

# P3 HANDHELD MEASURING SYSTEM

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The Edwards P3 handheld measuring system is the essential device for on-site service calls and on the spot flexible checking. Thanks to the easy use and integrated measurement data memory, pressures can be directly measured at different locations for monitoring the application. Owing to the advanced measuring range of the high-precision Piezo/Pirani sensor, pressure measurement in the range of 1200 to  $5 \times 10^{-4}$  mbar can be displayed.

The instrument can also be operated completely under vacuum conditions and with the integrated memory function it is possible to store and display up to 2000 measured values.



## THE READY TO GO HANDHELD MEASURING SYSTEM

- Direct display of measuring values
- Developed for use in demanding environments
- Mains independent power supply
- High-precision measurements of common gas types
- Internal storage and display of up to 2000 data points
- Export and analysis of stored measurement values via USB interface
- Optional online analysis of measurement values via USB interface

With the integrated battery, the device can be attached and operated at any pressure measuring point, and directly display or store up to 2,000 values for later evaluations and visualisations. All data values stored can be exported and displayed on a computer via USB link and by means of the optional software. The software is especially useful for setting up the devices or calculating rises in pressure for detecting rough leaks.

The accessory carry case, which provides storing and transport protection for the P3 gauge, includes; VacuGraph™ software, spare battery, USB link, mains power adaptor, with each having its own dedicated space in the case.

## FEATURES AND BENEFITS

- Measurement range 1200 to  $5 \times 10^{-4}$  mbar (7 decades)
- Usage in vacuum is possible
- Data logging via USB interface or using the internal memory to store up to 2000 values which can then be exported to PC
- Cordless power supply with standard 9 V battery or 12 V a.c. adapter in the accessory pack
- Pressure unit selectable: mbar, Torr and Pascal
- Windows software for measuring data storage and PC analysis in the accessory pack



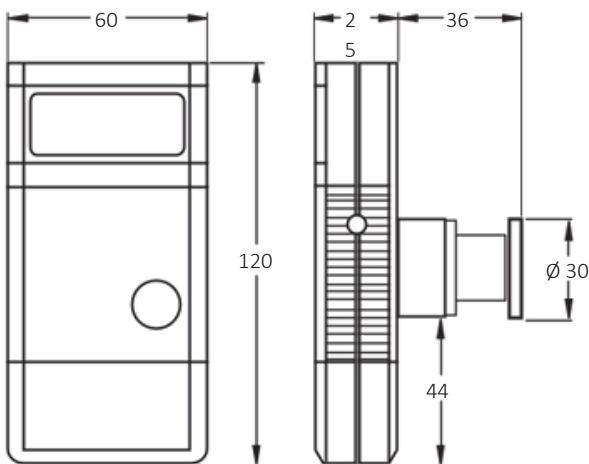
## MEASUREMENT PRINCIPLE

The Edwards P3 provides high resolution covering the complete measurement range due to the usage of two different physical sensor principles. It is equipped with an internal Piezo electric sensor for high pressure measurement and a Pirani sensor for covering the lower pressure range. The filament is heated to a constant temperature in a bridge circuit. The necessary bridge voltage is subject to the total pressure measurement. The Piezo electric element measures > 15 mbar independently of the type of gas. In the lower measurement range the adjustable gas correction factor permits a measurement for selected gases other than air.

## TYPICAL APPLICATIONS

- Mobile and fixed pressure measurement installations of all kind, including; service, maintenance, universities and laboratory applications
- Food and packaging industry
- Vacuum process quality assurance
- Visualisation and documentation of vacuum pumps and systems

## DIMENSIONS – MM



## ORDER INFORMATION

Description	Order No.
P3 gauge including 9V battery	D03000420
P3 gauge accessory kit Including: USB interface cable (2 m), protection case with foam insert, 15 V wall power supply for 100 - 260 V, 50/60 Hz mains, VacuGraph™ software and AlMn battery, 9 V block 6LR 61	D03000421
P3 gauge (certified), including 9V battery	D0300042C

## TECHNICAL DATA

	Units	P3 Handheld Measuring System
Measurement principle		Piezo-resistive (gas type independent) and thermal conductance Pirani
Indicated units of measurement		mbar, Torr, Pa
Measurement range	mbar (Torr)	1200 to 5 x 10 <sup>-4</sup> (900 to 3.75 x 10 <sup>-4</sup> )
Maximum overload	bar abs.	2
<b>Measurement accuracy</b>		
1200 - 10 mbar (900 to 75 Torr)	%	±0.3 of full-scale
10-2 x 10 <sup>-3</sup> mbar (7.5 to 1.5 x 10 <sup>-3</sup> Torr)	% approx. %	10 of measured value
< 2 x 10 <sup>-3</sup> mbar (< 1.5 x 10 <sup>-3</sup> Torr)		< factor 2 of measured value
Gas type correction factor		Ar, CO <sub>2</sub> , He, CO, H <sub>2</sub> , N <sub>2</sub> , Kr
Materials in contact with the vacuum		Stainless steel, gold, tungsten, nickel, glass, fluoroelastomer
Measurement cycle	s	1.0
Data storing rate	s	1 to 6000
<b>Operating temperature</b>		
Sensor	°C	+5 to +50
Battery	°C	-20 to +45
<b>Storage temperature</b>		
Sensor	°C	-20 to +60
Battery	°C	+10 to +25
Supply Voltage		Rechargeable 9 V battery (recommendation: type Panasonic 6LR61PM, 9 V/500 mAh) or 12-15 V d.c. external adaptor (miniature jack, + terminal at the tip)
<b>Power consumption</b>		
<200 mbar (< 150 Torr)	mW	60
> 200 mbar (> 150 Torr)	mW	2
Operating duration	h	Li-battery: <100 h, 6LR61 Alkaline: <40 h
Display		LCD 12 mm
Connection (stainless steel)		NW16
PC interface		Mini USB-B connector
Data type		ASCII-Text
Dimensions	mm	60 x 120 x 61
Protection class	IP	40
Weight (including battery)	kg (lbs)	0.23 (0.51)

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