

MPG400/401

Inverted Magnetron/Inverted Magnetron Pirani Gauge

The INFICON Inverted Magnetron Pirani Gauges, MPG400 and MPG401, measure from 5×10^{-9} mbar to atmosphere (3.8×10^{-9} Torr to atmosphere). Combining technologies into one single compact unit with one logarithmic analog output signal significantly reduces the complexity of installation, setup and integration.



ADVANTAGES

- Combination gauge - inverted Magnetron and Pirani
- Wide measurement range from 5×10^{-9} mbar to atmosphere
- No filament to burn out
- Excellent ignition properties
- Easy to clean
- FPM or metal-sealed feedthrough
- LED indicator for high voltage on
- Logarithmic analog output signal

APPLICATIONS

- 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	MPG400 FPM sealed	MPG401 Metal-sealed
DN 25 ISO-KF	351-010	351-020
DN 40 ISO-KF	351-011	351-021
DN 40 CF-F	351-012	351-022

Spare parts	MPG400 FPM sealed	MPG401 Metal-sealed
Maintenance kit includes: support/centering ring seals ignition aid	351-999	351-997
Repair kit includes: Pirani element anode anode extension ¹⁾ Cu seal ¹⁾ screw fitting ¹⁾ support/centering ring seals ignition aid	351-998	351-996
Ignition aid kit includes: ignition aid	351-995	351-995
Mounting tool for ignition aid	351-994	351-994

¹⁾ MPG401 only

Accessories	MPG400 FPM sealed	MPG401 Metal-sealed
Magnetic shield	351-023	351-023

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SPECIFICATIONS

	MPG400 FPM sealed	MPG401 Metal-sealed
Measurement range (air, N ₂)	5 × 10 ⁻⁹ ... 1000 mbar (3.8 × 10 ⁻⁹ ... 760 Torr)	
Accuracy (N ₂) 1 × 10 ⁻⁸ ... 100 mbar	≈ ±30% of reading	
Repeatability 1 × 10 ⁻⁸ ... 100 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 ¹⁾	+150 °C	
Filament (Pirani)	+120 °C	
Supply voltage		
At gauge	+15 ... +30 V (dc)	
At supply unit with max. cable length ²⁾	+16 ... +30 V (dc)	
Ripple	≤ 1 V _{pp}	
Power consumption	≤ 2 W	
Fuse to be connected	≤ 1 AT	
Output signal (measurement signal)		
Voltage range	0 ... +10.5 V	
Measurement range	+1.82 ... +8.6 V	
Voltage vs. pressure	Logarithmic, 0.6 V/decade	
Error signal		
No supply	< 0.5 V	
Pirani sensor, filament rupture	> 9.5 V	
Output impedance	2 × 10 Ω	
Minimum loaded impedance	10 kΩ, short-circuit proof	
Response time		
p > 10 ⁻⁶ mbar	< 10 ms	
p = 10 ⁻⁸ mbar	≈ 1000 ms	
Identification gauge	85 kΩ, referenced to supply common	
Status		
Pirani-only mode	0 V (low)	
Combined Pirani / cold cathode mode	15 ... 30 V (high)	
LED	green, high voltage on	
Electrical connection	FCC 68 appliance connector, 8 poles, female	
Sensor cable	8 poles plus shielding	
Cable length	≤ 50 m (8 × 0.14 mm ²)	
Operating voltage	≤ 3.3 kV	
Operating current	≤ 500 μA	
Materials exposed to vacuum	Stainless steel, Al ₂ O ₃ , FPM75, Mo, Ni, Au, W	Stainless steel, Al ₂ O ₃ , Ag, Cu, Sn Mo, Ni, Au, W

¹⁾ Without electronics and magnetic shielding

²⁾ The minimum voltage of the supply unit must be increased proportionally to the length of the sensor cable

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	MPG400 FPM sealed	MPG401 Metal-sealed
Internal volume	≈20 cm ³	
Weight		
DN 25 ISO-KF	≈700 g	≈730 g
DN 40 ISO-KF	≈720 g	≈750 g
DN 40 CF-F	≈980 g	≈1010 g
Protection category	IP 40	
Standards	EN 61000-6-2, EN 61000-6-3, EN 61010-1	

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DIMENSIONS

