

BPG400

Bayard-Alpert Pirani Gauge

The INFICON Bayard-Alpert Pirani Combination Gauge, BPG400, functions as two gauges in a single compact unit measuring from 5×10^{-10} mbar to atmosphere (3.8×10^{-10} Torr to atmosphere). Combining technologies reduces the complexity of installation, setup, and integration. Choose the BPG400 for affordable and repeatable process to base pressure measurements in one economic package.



ADVANTAGES

- Extremely wide measurement range from 5×10^{-10} mbar to atmosphere (3.8×10^{-10} Torr to atmosphere)
- Excellent repeatability in the process pressure range from 10^{-8} ... 10^{-2} mbar of 5%
- The Pirani interlock protects the Bayard-Alpert system from premature filament burnout and excess contamination from high pressure operation
- Long-life yttrium oxide coated iridium filament
- Optional graphic display and Fieldbus interfaces available
- Automatic high vacuum Pirani adjustment reduces operator interventions
- RoHS compliance

APPLICATIONS

- Pressure measurement in semiconductor process and transfer chambers
- Industrial coating
- General vacuum measurement and control in the low to ultra high vacuum range

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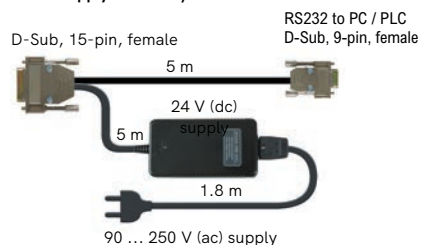
ORDERING INFORMATION

Type Sensor	BPG400 without LCD	BPG400 with LCD	BPG400 with Profibus DP	BPG400 with DeviceNet™
DN 25 ISO-KF	353-500	353-501	353-505	353-507
DN 40 CF-R	353-502	535-503	353-506	353-508

Replacement Sensor	BPG400 without LCD	BPG400 with LCD	BPG400 with Profibus DP	BPG400 with DeviceNet™
DN 25 ISO-KF	354-490	354-490	354-490	354-490
DN 40 CF-R	354-491	354-491	354-491	354-491

Accessories	Part no.
Power supply 24 V (dc) / RS232C line	353-511
Bakeout extension, 100 mm (3.94 in.)	353-510
Baffle	353-512
Centering ring with baffle DN 25 ISO-KF	211-113

Power supply 24 V (dc) / RS232C line



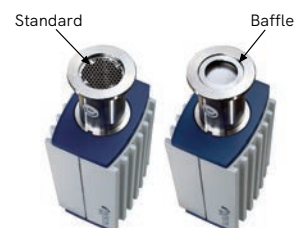
Bakeout extension:

Allows measurement at flange temperatures up to 150°C.
Easy installation into the vacuum connection - no tools required.



Baffle:

Prevents contamination of the sensor.
Fast and easy installation.



ACCESSORIES

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SPECIFICATIONS

	BPG400 Standard	BPG400 Display
Measurement range (air, O ₂ , CO, N ₂)	5 × 10 ⁻¹⁰ ... 1000 mbar (3.8 × 10 ⁻¹⁰ ... 750 Torr)	
Accuracy 10 ⁻⁸ ... 10 ⁻² mbar	±15% of reading	
Repeatability 10 ⁻⁸ ... 10 ⁻² mbar	5% of reading	
Degas ¹⁾ p < 7.2 × 10 ⁻⁶ mbar	Electron bombardment, max. 3 min	
Pressure, max. (absolute)	2 bar	
Temperature		
Operation (ambient)	0 ... +50°C	
Storage	-20 ... +70°C	
Bakeout		
At flange with extension	150°C	
At flange without extension	80°C	
Electronics removed	150°C	
Supply voltage	+20 ... +28 / 0.8 V / A (dc)	
Output signal analog	0 ... +10 V	
Measurement range	+0.774 ... +10 V	
Voltage vs. pressure	0.75 V / Decade	
Error signal	0.3 / 0.5 V	
Load impedance, min.	10 kΩ	
Interface (digital) ²⁾	RS232C	
Electrical connection	D-Sub, 15-pin, male	
Cable length, max. ³⁾	100 m (330 ft)	
Materials exposed to vacuum	Yt ₂ O ₃ , Ir, Pt, Mo, Cu, W, NiFe, NiCr, stainless steel, glass	
Internal volume KF / CF	24 cm ³ (1.46 in. ³) / 34 cm ³ (2.1 in. ³)	
Weight KF / CF	285 g / 550 g	
Degree of protection	IP30	

¹⁾ Reduced accuracy during degas

²⁾ Simultaneous use of RS232C or VGC40x and VGC50x series controllers and Fieldbus is not allowed

³⁾ For RS232C operation <30 m

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SPECIFICATIONS INTERFACES

DeviceNet™

Protocol	DeviceNet™, group 2 slave only
Data rate switch	125, 250, 500 kBaud or network programmable
Cable length	
125 kbps	500 m (1650 ft.)
250 kbps	250 m (825 ft.)
500 kbps	100 m (330 ft.)
MAC ID	Two switches (address 00 - 63) or network programmable
Digital functions	Read pressure, select units: Torr, mbar, Pa Degas function, Pirani full scale adjust Monitor gauge status Safe state allows definition of behavior in case of error Detailed alarm and warning information
Analog functions	0 ... 10 V analog output pressure indication two setpoint relays A + B
Visual communication indicators	LED network status (green / red) LED module status (green / red)
Specification	DeviceNet™ "Vacuum Gauge Device Profile"
Device type	"CG" for combination gauge
I / O slave messaging	Polling only
Setpoint relays	2
Range	1×10^{-9} ... 100 mbar
Relay contact	NO, potential free
Hysteresis	10 % of reading
Contact rating	60 V / 0.5 A (dc)
Supply voltage for DeviceNet™	+11 - +25 V / 0.5 A (dc)
Supply voltage for gauge	+20 - +28 V / 0.8 A (dc)
Connector for DeviceNet™	Microstyle, 5-pin
Connector for Gauges (analog output, supply voltage, setpoints)	D-Sub, 15-pin, male

PROFIBUS DP

Baud rates	9.6 / 19.2 / 93.75 / 187.5 / 500 kBaude 1.5 / 12 MBaud
Address	Two switches (address 00 - 127) or network programmable
Digital functions	Read pressure, select units: Torr, mbar, Pa Degas function, Pirani full scale adjust Monitor gauge status, filament status Safe state allows definition of behavior in case of error Detailed alarm and warning information
Analog functions	0 ... 10 V analog output pressure indication two setpoint relays A + B

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PROFIBUS DP

Setpoint relays	2
Range	$1 \times 10^{-9} \dots 100 \text{ mbar}$
Relay contact	NO, potential free
Hysteresis	10 % of reading
Contact rating	$\leq 30 \text{ V} / \leq 0.5 \text{ A (dc)}$
Connector for Profibus DP	D-Sub, 9-pin, female
Connector for BPG (analog output, supply voltage, setpoints)	D-Sub, 15-pin, male

DIMENSIONS

