INFICON

Visionary Sensor Technology

# CDG100D, CDG160D, CDG200D

## High Precision Vacuum Gauge

Excellent performance for high temperature applications

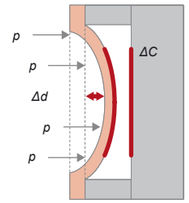
# CDG100D, CDG160D, CDG200D
## Vacuum Gauges

The INFICON heated CDG Capacitance Diaphragm Gauge line is designed for stable long time performance in harsh manufacturing environments. The temperature controlled corrosion resistant ultra-pure ceramic sensor provides superior span stability over many years paired with state-of-the-art zero stability. An innovative heating concept reduces power consumption. The heated CDG Capacitance Diaphragm Gauge comes with a safe to touch surface even for the 200°C version. Advanced electronics offer the user a wide range of suitable filters yielding solutions for all applications and a choice of fieldbus interfaces. A unique sensor shield (patents granted) protects the gauge from undesired process byproducts. A total Alumina coating immunizes the product against chemical attack.

**Typical applications**

- High temperature coating
- Sterilization
- Oxidation
- Dry etch
- General high temperature vacuum applications
- CVD

## CDG working principle




*Direct pressure measurement by diaphragm*

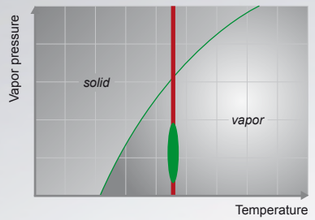
$\Delta d \sim p$

*Capacitance readout*

$\frac{1}{\Delta C} \sim p$

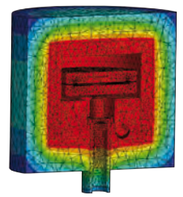
Electrode
Diaphragm
p = pressure

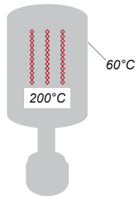
## Designed for harsh and corrosive applications




*Gauge temperature*
*Vapor pressure*
*Process pressure*

## Advanced heating concept





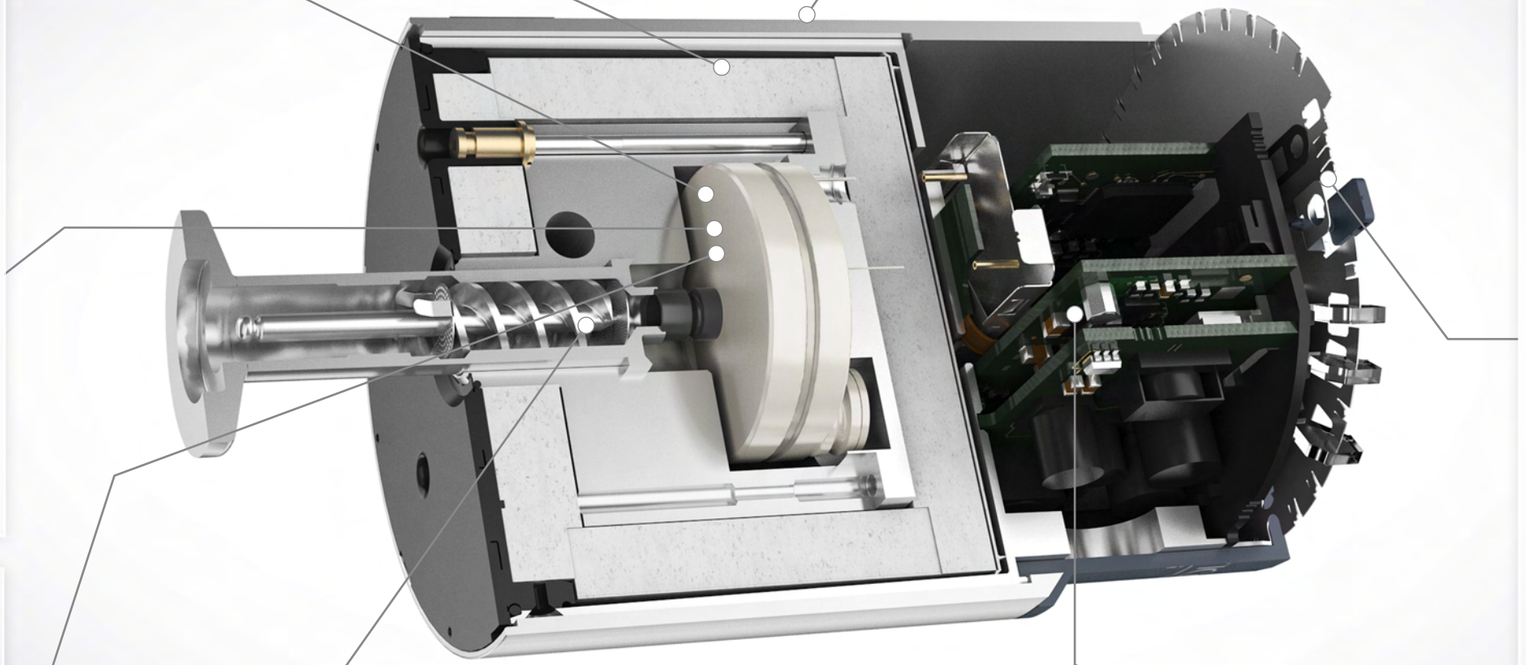

- Temperature stabilized at ± 0.1°C
- Innovative isolation material
  - touchable surface at 200°C
  - small footprint
- Immune to ambient enviroment
- SEMI S2 compliant
- Excellent temperature stability
- Low power consumption
- Fast warm up

## Span stability

**Any mounting orientation**

## Fully ceramic sensor

**Bonded ceramic** structure combined with digital signal processing provides superior measurement performance.



## Interface I/O

- Classic analog signal 0 … 10V
- Wide range power supply
- Zero adjust, push button / remote DI
- 2 individual setpoints
- Status LED
- Diagnostic port
- Fieldbus: DeviceNet, Profibus, EtherCAT, RS-232

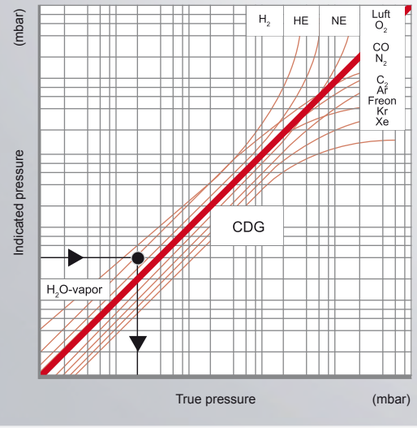
**DeviceNet**

**Profibus**

**EtherCAT**

## Gas type independence

*CDG sensor technology*
*Other typical sensor technologies*

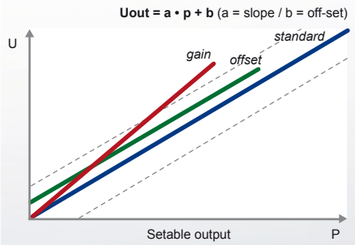


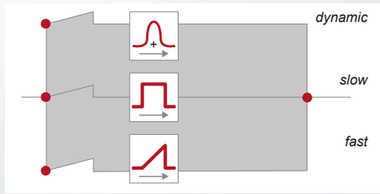

## Gauge protection for increased lifetime

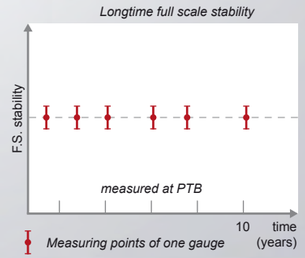
| | | |
|---|---|---|
| Level 1 | **Baffle** | *Stops coating, particles* |
| Level 2 | **Heater** | *Prevents condensation / deposition* |
| Level 2 | **Shield** | *Protects diaphragm* |
| Level 4 | **Protective coating** | *Corrosion protection* |

## Digital signal processing

**Uout = a • p + b** (a = slope / b = off-set)

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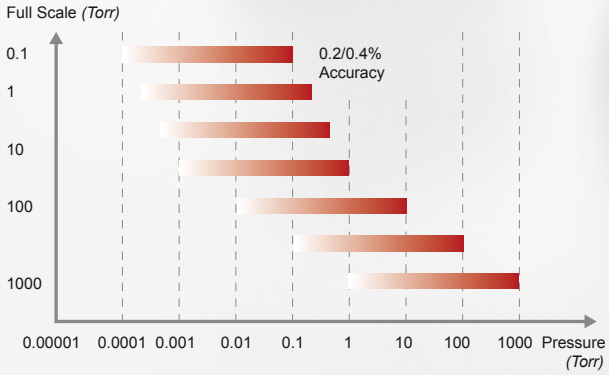
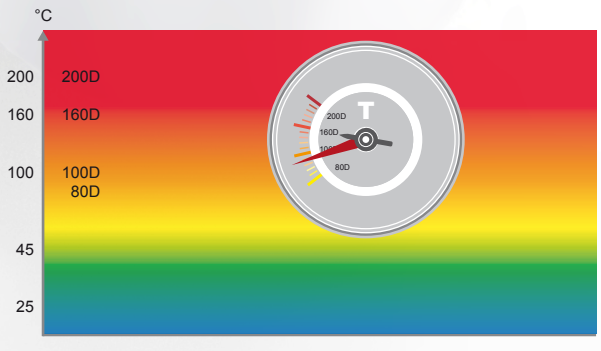
## CDG100D, CDG160D, CDG200D, HEATED ADVANTAGES AT A GLANCE

- Outstanding stability
- Long lifetime
- No periodical recalibration required
- Digital signal processing
- Corrosion resistant Alumina sensor

### Measurement ranges




### Temperatures




Temperatures to match your process

## EXCELLENT CUSTOMER SUPPORT IS A COMMITMENT

INFICON provides a global network of sales and service centers. These centers are staffed with local service and application experts who can assist you in choosing the best solution for your individual product application and provide fast support if service is needed.

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