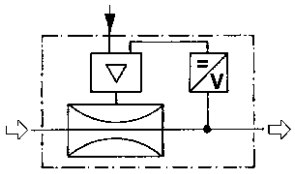
Proportional Flow Regulator for Gas based on CTA Principle PVR

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 a 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. For other gases, calibration is necessary.
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.
Materials	Sensor: stainless steel AISI 316 L Sieves / ring: stainless steel and Teflon Body: aluminium or AISI 316 L Elastomer: Viton or PTFE or EPDM
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.



5 ...100 ml/min / 2000 l/min for air or gases

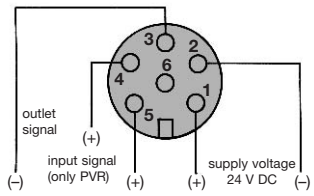
Dimensions H mm	B mm	T mm	K_V-value m³/h	Operating pressure max. bar*1	Connection thread G	Flow rate ml/min*1 or l/min*1	Order number
Flow regulator				inlet / outlet signal 4 ... 20 mA, supply voltage 24V DC,		without monitor without connector	**PVR**
92	35	95	0.066	10 bar	G 1/4	5... 100 ml/min	**PVR11 - 12**
						10... 200 ml/min	**PVR11 - 22**
						25... 500 ml/min	**PVR11 - 52**
						0.05... 1 l/min	**PVR11 - 13**
92	35	95	0.066	10 bar	G 1/4	0.10... 2 l/min	**PVR11 - 23**
						0.25... 5 l/min	**PVR11 - 53**
						0.50... 10 l/min	**PVR11 - 14**
96	35	95	0.066	10 bar	G 1/4*3	0.50... 10 l/min	**PVR12 - 14**
						1.00... 20 l/min	**PVR12 - 24**
						2.50... 50 l/min	**PVR12 - 54**
92	35	95	0.066	10 bar	G 1/4	1... 20 l/min	**PVR23 - 24**
						2... 50 l/min	**PVR23 - 54**
						5... 100 l/min	**PVR23 - 15**
132	50	145	0.30	10 bar	G 1/2	5... 100 l/min	**PVR25 - 15**
						10... 200 l/min	**PVR25 - 25**
						20... 400 l/min	**PVR25 - 45**
on request			1.00	10 bar	G 1/2	25... 500 l/min	**PVR27 - 55**
						50...1000 l/min	**PVR27 - 16**
						100...2000 l/min	**PVR27 - 26**

PVR25

PVR23

Special options add the appropriate letter

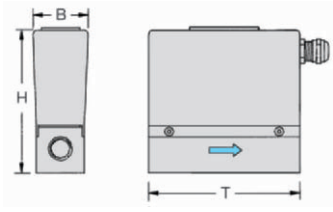
special calibration	indicate range and gases on order		**Y**	PVR . . - . .**Y**
0 - 5V outlet signal	load resistance > 10kΩ	0...5 V	**U**	PVR . . - . .**U**
stainless steel body	PVR27 : **S**	PVR11-25	**S**	PVR . . - . .**S**
elastomer	PTFE : **T**	EPDM	**E**	PVR . . - . .**E**
flow monitor LED*2	8-digit : **B**	3 1/2-digit	**M**	PVR . . - . .**M**
connector and cable	2 m : PRK-M**A2**, if longer indicate on order		**A2**	PVR . . - . .**A2**
potentiometer in cover	for flow regulation, housing height + 40 mm		**P**	PVR . . - . .**P**



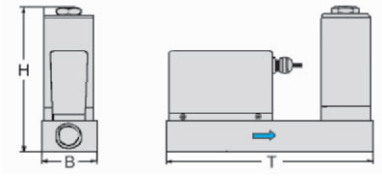
PVM and PVR connector

Technical specification

working principle	Two stainless steel probes - a heater and a temperature probe - protrude inside the bore. A constant difference in temperature is created.		
materials	Sensor: SST AISI 316L Sieves/ring: SST and teflon Housing: alu. or AISI 316L Elastomer: Viton or PTFE or EPDM		
temperature	0 to 50 °C / 32 to 120 °F	**operat. pressure**	max. 10 bar
protection class	IP50	**RFI**	according to CE
supply voltage	24V DC ± 10%	**leak rate**	< 2x10⁻⁹ mbar l/s He
current consumption	max. 75 mA at PVR11	max. 250 mA	on all others
input signal	4 ... 20 mA	option	0 ... 5 V
outlet signal	4 ... 20 mA	load resistance	< 375 Ω
outlet signal	0 ... 5 V	load resistance	> 10 kΩ
electr. connection	round connector M12x1	5-pole	
dynamics	time constant 0.7 s at	63% FS	
accuracy	2% FS linearity, hysteresis	3% FS after 30 s,	2% FS after 30 min
repeatability	0.5% FS	**pressure sensitivity**	0.2% FS / bar typ.
temp. sensitivity	0.3% FS / °C	**mount sensitivity**	0.1% FS typ.



PVR11/23



PVR27

*1 for air Δp > 2.5 bar. For other gases, calibration is necessary or calibration factor must be applied. *3 input thread G1/2
*2 8-digit: flow add up; 3 1/2-digit: flow

Note well: indicate media, supply and outlet pressure on order

Order example: PVR11 - 13