

BAROCEL 7000 SERIES CAPACITANCE GAUGES

edwardsvacuum.com

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

Applications

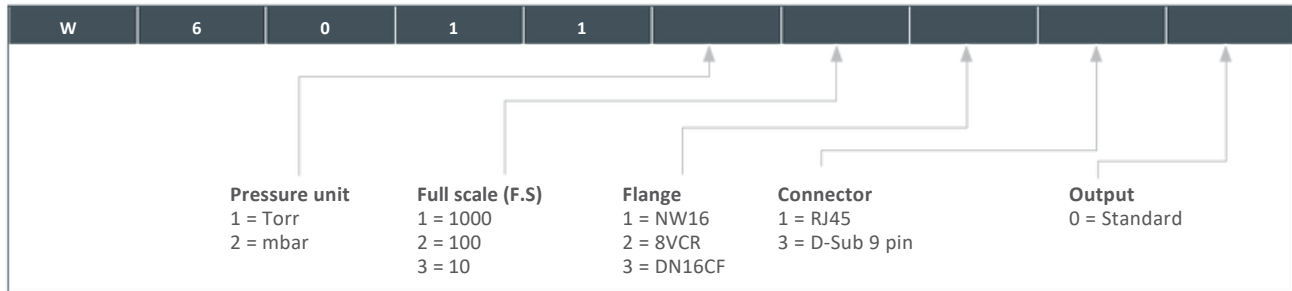
- **Semiconductor**
Load lock, PVD, CVD, Etch
- **Industrial**
Coating systems, furnaces, sterilisation, food processing, oxidation
- **Quality & control**
Reference vacuum, batch control
- **High energy physics**
Beam lines, accelerators, laser evacuation, medical systems
- **Analytical**
Mass spectrometry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

TECHNICAL DATA

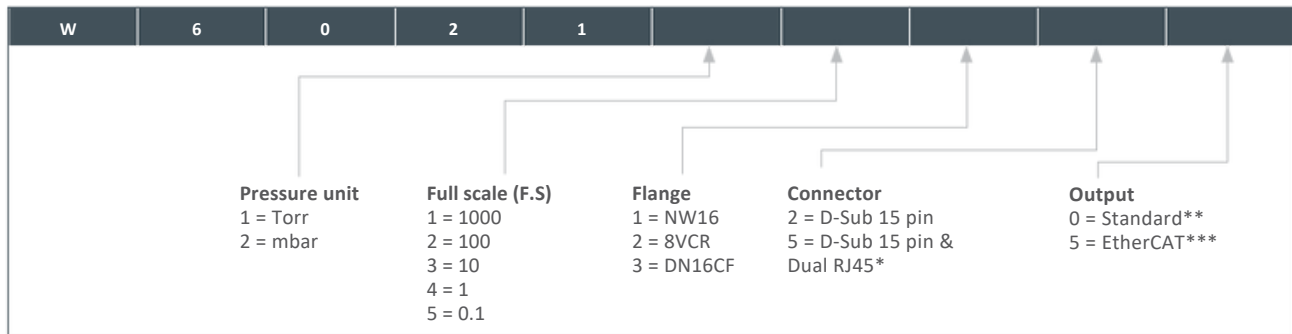
Description	7025m	7025			7045		7100	
FS options	1000/100/10	1000/100/10	1	0.1	1000/100/10/1	0.1	1000/100/10/1	0.1
Accuracy (% of reading)	1	0.2		0.5	0.15	0.15	0.2	0.4
Temperature effect								
On zero (percentage FS/°C)	0.02	0.005	0.015	0.02	0.0025	0.005	0.0025	0.005
On span (% of reading/°C)	0.02	0.01		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

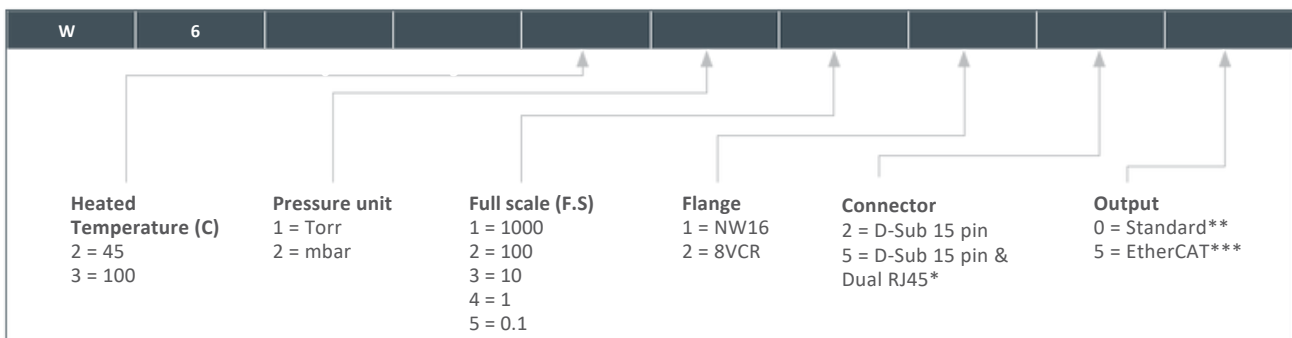


Barocel 7025 selection tree



*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 Adaptor 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

Publication Number: 3601 0694 01 © Edwards Limited 2024. All rights reserved. Edwards and the Edwards logo are trademarks of Edwards Limited.

Whilst we make every effort to ensure that we accurately describe our products and services, we give no guarantee as to the accuracy or completeness of any information provided in this datasheet.

Edwards Ltd, registered in England and Wales

No. 6124750, registered office: Innovation Drive, Burgess Hill, West Sussex, RH15 9TW, UK.

