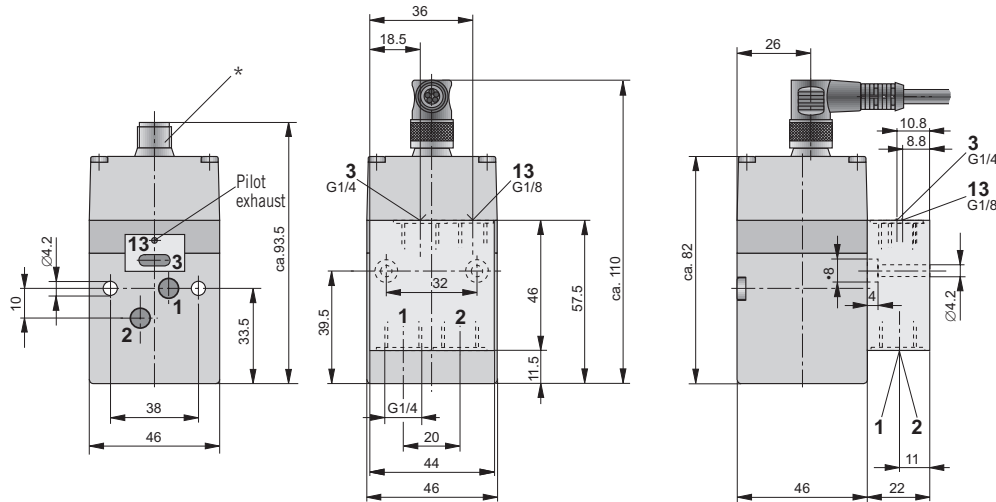
For order instructions see page 144, for characteristics see page 132-138,  
for accessories see page 143, 144

Dimensions in mm

Version with 5 PIN connector M12 x 1, elbow

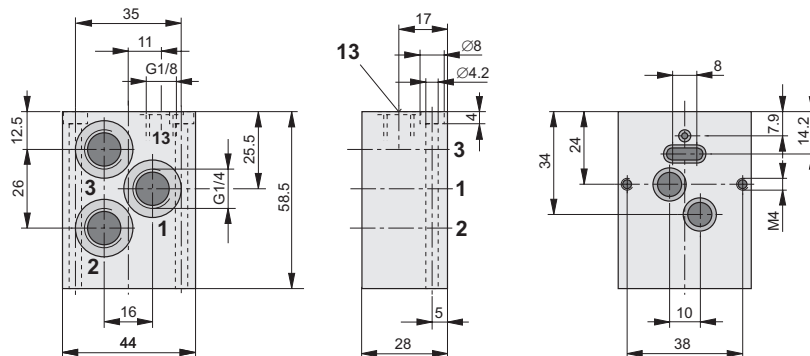
without base plate

with single base plate

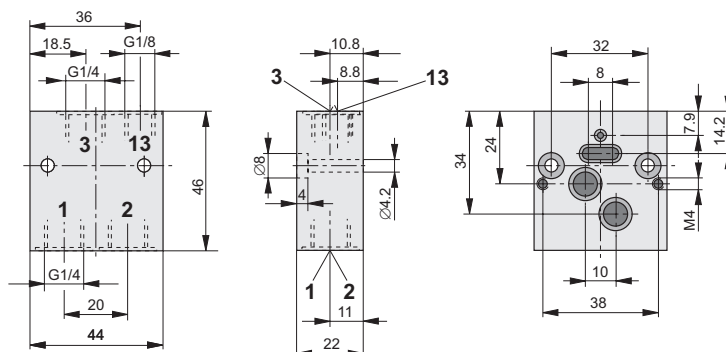


\* Connection for 5-pole plug M12 x 1 (PS12316-A, PS12317-A)

Single base plate – Port size G1/4, straight



Single base plate – Port size G1/4, sidewise



**Electronically controlled proportional pressure regulating valves**

with  
PIEZO control

Series tecno plus  
G1/4, NW 6

Dimensions

Versions:

- Voltage controlled (Type PRE-U)
- Current controlled (Type PRE-I)
- 3 pressure ranges
- With actual value output
- With EMC mass

Connection plates



For order instructions see page 144, for characteristics see page 132–138, for accessories see page 143, 144

Dimensions in mm

# Electronically controlled proportional pressure regulating valves

with  
PIEZO control





Series tecno plus  
G1/4, NW 6

Order instructions

## Configurable, electronically controlled proportional pressure regulating valve – tecno plus

Order No.	PS	1	2	0	1	-	-	0			
Version		00 Voltage		01 Current 4–20 mA							
Pressure range		020 2 bar		060 6 bar		100 10 bar					
Type variation		0 Standard									
Flange		0 Without flange		1 Straight G1/4		3 Sidewise G1/4					
Connection cable		0 Without cable		1 Cable, straight		2 Cable, elbow					

### Accessories

Description	Figure	Port size	Order No.
Cable 5 m, connector M12 x 1, straight			PS12315-A
Cable 5 m, connector M12 x 1, elbow			PS12316-A
Cable 5 m, connector M12 x 1, elbow, with LED			PS12317-A
Single base plate, with through connections, straight		G1/4	PS12300-A-01
Single base plate, with connections, sidewise		G1/4	PS12301-A-01

