

# MAG084

## 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  $1 \times 10^7$  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

# MAG084

## ORDERING INFORMATION

Type	MAG084
DN 40 ISO-KF	399-849
DN 40 CF-F	399-850

Accessories	MAG084 250°C	MAG084 80°C
<b>Cable to VGC094<sup>1)</sup></b>		
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

<sup>1)</sup> Other/longer lengths on request

# MAG084

## SPECIFICATIONS

Type	MAG084 metal sealed
Measurement system	cold cathode ionization (inverted magnetron principle)
Display range (air N <sub>2</sub> ) MAG084 with CP300C9 board	5 × 10 <sup>-9</sup> mbar ... 1 × 10 <sup>-2</sup> mbar
Measurement range (air N <sub>2</sub> )	1 × 10 <sup>-8</sup> mbar ... 5 × 10 <sup>-3</sup> mbar
Accuracy (N <sub>2</sub> , 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 °C, decreasing to 50 % at +40 °C
Use	indoors only, unlimited altitude
Radiation resistance	10 <sup>7</sup> 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 chamber)	≤3.3 kV ≤600 µA (CP900C9 board)
Operating current (in measuring chamber)	
Electrical connection	
Connector	SHV
Type	coaxial cable

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Type	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 <sub>2</sub> O <sub>3</sub> )
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	~23.9 cm <sup>3</sup>
DN 40 CF-F	~26.1 cm <sup>3</sup>

## DIMENSIONS

[mm]

