

Манометры прямого измерения давления ASG, емкостные манометры Barocel 7000

Технические характеристики

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BAROCEL 7000 SERIES CAPACITANCE GAUGES

The Barocel 7000 series has 3 main variants, 7025m, 7025 and 7045/7100. These are available in a range of full-scales from 1000 to 0.1 mbar/torr (1000 to 10 for the 7025m) and with a number of flange options. This enables pressure measurement and control over 7 decades and simplicity when fitting to your system.

Barocel 7025m - miniaturised accuracy

For those who need measurement accuracy on a budget, the 7025m is the gauge for you. Built on the same principles as the higher end Barocel 7000 gauges, this shares its ceramic sensing technology and excellent zero stability. Recognising the market need for a smaller more cost effective solution, this provides you with the first step on the way to a more efficient system.



Barocel 7025 - benchmark performance

Designed to give repeatable high performance, this is the gauge which sets the standard in a wide range of applications. Giving high levels of accuracy, it has been designed to be fit and forget, with multiple levels of internal protection; Baffle, coatings and shielding fitted as standard along with the excellent zero stability and any orientation mounting.



Barocel 7045 and 7100 - temperature control

Using the same measuring cell found in the 7025, these gauges then have integrated heaters to hold the gauges at fixed temperatures. For applications with harsh gasses, where condensation could cause an issue, we have implemented two levels of heated gauges. Heated to steady temperatures of either 45°C (7045) or 100°C (7100), these provide you with piece of mind that you will not get condensates in the gauge that could lead to damage to your control network.



Features and benefits

- **Superior performance**
Excellent zero stability and accuracy
- **Flexible solutions**
From compact to heated and everything between
- **System enhancement**
Simple integration with dual set points for enhanced control
- **Low cost of ownership**
Zero maintenance required

Applications

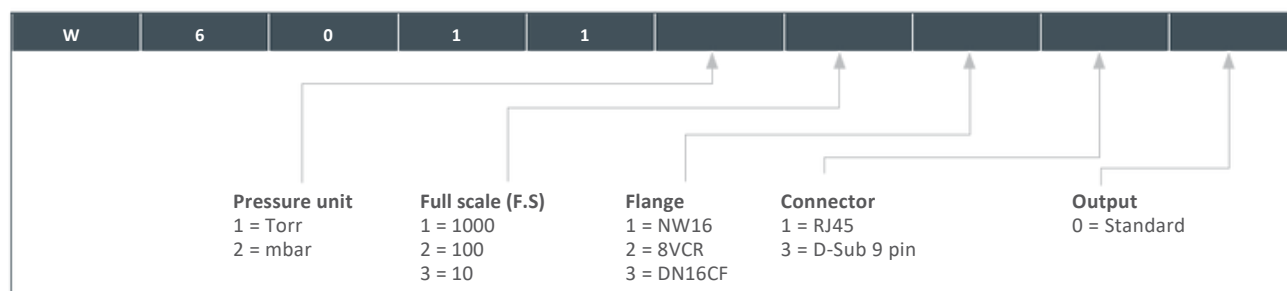
- **Semiconductor**
Load lock, PVD, CVD, Etch
- **High energy physics**
Beam lines, accelerators, laser evacuation, medical systems
- **Industrial**
Coating systems, furnaces, sterilisation, food processing, oxidation
- **Analytical**
Mass spectrometry and electron microscopy
- **Quality & control**
Reference vacuum, batch control

TECHNICAL DATA

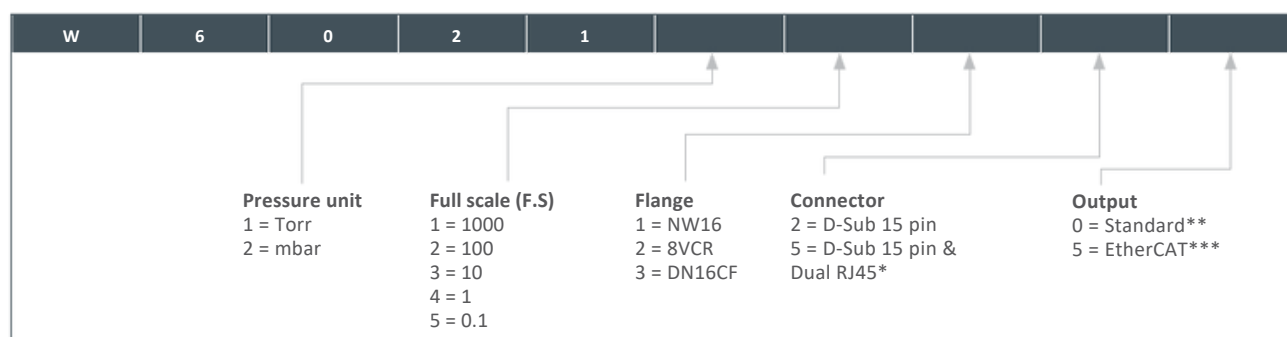
Description	7025m	7025			7045		7100	
FS options	1000/100/10	1000/100/10	1	0.1	1000/100/10/1	0.1	1000/100/10/1	0.1
Accuracy (% of reading)	1	0.2		0.5	0.15	0.15	0.2	0.4
Temperature effect								
On zero (percentage FS/°C)	0.02	0.005	0.015	0.02	0.0025	0.005	0.0025	0.005
On span (% of reading/°C)	0.02	0.01		0.03	0.01		0.02	
Resolution (percent FS)	0.05	0.003			0.003		0.003	
Lowest reading (percent FS)	0.05	0.05			0.05		0.05	
Admissible temps								
Ambient(°C)	0 to +70	+5 to +50			+10 to +40		+10 to +50	
Bakeout (at flange) (°C)	<110	<110			<110		<110	
Storage (°C)	-20 to +85	-40 to +65			-20 to +65		-20 to +65	
Burst pressure (bar) absolute	6	5			6		6	
Supply voltage V (dc)	+13 to +30	+13 to +30			+14 to +30 or +-15V		+14 to +30 or +-15V	
Power consumption								
During heat up (W)	N/A	N/A			<12		<15	
At normal operation (W)	<0.3	<1			<8		<10	
Output signal V (dc)	+0 to +10	+0 to +10			+0 to +10		+0 to +10	
Response time (ms)	100	30			30		30	
IP rating	40	30			40		40	
Dimensions NW16 (mm)	28.3x28.3x99	55x55x113			82x82x142		82x82x142	
Set points								
Numbers of	N/A	2			2		2	
Relay contact (V (dc))	N/A	30			30		30	
Hysterisis (percent F.S)	N/A	1			1		1	
Materials exposed to vacuum	Aluminium oxide ceramic (Al2O3), stainless steel 1.4404 (AISI 316L)							

ORDERING INFORMATION

Barocel 7025m selection tree



Barocel 7025 selection tree

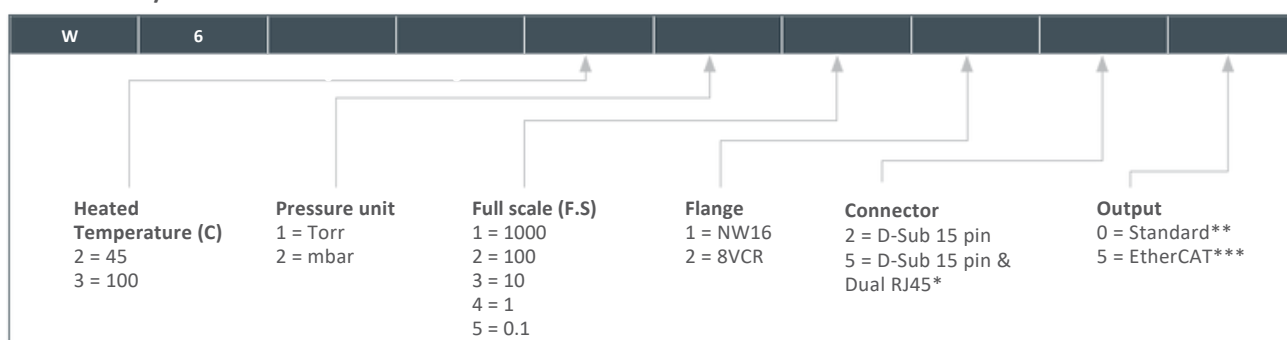


*Only selectable with pressure units of torr and Output of "EtherCAT".

Only available with D-Sub 15 pin. *Only available with D-SUB 15 pin

& Dual RJ45

Barocel 7045/7100 selection tree



*Only selectable with pressure units of torr and Output of "EtherCAT".

**Only available with D-Sub 15 pin.

***Only available with D-SUB 15 pin & Dual RJ45

CONTROLLERS AND ACCESSORIES

The TIC instrument controller (D39702000) offers comprehensive control and display of up to 6 compatible Edwards gauges. See below for the various set ups you can run with a single controller

- 6 x Edwards active vacuum gauges
- 3 x BAROCEL 7025m or 7025* and any 3 other Edwards active vacuum gauges
- 1 x BAROCEL 7045* or 7100*, 2 x BAROCEL 7025* or 7025m and any 3 other Edwards active vacuum gauges

The TIC has RS232 interfaces and analogue outputs for ease of integration into any system, alongside the clear on-board display with push button control. The TIC PC monitor then allows for data logging and monitoring alongside other control aspects and can be integrated into your wider network using the LABVIEW driver available via the National instruments site.

The unit may be either rack or bench mounted and provides a useful hub for the flexible operation of a wide range of vacuum system configurations.

*When using these models you must also use Barocel Adapter Cable D40003050



ORDERING INFORMATION

Accessory	Order number
TIC instrument controller 6 head capman	D39702000
TIC adaptor cable for Barocel	D40003050

Connection cable options	Order number
0.5 m	D40001005
1 m	D40001010
3 m	D40001030
5 m	D40001050
10 m	D40001100
15 m	D40001150
25 m	D40001250
50 m	D40001500

ACTIVE STRAIN GAUGE (ASG2)

The Edwards Active Strain Gauge (ASG2) is a rugged, corrosion resistant diaphragm gauge which provides accurate, gas independent measurement from 2000 mbar to 1 mbar or 1000 mbar to 1 mbar.

It can be used as a stand-alone transducer allowing OEMs and system builders to develop low cost, flexible solutions to their vacuum instrumentation needs.

Alternatively, it can be connected to an Edwards controller with an adapter cable where it can be combined with many other sensor types to provide a complete vacuum instrument solution.



Features and benefits

- Drive electronics combined in the gauge head
 - Simplifies system design
 - Saves valuable rack space
- Wide range, regulated internal power supply
 - Runs from standard d.c. power supplies +12 to +32 V
 - Tolerant to voltage fluctuations
- Standard analogue output 0 to 10 V d.c.
 - Easy to interface with a computer or PLC
- High accuracy and stability
 - Accuracy $\pm 0.2\%$ full scale
 - Stability 0.1% full scale
- Corrosion resistant, rugged design
 - Material exposed to vacuum is stainless steel 316L and Hastelloy C276
 - Enclosure rating IP65
- Gas independent measurement
 - Pressure measurement is completely independent of gas type making this gauge ideal for applications where gases other than nitrogen are used
- Excellent high pressure resolution
 - Ability to resolve 1 mbar changes in system pressure even at pressures near atmospheric makes the gauge ideal for monitoring large slow-pumping systems
- Part of the Active gauge range
 - Standard supply requirements and output voltage allow simple integration into systems using Active pirani, thermocouple, inverted magnetron, strain, wide range and ionization gauges. All of these are compatible with Edwards controllers

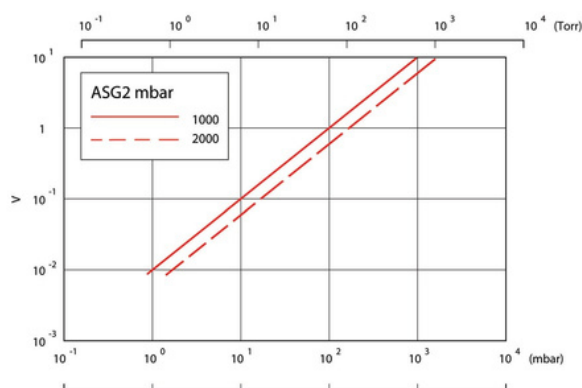
PRODUCT DATA SHEET

TECHNICAL DATA

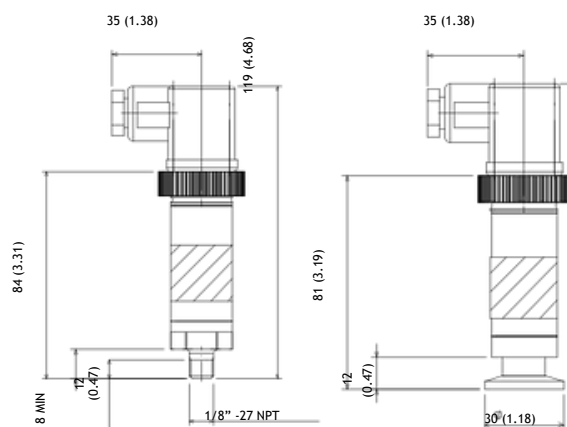
Full scale pressure range	ASG2-1000, 1000 to 1 mbar
	ASG2-2000, 2000 to 1 mbar
Accuracy	±0.2% full scale
Stability	0.1% full scale
Temperature coefficient	0.03% full scale per °C
Power supply	12 to 32 V
Maximum power	0.1 W
Output signal	0 to 10 V d.c. linear
Output impedance	51 Ω
Minimum load	> 10 k Ω
Adjustments	Set full scale and set zero

Temperature range	
Compensated	-10 to +50 °C
Operating / Storage	-40 to +80 °C
Materials exposed to vacuum	Stainless steel 316L, Hastelloy C276
Internal volume	NW16 2.78 cm ³
	1/8" NTP 2.74 cm ³
Weight	NW16 150 g
	1/8" NTP 130 g
Electrical connector	4 pin DIN 43650 Form A
Vacuum fitting	1/8" NPT male or NW16
Enclosure rating	IP 65

OUTPUT CHARACTERISTICS



DIMENSIONS - mm (inch)



ORDERING INFORMATION

Product description	Order number	Order no. (certified)*
ASG2 NW16 1000 mbar	D35736000	D3573600C
ASG2 NW16 2000 mbar	D35738000	D3573800C
ASG2 1/8" NPT 1000 mbar	D35735000	D3573500C
ASG2 1/8" NPT 2000 mbar	D35737000	D3573700C
ASG2 adaptor cable (0.5 m) 4 pin DIN43650 form A to FCC68	D40003160	

*Supplied with a certificate of calibration traceable to national standards

Product description	Order number
Cable assemblies (inc FCC68 compatible connectors at both ends)	
0.5 m	D40001005
1 m	D40001010
3 m	D40001030
5 m	D40001050
10 m	D40001100
15 m	D40001150
25 m	D40001250
50 m	D40001500
100 m	D40001999



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