

PROPORTIONAL FLOW VALVES AND MEASUREMENT DEVICE

Prop.-V.



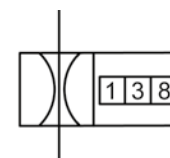
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	DESCRIPTION	DN/ Ø	FLOW RATE l/min	CONNECTION thread	SERIES	PAGE
MEASURING DEVICE	portable		0.02 ... 0.1 / 450	G¼ u. G½	VGM	11.02
	portable, hand-operated		0.02 ... 0.1 / 450	G¼ u. G½	VGR	11.03
	for many gases		0.10 ... 0.2 / 5000	G¼ - G1	PVM	11.06
	with proportional regulator		0.10 ... 0.2 / 5000	G¼ - G½	PVR	11.07
PROP. FLOW VALVES	w/o power consumption	0.2 /.../ 1.5	0 ... 3 / 24	M5	PVK	11.08
	for air and water	0.1 /.../ 20	0 ... 0.3 / 1185	G½ - G1	PV21...PV40	11.10
	pulse-width-modulated, mini	0.2 /.../ 0.8	0 ... 1 / 20	Flansch	PV202	11.12
	stainless steel	1.2 / 7.1	0 ... 70 / 420	G½ - G¾	PV202-S	11.12
	for water	12.5	0 ... 35 / 37	G¾ u. G½	PV203	11.12
	motorised, for liquids	15 / 20	0 ... 1000 / 3500	G½ - G1	P8	11.14
	flow valve, Y-type	15 /.../ 65	0 ... 77 / 1233	G½ - G2½	PVE	11.15
NEEDLE VALVES	compact	Ø 1.0 - 6.5	0 ... 0,3 / 425	G¼ u. G½	VR6	11.04
	Edelstahl, miniatur	Ø 3.0 - 4.5	0 ... 32	Nippel	NV30	20.02
QUETSCHVENTILE	POM or Aluminium			G¾ - G3, DN150	Q	11.13
	stainless steel			G¼ - G2	QE	15.36



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Description	Thermal mass flow meter based on high precision MEMS technology (CMOS sensor). Pressure and temperature-insensitive according to the CTA constant temperature principle. Also insensitive to pressure surges.		
Media	compressed air or non-corrosive gases	Operating pressure	max. 10 bar
Supply voltage	Standard AA battery or Micro-USB power supply (DIN62684), optionally external power +12 ...+30 V DC (max. 200 mA)		
Display	Touch-display 128 x 64 px, backlit only with external power supply (Micro-USB or 24 V DC)		
Electrical connector	optionally length 2.0 m, with free ends at 24 V DC	Function	totalisator included, physical units can be changed
Alarm functions	3 configurable alarms, programmable as : low alarm, high alarm, window alarm and totalizer alarm. The alarms can be configured with different parameters: delay and alarm duration. Relais: switching current up to 1A, switching voltage 30 V DC		
Accuracy	± 2% FS, from 200 l/min ± 3% FS	Response time	500 ms at 99% accuracy
Turndown ratio	1:50 (Eco) or 1:1000 (Special)	Protection class	IP 50
Flow regulation	manual fine adjustment by 15 turns	Mounting position	any, horizontal from 5 bar on
Temperature range	0 °C to 50 °C / 32 °F to 122 °F	Warm-up time	< 1 sec. for full accuracy
Material	Body: aluminium, optionally electropolished stainless steel 316 Elastomer: FKM, optionally EPDM		



**2 ... 100 ml/min/450 l/min
compressed air or gases
accurate to 2%**

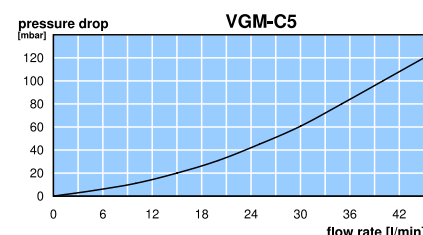


**VGM-G_{1/4}
mass flow meter**



**VGM-G_{1/2}
mass flow meter**

Specific gas calibration			
gas species			max. l/min
nitrogen	07	N ₂	450
oxygen	15	O ₂	450
argon	05	Ar	300
helium	09	He	450
hydrogen	11	H ₂	300
carbon dioxide	03	CO ₂	150
propane	16	C ₃ H ₈	80
methane	13	CH ₄	100



* Product group



**Order example:
VGM-A1**

Dimensions			Operating pressure	Accuracy	Connection thread	Flow rate	Order number
A	B	C	max. bar	%	G	ml/min / l/min	
mm	mm	mm					



Mass flow meter

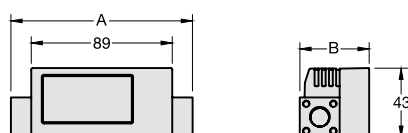
w/o manual control valve, LCD-Display, battery mode, portable, aluminium, FKM

VGM*1

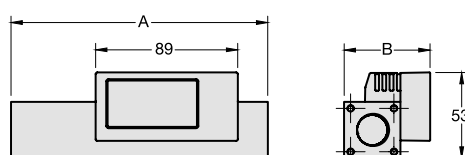
114	44	12.5	10	2	G _{1/4}	2 ... 100 ml/min	VGM-A1
				2		4 ... 200 ml/min	VGM-A2
				2		10 ... 500 ml/min	VGM-A5
				2		0.02 ... 1 l/min	VGM-B1
				2		0.04 ... 2 l/min	VGM-B2
				2		0.1 ... 5 l/min	VGM-B5
				2		0.2 ... 10 l/min	VGM-C1
				2		0.4 ... 20 l/min	VGM-C2
				2		1 ... 50 l/min	VGM-C5
160	54	17.5	10	2	G _{1/2}	2 ... 100 l/min	VGM-D1
				2		4 ... 200 l/min	VGM-D2
				3		4 ... 300 l/min	VGM-D3
				3		9 ... 450 l/min	VGM-D4

Special options, add the appropriate letter oder number

deviant volume flow	indicate on order	VGM-XX
limit switch	min. / max.-alarm, 1 A SPDT switch, incl. 24 V DC supply	VGM- . . G2
stainless steel body	electropolished throughout	VGM- . . S
EPDM elastomer	for VGM-A1 to -C5	VGM- . . E
24 V DC supply	cable attached on the device, length 2 m, with free ends	VGM- . . 2
panel mounting	cut-out 48 x 96 mm, protection class IP50 in the front	VGM- . . T
1% accuracy	for G _{1/4}	VGM- . . H
carbon dioxide	CO ₂	VGM- . . 03
argon	Ar	VGM- . . 05
nitrogen	N ₂	VGM- . . 07
helium	He	VGM- . . 09
hydrogen	H ₂	VGM- . . 11
methane	CH ₄	VGM- . . 13
oxygen	O ₂	VGM- . . 15
propane	C ₃ H ₈	VGM- . . 16
nitrous oxide	N ₂ O	VGM- . . 17
gases	see above	VGM- D . .



VGM-A/-B/-C

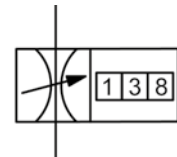


VGM-D

Calibration or test chart: see chapter for technical informations
*1 Note: indicate media, supply and outlet pressure on order

PDF CAD
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Description	Thermal mass flow meter based on high precision MEMS technology (CMOS sensor). Pressure and temperature-insensitive according to the CTA constant temperature principle. Also insensitive to pressure surges.		
Media	compressed air or non-corrosive gases		
Supply voltage	Standard AA battery or Micro-USB power supply (DIN62684), optionally external power +12 ...+30 V DC (max. 200 mA)		
Display	Touch-display 128 x 64 px, backlit only with external power supply (Micro-USB or 24 V DC)		
Electrical connector	optionally length 2.0 m, with free ends at 24 V DC		
Alarm functions	3 configurable alarms, programmable as : low alarm, high alarm, window alarm and totalizer alarm. The alarms can be configured with different parameters: delay and alarm duration. Relais: switching current up to 1A, switching voltage 30 V DC		
Accuracy	± 2% FS, from 200 l/min ± 3% FS		
Turndown ratio	1:50 (Eco) or 1:1000 (Special)		
Flow regulation	manual fine adjustment by 15 turns		
Temperature range	0 °C to 50 °C / 32 °F to 122 °F		
Material	Body: aluminium, optionally electropolished stainless steel 316		
	Response time	500 ms at 99% accuracy	
	Protection class	IP 50	
	Mounting position	any, horizontal from 5 bar on	
	Warm-up time	< 1 sec. for full accuracy	
		Elastomer: FKM, optionally EPDM	



**2 ... 100 ml/min/450 l/min
compressed air or gases
accurate to 2%**

Prop.-V.



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Dimensions			Operating pressure	Accuracy	Connection thread	Flow rate	Order number
A	B	C					
mm	mm	mm	max. bar	%	G	ml/min / l/min	

Mass flow meter			with manual control valve, LCD-Display, needle valve battery mode, portable, aluminium, FKM			VGR*1	
114	44	12.5	10	2	G $\frac{1}{4}$	2 ... 100 ml/min	VGR-A1
				2		4 ... 200 ml/min	VGR-A2
				2		10 ... 500 ml/min	VGR-A5
				2		0.02 ... 1 l/min	VGR-B1
				2		0.04 ... 2 l/min	VGR-B2
				2		0.1 ... 5 l/min	VGR-B5
				2		0.2 ... 10 l/min	VGR-C1
				2		0.4 ... 20 l/min	VGR-C2
				2		1 ... 50 l/min	VGR-C5
160	54	17.5	10	2	G $\frac{1}{2}$	2 ... 100 l/min	VGR-D1
				2		4 ... 200 l/min	VGR-D2
				3		4 ... 300 l/min	VGR-D3
				3		9 ... 450 l/min	VGR-D4



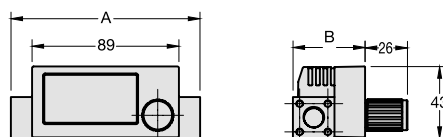
**VGR-G $\frac{1}{4}$
mass flow meter
with manual control valve**



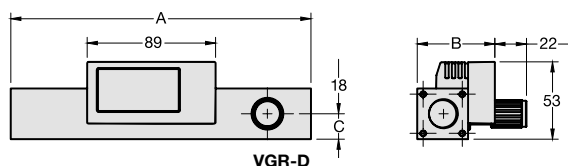
**VGR-G $\frac{1}{2}$
mass flow meter**

Special options, add the appropriate letter oder number

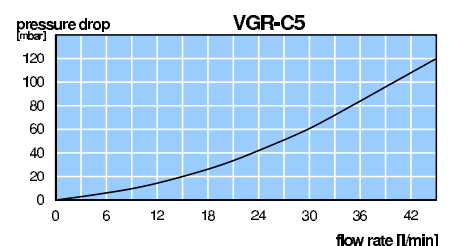
deviant volume flow	indicate on order	VGR-XX
limit switch	min. / max.-alarm, 1 A SPDT switch, incl. 24 V DC supply	VGR- . . G2
stainless steel body	electropolished throughout	VGR- . . S
EPDM elastomer	for VGR-A1 to -C5	VGR- . . E
24 V DC supply	cable attached on the device, length 2 m, with free ends	VGR- . . 2
panel mounting	cut-out 48 x 96 mm, protection class IP50 in the front	VGR- . . T
1% accuracy	for G $\frac{1}{4}$	VGR- . . H
carbon dioxide	CO ₂	VGR- . . 03
argon	Ar	VGR- . . 05
nitrogen	N ₂	VGR- . . 07
helium	He	VGR- . . 09
hydrogen	H ₂	VGR- . . 11
methane	CH ₄	VGR- . . 13
oxygen	O ₂	VGR- . . 15
propane	C ₃ H ₈	VGR- . . 16
nitrous oxide	N ₂ O	VGR- . . 17
gases	see above	VGR- D . .



VGR-A/-B/-C



VGR-D



* Product group

Calibration or test chart: see chapter for technical informations
*1 Note: indicate media, supply and outlet pressure on order

PDF CAD
www.aircom.net



Order example:
VGR-A1



Description	The modular, compact micro needle valve is for fine-flow adjustment of gases and liquids. It consists of an inner valve and body with straight or angle connector. The valve is free from oil and grease.		
Media	5 µm filtered compressed air, non-corrosive gases or liquids		
Operating pressure	vacuum up to positive pressure of max. 40 bar		
Adjustment	The micro valve has a 15-turn spindle to fully open from a closed condition. It operates with virtually no hysteresis and closes clockwise or optionally counterclockwise. The valve needle is non-rotating and thus provides a stable adjustment.		
Panel mounting	borehole 15 mm,	mounting through two screws M4x10	
Temperature range	-40 °C to 100 °C / -40 °F to 212 °F		
Material	Body: anodized aluminium, optionally stainless steel	Elastomer: FKM, optionally EPDM	
	Inner valve: nickel-plated brass, optionally stainless steel	Knob: plastic	



Ø 1/6.5 mm
compressed air or liquids

Dimensions			Needle size mm	K _v -value (m³/h)	Flow rate		Connection thread G	Order number	D*
A	B	C			water l/min*2	air l/min*1			
mm	mm	mm	mm						

Precision needle valve					with straight pass, right-hand closing, with knob, aluminium/brass/FKM, supply: max. 40 bar			VR	
54	64	10	1.0	0.0007	0... 0.01	0... 0.3	G¼	VR6-02A	
			1.5	0.005	0... 0.10	0... 2.5		VR6-02B	
			2.0	0.01	0... 0.15	0... 7.0		VR6-02C	
			2.5	0.04	0... 0.60	0... 17		VR6-02D	
			3.0	0.10	0... 2.30	0... 60		VR6-02E	
62	80	17.5	4.0	0.58	0... 8.00	0... 250	G½	VR6-04A	
			6.5	1.00	0... 16	0... 425		VR6-04B	



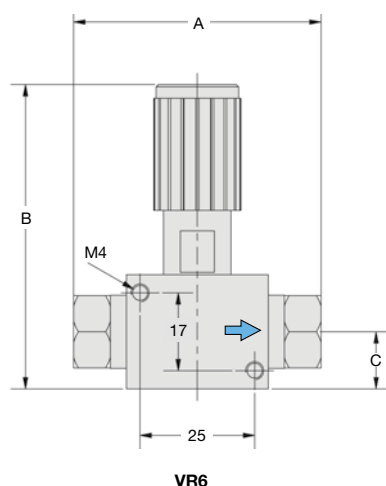
VR6-02

Special options, add the appropriate letter

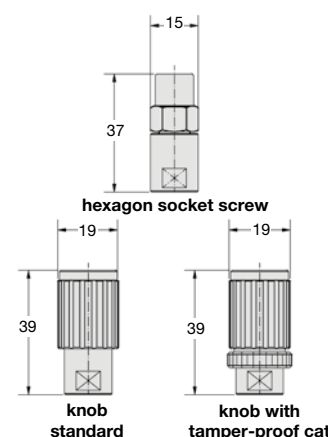
stainless steel body	body and valve made of stainless steel 316	for G¼	VR6-02.S
EPDM elastomer	SST body only	for G¼	VR6-02.SE
FFKM elastomer	SST body only	for G¼	VR6-02.SX29
amper-proof cap	on valve with knob, standard		VR6-02.T
hexagon socket screw	and locknut		VR6-02.I



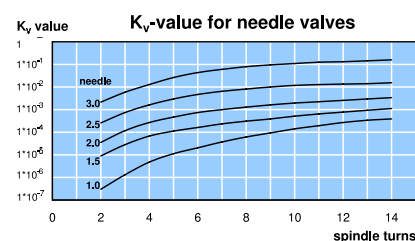
VR6-04



VR6



Options

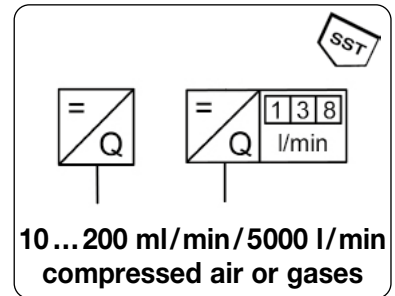


*1 at 1 bar operating pressure and open outlet
*2 at 1 bar pressure difference



Technical features

- Benefits:**
- suitable for nearly all gases and gas mixtures
 - compact robust design with protection class IP65
 - no moving parts
 - short response time
 - low sensitivity to dirt and humidity
 - optionally available with multifunctional TFT display



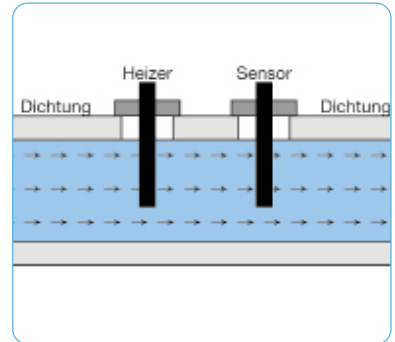
Prop.-V.



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General technical features

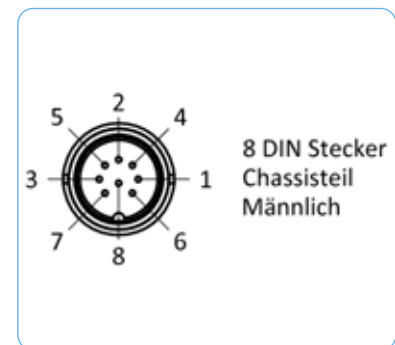
Mounting position	horizontal
Protection class	IP65 (with and without display)
Temperature range	0 °C to 50 °C / 32 °F to 122 °F
Material	Body: aluminium, optionally stainless steel 316L Elastomer: Viton®, optionally EPDM or Kalrez® Sensor: stainless steel 316L strainer: stainless steel Flow straightener: stainless steel



functional principle

Pneumatic features

Media	compressed air as well as virtually all gases and mixtures of gases*1
Operating pressure	max. 10 bar device body made of aluminium max. 20 bar device body made of stainless steel
Differential pressure	device-dependent
Mass flow rate	up to 10.000 l/min on request



PVM and PVR connection plan

Electrical features

Supply voltage	+15 ... 24 VDC ±10%
Current consumption	PVM: approx. 75 mA at 0 % flow, approx. 125 mA at 100 % flow PVR: approx. 325 mA at 0 % flow, approx. 375 mA at 100 % flow add 30 mA for display, if applicable
Signal ranges	0...10 V DC / 0...5 V DC, wahlweise 0...20 mA / 4...20 mA
Impedance	> 10 kΩ at voltage signal, < 375 Ω at current signal
Connection	round connector 8-pin DIN (male)- and RS232 output
EMC	according to CE

Accuracy

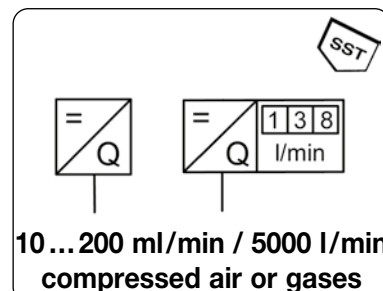
Linearity / Hysteresis	1% v.M. zzgl 0,5% v.E.
Repeatability	< ± 0.2 % v.E.
Pressure sensitivity	> ± 0.3% FS/bar typ. (air)
Temperature sensitivity	± 0.2 % / °C v.l. (air)
Mounting sensitivity	< 0.2 % at 90° deviation from horizontal at 1 bar typical (air)
Operating time	0.9 s bei 63% of the range
Tightness	< 2 x 10 ⁻⁸ mbar l/s He

model gas	PVM/PVR34 - PVM/ PVR38	PVM/PVR 31 & PVM/ PVR32
air/nitrogen	1.00	1.00
argon	2.02	1.50
CO ₂	1.13	0.86
helium	on request	on request
hydrogen	on request	on request
NH ₃	0.74	0.82
N ₂ O	1.08	0.83
C ₂ H ₂	0.68	0.66
C ₃ H ₈	0.62	0.58
C ₃ H ₆	0.51	0.43
CH ₄	0.61	0.77
CO	1.04	1.01
C ₂ H ₄	0.75	0.7
NO	1.01	1.00
HCL	1.53	1.12

conversion factors for max. flow rate
for other gases



Description	Mass flow meter directly measuring flow according to constant temperature anemometer principle.		
Features	Low pressure drop and immunity against dirt and humidity. Measurement unaffected by pressure and temperature changes. No moving parts, installation in virtually any position.		
Principle	Two stainless steel probes - a heater and temperature probe - protrude inside the bore. A constant difference in temperature is created. The energy required is proportional to flow.		
Media	compressed air, air as well as virtually all gases and gas mixtures		
Compensation	Neither temperature nor pressure have to be compensated. There are no moving parts within the flow meter, therefore it is virtually wear-free.		
Pressure drop	Low pressure drop because solely two stainless steel probes protrude inside the smooth, round measurement cell. The use of screw connections with a nominal size as big as possible is suggested.		
Temperature range	0 °C to 50 °C / 32 °F to 122 °F	Operating press. max. 10 bar	Differential press. device dependent
Material	Body: aluminium, optionally SST 316L Sensor: stainless steel 316L	Elastomer: Viton®, optionally EPDM or Kalrez® strainer: stainless steel	



10 ... 200 ml/min / 5000 l/min
compressed air or gases

Dimensions			Operating pressure max. bar	Connection thread G	Flow rate ml/min*1 / l/min*1	Order number
A	B	C				
mm	mm	mm				

Mass flow meter				4-20 mA output signal, supply voltage 24 V DC, w/o display, with coupling socket, for compressed air		PVM*2
95	117	15	10	G1/4	10 ... 200 ml/min 25 ... 500 ml/min 50 ... 1 000 ml/min	PVM31-22 PVM31-52 PVM31-13
95	117	15	10	G1/4	0.10 ... 2 l/min 0.35 ... 5 l/min	PVM31-23 PVM32-53
95	114	15	10	G1/4	1 ... 10 l/min 1 ... 20 l/min 1 ... 50 l/min	PVM34-14 PVM34-24 PVM34-54
95	122	16	10	G1/2	0.4 ... 20 l/min 4 ... 200 l/min	PVM36-24 PVM36-25
117	136	25	10	G1/2	2 ... 100 l/min 20 ... 400 l/min 20 ... 1 000 l/min	PVM37-15 PVM37-45 PVM37-16
143	164	37,5	10	G1	10 ... 500 l/min 100 ... 2 000 l/min 100 ... 4 000 l/min 150 ... 5 000 l/min	PVM38-55 PVM38-26 PVM38-46 PVM38-56



PVM31



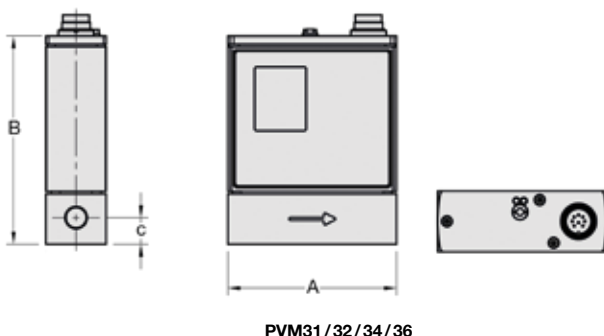
PVM37/38

Special options, add the appropriate letter oder number

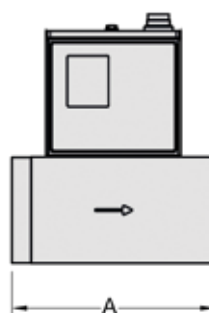
deviating volume flow rate					PVM ... XX
special calibration	range or gas to be indicated on order				PVM ... Y
monitor signal	0-10 V				PVM ... U
stainless steel body	316L, P ₁ max. 20 bar				PVM ... S
EPDM elastomer					PVM ... E
Kalrez elastomer					PVM ... K
free of oil and grease	for oxygen and different gases				PVM ... L
carbon dioxide CO ₂	03	argon Ar:	05	nitrogen N ₂ :	PVM ... 07
helium He:	09	hydrogen H ₂ :	11	methane CH ₄ :	PVM ... 13
oxygen O ₂ :	15	propane C ₃ H ₈ :	16	nitrous oxide N ₂ O:	PVM ... 17

Accessories, enclosed

coupling socket	M16x1, 8-pin	straight	KM16-A8-0
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PVM31/32/34/36



PVR37/-38

*1 valid for compressed air at $\Delta p = 5$ bar and open outlet. For other gases please apply conversion factor

*2 only possible with PVM 31 (max. 1 l/min) and PVM 32 (max. 5 l/min).

*3 Note: indicate media, supply and outlet pressure, temperature on order

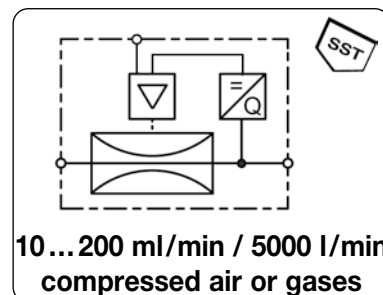
PDF CAD
www.aircom.net

* Product group



Order example:
PVM31-22

Description	Mass flow meter directly measuring flow according to constant temperature anemometer principle. The measured setpoint is compared with the nominal value. The valve will be readjusted accordingly.		
Mechanical Construction	PVR31/32/34/36: mass flow meter and meter in the same housing PVR 37: mass flow meter and meter together at the measuring bob PVR38: mass flow meter and meter as single components are bolted together		
Media	compressed air, air as well as virtually all gases and gas mixtures		
Compensation	Neither temperature nor pressure have to be compensated. There are no moving parts within the flow meter, therefore it is virtually wear-free.		
Pressure drop	Low pressure drop because solely two stainless steel probes protrude inside the smooth, round measurement cell. The use of screw connections with a nominal size as big as possible is suggested.		
Temperature range	0 °C to 50 °C / 32 °F to 122 °F Operating press. max. 10 bar Differential press. device dependent		
Material	Body: aluminium, optionally SST 316L Sensor: stainless steel 316L	Elastomer: Viton®, optionally EPDM or Kalrez® strainer: stainless steel	



Prop.-V.



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Dimensions			K _v -value (m³/h)	Operating pressure max. bar	Connection thread G	Mass flow ml/min*1 / l/min*1	Order number	E*
A	B	C						
mm	mm	mm						

Mass flow regulator			4-20 mA input and output signal, supply voltage 24 V DC, w/o display, with coupling socket, for compressed air			PVR*3		
95	117	15	0.066	10	G¼	10 ... 200 ml/min 100 ... 500 ml/min 100 ... 1000 ml/min 100 ... 2000 ml/min	PVR31-22 PVR31-52 PVR31-13 PVR31-23	
95	117	15	0.066	10	G¼	0.05 ... 1 l/min 0.35 ... 5 l/min 0.50 ... 7 l/min	PVR32-13 PVR32-53 PVR32-14	
95	114	15	0.066	10	G¼	0.50 ... 10 l/min 1.00 ... 20 l/min 2.50 ... 50 l/min	PVR34-14 PVR34-24 PVR34-54	
95	122	16	0.17	10	G½	1 ... 20 l/min 4 ... 50 l/min 5 ... 200 l/min	PVR36-24 PVR36-54 PVR36-25	
145	136	25	0.35	10	G½	5 ... 100 l/min 10 ... 200 l/min 20 ... 400 l/min	PVR37-15 PVR37-25 PVR37-45	
on request			1.5	10	G1	10 ... 500 l/min 100 ... 1000 l/min 100 ... 2000 l/min 100 ... 5000 l/min	PVR38-55 PVR38-16 PVR38-26 PVR38-56	



PVR31



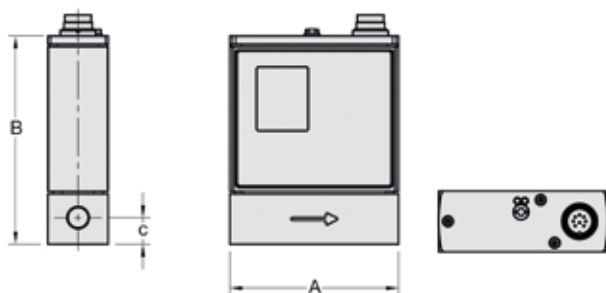
PVR37

Special options, add the appropriate letter oder number

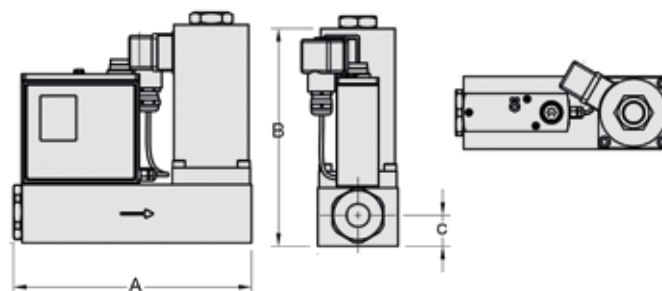
deviating volume flow rate						PVM ... XX
special calibration	range or gas to be indicated on order					PVR ... Y
setpoint /monitor signal	0-10 V					PVR ... U
stainless steel body	316L, P ₁ max. 20 bar					PVR ... S
EPDM elastomer						PVR ... E
Kalrez® elastomer						PVR ... K
free of oil and grease	for oxygen and different gases					PVR ... L
carbon dioxide CO ₂	03	argon Ar:	05	nitrogen N ₂ :	07	PVR ... 07
helium*2 He:	09	hydrogen*2 H ₂ :	11	methane CH ₄ :	13	PVR ... 13
oxygen O ₂ :	15	propane C ₃ H ₈ :	16	nitrous oxide N ₂ O:	17	PVR ... 17

Accessories, enclosed

coupling socket	M16x1, 8-pin	straight	KM16-A8-0
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PVR31 / 32 / 34 / 36



PVR37 / -38

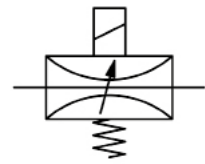
*1 valid for compressed air at Δp= 5 bar and open outlet. For other gases please apply conversion factor.
*2 only possible with PVR 31 (max. 1 l/min) and PVR 32 (max. 5 l/min).

*3 Note: indicate media, supply and outlet pressure, temperature on order





Description	Small proportional flow valve for regulating both air and non-corrosive gases. Voltage signal 10 V as standard or optionally 5 V or 20 V DC.				
Media	50 µm filtered compressed air or non-corrosive gases				
Operating pressure	see chart, max. 7 bar				
Electrical specification	command signal	max. voltage	resistance	current consumption	power consumption
	0 - 5 V DC	0 - 6.2 V DC	13 Ω	0 - 370 mA	1.9 W
	0 - 10 V DC	0 - 12.4 V DC	54 Ω	0 - 185 mA	1.9 W
	0 - 20 V DC	0 - 24.8 V DC	218 Ω	0 - 92 mA	1.9 W
Electrical connection	solder lug or terminal lug, 2.5 x 0.5 mm				
Mounting position	any				
Hysteresis	± 10% FS		Repeatability ± 3% FS		
Temperature range	0 °C to 60 °C / 32 °F to 140 °F				
Material	Body: nickel-plated brass Inner valve: stainless steel and brass		Elastomer: NBR/Buna-N, optionally FKM or EPDM		



DN 0.2 up to DN 1.5
0 - 5 / 10 / 20 V DC

Dimensions			Nominal size	K _v -value	Flow rate	Operating pressure	Connection thread	Order number
A	B	C	DN	(m³/h)	l/min*	max. bar	M5	
mm	mm	mm						

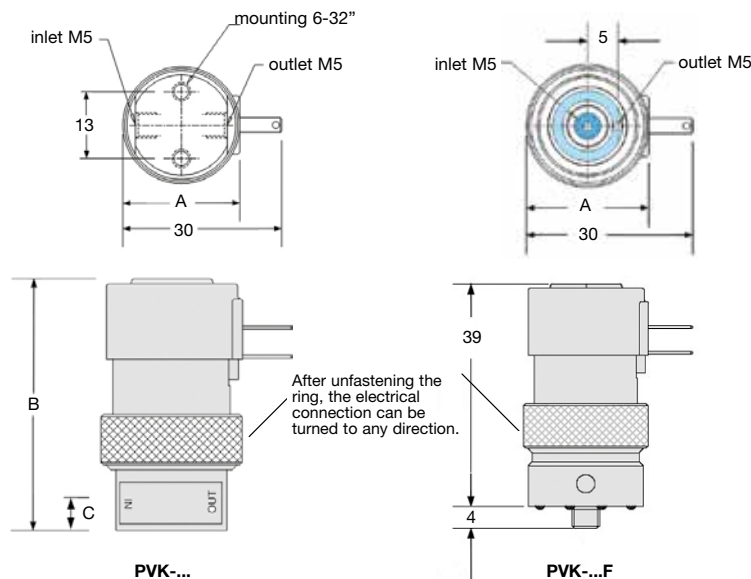
Volume flow regulator M5								PVK
0-10 V DC, 2-port/2-way valve for compressed air or non corrosive gases, with terminal lug, brass, NBR/Buna-N								
20	40	5	0.2	0.03	0...3	1.7	M5	PVK-092
						3.5		PVK-093
						7.0		PVK-097
20	40	5	0.3	0.07	0...7	1.7	M5	PVK-132
						3.5		PVK-133
						7.0		PVK-137
20	40	5	0.6	0.24	0...24	1.7	M5	PVK-252
						3.5		PVK-253
						7.0		PVK-257
20	40	5	1.0	0.18	0...19	1.7	M5	PVK-402
						3.5		PVK-403
20	40	5	1.5	0.14	0...14	1.7	M5	PVK-602

Special options, add the appropriate letter

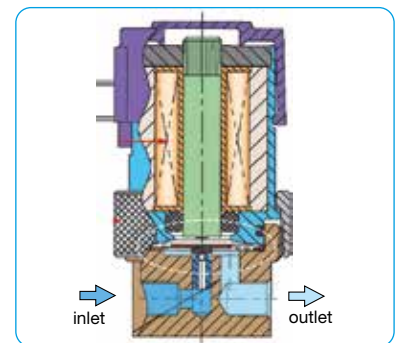
0 - 5 V	input signal max. 6,2 V,	0 - 370 mA,	13 Ω	PVK-. . .A
0 - 20 V	input signal max. 25 V,	0 - 92 mA,	218 Ω	PVK-. . .C
flange connection	for panel mounting			PVK-. . .F
FKM elastomer				PVK-. . .V
EPDM elastomer				PVK-. . .E

Accessories, enclosed

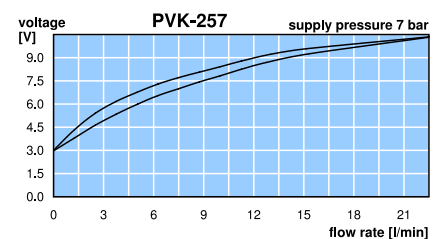
manifold block for valve with flange connection, for 2, 4 ... 12 valves



*1 at max. current consumption and max. operating pressure



cross section

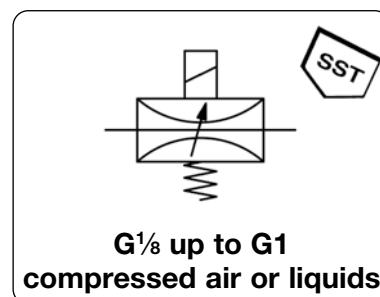


* Product group





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!

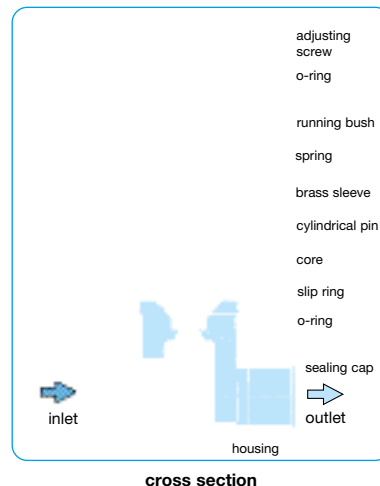


General technical features

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 media -10 °C to 55 °C / 14 °F to 131 °F for electronics		
Material	Body: brass Elastomer: FKM	Inner valve: brass and stainless steel Control housing: plastic	

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 $\Delta p = 1$ bar



Electrical features

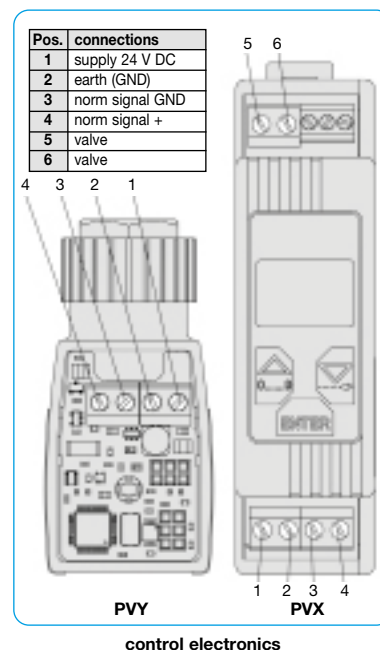
Supply voltage	24 V DC ± 10%, residual ripple max. 5%, with reverse voltage protection							
Power consumption	electronic	PV21	PV21	PV22	PV34	PV40-04	PV40-06	PV40-08
	1 W	2 W to DN 0.6	5 W from DN 0.8 on	9 W	16 W	8 W	10 W	15 W
Command signal	0-5 V, 0-10 V, 0-20 mA or 4-20 mA selectable							
Impedance	> 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							

Accuracy

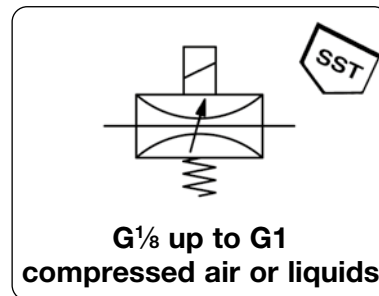
Linearity	< 10 % FS		
Hysteresis	< 5 % FS		
Response sensitivity	< 0.1% FS at DN < 0,8 mm,	< 0.25% FS at DN $\geq$ 0,8 mm,	< 1% FS at PV40
Repeatability	< 0.25% FS	at PV22 < 0.5% FS	
Regulating time	PV21: < 15 ms,	PV22: < 20 ms,	PV34: < 50 ms, PV40: < 200 ms each for 90% of the range

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.

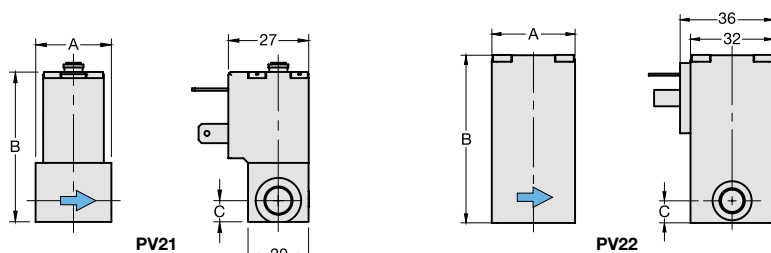


Technical features	
• Media	compressed air, non-corrosive gases or liquids, except for PV40*3
• Signal range	0-5 V, 0-10 V, 0-20 mA, 4-20 mA
• Pressure range	vacuum ... 2 / 16 bar
• Orifice	DN 0.1 ... DN 20
• Flow rate	max. 1185 l/min for air, max. 90 l/min for water
• Adjustment	zero point, range and 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 < 0.25% FS, < 0.5% FS at PV22
• Repeatability	
• Regulating time	depending on type: < 15 ms, < 20 ms, < 50 ms or < 200 ms
• Protection class	IP65 with plug
• Impedance	> 20 kΩ at V _i , < 200 Ω at mA



Dimensions			Nominal K _v -		Flow rate		Operating		Differ.-Connection		Order	
A	B	C	size	value	water	air	pressure	press.	thread	number		
mm	mm	mm	DN	(m³/h)	l/min*1	l/min*2	max. bar	max. bar	G			

Proportional flow valve									without electronics, brass, FKM, for compressed air, vacuum or liquids			PV
25	50	7	0.1	0.00025	0...	0.004	0...	0.27	10	10	G ¹ / ₈	PV21-01
25	50	7	0.2	0.001	0...	0.017	0...	1.0	10	10	G ¹ / ₈	PV21-02
25	50	7	0.3	0.002	0...	0.033	0...	2.2	10	10	G ¹ / ₈	PV21-03
25	50	7	0.4	0.004	0...	0.067	0...	4.0	8	8	G ¹ / ₈	PV21-04
25	50	7	0.6	0.010	0...	0.167	0...	11	6	6	G ¹ / ₈	PV21-06
25	50	7	0.8	0.018	0...	0.3	0...	19	12	6	G ¹ / ₈	PV21-08
25	50	7	0.8	0.018	0...	0.3	0...	19	12	12	G ¹ / ₈	PV21-08B
25	50	7	1.0	0.027	0...	0.3	0...	19	10	5	G ¹ / ₈	PV21-10
25	50	7	1.0	0.027	0...	0.3	0...	19	10	10	G ¹ / ₈	PV21-10B
25	50	7	1.2	0.038	0...	0.633	0...	41	8	4	G ¹ / ₈	PV21-12
25	50	7	1.2	0.038	0...	0.633	0...	41	8	8	G ¹ / ₈	PV21-12B
25	50	7	1.6	0.055	0...	0.917	0...	59	6	3	G ¹ / ₈	PV21-16
25	50	7	1.6	0.055	0...	0.917	0...	59	6	6	G ¹ / ₈	PV21-16B
25	50	7	2.0	0.090	0...	1.5	0...	97	3	1.5	G ¹ / ₈	PV21-20
25	50	7	2.0	0.090	0...	1.5	0...	97	3	3	G ¹ / ₈	PV21-20B
32	66	8.5	0.8	0.018	0...	0.3	0...	19	16	8	G ¹ / ₈	PV22-08
32	66	8.5	0.8	0.018	0...	0.3	0...	19	16	16	G ¹ / ₈	PV22-08B
32	66	8.5	1.0	0.027	0...	1.0	0...	65	14	7	G ¹ / ₈	PV22-10
32	66	8.5	1.0	0.027	0...	1.0	0...	65	14	14	G ¹ / ₈	PV22-10B
32	66	8.5	1.2	0.040	0...	0.67	0...	43	12	6	G ¹ / ₈	PV22-12
32	66	8.5	1.2	0.040	0...	0.67	0...	43	12	12	G ¹ / ₈	PV22-12B
32	66	8.5	1.5	0.060	0...	1.0	0...	65	10	5	G ¹ / ₈	PV22-15
32	66	8.5	1.5	0.060	0...	1.0	0...	65	10	10	G ¹ / ₈	PV22-15B
46	72	8.5	2.0	0.10	0...	1.66	0...	108	8	4	G ¹ / ₄	PV22-20
46	72	8.5	2.0	0.10	0...	1.66	0...	108	8	8	G ¹ / ₄	PV22-20B
46	72	8.5	2.5	0.15	0...	2.5	0...	162	5	2.5	G ¹ / ₄	PV22-25
46	72	8.5	2.5	0.15	0...	2.5	0...	162	5	5	G ¹ / ₄	PV22-25B
46	72	8.5	3.0	0.22	0...	3.67	0...	237	3.5	1.8	G ¹ / ₄	PV22-30
46	72	8.5	3.0	0.22	0...	3.67	0...	237	3.5	3.5	G ¹ / ₄	PV22-30B
46	72	8.5	4.0	0.32	0...	5.33	0...	345	2	1	G ¹ / ₄	PV22-40
46	72	8.5	4.0	0.32	0...	5.33	0...	345	2	2	G ¹ / ₄	PV22-40B



*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 as it is pilot operated

* Product group

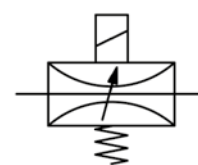
Technische Daten: siehe vorherige Seite

PDF CAD
www.aircom.net



Order example:
PV21-01

- Media - Signal range - Pressure range - Orifice - Flow rate - Adjustment - Zero switch-off	Technical features compressed air, non-corrosive gases or liquids, except for PV40*3		Linearity		< 10% FS
	0-5 V, 0-10 V, 0-20 mA, 4-20 mA		Hysteresis		< 5% FS
	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 < 0.25% FS, < 0.5% FS at PV22
	DN 0.1 ... DN 20		Repeatability		< 0.25% FS, < 0.5% FS at PV22
	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
	zero point, range and ramp		Protection class		IP65 with plug
ensures reliable closure of the valve		Impedance		> 20 kΩ at V, < 200 Ω at mA	



G¹/₈ up to G1
compressed air or liquids

Dimensions			Nominal K _v -		Flow rate		Operating		Differ.-Connection		Order	
A	B	C	size	value	water	air	pressure	press.	thread	G	number	
mm	mm	mm	DN	(m³/h)	l/min*1	l/min*2	max. bar	max. bar				E*

Proportional flow valve

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

PV

55	105	11	4.0	0.45	0... 7.5	0... 485	8	4	G ³ / ₈		PV34-40
55	105	11	4.0	0.45	0... 7.5	0... 485	8	8	G ³ / ₈		PV34-40B
55	105	11	6.0	0.80	0... 13.3	0... 860	4	2	G ¹ / ₂		PV34-60
55	105	11	6.0	0.80	0... 13.3	0... 860	4	4	G ¹ / ₂		PV34-60B
55	105	11	8.0	1.10	0... 18.3	0... 1185	2	1	G ¹ / ₂		PV34-80
55	105	11	8.0	1.10	0... 18.3	0... 1185	2	2	G ¹ / ₂		PV34-80B
50	89	12	10	1.4	0... 25.0*3	-	10		G ¹ / ₂		PV40-04
58	110	14	13	2.5	0... 45.0*3	-	10		G ³ / ₄		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

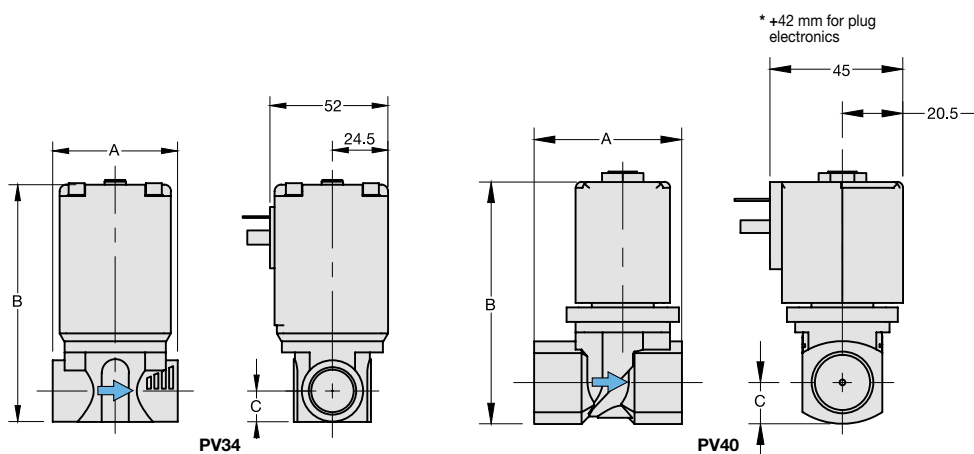
Accessories, enclosed

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



*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 as it is pilot operated

Technical informations: see previous page

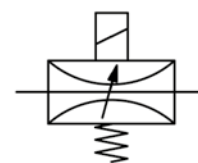
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* Product group



Order example:
PV34-40

Description	The proportional flow valve can be controlled either by 24 V DC or optionally by a plug amplifier with switchable signals.		
Media	50 µm filtered compressed air, vacuum, non-corrosive gases or liquids		
Plug amplifier	Conversion of the analogue signal into a pulse-wide modulated current.		
	Supply voltage: 24 V DC, max. 1.1 A	Adjustment:	zero point and range
	Switchable signal: 0...10 V, 0...20 mA, 4...20 mA	Time ramp:	0.1 to 3 s selectable
	Close function: < 2% of max. signal	Hum frequency:	40 to 700 Hz selectable
Electrical connector	plug, 3-pin, with coupling socket (Pg 9P or PG 11P)	Operating pressure	see chart, max. 12 bar
Protection class	IP 65 with coupling socket	Mounting position	any
Temperature range	-10 °C to 90 °C / 14 °F to 194 °F		
Viscosity max.	-	PV202, G$\frac{1}{4}$ / G$\frac{3}{8}$	PV203, G$\frac{3}{8}$ / G$\frac{1}{2}$
Power consumption	100...450 mA, 8.6 W	21 mm ² /s	40 mm ² /s
Hysteresis / Sensitivity	< 5% FS / < 1% FS	100...500 mA, 11 W	100...500 mA, 11 W
Repeatability	< 1% FS	< 5% FS / < 2% FS	< 7.5% FS / < 2% FS
Body / Inner valve	brass/SST, PTFE, FKM	< 3% FS	< 3% FS
		brass/SST, PTFE, FKM	brass/SST, PTFE, NBR/Buna-N



SST

DN 1.2 up to DN 12.5
compressed air or liquids

Dimensions	Media	Nominal	K _v -	Flow	Supply	Connection	Order
A B C	A: air W: water	size DN	value (m ³ /h)	rate l/min*1	max. bar	thread G	number
mm mm mm							



Proportional flow valve

24 V DC, direct control, without amplifier,
with coupling socket, made of brass

PV202 / PV203

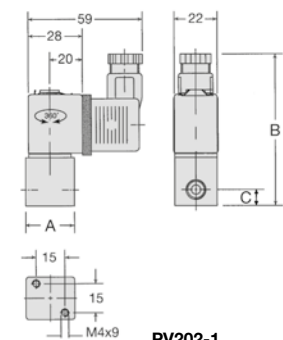
25	78	8	A	1.2	0.05	0... 70	8.0	G $\frac{1}{8}$	PV202-1-12
				1.6	0.07	0...110	6.0		PV202-1-16
				2.4	0.13	0... 70	4.0		PV202-1-24
				3.2	0.18	0...105	2.5		PV202-1-32
40	95	20	A/W*3	1.2	0.05	0... 60	16	G $\frac{1}{4}$	PV202-2-12
				2.4	0.12	0...110	8.0		PV202-2-24
				3.2	0.24	0...170	4.0		PV202-2-32
				4.0	0.42	0...280	2.5		PV202-2-40
				5.6	0.72	0...310	1.4		PV202-2-56
				7.1	0.90	0...390	1.0		PV202-2-71
48	97	14	A/W*3	3.2	0.24	0...190	4.0	G $\frac{3}{8}$	PV202-3-32
				4.0	0.42	0...300	2.5		PV202-3-40
				5.6	0.72	0...330	1.4		PV202-3-56
				7.1	0.90	0...420	1.0		PV202-3-71
52	105	14	W	12.5	2.10	0... 35*2	10	G $\frac{3}{8}$	PV203-3-125W
				12.5	2.10	0... 37*2	10	G $\frac{1}{2}$	PV203-4-125W

Special options, add the appropriate letter

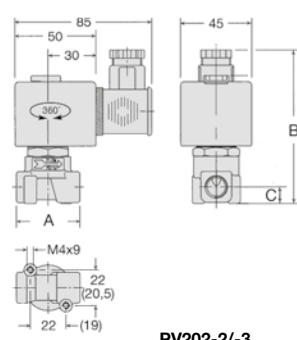
for water or oil		for PV202, G $\frac{1}{4}$ and G $\frac{3}{8}$	PV202-.-.W
stainless steel body	NPT connection thread, FKM elastomere	for PV202	PV202-.-.S
12 V DC	voltage signal		PV20-.-.-.12V

Accessories, enclosed

plug amplifier	24 V DC, switchable 0-10 V, 0-20 mA, 4-20 mA	for PV202, G $\frac{1}{8}$	PVY-03
		for all others	PVY-04
plug amplifier	12 V DC, switchable 0-10 V, 0-20 mA, 4-20 mA	für PV202, G $\frac{1}{8}$	PVY-08
		for all others	PVY-09



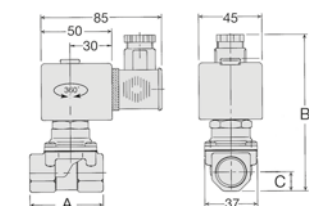
PV202-1



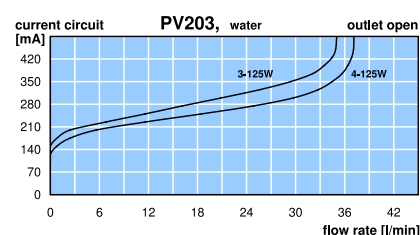
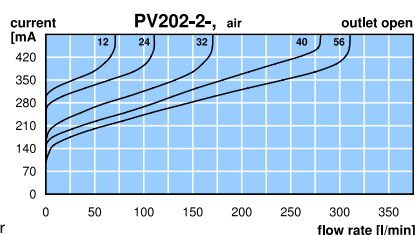
PV202-2/-3



cross-section



PV203-3/-4



*1 for compressed air at operating pressure 6 bar and $\Delta p = 1$ bar
*2 flow rate for water since valve is pilot-controlled
*3 for liquids add W to order number of type PV202-2/-3

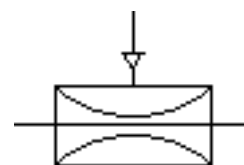
* Product group

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Order example:
PV202-1-12

Description	The 2-port/2-way valve functions as a pinch valve in a new design of housing with full flow cross-section. Since the straight valve passage has neither constrictions nor back-points, there is no danger of clogging or blockage. Frictional loss is at a minimum.		
Media	Compressed air, non-corrosive gases, liquids or other paste-like or powdery media. Solids are enclosed by the flexible sleeve at shut-off.		
Sleeve	Highly flexible with double-woven reinforcement in eight different grades. Sleeve simple to change.		
Pressures	Operating pressure: max. 4.0 bar Pilot pressure: max. 6.5 Differential pressure: max. 2.5 bar Closing pressure: $P_1 + 2.5$ bar to DN32, $P_1 + 2$ bar from DN40 on		
Vacuum	If vacuum is greater than -100 mbar, vacuum compensation should be provided on the control side.		
Mounting position	any		
Temperature range	0 °C to max. 100 °C / 32 °F to max. 212 °F, subject to sleeve material		
Material	Body: POM at model QP or aluminium die-cast at model QS Sleeve: depending on selected version		



DN10 up to DN150

Prop.-V.



11

Dimensions	Nominal size	Volume of control chamber	Pilot port	Operating pressure	Connection thread	Order number	
A	Ø	DN	I	G	max. bar	G / flange	
mm	mm						



Flow control valve

operating pressure max. 4 bar,
pilot pressure max. 2.5 bar above operating pressure

Q

80	44	10	0.03	G $\frac{1}{4}$	4	G $\frac{3}{8}$	QP10 -03NR
95	50	15	0.04	G $\frac{1}{4}$	4	G $\frac{1}{2}$	QP15 -04NR
110	58	20	0.05	G $\frac{1}{4}$	4	G $\frac{3}{4}$	QP20 -06NR
125	65	25	0.07	G $\frac{1}{4}$	4	G1	QP25 -08NR
140	83	32	0.10	G $\frac{1}{4}$	4	G1 $\frac{1}{4}$	QP32 -10NR
150	95	40	0.13	G $\frac{1}{4}$	4	G1 $\frac{1}{2}$	QP40 -12NR
200	100	50	0.23	G $\frac{1}{4}$	4	G2	QS50 -16NR
240	134	65	0.49	G $\frac{1}{4}$	4	G2 $\frac{1}{2}$	QS65 -20NR
290	154	80	0.95	G $\frac{1}{4}$	4	G3	QS80 -24NR
280	220	100	1.80	G $\frac{3}{8}$	4	flange	QS100-FLNR
350	250	125	3.30	G $\frac{3}{8}$	4	flange	QS125-FLNR
420	285	150	6.40	G $\frac{3}{8}$	4	flange	QS150-FLNR

QP made of POM, DN10 - DN25

QP made of POM, DN32 - DN40



QS50 made of aluminium with POM thread



QS100 made of aluminium die-cast

Special options, add the appropriate letter

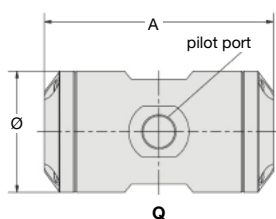
flange connection	according to DIN 2532, PN10	from G1 $\frac{1}{4}$ on	Q ... -FL ...
sleeve NR	natural rubber, black	80 °C / 176 °F	Q ... - ... NR
sleeve NRL	rubber, suitable for food, black	70 °C / 158 °F	Q ... - ... NL
sleeve NRLH	rubber, suitable for food, light	70 °C / 158 °F	Q ... - ... NH
sleeve NBR	nitrile rubber / Buna-N, suitable for food	80 °C / 176 °F	Q ... - ... NB
sleeve EPDM	ethylene-propylene rubber, suitable for food, black	100 °C / 212 °F	Q ... - ... EP
sleeve FKM	fluorine rubber, black	100 °C / 212 °F	Q ... - ... FK
sleeve CR	chloroprene rubber / neoprene, black	80 °C / 176 °F	Q ... - ... CR
sleeve CSM	natural rubber, chlorosulphonylpolyethylene	80 °C / 176 °F	Q ... - ... CS



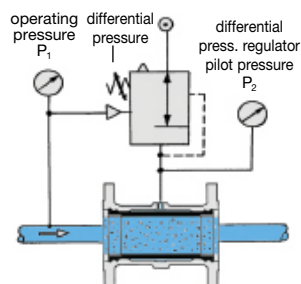
closing sequence



solenoid valve control



Q



constant cross section at changing pressure

signal ↓



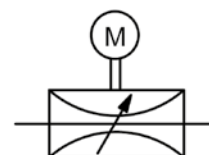
cross section



Prop.-V.

11

Description	Motorised proportional flow valve with low power consumption and resistance to contamination. Throttle setting by wear-resistant control drives made of oxide ceramic. Throttling occurs with drip-tight zero shut-off but no gas tightness.	
Media	compressed air, vacuum or liquids up to viscosity of 40 mm ² /s	Hysteresis ± 4%
Operation	DC, synchronous or stepping motor with standard voltage of 24 V DC or AC 10% residual ripple. All motors fulfil standards EN 61000-6-3, EN 61000-6 and 2014/30/EU.	
DC motor (15 / 24)	Motor with feedback potentiometer for servo-amplifier. Resistor 1kΩ ± 20 %, control e.g. by servo-amplifier. Only part of potentiometer range is used. Voltage for potentiometer: 12 V, max. 10 mA.	
DC motor (50 / 51)	With integrated position controller. Setpoint input using jumpers: 0...10 V, 0/4...20 mA. Input resistance: 200 kΩ at voltage signal, 500 Ω at current signal.	
Stepper motor (38)	Bipolar, by means of SAA1042A (Motorola) with drop resistance of 44 Ω per phase at a driver (full-step) operating voltage of 24 V ± 5%. 2028 steps for 90° control disc turn, 200 Hz nominal step frequency.	
Temperature range	-10 °C to 90 °C / 14 °F to 194 °F	
Material	Body: brass Elastomer: NBR/Buna-N, optionally FKM or EPDM	Protection class IP 54 Control discs: oxide ceramic Mounting position: vertical upwards ± 60 °C



G¹/₂ up to G1
compressed air or liquids

Dimensions			Nominal size	K _v -value	Flow rate		Supply max.	Connection thread	Order number
A	B	C	DN	(m ³ /h)	water l/min*1	air l/min*1	bar	G	
mm	mm	mm							

Proportional flow valve					DC motor type 50, with potentiometer, 120 Ncm, 24 V DC, switching time 5 s*2			P8	
65	147	13	15	1.1	0...20	0...1000	16	G ¹ / ₂	P822-50
65	147	13	20	3.4	0...60	0...3000	6	G ¹ / ₂	P82A-50
95	164	24	20	4.4	0...70	0...3500	6	G ³ / ₄	P823-50
95	164	24	20	4.4	0...70	0...3500	6	G1	P824-50

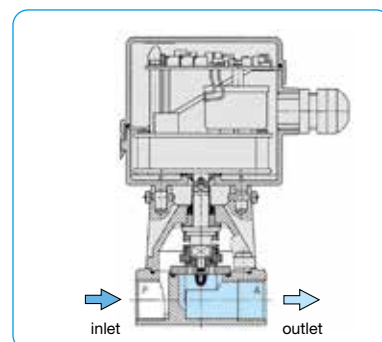
Special options, add the appropriate letter

cartridge installation instead of thread for DN 15 P825-..

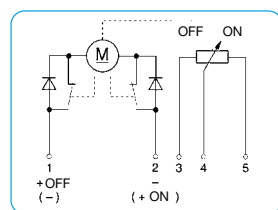


P8

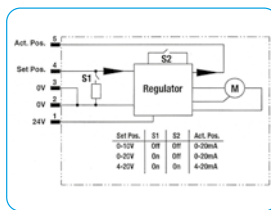
Description	Figure-No.	Watt	Δp max./Torque	Switching time*2
DC motor w/ potentiometer, 120 Ncm	①	1,5 W	10 bar/120 Ncm f. G ¹ / ₂	10-14 s
DC motor w/ potentiometer, 120 Ncm	①	1,5 W	6 bar/120 Ncm f. G ³ / ₄ , G1	10-14 s
DC motor w/ controllerr	②	3,8 W	16 bar/220 Ncm f. G ¹ / ₂	10-11 s
AC motor 50 Hz	③	3,0 W	6 bar/120 Ncm f. G ³ / ₄ , G1	10 s
stepper motor	④	5,0 W	6 bar/120 Ncm f. G ³ / ₄ , G1	10 s
FKM elastomer				P82...V
EPDM elastomer				P82...E
free of grease and oil				P82...L
			specifically cleaned, suitable for oxygen	



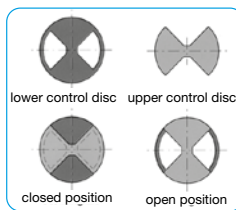
cross-section



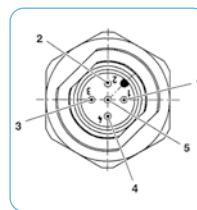
① DC motor w/ potentiometer 15



② with position controller 51



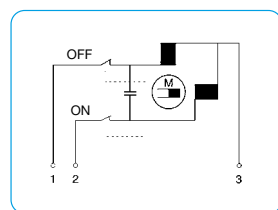
control disc



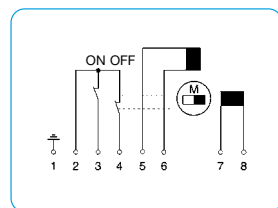
pin configuration 50

PIN	Description
Pin 1	supply voltage 24 Volt
Pin 2	supply voltage 0 Volt
Pin 3	ground potential for set value input and feedback outlet
Pin 4	set value input 0 - 10 V / 0 (4) - 20 mA
Pin 5	feedback outlet 0 (4) - 20 mA

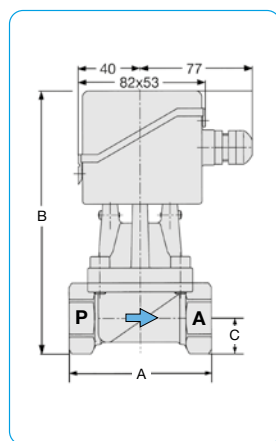
connection diagram



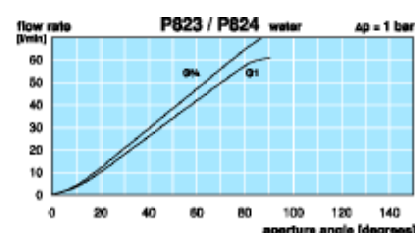
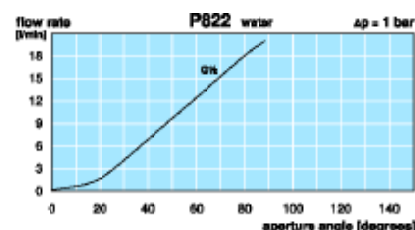
③ synchronous motor 36



④ stepper motor 38



P8



* Product group

*1 at 6 bar supply pressure and Δp = 1 bar

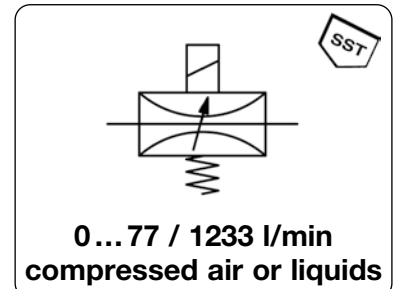
*2 subject to supply pressure

PDF CAD
www.aircom.net



Order example:
P822-50

Description	Compact positioner with analogue control. Compressed air for remote control necessary. The stroke is made proportional to the flow through the parabolic contour of the piston. The valve shuts tight and is of anti-water hammer design.		
Media	compressed air, vacuum up to 10 ⁻² mbar or liquids up to viscosity of max. 600 cSt (mm ² /s)		
Control	pneumatic: lubricated, unlubricated and 50 µm filtered compressed air, 4...8 bar, port G ³ / ₈ electrical: 0-10 V, optionally 4-20 mA, supply 24 V DC ± 10%, power consumption 150 mA/3.6 W analog position feedback signal 0-10 V / 4-20 mA (after automatic balance)		
Control element	2-port/2-way valve, NC (normally closed) as standard, as option 3-port/2-way valve for mixing different media, with standard piston cable gland, optionally M12		
Electrical connection	any		
Mounting position	any		
Linearity / Hysteresis	< 2% FS		
Failsafe	valve closes (NC) in the event of voltage failure, optionally outlet fail freeze feature		
Temperature range	Ambient: 0 °C to 50 °C / 32 °F to 122 °F Medium: -10 °C to 180 °C / 14 °F to 356 °F		
Material	Control valve body: bronze, optionally SST 316L Proportional valve body: aluminium, PA and FV		
	Protection Class	IP 66	
	Repeatability	< 1.0% FS	
		Cone seal: PTFE	



Dimensions			Nominal	K _v -	Supply	Flow rate		Connection	Order
A	B	Ø*1	size	value	max.	water	air	thread	number
mm	mm	mm	DN	(m ³ /h)	bar	l/min	l/min	G	

Volumenstromregler						2/2-Wege, NC, Bronze, Steuerdruck 4...8 bar, für Luft oder Wasser, 0-10 V DC, 24 V DC, failsafe				PVE
65	155	63	15	4.6	10	0 ...	14	5 000	G ¹ / ₂	PVE1-04B
75	185	63	20	7.1	16	0 ...	118	7 700	G ³ / ₄	PVE1-06C
90	209	90	25	15	16	0 ...	250	16 250	G1	PVE1-08D
110	246	90	32	21	12	0 ...	350	22 750	G1 ¹ / ₄	PVE1-10D
110	298	125	32	22	16	0 ...	367	23 800	G1 ¹ / ₄	PVE1-10E
120	245	63	40	29	4	0 ...	483	31 400	G1 ¹ / ₂	PVE1-12C
120	262	90	40	29	8	0 ...	483	31 400	G1 ¹ / ₂	PVE1-12D
120	314	125	40	44	16	0 ...	733	47 600	G1 ¹ / ₂	PVE1-12E
150	259	63	50	40	2	0 ...	667	43 300	G2	PVE1-16C
150	276	90	50	40	6	0 ...	667	43 300	G2	PVE1-16D
150	328	125	50	66	10	0 ...	1 100	71 500	G2	PVE1-16E
190	300	90	65	68	2	0 ...	1 133	73 600	G2 ¹ / ₂	PVE1-20D
190	352	125	65	74	6	0 ...	1 233	80 000	G2 ¹ / ₂	PVE1-20E

Special options, add the appropriate letter

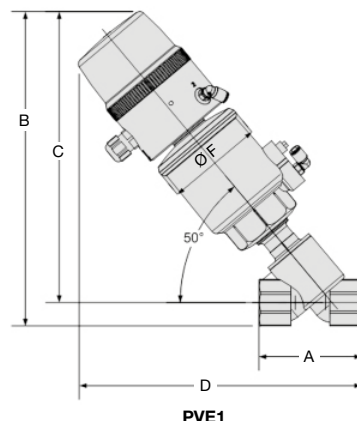
fail freeze	if supply voltage fails, outlet pressure will be frozen	PVE... .3
SST body	stainless steel 316L, material no. 1.4401	PVE... .S
4-20 mA	input signal	PVE... .I
for oxygen *2	specially cleaned, with oxygen grease, for G ¹ / ₂ to G2	PVE... .15
cascade control	double loop, 0-10 V	PVE... .KU
	double loop, 4-20 mA	PVE... .KI
	double loop, frequency input	PVE... .KF
electr. connection M12	with coupling socket	PVE... .M12

PVE with regulator control	
1	24 V DC supply voltage
2	GND (earth) supply
3	+ setpoint (0-10 V / 4-20 mA)
4	GND (earth) setpoint
5	
6	position feedback
7	+24 V DC ON/OFF output signal

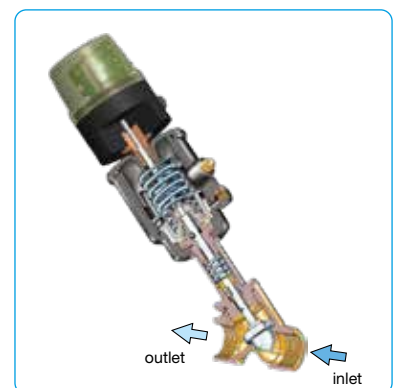
PVE with cascade control	
1	24 V DC supply voltage
2	GND (earth) supply
3	+ setpoint (0-10 V / 4-20 mA)
4	GND (earth) setpoint
5	external signal input
6	
7	+24 V DC ON/OFF output signal

connecting plan

Øhead*1	thread.	C	D	ØF
63 mm	1/2	169	170	85
	3/4	170	175	85
	1	172	179	85
	1 1/4	204	217	85
	1 1/2	215	224	85
	2	224	249	85
90 mm	1	189	197	118
	1 1/4	221	236	118
	1 1/2	232	243	118
	2	241	267	118
	2 1/2	257	299	118
125 mm	1 1/4	273	284	156
	1 1/2	283,5	291	156
	2	293	315	156
	2 1/2	308	347	156



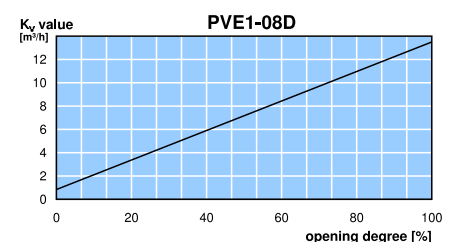
PVE1
with 2-port/2-way valve



cross section



parabolic piston enables stroke-proportional K_v value change



*1 Ø of pilot head
*2 max. 15 bar operating pressure and 60 °C / 140 °F media temperature

* Product group

