

MPG40x ATM to Ultra-High Vacuum 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 without a logarithmic analog output signal significantly reduces the complexity of installation, setup and integration.



BENEFITS

- 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

ORDERING INFORMATION

Type	MPG400 FPM sealed	MPG401 metal-sealed
Magnetic shield		351-023
MPG400 FPM sealed, DN 25 ISO-KF	351-010	
MPG400 FPM sealed, DN 40 CF-F	351-012	
MPG400 FPM sealed, DN 40 ISO-KF	351-011	
MPG401 metal sealed, DN 25 ISO-KF		351-020
MPG401 metal sealed, DN 40 CF-F		351-022
MPG401 metal sealed, DN 40 ISO-KF		351-021

SPECIFICATIONS

Type		MPG400 FPM sealed	MPG401 metal-sealed
Measurement range (air, N ₂)	mbar	5 x 10 ⁻⁹ ... 1000	5 x 10 ⁻⁹ ... 1000
Measurement range (air, N ₂)	Torr	3.8 x 10 ⁻⁹ ... 760	3.8 x 10 ⁻⁹ ... 760
Accuracy (N ₂)			
1 x 10 ⁻⁸ ... 100 mbar	% of reading	≈±30%	≈±30%
Repeatability			
1 x 10 ⁻⁸ ... 100 mbar	% of reading	≈±5%	≈±5%
Mounting orientation		any	any
Admissible pressure	bar (absolute)	≤10 (limited to inert gases)	≤10 (limited to inert gases)
Admissible temperature			
Operation (ambient)	°C	+5 ... +55	+5 ... +55
Storage	°C	-40 ... +65	-40 ... +65
Bake-out (1)	°C	150	150
Filament temperature (Pirani)	°C	120	120
Supply voltage			
At gauge	V (dc)	+15 ... +30	+15 ... +30
At supply unit with max. cable length (2)	V (dc)	+16 ... +30	+16 ... +30
Supply voltage			
Ripple	V (p-p)	≤1	≤1
Power consumption	W	≤2	≤2
Fuse to be connected	AT	≤1	≤1
Output signal (measurement signal)			
Voltage range	V	0 ... +10.5	0 ... +10.5

SPECIFICATIONS

Type		MPG400 FPM sealed	MPG401 metal-sealed
Measurement range	V	+1.82 ... +8.6	+1.82 ... +8.6
Voltage vs. Pressure		logarithmic, 0.6 volts per decade	logarithmic, 0.6 volts per decade
Error signal			
no supply	V	<0.5	<0.5
Pirani sensor, filament rupture	V	>9.5	>9.5
Output impedance	Ω	2 x 10	2 x 10
Minimum loaded impedance	k Ω	10, short-circuit proof	10, short-circuit proof
Response time			
p > 10 ⁻⁶ mbar	ms	<10	<10
p = 10 ⁻⁸ mbar	ms	≈1000	≈1000
Identification gauge		85, referenced to supply common	85, referenced to supply common
Status			
Pirani-only mode	V	0 (low)	0 (low)
Combined Pirani / cold cathode mode	V	15 ... 30 (high)	15 ... 30 (high)
Status			
LED	LED green	high voltage on	high voltage on
Electrical connection		FCC 68 appliance connector, 8 poles, female	FCC 68 appliance connector, 8 poles, female
Sensor cable		8 poles plus shielding	8 poles plus shielding
Cable length	m	≤50 (8 x 0.14 mm ²)	≤50 (8 x 0.14 mm ²)
Operating voltage	kV	≤3.3	≤3.3
Operating current	μA	≤500	≤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	≈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	IP 40
Standards			
CE conformity		EN 61000-6-2, EN 61000-6-3, EN 61010-1	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.

SPAREPARTS

	MPG400 FPM sealed	MPG401 metal-sealed
MPG400 Maintenance set	351-999	-
MPG400 Repair set.	351-998	-
MPG401 Maintenance set	-	351-997
MPG401 Repair set	-	351-996
MPG40x Ignition tool set	351-994	351-994
MxG40x/50x Spare parts ignition aid (10)	351-995	351-995

ACCESSORIES

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

DIMENSIONS

