

## Stripe™ CDG045Dhs - 45°C (F.S.R. 0.01 ... 1000 Torr / mbar)

### Stripe™ CDG045Dhs - 45°C - Smart Inside, Fast Outside

INFICON Stripe high-speed Capacitance Diaphragm Gauges are the fastest, highly accurate vacuum measurement instruments available. With a less than 2 ms response time combined with the EtherCAT fieldbus interface it opens up a total new field of applications. The proven temperature controlled, corrosion resistant, ultra-pure ceramic sensor provides superior span stability over many years paired with state-of-the-art zero stability. Stripe comes with the INFICON patented unique sensor shield which protects the gauge from undesired process by-products. INFICON Stripe using an innovative heating concept, which provides a cool to the touch surface, and its unique speed capabilities, enabling an unprecedented productivity increase, making it the most advanced vacuum instrument of its kind.



Stripe CDG045Dhs is a proud winner of the prestigious 2014 R&D 100 Award!!

### ADVANTAGES

- High productivity – Faster than 2ms response time (FS > 50 mTorr)
- Flexible integration – EtherCAT fieldbus
- Long lifetime – Proven ceramic sensor
- Forget recalibration – 90ppm/year full scale stability

ORDER INFORMATION

ORDERING INFORMATION

3 C C 9 - 6 5 1 - 2 3 G 0

| Full Scale (FS)       |             |  |  |  |
|-----------------------|-------------|--|--|--|
| 0.01 <sup>1) 2)</sup> | <b>S</b>    |  |  |  |
| 0.02 <sup>1)</sup>    | <b>1</b>    |  |  |  |
| 0.05 <sup>1)</sup>    | <b>2</b>    |  |  |  |
| <b>0.1</b>            | <b>3</b>    |  |  |  |
| 0.25                  | 4           |  |  |  |
| 0.5                   | 5           |  |  |  |
| <b>1</b>              | <b>6</b>    |  |  |  |
| 2                     | 7           |  |  |  |
| 5                     | 8           |  |  |  |
| <b>10</b>             | <b>9</b>    |  |  |  |
| 20                    | A           |  |  |  |
| 50                    | B           |  |  |  |
| <b>100</b>            | <b>C</b>    |  |  |  |
| 200                   | D           |  |  |  |
| 500                   | E           |  |  |  |
| (Torr only)           | <b>1000</b> |  |  |  |
| (mbar only)           | <b>1100</b> |  |  |  |
|                       | <b>F</b>    |  |  |  |
|                       | <b>G</b>    |  |  |  |

| Flange   |               |
|----------|---------------|
| <b>1</b> | DN 16 ISO-KF  |
| <b>3</b> | DN 16 CF-R    |
| <b>9</b> | OD ½ in. tube |
| <b>C</b> | 4 VCR male    |
| <b>D</b> | 4 VCR female  |
| <b>E</b> | 8 VCR female  |

| Unit     |                              |
|----------|------------------------------|
| <b>5</b> | Torr (× 1.33 mbar; × 133 Pa) |
| <b>6</b> | mbar (× 100 Pa)              |

- 1) Mounting orientation: vertical
- 2) Torr only

**bold** = standard products  
Other flange types on request.

## SPECIFICATIONS

| Type                              |                   | 1000Torr / 1100mbar ...<br>0.05Torr / mbar | 0.02 ... 0.01Torr / mbar              |
|-----------------------------------|-------------------|--------------------------------------------|---------------------------------------|
| Accuracy (1)                      | % of reading      | 0.15                                       | -                                     |
| Precision                         | % of reading      | -                                          | 0.2                                   |
| Temperature effect                |                   |                                            |                                       |
| on zero 1000 ... 1 Torr/mbar      | percent FS/°C     | 0.0025                                     | -                                     |
| on zero 0.5 ... 0.05 Torr/mbar    | percent FS/°C     | 0.005                                      | -                                     |
| on zero 0.02 ... 0.01 Torr        | percent FS/°C     | -                                          | 0.01                                  |
| Temperature effect                |                   |                                            |                                       |
| on span                           | % of reading / °C | 0.01                                       | 0.01                                  |
| Pressure max                      |                   |                                            |                                       |
| P max 1000Torr / mbar             | kPa (absolute)    | 400                                        | 400                                   |
| P max 500 ... 1Torr / mbar        | kPa (absolute)    | 260                                        | 260                                   |
| P max 0.5 ... 0.01Torr / mbar     | kPa (absolute)    | 130                                        | 130                                   |
| Resolution                        | percent FS        | 0.003                                      | 0.003                                 |
| Lowest reading                    | percent FS        | 0.01                                       | 0.01                                  |
| Lowest suggested reading          | percent FS        | 0.05                                       | 0.05                                  |
| Lowest suggested control pressure | percent FS        | 0.5                                        | 0.5                                   |
| Temperature                       |                   |                                            |                                       |
| Operation (ambient)               | °C                | +10 ... +40                                | +10 ... +40                           |
| Bakeout at flange                 | °C                | ≤110                                       | ≤110                                  |
| Storage                           | °C                | -20 ... +85                                | -20 ... +85                           |
| Supply voltage                    |                   | +14 ... +30 VDC or ±15 V<br>(±5%)          | +14 ... +30 VDC or ±15 V<br>(±5%)     |
| Power consumption                 |                   |                                            |                                       |
| During Heat up                    | W                 | ≤14                                        | ≤14                                   |
| At operating temperature          | W                 | ≤9                                         | ≤9                                    |
| Output signal (analog)            | V (dc)            | 0 ... +10                                  | 0 ... +10                             |
| Measurement rate                  | kHz               | 1                                          | 1                                     |
| Response time (2)                 | ms                | 2 ... 20                                   | 2 ... 20                              |
| Signal processing time            | ms                | 2                                          | 2                                     |
| Degree of protection              |                   | IP 30                                      | IP 30                                 |
| Standards                         |                   |                                            |                                       |
| CE conformity                     |                   | EN 61000-6-2/-6-3, EN 61010<br>& RoHS      | EN 61000-6-2/-6-3, EN 61010<br>& RoHS |

## SPECIFICATIONS

| Type                        |                                     | 1000Torr / 1100mbar ...<br>0.05Torr / mbar                                                                  | 0.02 ... 0.01Torr / mbar                                                                                    |
|-----------------------------|-------------------------------------|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| ETL certification           |                                     | UL 61010-1, CSA 22.2<br>No.61010-1                                                                          | UL 61010-1, CSA 22.2<br>No.61010-1                                                                          |
| SEMI compliance             |                                     | SEMI S2                                                                                                     | SEMI S2                                                                                                     |
| Electrical connection       |                                     | D-sub, 15 pole, male                                                                                        | D-sub, 15 pole, male                                                                                        |
| Setpoint                    |                                     |                                                                                                             |                                                                                                             |
| Number of setpoints         |                                     | 2 (SP1,SP2)                                                                                                 | 2 (SP1,SP2)                                                                                                 |
| Setpoint                    |                                     |                                                                                                             |                                                                                                             |
| Relay contact               | V (dc)                              | ≤30                                                                                                         | ≤30                                                                                                         |
| Setpoint                    |                                     |                                                                                                             |                                                                                                             |
| Relay contact               | A (dc)                              | ≤0.5                                                                                                        | ≤0.5                                                                                                        |
| Setpoint                    |                                     |                                                                                                             |                                                                                                             |
| Hysteresis                  | percent FS                          | 1                                                                                                           | 1                                                                                                           |
| Diagnostic port             |                                     |                                                                                                             |                                                                                                             |
| Protocol                    |                                     | USB                                                                                                         | USB                                                                                                         |
| Read                        |                                     | pressure, status, ID                                                                                        | pressure, status, ID                                                                                        |
| Set                         |                                     | set points, filter, zero adjust,<br>factory reset, DC offset                                                | set points, filter, zero adjust,<br>factory reset, DC offset                                                |
| Materials exposed to vacuum |                                     | Aluminum oxide ceramic<br>(Al <sub>2</sub> O <sub>3</sub> ), stainless steel (AISI<br>316L <sup>(4)</sup> ) | Aluminum oxide ceramic<br>(Al <sub>2</sub> O <sub>3</sub> ), stainless steel (AISI<br>316L <sup>(4)</sup> ) |
| Internal volume             |                                     |                                                                                                             |                                                                                                             |
| I. volume 1/2" tube         | cm <sup>3</sup> (in. <sup>3</sup> ) | 4.2 (0.26)                                                                                                  | 4.2 (0.26)                                                                                                  |
| I. volume DN 16 ISO KF      | cm <sup>3</sup> (in. <sup>3</sup> ) | 4.2 (0.26)                                                                                                  | 4.2 (0.26)                                                                                                  |
| I. volume DN 16 CF-R        | cm <sup>3</sup> (in. <sup>3</sup> ) | 4.2 (0.26)                                                                                                  | 4.2 (0.26)                                                                                                  |
| I. volume 8 VCR®            | cm <sup>3</sup> (in. <sup>3</sup> ) | 4.2 (0.26)                                                                                                  | 4.2 (0.26)                                                                                                  |
| Weight                      |                                     |                                                                                                             |                                                                                                             |
| Weight 1/2" tube            | g                                   | 837                                                                                                         | 837                                                                                                         |
| Weight DN 16 ISO KF         | g                                   | 852                                                                                                         | 852                                                                                                         |
| Weight DN 16 CF-R           | g                                   | 875                                                                                                         | 875                                                                                                         |
| Weight 8 VCR®               | g                                   | 897                                                                                                         | 897                                                                                                         |
| EtherCAT                    |                                     |                                                                                                             |                                                                                                             |
| Protocol EtherCAT           |                                     | protocol specialized for<br>EtherCAT                                                                        | protocol specialized for<br>EtherCAT                                                                        |

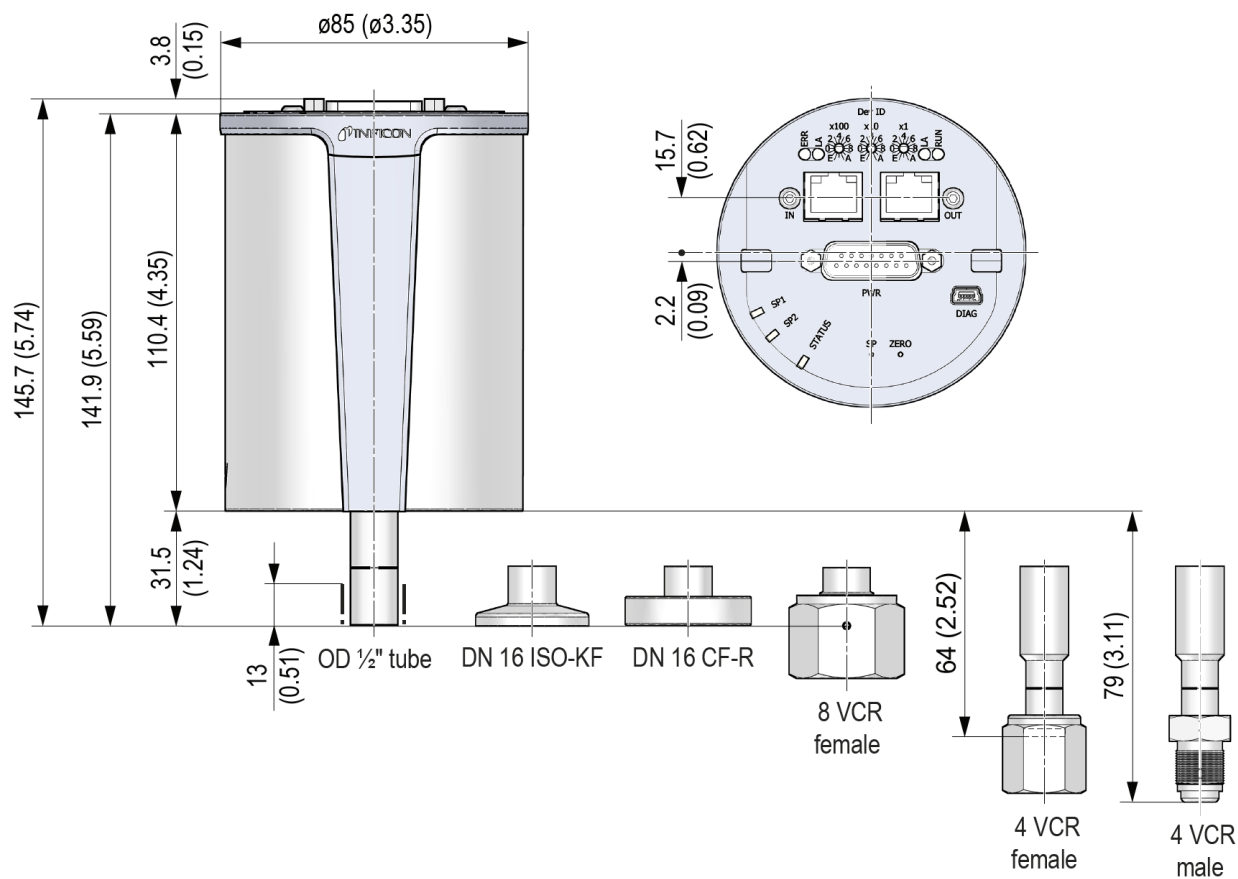
## SPECIFICATIONS

| Type                    |         | 1000Torr / 1100mbar ...<br>0.05Torr / mbar                                                                                | 0.02 ... 0.01Torr / mbar                                                                                                  |
|-------------------------|---------|---------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| Communication standards |         | ETG.5003.1 S (R) V1.1.0<br>Common Device<br>ProfileETG.5003.2080 S (R)<br>V1.3.0 Specific Device<br>Profile: Vacuum Gauge | ETG.5003.1 S (R) V1.1.0<br>Common Device<br>ProfileETG.5003.2080 S (R)<br>V1.3.0 Specific Device<br>Profile: Vacuum Gauge |
| Node address            |         | Explicit Device Identification                                                                                            | Explicit Device Identification                                                                                            |
| Physical layer          |         | 100BASE-Tx (IEEE 802.3)                                                                                                   | 100BASE-Tx (IEEE 802.3)                                                                                                   |
| Digital functions read  |         | pressure, status, ID                                                                                                      | pressure, status, ID                                                                                                      |
| Digital functions set   |         | set points, filter, zero adjust,<br>reset, DC offset                                                                      | set points, filter, zero adjust,<br>reset, DC offset                                                                      |
| Mailbox (CoE)           |         | SDO requests, responses<br>and information                                                                                | SDO requests, responses<br>and information                                                                                |
| Process data            |         | Fixed PDO mapping and<br>configurable PDO mapping                                                                         | Fixed PDO mapping and<br>configurable PDO mapping                                                                         |
| EtherCAT connector      |         | 2 x RJ45, 8-pin (socket), IN<br>and OUT                                                                                   | 2 x RJ45, 8-pin (socket), IN<br>and OUT                                                                                   |
| Cable                   |         | shielded Ethernet CAT5e or<br>higher                                                                                      | shielded Ethernet CAT5e or<br>higher                                                                                      |
| EtherCAT                |         |                                                                                                                           |                                                                                                                           |
| Cable length            | m (ft.) | ≤100 (330)                                                                                                                | ≤100 (330)                                                                                                                |
| EtherCAT                |         |                                                                                                                           |                                                                                                                           |
| Signal processing time  | ms      | 2                                                                                                                         | 2                                                                                                                         |

(1) Non-linearity, hysteresis, repeatability at 25 °C ambient operating temperature without temperature effects after 2 hours operation.

(2) Increase 10 ... 90 percent FS

## mm (inch)



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