

Cold Cathode Gauges - Passive

The INFICON passive Cold Cathode Heads MAG084 is designed for use with the INFICON passive Vacuum Gauge Controller VGC094. They are constructed of a compact design resulting in a simple yet rugged gauge suitable for numerous industrial applications. Gauge Head MAG084 uses a metal seal allowing pressure measurements in the UHV range. MAG084 uses a metal seal and a SHV coaxial male connector. The Gauge Head assembly can be easily disassembled and cleaned allowing long term use with minimal down time. A Gauge Head ignition aid mounted on the anode improves the time it takes to set the Cold Cathode Gauge Head on. Made for R&D applications down to 5 \times 10⁻⁹ hPa | mbar to 1 \times 10⁻² hPa | mbar and bakeable up to 230°C also radiation and external magnetic field resistant.



ADVANTAGES

- · Developed for strong magnetic fields
- Reliable and proven gauge head design
- Bakeable to 230 °C
- · Good ignition properties, corrosion resistant with ceramic feedthrough
- Radiation resistant design to 1 × 10⁷ Gy
- Easy to maintain, low cost of ownership

APPLICATIONS

• Special Fusion and R&D applications presenting strong external magnetic fields

OPERATING UNITS

Vacuum Gauge Controller VGC094



ORDERING INFORMATION		
Туре	MAG084	
DN 40 ISO-KF	399-849	
DN 40 CF-F	399-850	

Accessories	MAG084 250°C	MAG084 80°C
Cable to VGC094 ¹⁾		
3 m (9.0 ft)	398-310	398-300
8 m (25.0 ft)	398-311	398-301
15 m (50.0 ft)	398-312	398-302

¹⁾ Other/longer lengths on request



SPECIFICATIONS

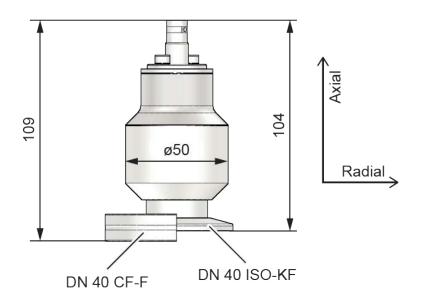
Туре	MAG084 metal sealed	
Measurement system	cold cathode ionization	
	(inverted magnetron principle)	
Display range (air N ₂)		
MAG084 with CP300C9 board	$5 \times 10^{-9} \text{ mbar } 1 \times 10^{-2} \text{ mbar}$	
Measurement range (air N ₂)	1×10^{-8} mbar 5×10^{-3} mbar	
Accuracy (N _{2,} typical)	30% of reading	
Repeatability (typical)	5% of reading	
Overpressure	≤9 bar for inert gas	
Mounting orientation	any	
Admissible temperature		
Operation		
with standard cable	+5 +80 °C	
with high temperature cable	+5 +230 °C	
Bakeout with high temperature cable	+230 °C	
Storage	-40 +80 °C	
Mechanical integrity	+250 °C	
Relative humidity	max. 80 $\%$ at temperature up to +30 $^{\circ}$ C, decreasing to 50 $\%$ at +40 $^{\circ}$ C	
Use	indoors only, unlimited altitude	
Radiation resistance	10 ⁷ Gy	
External magnetic field		
In axial direction	measurement deviation	
≤140mT	<10% at 25 °C	
≤120mT	<10% at 230 °C	
≤340mT	<200% at 25 °C	
≤340mT	<200% at 230 °C	
In radial direction	measurement deviation	
≤160mT	<10% at 25 °C	
≤160mT	<10% at 230 °C	
<195mT	<200% at 25 °C	
≤185mT	<200% at 230 °C	
Operating voltage (in measuring	≤3.3 kV	
chamber)	≤3.3 kV ≤600 μA (CP900C9 board)	
Operating current (in measuring chamber)	2000 pA (CI 700C7 board)	
Electrical connection		
Connector	SHV	
Туре	coaxial cable	



Туре	MAG084	
	metal sealed	
Materials exposed to vacuum		
Vacuum connection	stainless steel (EN 1.4306)	
Measuring chamber	stainless steel (EN 1.4306)	
Feedthrough isolation	ceramic (Al ₂ O ₃)	
Internal seal	Ag	
Anode	Mo	
Ignition aid	stainless steel (EN 1.4330)	
Ionization chamber	stainless steel (EN 1.4301, EN 1.4016)	
Magnet	NdFeB	
Internal volume		
DN 40 ISO-KF	\sim 23.9 cm 3	
DN 40 CF-F	~26.1 cm³	

DIMENSIONS

[mm]





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