

# MAG470

## Inverted Magnetron Gauge

The INFICON Inverted Magnetron Gauge, MAG470, measure from  $5 \times 10^{-11}$  mbar to  $1 \times 10^{-2}$  mbar ( $3.8 \times 10^{-11}$  Torr to  $7.5 \times 10^{-3}$  Torr).



### ADVANTAGES

- No filament to burn out
- Extended version, sensor bakeout up to 250°C
- Excellent ignition properties
- Easy to clean
- Metal-sealed feedthrough
- LED indicator for high voltage on
- Logarithmic analog output signal

### APPLICATIONS

- Ultra high vacuum pressure monitoring
- Base pressure for evaporation and sputtering systems
- General vacuum measurement and control in the medium and high vacuum range

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### ORDERING INFORMATION

Type	MAG470	MAG470 extended
DN 40 CF-F	399-360	399-361

Spare parts	MAG470	MAG470 extended
Maintenance kit includes: support/centering ring seals ignition aid	351-997	351-997
Repair kit includes: anode Cu seal screw fitting support/centering ring seals ignition aid	351-990	351-990
Ignition aid kit includes: ignition aid	351-995	351-995
Mounting tool for ignition aid	351-994	351-994

Accessories	MAG470	MAG470 extended
Magnetic shield	351-023	351-023

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## SPECIFICATIONS

	MAG470	MAG470 extended
Measurement range (air, N <sub>2</sub> )	5 × 10 <sup>-11</sup> ... 1 × 10 <sup>-2</sup> mbar (3.8 × 10 <sup>-11</sup> ... 7.5 × 10 <sup>-3</sup> Torr)	
Accuracy (N <sub>2</sub> ) 1 × 10 <sup>-9</sup> ... 1 × 10 <sup>-3</sup> mbar	≈ ±30% of reading	
Repeatability 1 × 10 <sup>-9</sup> ... 1 × 10 <sup>-3</sup> mbar	≈ ±5% of reading	
Mounting orientation	any	
Admissible pressure (absolute)	≤ 10 bar (limited to inert gases)	
Admissible temperature		
Operation (ambient)	+5 ... +55 °C	
Storage	-40 ... +65 °C	
Bake-out	+250 °C <sup>1)</sup> (extended version <sup>2)</sup> )	
Supply voltage		
At gauge	+15 ... +30 V (dc)	
At supply unit with max. cable length <sup>3)</sup>	+16 ... +30 V (dc)	
Ripple	≤ 1 V <sub>pp</sub>	
Power consumption	≤ 2 W	
Fuse to be connected	≤ 1 AT	
Output signal (measurement signal)		
Voltage range	0 ... +10.5 V	
Measurement range	+1.96 ... +8.6 V	
Voltage vs. pressure	Logarithmic, 0.8 V/decade	
Error signal	< 0.5 V (no supply)	
Output impedance	2 × 10 Ω	
Minimum loaded impedance	10 kΩ, short-circuit proof	
Response time		
p > 10 <sup>-6</sup> mbar	< 10 ms	
p = 10 <sup>-8</sup> mbar	≈ 1000 ms	
Identification gauge	7.15 kΩ, referenced to supply common	
Electrical connection	FCC 68 appliance connector, 8 poles, female	
Sensor cable	8 poles plus shielding	
Cable length	≤ 50 m (8 × 0.14 mm <sup>2</sup> )	
Operating voltage	≤ 3.3 kV	
Operating current	≤ 100 μA	
Materials exposed to vacuum	Stainless steel, Al <sub>2</sub> O <sub>3</sub> , Ag,	
Internal volume	≈ 20 cm <sup>3</sup>	
Weight		
DN 40 CF-F	≈ 950 g	≈ 1100 g
Protection category	IP 40	
Standards	EN 61000-6-2, EN 61000-6-3, EN 61010-1	

<sup>1)</sup> Without electronics and magnetic shielding

<sup>2)</sup> 250 °C in defined area, see dimensions

<sup>3)</sup> The minimum voltage of the supply unit must be increased proportionally to the length of the sensor cable

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## DIMENSIONS

[mm]

