PSG010, PSG017, PSG018

Pirani Gauges - Passive

The gauge heads PSG010, PSG017 and PSG018 are long-established passive Pirani gauges intended to operate with the Vacuum Gauge Controller VGC094. They are designed for vacuum measurement of gases in the pressure range of 8×10^{-4} to 1000 mbar. The compact metal design provides a robust solution suitable for general vacuum applications. While PSG010 is suited for industrial vacuum applications, PSG017 and PSG018 respond to needs of demanding applications requiring bake-out temperature up to 250 °C or high ionizing radiation resistance, thanks to a metal sealing design. PSG017 has a Nickel filament suitable for corrosive media applications.

ADVANTAGES

- Elastomer (PSG010) or metal-sealed (PSG017, PSG018) design
- Specified high measurement accuracy and repeatability
- Bake-out temperature up to 100 °C (PSG010) / 250 °C (PSG017, PSG018)
- Ionizing radiation resistant up to 10^6 Gy (PSG017, PSG018)
- Corrosion resistance with Ni filament (PSG017)
- Cable length up to 100 m (500 m with PI 300 DL and CP 300 T11L)

APPLICATIONS

- General vacuum measurement and control for demanding and/or high temperature applications from low to the high vacuum range

OPERATING UNITS

- Vacuum Gauge Controller VGC094

PSG010, PSG017, PSG018

ORDERING INFORMATION

Type	PSG010	PSG017	PSG018
DN 10 ISO-KF	350-400	-	-
DN 16 ISO-KF	-	350-430	350-420
DN 16 CF-F	-	350-431	350-424
DN 40 CF-F	-	-	350-423

SPECIFICATIONS

Type	PSG010	PSG017	PSG018
Measurement system	Pirani		
Display range (air, O_2, CO, N_2)	8×10^{-4} … 1000 mbar		
Measurement range (air, O_2, CO, N_2)	1×10^{-2} … 100 mbar		
Accuracy (N_2)			
in the range of ≥ 100 mbar	up to factor 2 of reading	up to factor 2 of reading	up to factor 2 of reading
at room temperature and cable length <20 m	~±20% of reading in the range of 1×10^{-1} ... 10 mbar up to factor 2 of reading in the range of ≤10^{-2} mbar	~±10% of reading in the range of 1×10^{-2} ... 100 mbar	~±10% of reading in the range of 1×10^{-2} ... 100 mbar
up to +70 °C and within the entire range of specified cable length	-	-	~±20% of reading in the range of 1×10^{-2} ... 100 mbar
within the entire specified range of temperatures and cable length	-	-	~±35% of reading in the range of 1×10^{-2} ... 100 mbar
Repeatability (N_2)	~±2% of reading in the range of 1×10^{-2} ... 100 mbar	~±2% of reading in the range of 1×10^{-2} ... 100 mbar	~±5% of reading in the range of 1×10^{-2} ... 100 mbar
Mounting orientation	any		
Admissible temperature			
Ambient, in operation			
with standard cable	0 … +70 °C	0 … +80 °C	0 … +80 °C
with high temperature cable	-	0 … +120 °C	0 … +120 °C
Bake-out	100 °C	250 °C[1)]	250 °C[1)]
Storage	-	–40 … +80 °C	-
Relative humidity	≤80% at temperatures ≤+31 °C, decreasing to 50% at +40 °C		
Radiation resistance	-	1×10^6 Gy	1×10^6 Gy
Use	indoors only, altitudes up to 2000 m		
Maximum cable length	depending on measurement board		
Overpressure	≤9 bar (limited inert gases)		
Protection category	IP 40		
Materials exposed to vacuum			
Feedthrough	glass	Al_2O_3	Al_2O_3
Internal seal	FPM	Nimonic 90, Al	Nimonic 90, Al
Filament / holder	W/Ni	Ni/Ni	W/Ni
Chamber wall	AlMgSi	Stainless Steel EN 1.4435, EN 1.4306	Stainless Steel EN 1.4435, EN 1.4306
Filter	sinter bronze	-	-
Weight	0.14 kg	1.2 kg	1.2 kg

[1)] With high temperature cable or without cable

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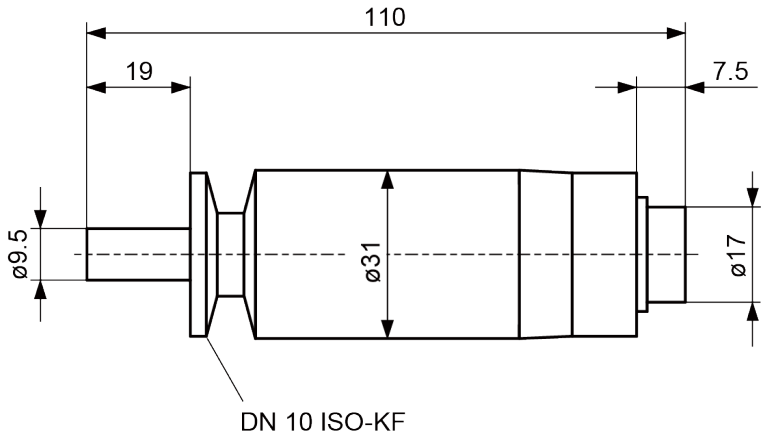
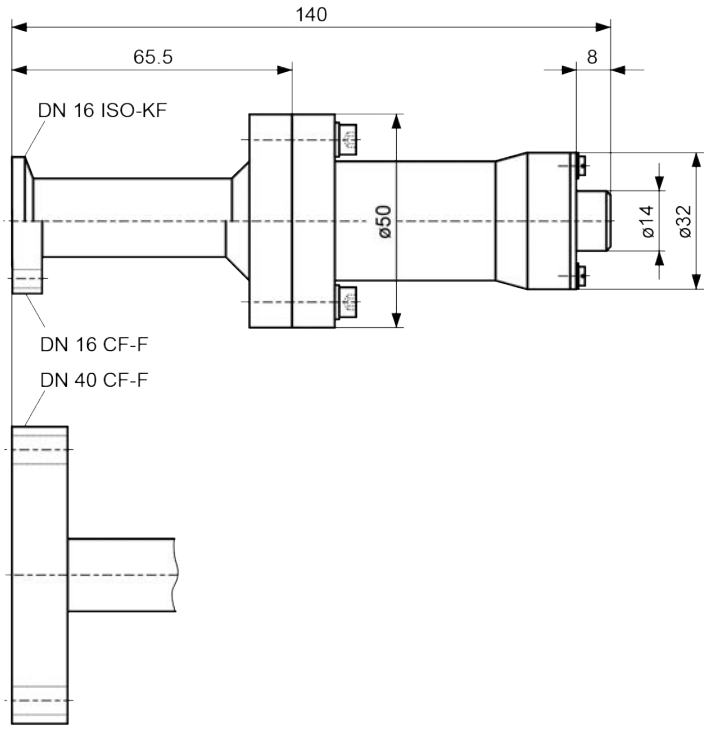
DIMENSIONS

[mm]

PSG010



PSG017 / PSG018



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