

PSG500/-S, PSG502-S, PSG510-S, PSG512-S

Pirani Standard Gauge

The INFICON Pirani Standard Gauges, PSG500, PSG502-S, PSG510-S and PSG512-S, employ the most advanced digital Pirani technology available in the marketplace. The rugged stainless steel sensor cell and compact design qualify them for use on semiconductor systems and for standard applications, such as fore vacuum lines.

ADVANTAGES

- Easy push button ATM and HV adjustment
- Space saving rugged design
- Aluminium housing
- Mounts in any orientation
- Stainless steel measuring cell with metal-sealed feedthrough
- Logarithmic signal output for easy integration
- 10 bar absolute overpressure with threaded connections
- 250 °C bakeable version
- Nickel filament option for corrosive applications
- Ceramic feedthrough for extremely corrosive applications (PSG510 & PSG512)
- Optional setpoints
- RoHS compliance

APPLICATIONS

- Controlling high vacuum ionization gauges
- Fore vacuum pressure monitoring
- Safety circuits in vacuum systems
- General vacuum measurement and control in the fine and rough vacuum range



ORDERING INFORMATION

Type Setpoints Filament	PSG500 none tungsten	PSG500-S two setpoints tungsten	PSG502-S two setpoints nickel	PSG510-S two setpoints tungsten	PSG512-S two setpoints nickel
DN 16 ISO-KF	350-060	350-080	350-140	350-200	350-300
DN 16 CF-R	350-062	350-082	350-142		
1/8" NPT	350-061	350-081	350-141		
8 VCR®	350-064	350-084	350-144		
4 VCR®	350-065	350-085	350-145		
1/2" tube	350-063	350-083	350-143		
7/16-20 UNF	350-066	350-086	350-146		
DN 16 ISO-KF long tube	350-067	350-087	350-147		
DN 16 CF-R long tube	350-068	350-088	350-148		
Replacement sensor Filament					
	tungsten		nickel	tungsten	nickel
DN 16 ISO-KF	350-920		350-900	350-930	350-940
DN 16 CF-R	350-922		350-902		
1/8" NPT	350-921		350-901		
8 VCR®	350-924		350-904		
4 VCR®	350-926		350-906		
1/2" tube	350-923		350-903		
7/16-20 UNF	350-925		350-905		
DN 16 ISO-KF long tube	350-927		350-907		
DN 16 CF-R long tube	350-928		350-908		

SPECIFICATIONS

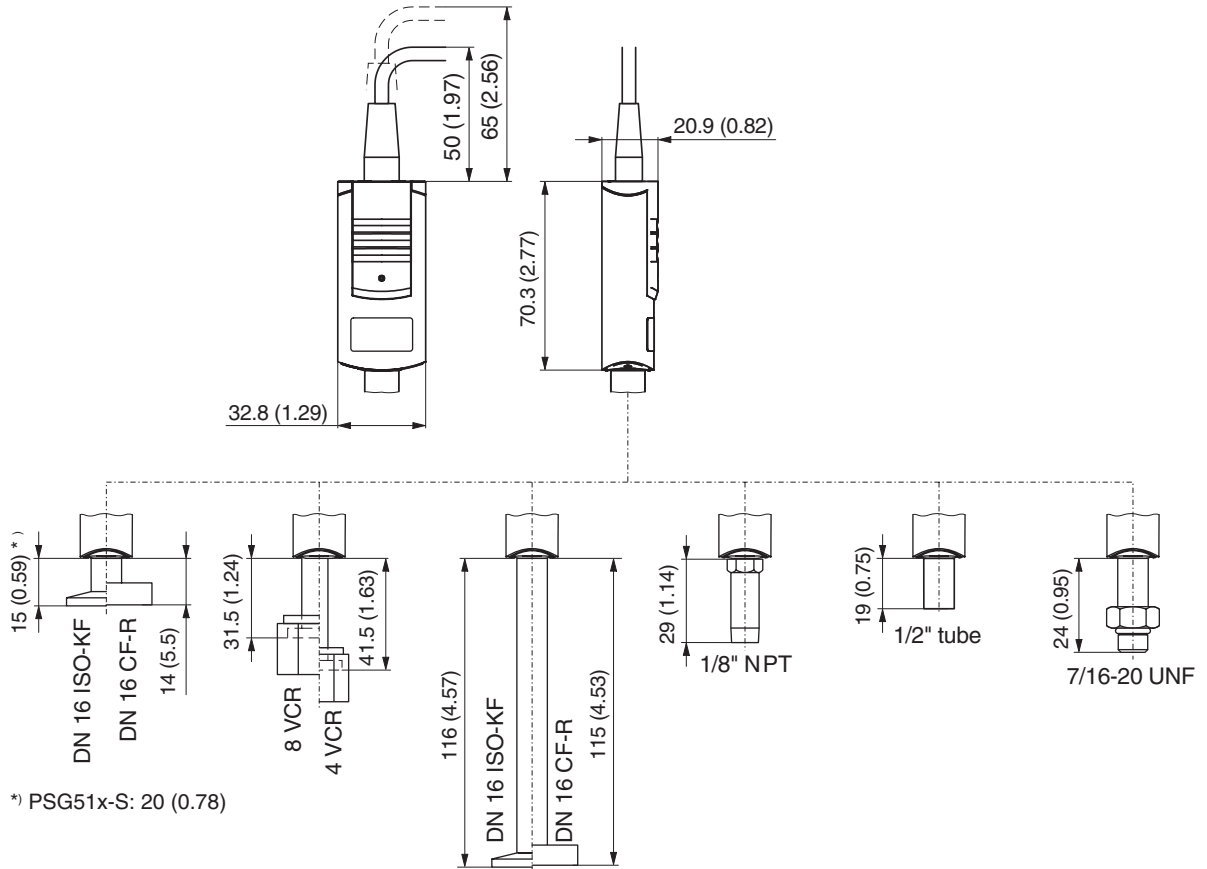
Type		PSG500	PSG500-S	PSG502-S	PSG510-S	PSG512-S
Filament		tungsten	tungsten	nickel	tungsten	nickel
Measuring principle		thermal conductance according to Pirani				
Measurement range (air, O ₂ , CO, N ₂)	mbar	5 x 10 ⁻⁴ to 1000				
Accuracy (N ₂)	1 x 10 ⁻³ ... 100 mbar	% of reading ±15%				
	5 x 10 ⁻⁴ ... 1 x 10 ⁻³ mbar	% of reading ±50%				
	100 ... 1000 mbar	% of reading ±50%				
Resolution		% of reading 1%				
Repeatability (air)	1 x 10 ⁻³ ... 100 mbar	% of reading 2%				
Output signal (measurement signal)						
Voltage range	V	0 ... +10.3				
Measurement range	V	+1.9 ... +10.0				
Voltage vs. pressure		logarithmic 1.286 V/decade				
Error signal	V	0 ... +0.5 (filament rupture)				
Output impedance	Ω	2 x 4.7				
Minimum loaded impedance	kΩ	10, short-circuit proof				
Response time	ms	80				
Gauge identification	kΩ	27.0, referenced to supply common				
Adjustment		one tactile switch for ATM and HV adjustment				
Setpoint		none	2			
Setting range	mbar	2 x 10 ⁻³ ... 500				
Hysteresis	% of reading	10% above lower threshold				
Relay contact	V DC / A DC	30 / 0.5 floating				
Switching time	ms	<20				
Supply voltage						
At gauge	V DC	+14 ... +30				
Ripple	V _{pp}	≤1				
Current consumption	mA	<500 (max. starting current)				
Power consumption	W	≤1				
Electrical connection		FCC 68 / RJ45 appliance connector, 8 poles, male				
Sensor cable		8 poles plus shielding				
Cable length	m	≤100 (8 x 0.14 mm ²)				
Materials exposed to vacuum		glass, Ni, NiFe			Al ₂ O ₃ , Ni,	
		DIN 1.4301/1.4305/1.4435			DIN 1.3981/1.4305/1.4435	
Filament		W	W	Ni	W	Ni
Internal volume						
DN 16 ISO-KF, DN 16 CF-R, 7/16-20 UNF	cm ³	1.5				
DN 16 ISO-KF & DN 16 CF-R long tube	cm ³	10				
1/8" NPT, 4 VCR, 8 VCR, 1/2" tube	cm ³	2				
Admissible pressure	bar (absolute)	10, limited to inert gases				
Admissible temperature						
Operation	°C	+5 ... +60				
Vacuum connection ¹⁾	°C	80 / 250 ²⁾				
Storage	°C	-20 ... +65				
Mounting orientation		any				
Degree of protection		IP40				
Weight						
DN 16 ISO-KF, 7/16-20 UNF	g	80				
DN 16 CF-R, 4 VCR	g	100				
1/8" NPT, 1/2" tube	g	70				
8 VCR, DN 16 ISO-KF long tube	g	130				
DN 16 CF-R long tube	g	140				

¹⁾ In horizontal mounting orientation

²⁾ Long tube

DIMENSIONS

mm (inch)



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