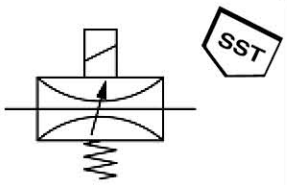
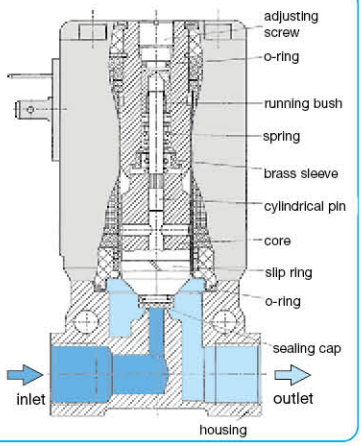
Description	2-way proportional flow valve controls the volume flow of maximum 1185 l/min for air in proportion to the input signal of 0 to 10 V or 0/4 to 20 mA. The proportional valve and the electronic control unit are ordered separately.
Product selection	To achieve the best linear flow characteristics, it is advisable not to reduce the flow too much and to have enough pressure drop at the valve for good control. Reference value: at the valve > 30% of the total pressure drop.
Installation hint	The nominal width of the orifice following the proportional valve should not be smaller than the nominal width of the valve. A constriction of the cross-section after the valve should be categorically avoided!



G⅛ up to G1
compressed air or liquids

General technical features

Design	2-way proportional flow valve, normally closed during absence of current, with additional control module in cable plug or in housing for DIN rail mounting.			
Mounting position	any, preferably upright			
Protection class	IP 65 with coupling socket, IP 40 for DIN rail version			
Temperature range	-10 °C to 90 °C / 14 °F to 194 °F for mediua -10 °C to 55 °C / 14 °F to 131 °F for electronics			
Material	Body: brass Elastomer:		Inner valve: brass and stainless steel FKM	Control housing: plastic



cross section

Pneumatic features

Media	compressed air, non-corrosive gases or liquids, max. viscosity 21 mm²/s, PV40 **for liquids only**
Operating pressure	see chart, max. 16 bar
Flow rate	0...2 / 1185 l/min for air, 0...0.03 / 83 l/min for liquids in detail see chart, at max. supply pressure and Δp = 1 bar

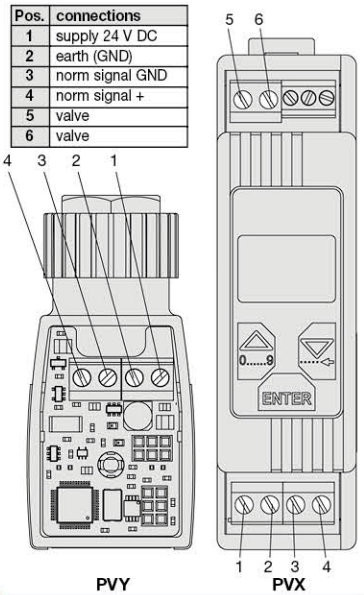
Electrical features

Supply voltage	24 V DC ± 10%, residual ripple max. 5%, with reverse voltage protection
Command signal	0-5 V, 0-10 V, 0-20 mA or 4-20 mA selectable
Impedance	> 20 kΩ at voltage signal < 200 Ω at current signal
Electrical connector	PV21: square connector according to DIN 43650 form B PV22...PV40: square connector according to DIN 43650 form A

Power consumption

electronic	PV21	PV21	PV22	PV34	PV40-04	PV40-06	PV40-08
1 W	2 W to DN 0.6	5 W from DN 0.8 on	9 W	16 W	8 W	10 W	15 W

Pos.	connections
1	supply 24 V DC
2	earth (GND)
3	norm signal GND
4	norm signal +
5	valve
6	valve



control electronics

Accuracy

Linearity	< 10 % FS			
Hysteresis	< 5 % FS			
Response sensitivity	< 0.1% FS at DN < 0,8 mm,	< 0.25% FS at DN ≥ 0,8 mm,	< 1% FS at PV40	
Repeatability	< 0.25% FS	at PV22 < 0.5% FS		
Regulating time	PV21: < 15 ms,	PV22: < 20 ms,	PV34: < 50 ms,	PV40: < 200 ms each for 90% of the range

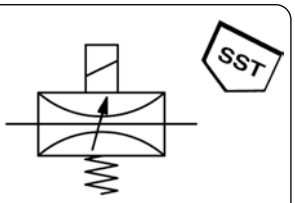
Adjustment

Zero point	The zero point can be decreased or increased.
Range	The range can be decreased or increased.
Ramp	The ramping potentiometer adjusts the time delay with a range of 0 to 10 s in order to dampen sudden changes of the setpoint. Increasing and decreasing ramps have the same delay.
Zero point switch	Using a DIP switch, the zero point switch can be activated or deactivated. It is not necessary to have another switch-off valve.

PROPORTIONAL FLOW VALVE "AIRPROP"® PV21 ... PV40

Technical features

- **Media**: compressed air, non-corrosive gases or liquids, except for PV40
- **Signal range**: 0-5 V, 0-10 V, 0-20 mA, 4-20 mA
- **Pressure range**: vacuum ... 2 / 16 bar
- **Orifice**: DN 0.1 ... DN 20
- **Flow rate**: max. 1185 l/min for air, max. 90 l/min for water
- **Adjustment**: zero point, range and ramp
- **Zero switch-off**: ensures reliable closure of the valve
- **Linearity**: < 10% FS
- **Hysteresis**: < 5% FS
- **Response sensitivity**: < 0.1% FS at DN < 0.8 mm; < 0.25% FS at DN ≥ 0.8 mm; < 1% FS at PV40
- **Repeatability**: < 0.25% FS, < 0.5% FS at PV22
- **Regulating time**: depending on type: < 15 ms, < 20 ms, < 50 ms or < 200 ms
- **Protection class**: IP65 with plug
- **Impedance**: > 20 kΩ at V, < 200 Ω at mA



G⅛ up to G1 compressed air or liquids

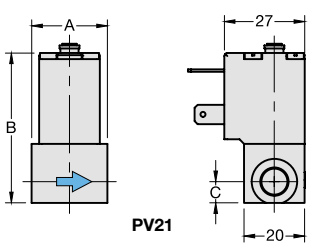
PV21

PV22

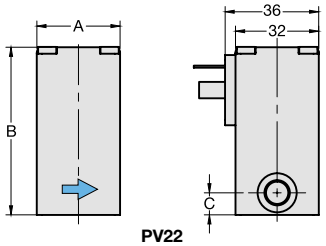
Proportional flow valve

without electronics, brass, FKM, for compressed air, vacuum or liquids*2

Dimensions A mm	B mm	C mm	Nominal size DN	K_v-value (m^3/h)	Flow rate water l/min*1	air l/min*2	Operating pressure max. bar	Differ.-press. max. bar	Connection thread G	Order number PV
25	50	7	0.1	0.00025	0 ... 0.004	0 ... 0.27	10	10	G⅛	PV21-01
25	50	7	0.2	0.001	0 ... 0.017	0 ... 1.0	10	10	G⅛	PV21-02
25	50	7	0.3	0.002	0 ... 0.033	0 ... 2.2	10	10	G⅛	PV21-03
25	50	7	0.4	0.004	0 ... 0.067	0 ... 4.0	8	8	G⅛	PV21-04
25	50	7	0.6	0.010	0 ... 0.167	0 ... 11	6	6	G⅛	PV21-06
25	50	7	0.8	0.018	0 ... 0.3	0 ... 19	12	6	G⅛	PV21-08
25	50	7	0.8	0.018	0 ... 0.3	0 ... 19	12	12	G⅛	PV21-08B
25	50	7	1.0	0.027	0 ... 0.3	0 ... 19	10	5	G⅛	PV21-10
25	50	7	1.0	0.027	0 ... 0.3	0 ... 19	10	10	G⅛	PV21-10B
25	50	7	1.2	0.038	0 ... 0.633	0 ... 41	8	4	G⅛	PV21-12
25	50	7	1.2	0.038	0 ... 0.633	0 ... 41	8	8	G⅛	PV21-12B
25	50	7	1.6	0.055	0 ... 0.917	0 ... 59	6	3	G⅛	PV21-16
25	50	7	1.6	0.055	0 ... 0.917	0 ... 59	6	6	G⅛	PV21-16B
25	50	7	2.0	0.090	0 ... 1.5	0 ... 97	3	1.5	G⅛	PV21-20
25	50	7	2.0	0.090	0 ... 1.5	0 ... 97	3	3	G⅛	PV21-20B
32	66	8.5	0.8	0.018	0 ... 0.3	0 ... 19	16	8	G⅛	PV22-08
32	66	8.5	0.8	0.018	0 ... 0.3	0 ... 19	16	16	G⅛	PV22-08B
32	66	8.5	1.0	0.027	0 ... 1.0	0 ... 65	14	7	G⅛	PV22-10
32	66	8.5	1.0	0.027	0 ... 1.0	0 ... 65	14	14	G⅛	PV22-10B
32	66	8.5	1.2	0.040	0 ... 0.67	0 ... 43	12	6	G⅛	PV22-12
32	66	8.5	1.2	0.040	0 ... 0.67	0 ... 43	12	12	G⅛	PV22-12B
32	66	8.5	1.5	0.060	0 ... 1.0	0 ... 65	10	5	G⅛	PV22-15
32	66	8.5	1.5	0.060	0 ... 1.0	0 ... 65	10	10	G⅛	PV22-15B
46	72	8.5	2.0	0.10	0 ... 1.66	0 ... 108	8	4	G¼	PV22-20
46	72	8.5	2.0	0.10	0 ... 1.66	0 ... 108	8	8	G¼	PV22-20B
46	72	8.5	2.5	0.15	0 ... 2.5	0 ... 162	5	2.5	G¼	PV22-25
46	72	8.5	2.5	0.15	0 ... 2.5	0 ... 162	5	5	G¼	PV22-25B
46	72	8.5	3.0	0.22	0 ... 3.67	0 ... 237	3.5	1.8	G¼	PV22-30
46	72	8.5	3.0	0.22	0 ... 3.67	0 ... 237	3.5	3.5	G¼	PV22-30B
46	72	8.5	4.0	0.32	0 ... 5.33	0 ... 345	2	1	G¼	PV22-40
46	72	8.5	4.0	0.32	0 ... 5.33	0 ... 345	2	2	G¼	PV22-40B



PV21



PV22

*1 at max. operating pressure and Δp = 1 bar *2 at pressure drop from 6 bar down to 5 bar

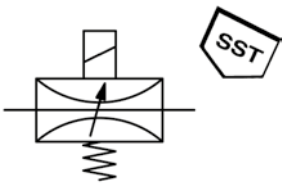
Technische Daten: siehe vorherige Seite

PDF CAD
www.aircom.net

Order example: PV21-01

Technical features

• **Media**	compressed air, non-corrosive gases or liquids, except for PV40	• **Linearity**	< 10% FS
• **Signal range**	0-5 V, 0-10 V, 0-20 mA, 4-20 mA	• **Hysteresis**	< 5% FS
• **Pressure range**	vacuum ... 2 / 16 bar	• **Response sensitivity**	< 0.1% FS at DN < 0.8 mm < 0.25% FS at DN ≥ 0.8 mm < 1% FS at PV40
• **Orifice**	DN 0.1 ... DN 20	• **Repeatability**	< 0.25% FS, < 0.5% FS at PV22
• **Flow rate**	max. 1185 l/min for air, max. 90 l/min for water	• **Regulating time**	depending on type: < 15 ms, < 20 ms, < 50 ms or < 200 ms
• **Adjustment**	zero point, range and ramp	• **Protection class**	IP65 with plug
• **Zero switch-off**	ensures reliable closure of the valve	• **Impedance**	> 20 kΩ at V, < 200 Ω at mA



G⅛ up to G1
compressed air or liquids

Dimensions A mm	B mm	C mm	Nominal size DN	K_v-value (m^3/h)	Flow rate water l/min*1	air l/min*2	Operating pressure max. bar	Differ.-press. max. bar	Connection thread G	Order number
Proportional flow valve					without electronics, brass, FKM, for compressed air, vacuum or liquids*2					**PV**
55	105	11	4.0	0.45	0 ... 7.5	0 ... 485	8	4	G⅜	**PV34-40**
55	105	11	4.0	0.45	0 ... 7.5	0 ... 485	8	8	G⅜	**PV34-40B**
55	105	11	6.0	0.80	0 ... 13.3	0 ... 860	4	2	G½	**PV34-60**
55	105	11	6.0	0.80	0 ... 13.3	0 ... 860	4	4	G½	**PV34-60B**
55	105	11	8.0	1.10	0 ... 18.3	0 ... 1185	2	1	G½	**PV34-80**
55	105	11	8.0	1.10	0 ... 18.3	0 ... 1185	2	2	G½	**PV34-80B**
50	89	12	10	1.4	0 ... 25.0*3	-	10		G½	**PV40-04**
58	110	14	13	2.5	0 ... 45.0*3	-	10		G¾	**PV40-06**
80	155	16	20	5.0	0 ... 90.0*3	-	10		G1	**PV40-08**

PV34

PV40

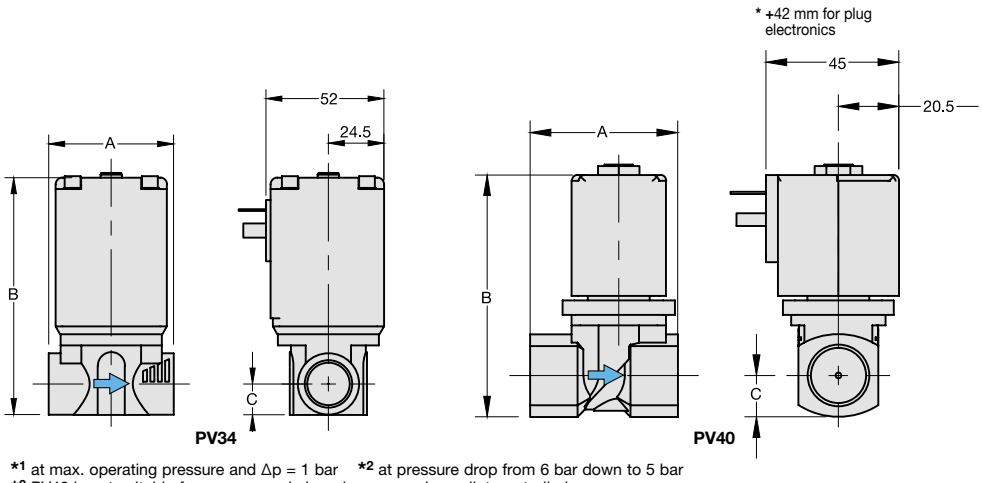
Special options, add the appropriate letter

stainless steel body	SST 316, W.-No. 1.4401	for PV21 to PV34	PV . . - . . **S**

Accessories, enclosed

plug electronics	24 V DC, 0-5 V, 0-10 V, 0/4 mA-20 mA	for PV22 to PV40	**PVY-06**
clip-on electronics	24 V DC, 0-5 V, 0-10 V, 0/4 mA-20 mA	for PV21	**PVX-01**
		for PV22 to PV40	**PVX-02**
coupling socket	according to DIN 43650 form B	for PV21	**2285-0**
	according to DIN 43650 form A	for PV22 to PV40	**2286-0**

PVY **PVX**



PV34 **PV40**

*1 at max. operating pressure and Δp = 1 bar *2 at pressure drop from 6 bar down to 5 bar
*3 PV40 is not suitable for compressed air and vacuum, since pilot-controlled

Technical informations: see previous page

PDF CAD
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Order example:
PV34-40