



MPG400, MPG401

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 & 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

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

ACCESSORIES

Type	MPG400 FPM sealed	MPG401 metal-sealed
Magnetic shield	351-023	351-023

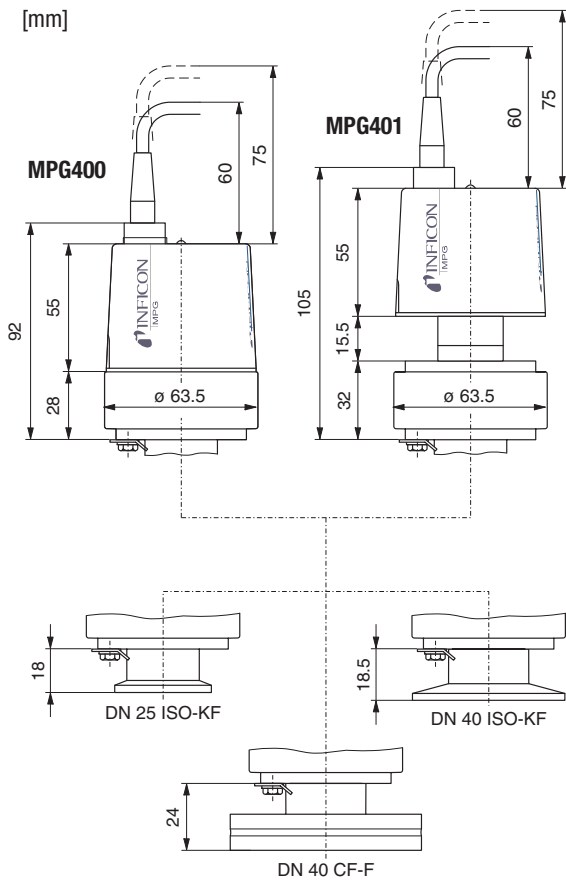
SPECIFICATIONS

		MPG400 FPM sealed	MPG401 metal-sealed
Measurement range (air, N ₂)	mbar (Torr)	5 x 10 ⁻⁹ ... 1000 (3.8 x 10 ⁻⁹ ... 760)	
Accuracy (N ₂)	1 x 10 ⁻⁸ ... 100 mbar % of reading	≈±30%	
Repeatability	1 x 10 ⁻⁸ ... 100 mbar % of reading	≈±5%	
Mounting orientation		any	
Admissible pressure	bar (absolute)	≤10 (limited to inert gases)	
Admissible temperature			
Operation (ambient)	°C	+5 ... +55	
Storage	°C	-40 ... +65	
Bake-out ¹⁾	°C	150	
Filament temperature (Pirani)	°C	120	
Supply voltage			
At gauge	V DC	+15 ... +30	
At supply unit with max. cable length ²⁾	V DC	+16 ... +30	
Ripple	V _{pp}	≤1	
Power consumption	W	≤2	
Fuse to be connected	AT	≤1	
Output signal (measurement signal)			
Voltage range	V	0 ... +10.5	
Measurement range	V	+1.82 ... +8.6	
Voltage vs. pressure		logarithmic, 0.6 V/decade	
Error signal	V	<0.5 (no supply)	
	V	>9.5 (Pirani sensor, filament rupture)	
Output impedance	Ω	2 x 10	
Minimum loaded impedance	kΩ	10, short-circuit proof	
Response time	p > 10 ⁻⁶ mbar ms	<10	
	p = 10 ⁻⁸ mbar ms	≈1000	
Identification gauge	kΩ	85, referenced to supply common	
Status			
Pirani-only mode	V	0 (low)	
Combined Pirani / cold cathode mode	V	15 ... 30 (high)	
LED	LED green	high voltage on	
Electrical connection		FCC 68 appliance connector, 8 poles, female	
Sensor cable		8 poles plus shielding	
Cable length	m	≤50 (8 x 0.14 mm ²)	
Operating voltage	kV	≤3.3	
Operating current	μA	≤500	
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
Internal volume	cm ³	≈20	
Weight			
DN 25 ISO-KF	g	≈700	≈730
DN 40 ISO-KF	g	≈720	≈750
DN 40 CF-F	g	≈980	≈1010
Protection category		IP 40	
Standards		EN 61000-6-2, EN 61000-6-3, EN 61010-1	

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.

DIMENSIONS



SPARE PARTS

Type	MPG400 FPM sealed	MPG401 metal-sealed
Maintenance kit, comprising support/centering ring seals ignition aid	351-999	351-997
Repair kit, comprising 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, comprising Ignition aid	351-995	351-995
Mounting tool for ignition aid	351-994	351-994

¹⁾ MPG401 only

INFICON Instruments for Intelligent Control™

GLOBAL HEADQUARTERS:

Two Technology Place, East Syracuse, NY 13057 USA
Tel: +1.315.434.1100 Fax: +1.315.437.3803 E-mail: reachus@inficon.com

UNITED STATES FRANCE GERMANY LIECHTENSTEIN SWITZERLAND UNITED KINGDOM CHINA JAPAN KOREA SINGAPORE TAIWAN

Visit our website for contact information and other sales offices worldwide. www.inficon.com
Due to our continuing program of product improvements, specifications are subject to change without notice.
tiba30e1 (2005-06) ©2005 INFICON