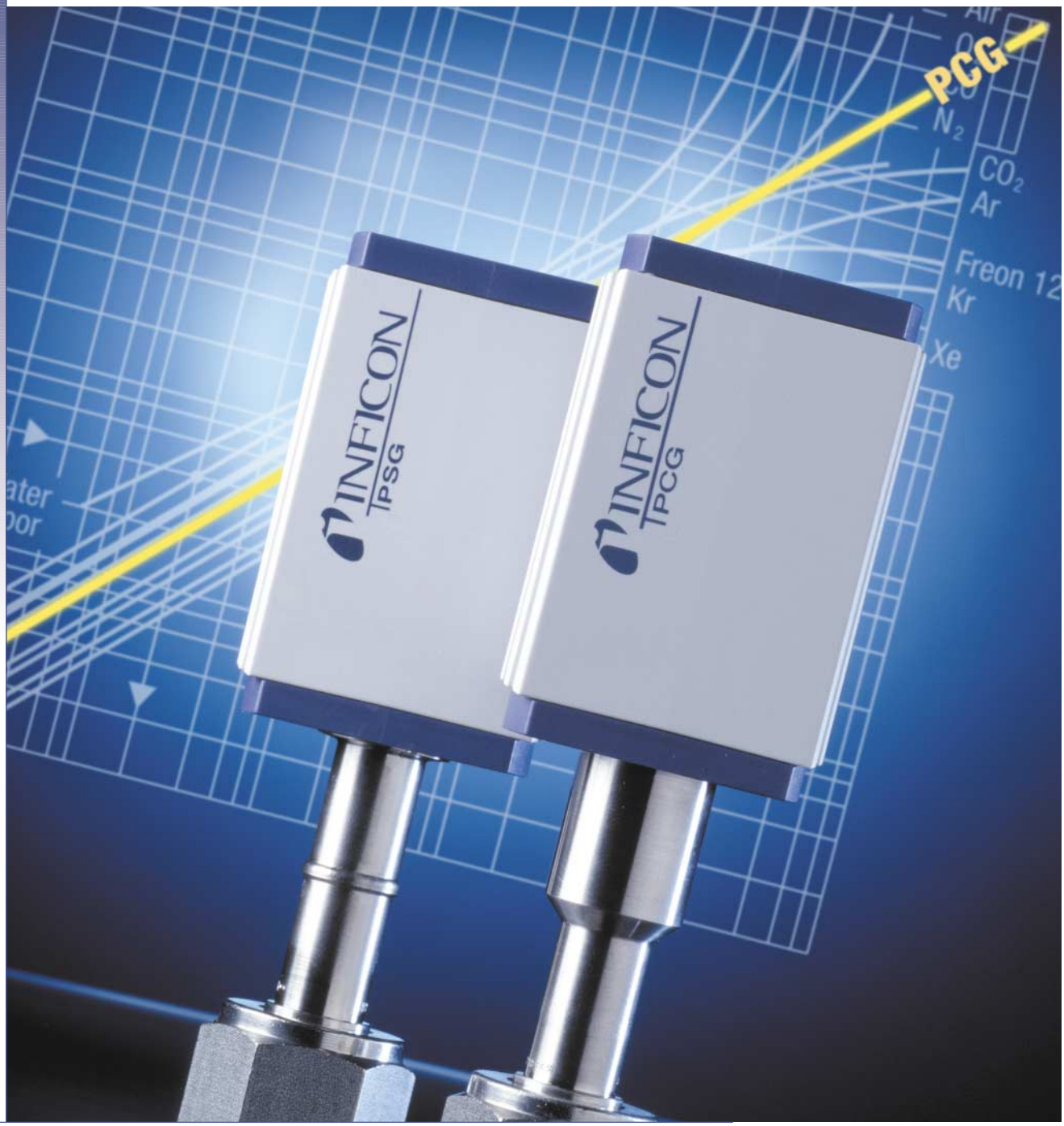


PSG, PCG

Pirani Standard Gauge
Pirani Capacitance Diaphragm Gauge

FAST, ACCURATE AND COMPACT

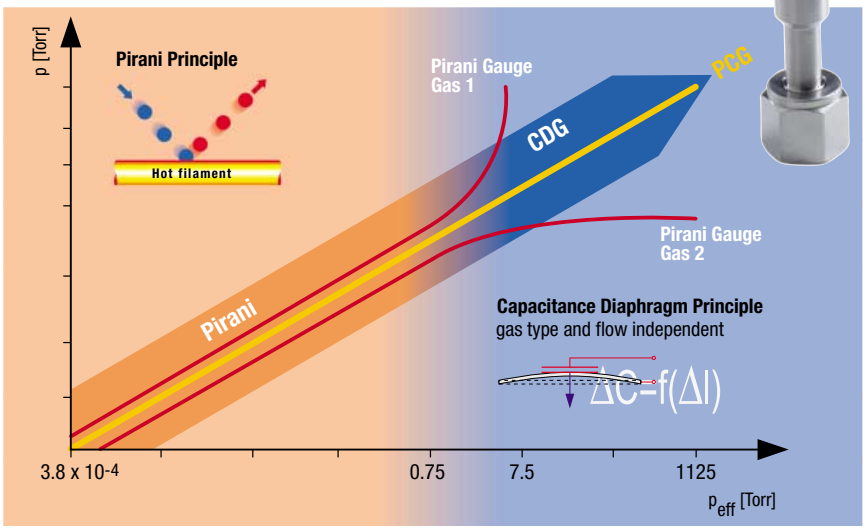
INFICON

Gas-Type-Independent at ATM and Accurate.

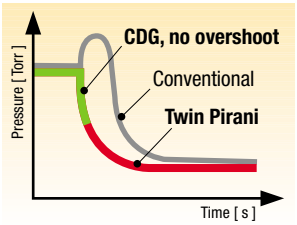
3.8 x 10^{-4} to 1125 Torr
5 x 10^{-4} mbar to 1500 mbar

PIRANI CAPACITANCE DIAPHRAGM GAUGE PCG400, PCG410

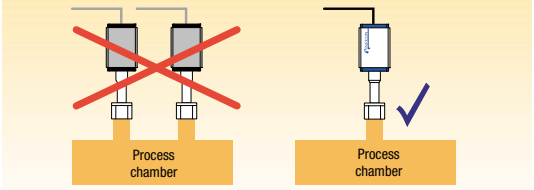
The PCG Pirani Capacitance Diaphragm Gauge is the first vacuum gauge to combine ceramic capacitance diaphragm and thermal conductivity technologies. Unlike standard Pirani technology, INFICON PCG offers superior accuracy and gas-type-independent readings between 7.5 and 1125 Torr.



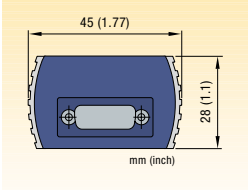
In the critical pressure range between 7.5 Torr and atmosphere, the capacitance diaphragm technology supplies accurate, gas type and flow independent measurement values.



The CDG measures the direct force per unit area, eliminating the time delay characteristic of thermal conductivity sensors. The improved response time eliminates overshoot during pump down and venting.



The PCG reduces system costs by eliminating the need for additional gauges and vacuum switches.



Small footprint, compact design.

FEATURES AT A GLANCE

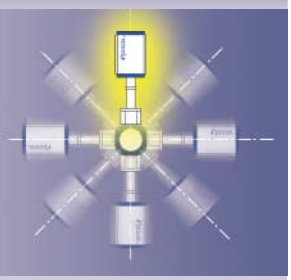
- **patented twin Pirani technology**
- **gas-type-independent pressure measurement between 7.5 and 1125 Torr**
- **available with up to two integrated relays**
- **mounts in any orientation**
- **0 - 10V analog output for easy system integration**

APPLICATIONS

- **loadlock control**
- **forevacuum pressure monitoring**
- **safety circuits in vacuum systems**
- **general measurement and control in the medium and rough vacuum range**
- **control of high vacuum ionization gauges**

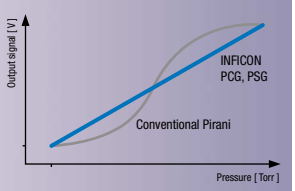
Any Mounting Orientation

The PCG/PSG functions with the specified accuracy in any orientation, offering more flexibility for systems builders.



Logarithmic / Linear Output Signal

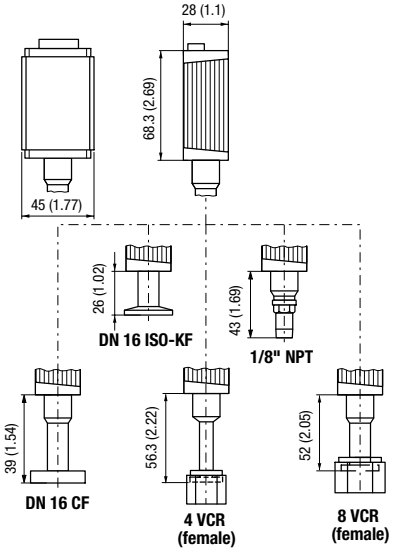
The PCG/PSG have a logarithmic output signal. A simple formula for converting the measurement signal into any desired pressure unit allows easy integration into a control system.



Pirani Capacitance Diaphragm Gauge

PCG400, PCG400-S, PCG410, PCG410-S

	FCC 68 **PCG400** **PCG400-S**	D-Sub **PCG410** **PCG410-S**
Measurement range	3.8 x 10^{-4} to 1125 Torr, 5 x 10^{-4} to 1500 mbar	
Accuracy, 1 x 10^{-3} to 50 mbar	≈±15 % of reading	
50 to 950 mbar	≈±5 % of reading	
ATM	≈±2.5 % of reading	
Repeatability, 1 x 10^{-3} to 1100 mbar	≈±2 % of reading	
Mounting orientation	any	
Setpoint		
Range	1.5 x 10^{-3} to 1500 mbar	
Relay contact	n.o. / potential free	
Hysteresis	10% of adj. pressure	
Contact rating	30 VDC / 1 A	
Relay status	LED, green	
Pressure, max. absolute	10 bar[1)]	
Temperature		
Operation (ambient)	+5 to +60 °C	
Storage	-20 to +65 °C	
Bakeout at flange	80 °C	
Power supply		
Voltage	15 to 30 VDC	
Consumption, max.	2.5 W	
Output signal analog	0 to +10.3 V	0 to +10 V
Measurement range, logarithmic	1.9 to +10 V	2.2 to +8.68 V
Relation voltage / pressure	1.286 V / decade	1 V / decade
Error signal	< 0.5 V	< 0.5 V
Response time	10 ms	10 ms
Cable length, max.	100 m (330 ft)	
Materials exposed to process media	Al_2O_3, tungsten, stainless steel, Cu, glass, NiFe, Ni, SnAg,	
Internal volume KF / CF	5.5 cm^3 / 7.2 cm^3 (0.3 $inch^3$ / 0.5 $inch^3$)	
Weight KF / CF	97 g / 120 g	
Protection type	IP 40	



mm (inches)

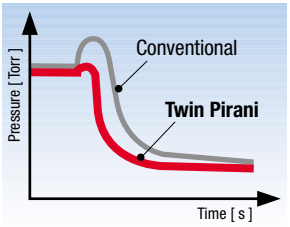
Ordering Information	**PCG400**	with 2 Setpoints **PCG400-S**	**PCG410**	with 1 Setpoint **PCG410-S**	with 2 Setpoints **PCG410-S**
Connector	FCC 68 8 pin (shielded)	FCC 68 8 pin (shielded)	D-Sub 9 pin	D-Sub 9 pin	D-Sub 15 pin
DN 16 ISO-KF	355-000	355-010	355-020	355-030	355-040
1/8" NPT	355-001	355-011	355-021	355-031	355-041
DN 16 CF	355-002	355-012	355-022	355-032	355-042
8 VCR®, female	355-004	355-014	355-024	355-034	355-044
4 VCR®, female	355-005	355-015	355-025	355-035	355-045

Fast, Compact and Stable.

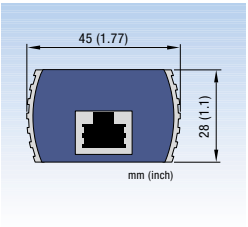
3.8 x 10^{-4} to 750 Torr
5 x 10^{-4} mbar to 1000 mbar

PIRANI STANDARD GAUGE PSG400

The Pirani Standard Gauge PSG400 offers the most advanced Pirani technology in a very compact, rugged housing. The improved temperature compensation by the incorporated twin Pirani provides faster, more stable vacuum measurement. The rugged, stainless steel sensor cell qualifies it for use on semiconductor systems, as well as traditional applications such as forevacuum lines.



The patented INFICON twin Pirani technology produces fast, reliable measurement results.



Small footprint, compact design.

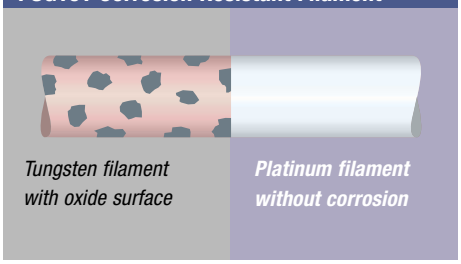
3.8 x 10^{-4} to 750 Torr
5 x 10^{-4} mbar to 1000 mbar

PIRANI STANDARD GAUGE PSG100, PSG101

The Pirani Standard Gauges PSG100 and PSG101 are specially designed for easy integration into vacuum systems using Profibus DP or DeviceNet™ fieldbus protocols and set points. For corrosive applications, a platinum filament is available.

FIELDBUS
Profibus DP & DeviceNet™

PSG101 Corrosion Resistant Filament



For corrosive applications or high levels of water vapor, the PSG101-S/SP/SD uses a platinum filament and a ceramic feedthrough.

FEATURES AT A GLANCE

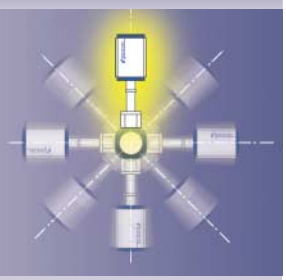
- **patented twin Pirani technology**
- **mounts in any orientation**
- **0 - 10V analog output for easy system integration**
- **available with Fieldbus (PSG100/101)**

APPLICATIONS

- **forevacuum pressure monitoring**
- **safety circuits in vacuum systems**
- **general measurement and control in the fine and rough vacuum range**
- **control of high vacuum ionization gauges**
- **corrosive applications**

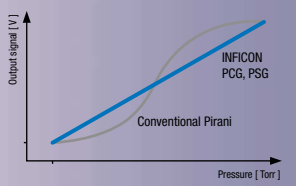
Any Mounting Orientation

The PCG/PSG functions with the specified accuracy in any orientation, offering more flexibility for systems builders.



Logarithmic / Linear Output Signal

The PCG/PSG have a logarithmic output signal. A simple formula for converting the measurement signal into any desired pressure unit allows easy integration into a control system.

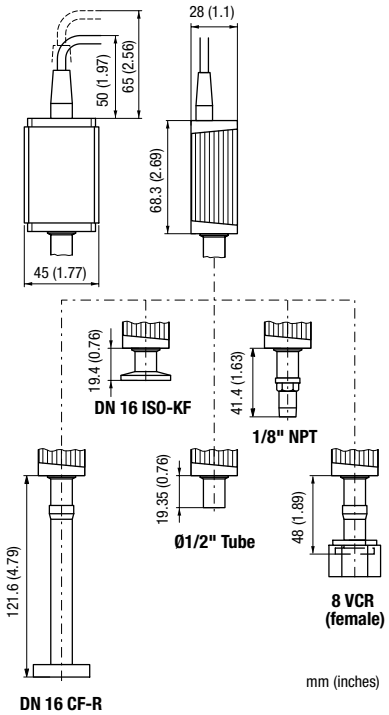


Pirani Standard Gauge

PSG400, PSG400-S

	Standard **PSG400**	Setpoint **PSG400-S**
Measurement range	3.8 x 10^{-4} to 750 Torr, 5 x 10^{-4} to 1000 mbar	
Accuracy, 1 x 10^{-2} to 100 mbar	≈±10 % of reading	
Repeatability, 1 x 10^{-3} to 100 mbar	≈±2 % of reading	
Mounting orientation	any	
Setpoint	n/a	1
Range		2 x 10^{-3} to 500 mbar
Relay contact		n.o. / potential free
Hysteresis		30% of adjusted pressure
Contact rating		60 VDC / 0.5 A
Relay status		LED, green
Pressure, max. absolute	10 bar[1)]	
Temperature		
Operation (ambient)	+5 to +60 °C	
Storage	-20 to +65 °C	
Bakeout at flange	80 / 250 °C [2)]	
Power supply		
Voltage	14 to 32 VDC	
Consumption, max.	1 W	
Output signal analog	0 to +10.3 V	
Measurement range, logarithmic	1.9 to +10 V	
Relation voltage / pressure	1.286 V / decade	
Error signal	< 0.5 V	
Response time	10 ms	
Connector	FCC 68, 8 pin (shielded)	
Cable length, max.	100 m (330 ft)	
Materials exposed to process media	tungsten, stainless steel, Cu, glass, NiFe, Ni	
Internal volume KF / CF	2 cm^3 / 10 cm^3 (0.1 $inch^3$ / 0.6 $inch^3$)	
Weight KF / CF	97 g / 120 g	
Protection type	IP 40	

[1)] Threaded connections only



Ordering Information	**PSG400**	**PSG400-S**
DN 16 ISO-KF	350-000	350-010
1/8" NPT	350-001	350-011
DN 16 CF-R[2)]	350-002	350-012
1/2" tube	350-003	350-013
8 VCR®, female	350-004	350-014
Replacement sensor		
DN 16 ISO-KF	350-990	
1/8" NPT	350-991	
DN 16 CF-R[2)]	350-992	
1/2" tube	350-993	
8 VCR®, female	350-994	

[2)] Extended tube for bakeout with 250°C at flange

Fieldbus and Corrosive Application. Pirani Standard Gauge

PSG100-SP, PSG100-SD, PSG101-S, PSG101-SP, PSG101-SD

	Standard **PSG100**	Corrosive Application **PSG101**
Measurement range	3.8 x 10^{-4} to 750 Torr, 5 x 10^{-4} to 1000 mbar	
Accuracy, 1 x 10^{-2} to 30 mbar	≈±15 % of reading	
Repeatability, 1 x 10^{-3} to 100 mbar	≈±2 % of reading	
Filament material	tungsten	platinum
Mounting orientation	any	
Setpoint	1	
Range	1 x 10^{-3} to 500 mbar	
Relay contact	n.o. / potential free	
Hysteresis	30% of adjusted pressure	
Contact rating	60 VDC / 0.5 A	
Relay status	LED, green	
Pressure, max. absolute	3 bar[1)]	5 bar[1)]
Temperature		
Operation (ambient)	+10 to +50 °C	
Storage	–20 to +70 °C	
Bakeout at flange	80 °C	
Power supply		
Voltage	14.5 to 36 VDC	
Consumption, max.	2 W	
Output signal analog	0 to +10.6 V	
Measurement range, logarithmic	1.9 to +10 V	
Relation voltage / pressure	1.286 V / decade	
Connector	FCC 68, 8 pin (shielded)	
Cable length, max. (analog)	100 m (330 ft)	
Materials exposed to process media	tungsten, Al, nickel-plated steel, stainless steel, NiFe, glass, CrNi, epoxy cement	platinum, stainless steel, CrNi, Al_2O_3, ceramics, NiFe, Mo, Ni
Flange	DN 16 ISO-KF	
Internal volume	11 cm^3 (0.67 $inch^3$)	
Weight	290 g	
Protection type	IP 40	

[1)]Use the type of clamps which are suited to overpressure

Profibus DP	**PSG100-SP / PSG101-SP**
Supported baud rates (for auto detection)	up to 1.5 MBaud
Expanded user parameter data	5 Bytes
Configuration	
Number of input and output data	2 Bytes
Sync-Mode and Freeze-Mode	yes
Connector	D-sub, 9 pin

DeviceNet™	**PSG100-SD / PSG101-SD**
Device type	generic
Baud rates	125 , 250 , 500 kBaud
I/O Slave Messaging	
Bit Strobe, Polling, Cyclic,	
Change of State (COS)	yes
Supply	11 to 25 VDC
Connector	Phoenix Combicon, 5 pin

Ordering Information	**PSG100-S**	**PSG101-S**
With setpoint	n/a	350-030
With DeviceNet™ (PSG100-SD, PSG101-SD)	350-021	350-031
With ProfibusDP (PSG100-SP, PSG101-SP)	350-022	350-032
Replacement sensor	350-980	350-981

Fieldbus

Fieldbus allows processes or applications the flexibility and control of network communications. It permits communication of exact digital information, independent control, maintenance and diagnostics routines for each connected instrument and simplifies your connection diagram.

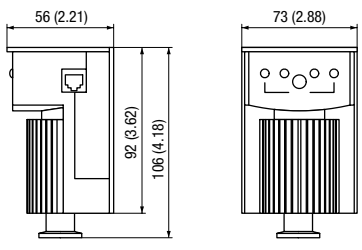
The measures of control include: monitoring of measurement values, automatic zero point adjustment of gauges, update operator of scheduled maintenance work, warning signals in case of instrument failure, and more.

Profibus DP

The central automation systems, e.g. PLC/PC or process control systems, communicate through a fast serial connection with decentralized instruments such as I/O, motors, valves and pressure transmitters. The exchange of data with the decentralized instruments takes place mostly in cycles. The basic functions of the Profibus DB Communication Profile also include acyclic communication services for parameter setting, controlling, monitoring, and alert functions of intelligent instruments.

DeviceNet™

The DeviceNet™ interface supports polling, bit strobe and change of state/cyclic commands. Like with other DeviceNet™ instruments the user can monitor and control all available sensor functions.

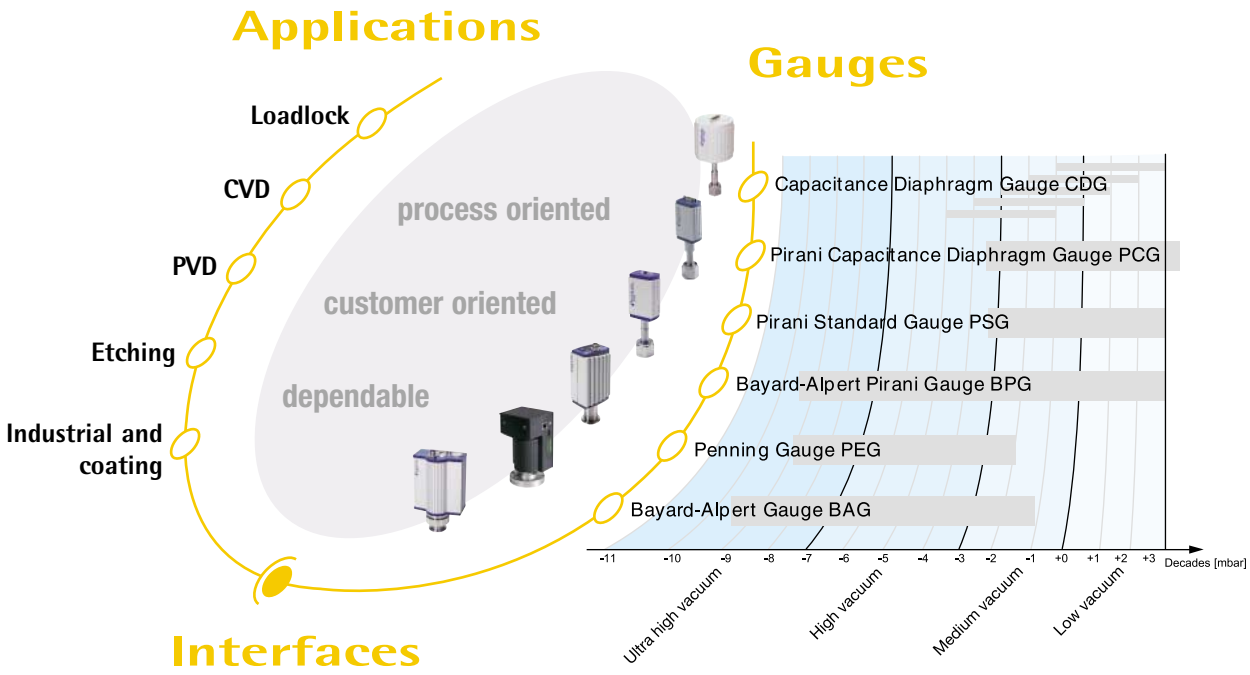


DN 16 ISO-KF

mm (inches)

INFICON

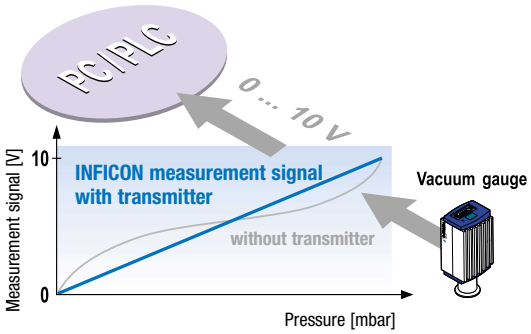
Experts In Developing The Right Gauges



Interfaces

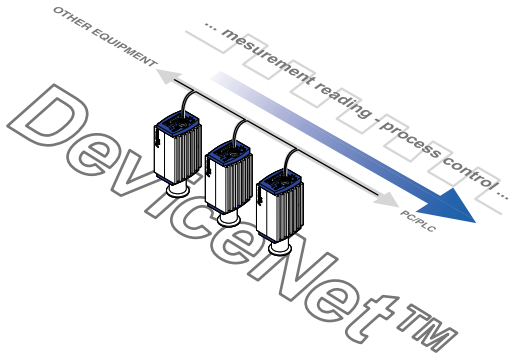
Analog Interfaces

All transmitter gauges have a standardized 0 – 10 VDC output signal ensuring easy integration into your control system.



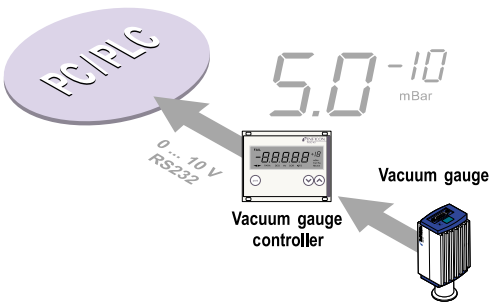
Digital Interfaces

INFICON gauges are available with digital interfaces such as Profibus, DeviceNet™ or RS232C. This permits easy, cost-effective networking and system integration and offers extensive diagnostic functions.



Controllers

INFICON controllers are fully compatible with all our standard gauges and can be combined with up to three sensors to cover an extremely wide measurement range. The large display allows for easy and quick reading of the measurement value. INFICON controllers can be remote controlled or operated as stand-alone units.



INFICON


Capacitance Diaphragm Gauges


Pirani Capacitance Diaphragm Gauges


Pirani Standard Gauges


Bayard-Alpert Pirani Gauges


Penning Gauges


Bayard-Alpert Gauges


Vacuum Gauge Controllers

A Worldwide Leader in Intelligent Instrumentation

INFICON is a leading developer, manufacturer and supplier of vacuum instrumentation. Manufacturers use our instrumentation for analysis, monitoring, measurement and control. We sell our products worldwide, with a particular focus on semiconductor and related markets.

Global Presence and Comprehensive Customer Support

We have key direct sales, application support, and service centers in 12 countries around the world. Our global reach is a critical success factor for our increasingly multinational customer base.

Market-Driven Technology and Product Innovation

Our customers operate in an environment of constant technological change. Our strong market position is largely due to our investment in technology and product innovation that keep pace with these changes. We translate our advanced technology into innovative products that improve our customers' process yield, quality, costs and profitability.

State-Of-The-Art Enabling Technologies

Our factories have the most advanced technologies aimed at providing us with the best available manufacturing efficiency, quality and information management. We employ a demand-based manufacturing system that enables us to manufacture products rapidly and efficiently to meet specific customer demands as well as high quality standards.

ISO 9001 and **ISO 14001** REGISTERED

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