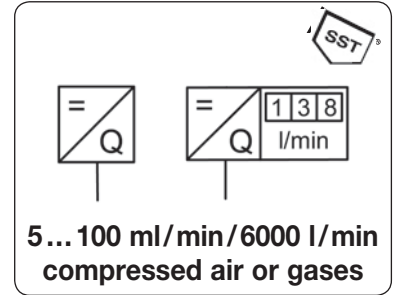


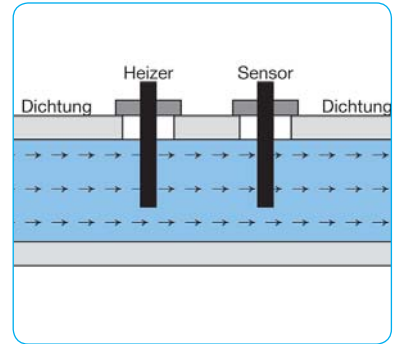
Technical features

- 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



General technical features

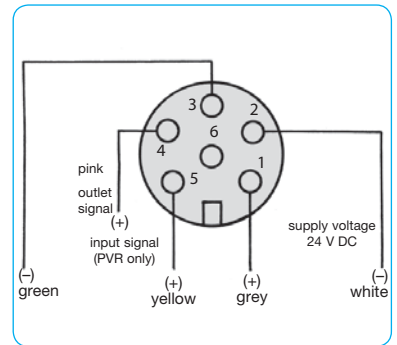
Mounting position	any
Protection class	IP 40
Temperature range	0 °C to 50 °C / 32 °F to 122 °F
Material	Body: aluminium, optionally stainless steel 316L Elastomer: FKM, optionally EPDM or Kalrez Sensor: stainless steel 316L Filter/strainer: stainless steel



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)

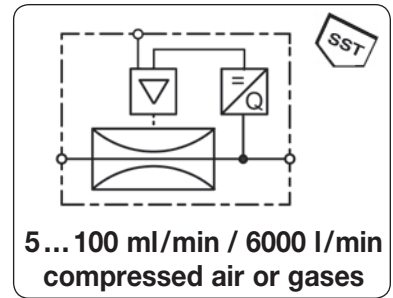
Accuracy

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	PVM23 - PVM27	PVM11
gas		
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 ₂ O ₂	1.00	1.00
C ₂ H ₂	0.75	0.61
C ₃ H ₆	/	0.34
C ₃ H ₈	0.63	0.34
CH ₄	0.67	0.76
CO	1.04	1.00
C ₂ H ₄	0.89	0.60
NO	1.02	0.97
HCL	1.58	0.99

conversion factors for max. flow rate for other gases

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				
Material	Body: aluminium, optionally SST 316L	Sensor: stainless steel 316L	Elastomer: FKM, optionally EPDM or Kalrez	Filter/strainer: stainless steel	Operating press. max. 10 bar Differential press. max. 5 bar



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

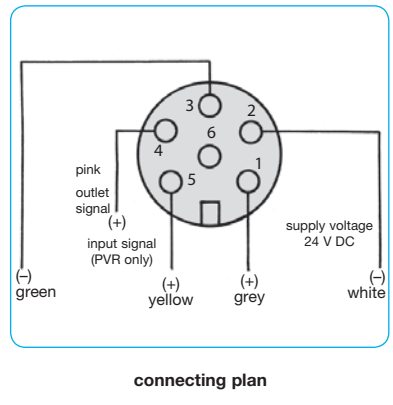
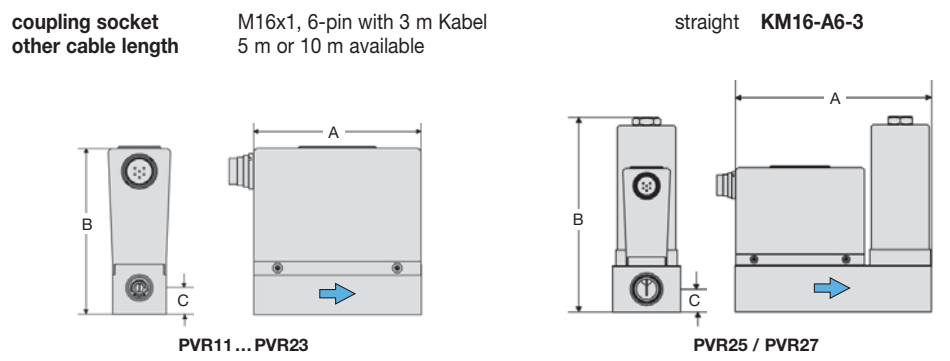
Mass flow regulator							4-20 mA input and output signal, supply voltage 24 V DC, w/o display, with coupling socket, for compressed air	PVR*3
95	94.5	15	0.066	10	G¼	5 ... 100 ml/min 10 ... 200 ml/min 25 ... 500 ml/min 50 ... 1000 ml/min	PVR11-12 PVR11-22 PVR11-52 PVR11-13	
95	94.5	15	0.066	10	G¼	0.10 ... 2 l/min 0.25 ... 5 l/min 0.50 ... 10 l/min	PVR11-23 PVR11-53 PVR11-14	
95	97	15	0.066	10	G¼*2	0.50 ... 10 l/min 1.00 ... 20 l/min 2.50 ... 50 l/min	PVR12-14 PVR12-24 PVR12-54	
95	94.5	15	0.066	10	G¼	1 ... 20 l/min 2 ... 50 l/min 5 ... 100 l/min	PVR23-24 PVR23-54 PVR23-15	
145	132	16	0.30	10	G½	5 ... 100 l/min 10 ... 200 l/min 20 ... 400 l/min	PVR25-15 PVR25-25 PVR25-45	
257	163	25	1.0	10	G½	25 ... 400 l/min 50 ... 1000 l/min 100 ... 2000 l/min	PVR27-45 PVR27-16 PVR27-26	



Special options, add the appropriate letter order 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	for PVR11 to PVR25-25	PVR S
	for PVR25-45 to PVR27	PVR S
EPDM elastomer		PVR E
Kalrez elastomer		PVR K
LCD display	for flow, 3½-digit	PVR M
free of oil and grease		PVR L
potentiometer in cover	for oxygen and different gases	PVR X67
carbon dioxide CO₂: 03	argon Ar: 05	nitrogen N₂: 07
helium He: 09	hydrogen H₂: 11	methane CH₄: 13
oxygen O₂: 15	propane C₃H₈: 16	nitrous oxide N₂O: 17

Accessories



*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