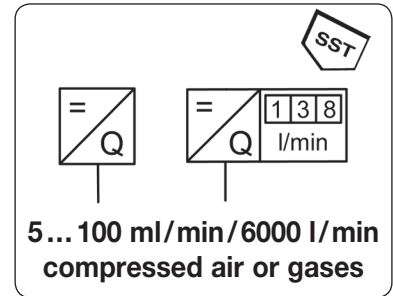


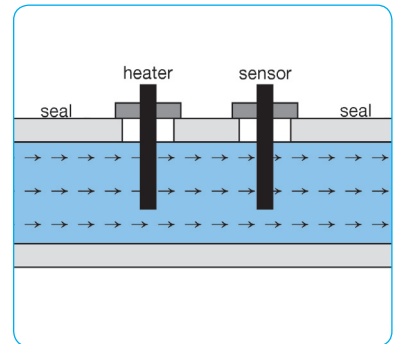
Technical features

- 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

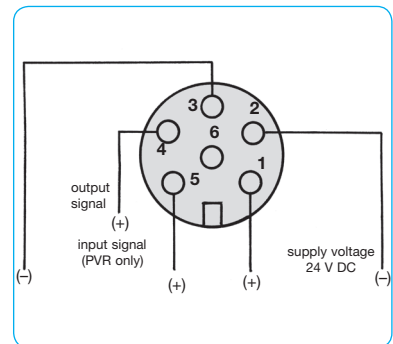
Mounting position	any
Protection class	IP 40
Temperature range	0 °C to 50 °C / 32 °F to 122 °F
Material	Body: aluminium, optionally stainless steel 316L Elastomer: FKM, optionally EPDM or Kalrez Sensor: stainless steel 316L Filter/strainer: stainless steel



functional principle

Pneumatic features

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



PVM and PVR connector

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 M12x1, 6-pin
EMC	according to CE
Note	at < 100 mbar inlet path is required (PVM only)

model	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 ₂ O ₂	1.00	1.00
C ₂ H ₂	0.75	0.61
C ₂ 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

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	< 2 s at 63% of the range
Tightness	< 2 x 10 ⁻⁸ mbar l/s He



Description Mass flow meter directly measuring flow according to constant temperature anemometer principle. PVM 11 measures via a bypass, the other types measure the flow directly.

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

Applications Gas consumption metering, exhaust gas metering, semiconductor industry, analytical instruments, N₂/O₂ generators, fuel cells, pharmaceutical, chemical, gas and food industries.

Conversion factors The flow meter is normally calibrated on air. For other gases, a conversion factor must be applied. The factor is determined by applying a complex formula. The value is given below.

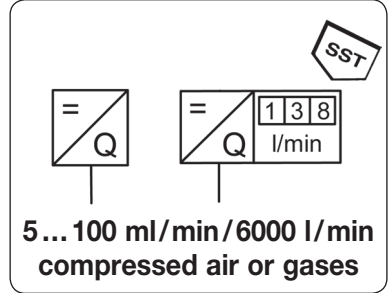
Temperature range 0 °C to 50 °C / 32 °F to 122 °F

Material Body: aluminium, optionally SST 316L
Sensor: stainless steel 316L

Operating pressure max. 10 bar

Elastomer: FKM, optionally EPDM or Kalrez

Filter/strainer: stainless steel



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

Dimension			Operating pressure max. bar	Connection thread G	Mass flow rate ml/min*1 / l/min*1	Order number
A	B	C				

Mass flow meter				4-20 mA outlet signal, supply voltage 24 V DC, w/o display, with coupling socket, for compressed air		PVM*2	
95	94.5	15	10	G1/4	5 ... 100 ml/min 10 ... 200 ml/min 25 ... 500 ml/min 50 ... 1000 ml/min	PVM11-12 PVM11-22 PVM11-52 PVM11-13	
95	94.5	15	10	G1/4	0.10 ... 2 l/min 0.25 ... 5 l/min 0.50 ... 10 l/min	PVM11-23 PVM11-53 PVM11-14	
95	94.5	15	10	G1/4	1 ... 20 l/min 2 ... 50 l/min 5 ... 100 l/min	PVM23-24 PVM23-54 PVM23-15	
95	98.5	15	10	G1/2	5 ... 100 l/min 10 ... 200 l/min 20 ... 400 l/min	PVM25-15 PVM25-25 PVM25-45	
116	123	25	10	G1/2	20 ... 400 l/min 50 ... 1000 l/min 100 ... 2000 l/min	PVM27-45 PVM27-16 PVM27-26	
130	143	35	10	G1	150 ... 2000 l/min 200 ... 4000 l/min 250 ... 5000 l/min	PVM28-26 PVM28-46 PVM28-56	
160	172	55	10	G1	250 ... 5000 l/min 300 ... 6000 l/min	PVM29-56 PVM29-66	



PVM23



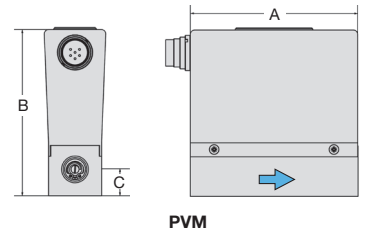
PVM27

Special options, add the appropriate letter

special calibration	range or gas to be indicated in clear text	PVM Y
setpoint/monitor signal	0-5 V, load resistance > 10 kΩ	PVM U
stainless steel body	316L	PVM S
		PVM S
EPDM elastomer		PVM E
Kalrez elastomer		PVM K
LCD display	black figures, 12 mm tall	PVM B
		PVM M
		PVM L
free of grease and oil	for oxygen or other gases	PVM 05
nitrogen	N ₂ : 07	PVM 13
helium	He: 09	PVM 17
oxygen	O ₂ : 15	
	carbon dioxide CO ₂ : 03	
	hydrogen H ₂ : 11	
	propane C ₃ H ₈ : 16	
	argon Ar:	
	methane CH ₄ :	
	nitrous oxide N ₂ O:	

Accessories, enclosed

coupling socket	M12x1, 6-pin with 3 m cable	straight	KM12-A6-3
other cable length	5 m or 10 m available		



PVM

*1 valid for air at Δp= 5 bar and open outlet, for other gases please apply conversion factor

*2 Note: indicate media, supply pressure and temperature range on order

PDF CAD
www.aircom.net

Order example:
PVM11-12

Description Direct measurement principle for thermal mass flow meter with sensor working according to constant temperature anemometer principle. Only PVR11 measures the flow directly.

Features Low pressure drop and immune to 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, nitrogen, argon and oxygen as standard; calibration is necessary for other gases.

Mechanical design PVR11/23: flow regulator and flow meter in the same housing
PVR25: flow regulator and flow meter on the same measurement body
PVR27: flow regulator and flow meter are individual components assembled jointly.

Conversion factors The flow meter is normally calibrated on air. For other gases, a conversion factor must be applied. This factor is determined by applying a complex formula. The value is given below.

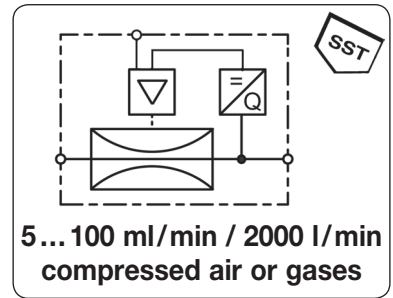
Temperature range 0 °C to 50 °C / 32 °F to 122 °F

Material Body: aluminium, optionally SST 316L
Sensor: stainless steel 316L

Operating pressure max. 10 bar

Elastomer: FKM, optionally EPDM or Kalrez

Filter/strainer: stainless steel



Prop.-V.
11

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

Mass flow regulator			4-20 mA inlet and outlet 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

special calibration range or gas to be indicated in clear text

setpoint/monitor signal 0-5 V, load resistance > 10 kΩ

stainless steel body 316L for PVR11 to PVR25-25
PVR25-45 to PVR27

EPDM elastomer

Kalrez elastomer

LCD display black figures, 12 mm tall for counter, 8-digit
for flow, 3½-digit

free of grease and oil for oxygen or other gases

potentiometer in cover for local mass flow regulation, height + 40 mm

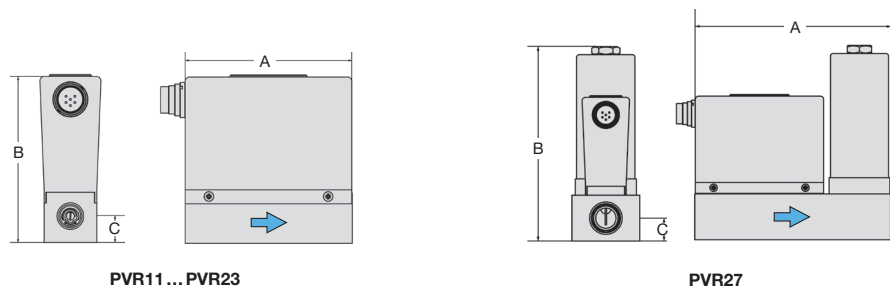
nitrogen	N ₂ : 07	carbon dioxide	CO ₂ : 03	argon	Ar:
helium	He: 09	hydrogen	H ₂ : 11	methane	CH ₄ :
oxygen	O ₂ : 15	propane	C ₃ H ₈ : 16	nitrous oxide	N ₂ O:

PVRY
PVRU
PVRS
PVRS
PVRE
PVRK
PVRB
PVRM
PVRL
PVRX67
PVR05
PVR13
PVR17

Zubehör, lose beigelegt

coupling socket M12x1, 6-pin with 3 m cable straight **KM12-A6-3**

other cable length 5 m or 10 m available



*1 valid for air at Δp= 5 bar and open outlet, for other gases please apply conversion factor
*2 G½ connection thread on inlet

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

PDF CAD
www.aircom.net

Order example:
PVR11-12