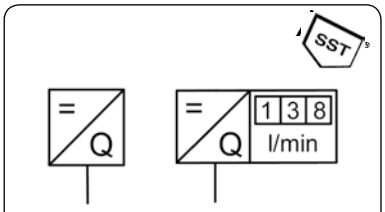
Technical features

Benefits:

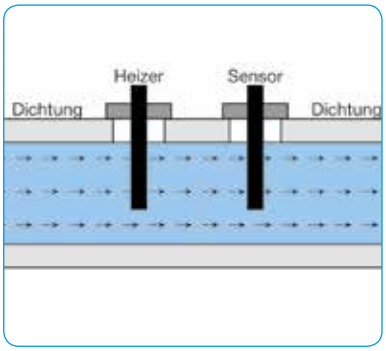
- suitable for nearly all gases and gas mixtures
- no moving parts
- short response time
- unaffected of mounting position
- optionally with unit counter and / or flow meter
- maintenance-free
- low pressure drop



5 ... 100 ml/min / 6000 l/min compressed air or gases

General technical features

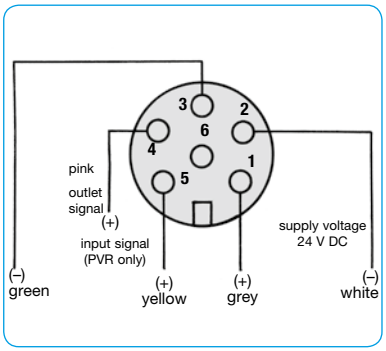
Mounting position	any
Protection class	IP 40
Temperature range	0 °C to 50 °C / 32 °F to 122 °F
Material	Body: aluminium, optionally stainless steel 316L Elastomer: FKM, optionally EPDM or Kalrez Sensor: stainless steel 316L Filter/strainer: stainless steel



functional principle

Pneumatic features

Media	compressed air as well as virtually all gases and mixtures of gases
Operating pressure	max. 10 bar
Differential pressure	max. 5 bar
Mass flow rate	0 ... 100 ml/min / 2000 l/min, for PVR 0 ... 100 ml/min / 6000 l/min, for PVM



PVM and PVR connecting plan

Electrical features

Supply voltage	24 V DC + 10%
Current consumption	max. 75 mA for PVM 11, all other devices max. 250 mA
Signal ranges	4-20 mA, optionally 0 ... 5 V DC
Impedance	> 10 kΩ at voltage signal, < 375 Ω at current signal
Connection	round connector M16x1, 6-pin
EMC	according to CE
Note	at < 100 mbar inlet path is required (PVM only)

Accuracy

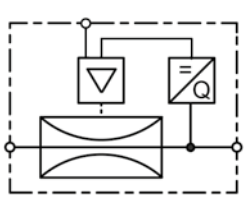
Linearity / Hysteresis	> ± 3 % FS
Repeatability	> ± 0.5% FS
Pressure sensitivity	> ± 0.3% FS / bar typ. (air)
Temperature sensitivity	< ± 0.3% / °C (air)
Mounting sensitivity	< 0.3% FS at 90°
Operating time	25 s at 100% of the range
Tightness	< 2 x 10^{-8} mbar l/s He

model / gas	PVM23 - PVM27	PVM11
air	1.00	1.00
argon	2.01	1.40
CO_2	1.20	0.74
helium	/	1.41
hydrogen	/	1.01
NH_3	0.80	0.77
N_2O_2	1.00	1.00
C_2H_2	0.75	0.61
C_3H_6	/	0.34
C_3H_8	0.63	0.34
CH_4	0.67	0.76
CO	1.04	1.00
C_2H_4	0.89	0.60
NO	1.02	0.97
HCL	1.58	0.99

conversion factors for max. flow rate for other gases

PROPORTIONAL MASS FLOW CONTROLLER, BASED ON CTA PRINCIPLE PVR

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	PVR11/12/23: mass flow meter and meter in the same housing PVR 25: mass flow meter and meter together at the measuring bob PVR27: 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.** max. 5 bar
Material	Body: aluminium, optionally SST 316L Elastomer: FKM, optionally EPDM or Kalrez Sensor: stainless steel 316L Filter/strainer: stainless steel



5 … 100 ml/min / 6000 l/min compressed air or gases

Dimensions A mm	B mm	C mm	K_v-value (m^3/h)	Operating pressure max. bar	Connection thread G	Mass flow ml/min*1 / l/min*1	Order number
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	94.5	15	0.066	10	G¼	5 … 100 ml/min	**PVR11-12**
						10 … 200 ml/min	**PVR11-22**
						25 … 500 ml/min	**PVR11-52**
						50 … 1000 ml/min	**PVR11-13**
95	94.5	15	0.066	10	G¼	0.10 … 2 l/min	**PVR11-23**
						0.25 … 5 l/min	**PVR11-53**
						0.50 … 10 l/min	**PVR11-14**
95	97	15	0.066	10	G¼*2	0.50 … 10 l/min	**PVR12-14**
						1.00 … 20 l/min	**PVR12-24**
						2.50 … 50 l/min	**PVR12-54**
95	94.5	15	0.066	10	G¼	1 … 20 l/min	**PVR23-24**
						2 … 50 l/min	**PVR23-54**
					G½	5 … 100 l/min	**PVR23-15**
145	132	16	0.30	10	G½	5 … 100 l/min	**PVR25-15**
						10 … 200 l/min	**PVR25-25**
						20 … 400 l/min	**PVR25-45**
257	163	25	1.0	10	G½	25 … 400 l/min	**PVR27-45**
						50 … 1000 l/min	**PVR27-16**
						100 … 2000 l/min	**PVR27-26**

PVR23

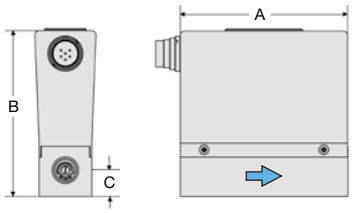
PVR25

Special options, add the appropriate letter oder number

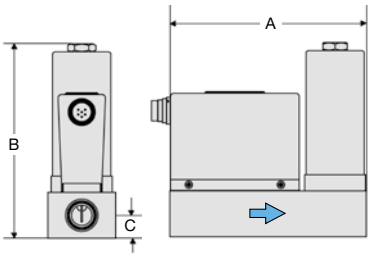
special calibration	range or gas to be indicated on order							PVR . . - . . **Y**
setpoint /monitor signal	0-5 V, load resistance > 10 kΩ							PVR . . - . . **U**
stainless steel body	316L							PVR . . - . . **S**
EPDM elastomer								PVR . . - . . **E**
Kalrez elastomer								PVR . . - . . **K**
free of oil and grease	for oxygen and different gases							PVR . . - . . **L**
potentiometer in cover	for flow regulation, height +40 mm							PVR . . - . . **X67**
carbon dioxide	CO_2:	**03**	**argon**	Ar:	**05**	**nitrogen**	N_2:	PVR . . - . . . **07**
helium	He:	**09**	**hydrogen**	H_2:	**11**	**methane**	CH_4:	PVR . . - . . . **13**
oxygen	O_2:	**15**	**propane**	C_3H_8:	**16**	**nitrous oxide**	N_2O:	PVR . . - . . . **17**

Accessories, enclosed

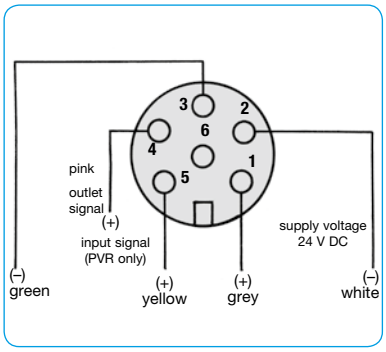
coupling socket	M16x1, 6-pin with 3 m Kabel	straight	**KM16-A6-3**
other cable length	5 m or 10 m available		



PVR11 … PVR23



PVR25 / PVR27



connecting plan

*1 valid for compressed air at Δp= 5 bar and open outlet. For other gases please apply conversion factor.
*2 connection thread G½ on the input side

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

PDF CAD
www.aircom.net

Order example: PVR11-12