CDG025D, CDG025D-S

SKY® Capacitance Diaphragm Gauges

The INFICON SKY CDG025D Capacitance Diaphragm Gauge line of highly accurate temperature compensated manometers is designed for stable performance in harsh manufacturing tool environments. Advanced digital electronics improve gauge performance and offer easy handling features such as one pushbutton zero function and setpoint adjustment. The corrosion resistant ultra pure ceramic sensor provides excellent zero stability with a long life expectancy of several million pressure cycles, including atmospheric bursts. A unique sensor shielding (patent pending) protects the gauge from process contamination. A robust mechanical design and digital electronics improve EMC compatibility, long term stability and temperature compensation. The CDG025D sets new standards for fast stability after power on and fast recovery from atmospheric pressure exposure.

ADVANTAGES

- Full scale ranges from 100 mTorr … 1000 Torr
- Fast stability after power on
- Fast recovery from atmospheric pressure
- Corrosion resistant ceramic sensor
- Excellent long term signal stability
- Temperature compensated
- Sensor protected from contamination
- One pushbutton zero function
- Wide range power supply
- 2 setpoints (optional)
- RS232 interface (optional)

APPLICATIONS

Accurate and fast pressure measurement for demanding applications:

- Semiconductor manufacturing equipment for Etch, CVD, PVD, ALD
- Data storage and display manufacturing equipment
- Industrial vacuum equipment
- General high accuracy pressure measurement

ORDERING INFORMATION

CDG025D, temperature compensated

Full Scale Range			Flange type			
Torr	Pascal	mbar	1/2" tube	DN 16 ISO-KF	DN 16 CF-R	8 VCR®
1000	**133'322**	**1333**	**375-000**	**375-001**	**375-002**	**375-003**
100	**13'332**	**133**	**376-000**	**376-001**	**376-002**	**376-003**
10	**1'333**	**13.3**	**377-000**	**377-001**	**377-002**	**377-003**
1	**133**	**1.3**	**378-000**	**378-001**	**378-002**	**378-003**
0.1	**13.3**	**0.13**	**379-000**	**379-001**	**379-002**	**379-003**

CDG025D, with 2 setpoints and RS232 interface, temperature compensated

Full Scale Range			Flange type			
Torr	Pascal	mbar	1/2" tube	DN 16 ISO-KF	DN 16 CF-R	8 VCR®
1000	**133'322**	**1333**	**375-300**	**375-301**	**375-302**	**375-303**
–	110'000	1100	375-500	375-501	375-502	375-503
200	26'664	267	382-300	382-301	382-302	382-303
100	**13'332**	**133**	**376-300**	**376-301**	**376-302**	**376-303**
–	10'000	100	376-500	376-501	376-502	376-503
20	2'666	26.7	383-300	383-301	383-302	383-303
10	**1'333**	**13.3**	**377-300**	**377-301**	**377-302**	**377-303**
–	1'000	10	377-500	377-501	377-502	377-503
1	**133**	**1.3**	**378-300**	**378-301**	**378-302**	**378-303**
–	100	1	378-500	378-501	378-502	378-503
0.25	33.3	0.33	385-300	385-301	385-302	385-303
0.1	**13.3**	**0.13**	**379-300**	**379-301**	**379-302**	**379-303**
–	10	0.1	379-500	379-501	379-502	379-503

bold = standard products

Other flange types and full scale ranges (F.S.) on request.

SPECIFICATIONS (Torr based standard products)

Measurement Range **F.S. (Full Scale)**	**Torr** **Pa** **mbar**	**1000** **133'322** **1333**	**100** **13'332** **133**	**10** **1'333** **13.3**	**1** **133** **1.3**	**0.1** **13** **0.13**
Accuracy [1]	% of reading	0.2	0.2	0.2	0.2	0.5
Temperature effect						
on zero	% F.S./°C	0.005	0.005	0.005	0.015	0.02
on span	% of reading/°C	0.01	0.01	0.01	0.01	0.03
Resolution	% F.S.	0.003	0.003	0.003	0.003	0.003
Pressure, max.	kPa (absolute)	400	260	260	260	130
Response time [2]	ms	30	30	30	30	130
Lowest reading	% F.S.	0.01				
Lowest suggested reading	% F.S.	0.05				
Lowest suggested control pressure	% F.S.	0.5				
Temperature						
Operation (ambient)	°C	+5 … +50				
Bakeout at flange [3]	°C	≤110				
Storage	°C	–40 … +65				
Supply voltage	VDC	+14 … +30				
Power consumption	W	≤1				
Output signal (analog)	VDC	0 … +10				
Degree of protection		IP 30				
Standards		EN 61000-6-2, EN 61000-6-3, EN 61010, UL 61010-1, CSA 22.2 No.61010-1, RoHS				
Electrical connection		D-sub, 15 pole, male				
Setpoint [4]		two setpoints (SP1, SP2)				
Relay contact	VDC / ADC	30 / ≤0.5				
Hysteresis	% F.S.	1				
Materials exposed to vacuum		Aluminum oxide ceramic (Al2O3), Vacon 70 [5], stainless steel (AISI 316L [6]), AgCuTi hard solder, sealing glass				

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

2) Incease 10 … 90% F.S.

3) Non operation

4) CDG025D-S only

5) 28% Ni, 23% Co, 49% Fe

6) 18% Cr, 10% Ni, 3% Mo, 69% Fe

SPECIFICATIONS (Torr based other ranges)

Measurement Range **F.S. (Full Scale)**	**Torr** **Pa** **mbar**	**–** **110'000** **1100**	**200** **26'664** **267**	**–** **10'000** **100**	**20** **2'666** **26.7**	**–** **1'000** **10**	**–** **100** **1**	**0.25** **33.3** **0.33**	**–** **10** **0.1**
Accuracy [1]	% of reading	0.2	0.2	0.2	0.2	0.2	0.2	0.25	0.5
Temperature effect									
on zero	% F.S./°C	0.005	0.005	0.005	0.005	0.005	0.015	0.02	0.02
on span	% of reading/°C	0.01	0.01	0.01	0.01	0.01	0.01	0.03	0.03
Pressure, max.	kPa (absolute)	236	260	260	260	260	260	130	130
Resolution	% F.S.	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
Response time [2]	ms	30	30	30	30	30	30	130	130

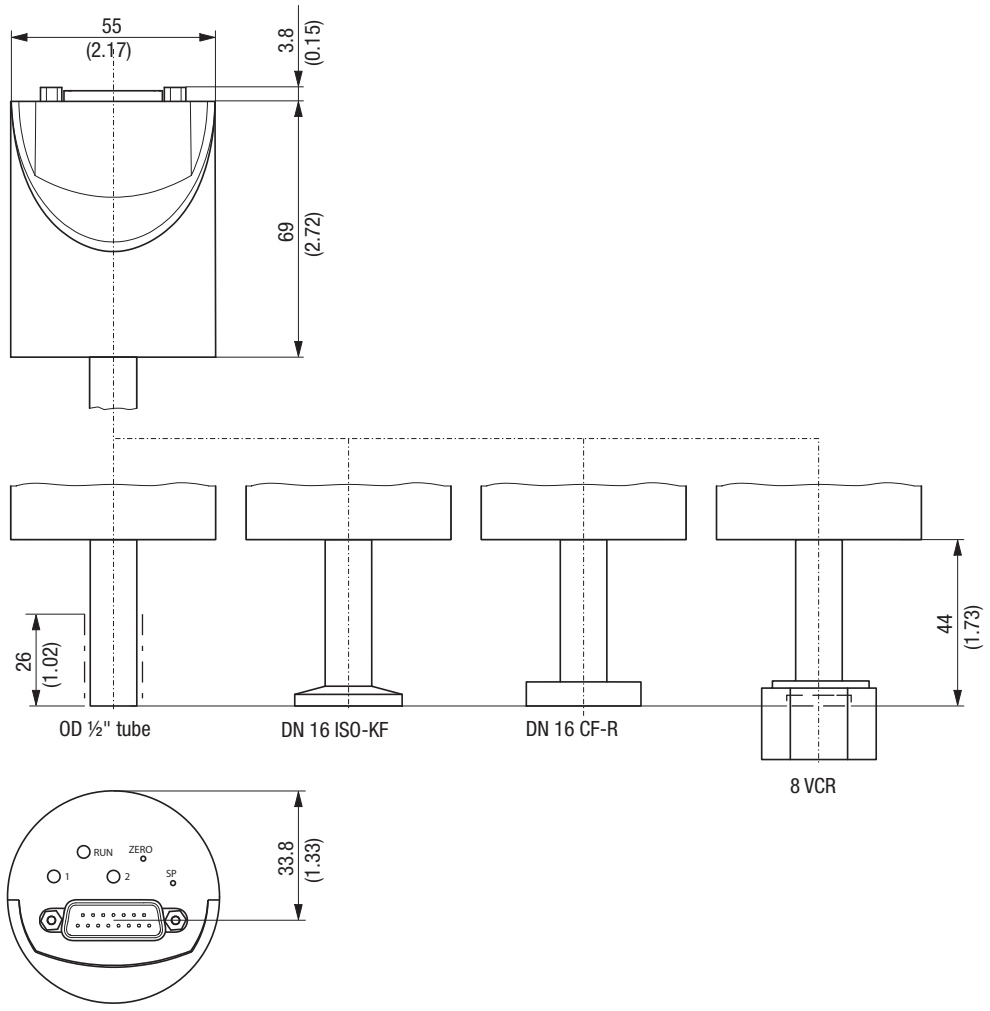
1) Non-linearity, hysteresis, repeatability at 25 °C ambient operating temperature without temperature effects after 2 hours operation.

2) Incease 10 … 90% F.S.

Further specifications see table above.

DIMENSIONS, INTERNAL VOLUME, WEIGHT

mm (inch)



		1/2" tube	DN 16 ISO-KF	DN 16 CF-R	8 VCR®
Internal volume	cm^3 ($inch^3$)	3.6 (0.22)	3.6 (0.22)	3.6 (0.22)	3.6 (0.22)
Weight	g	310	330	350	370

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www.inficon.com reachus@inficon.com