



# Pressure Meters

for measuring differential air or gas pressure



The new range of ETI pressure meters is designed for use in measuring non-corrosive gauge or differential air or gas pressure in a wide range of industries.

## **applications**

- flue draught measurement
- gas pressure in heating appliances
- air conditioning ducts
- monitoring of filter differential pressure
- velocity measurement with a pitot tube

## **absolute, gauge or differential pressure**

If serious errors are to be avoided, it is important when taking pressure measurements to be clear which mode of measurement is to be used: absolute, gauge or differential.

### **absolute**

If a vessel were to contain no molecules whatsoever, the pressure would be zero. Pressure measured on a scale which uses this zero value as its reference point is said to be absolute pressure.

### **gauge**

In everyday life, however, many applications of pressure are not so dependent on the absolute pressure value, but the difference between the absolute and the pressure of the atmosphere. For example, a punctured tyre with no air in it would read 'zero' on a tyre pressure gauge, even though still containing atmospheric air. Such gauges are designed to measure pressure values that are expressed with respect to atmospheric pressure and thus indicate zero when the measurement port 'merely' contains molecules at atmospheric pressure. These measurements are known as gauge pressure measurements. Thus the difference between an absolute pressure value and a gauge pressure value is the variable value of the atmospheric pressure.

### **differential**

In other applications, where knowledge of the pressure difference between two places or systems is needed, the reference pressure may not necessarily be either zero or the atmospheric pressure but some other value. These are known as differential pressures. For example, the flow of gas along a pipeline depends on the pressure difference between the ends of the pipe and, in practice, both ends are usually at comparatively high pressures.

### **manometers**

A manometer is a pressure measuring instrument that measures low pressure and is used, primarily, for measuring gas pressure or low atmospheric pressure and normally measures in mbar.

### **pressure meters**

A pressure meter is a pressure measuring instrument that measures high pressure, non-corrosive air or gas and normally measures in psi (pounds per square inch).



# 9202 Manometer

## for indicating differential pressure

- robust water resistant case offering IP65 protection
- high accuracy, performance & repeatability
- zeroing, offset & data compensation
- 11 selectable units of measurement

The new 9202 digital manometer allows the user to measure positive and negative differential pressure over the range of -137 to 137 mbar with a resolution of 0.1 mbar and features over pressure protection to at least twice the measuring capacity.

These easy to use manometers are ideal for plumbers and gas engineers to measure domestic gas pressures and low pressure, non-corrosive air or gases in HVAC applications. The units can be used to measure air pressure in ductwork or pressure drops across filters to determine performance.

The 9202 manometer features a custom, LCD display with P1, P2, diff, hold, open circuit, low battery indication and a user selectable backlight. The unit incorporates an auto-power off facility that automatically turns the instrument off after approximately ten minutes, maximising battery life.

Each unit is housed in a durable, ABS case that has an integrated rubber seal to ensure complete water tightness and help reduce the possibility of damage in harsh environments. Supplied complete with battery, operation manual and two 500 mm long x 4 mm ID connection hoses.

### optional accessories

- protective black silicone boot c/w foot stand and magnet for mounting on pipes, metallic surfaces (830-258)
- stainless steel wall bracket - screws not supplied (832-015) - see page 34 for details



order code	description	
825-902	9202 manometer	
825-990	500 mm connection hoses (2)	
830-258	protective silicone boot - black	
832-015	s/steel wall bracket	

new



specification	9202	
	range	resolution
psi	±2	0.01
inH <sub>2</sub> O	±55.40	0.01
Mbar	±137.8	0.1
KPa	±13.79	0.01
inHg	±0.407	0.001
mmHg	±103.4	0.1
ozin <sup>2</sup>	±32.00	0.01
ftH <sub>2</sub> O	±4.612	0.001
cmH <sub>2</sub> O	±140.6	0.1
kgcm <sup>2</sup>	±0.140	0.001
bar	±0.137	0.001
accuracy	±0.3 %FS (25 °C)	
repeatability	±0.2 % (Max. 0.5 %FS)	
battery	3 x 1.5 volt AAA	
battery life	100 hours	
display	custom LCD	
dimensions	32 x 71 x 141 mm	
weight	220 grams	

# 9200 Series Pressure Meters

## for measuring positive & negative differential pressure

- robust water resistant case offering IP65 protection
- high accuracy, performance & repeatability
- 11 selectable units of measurement
- 4 models available -  $\pm 5$  to  $\pm 75$  psi

new

This new range of four industrial differential pressure meters offer high accuracy, performance and repeatability. The pressure meters allow the user to indicate the positive and negative differential pressure over the range of  $\pm 5$ ,  $\pm 15$ ,  $\pm 30$  or  $\pm 75$  psi. All instruments feature over pressure protection to at least twice the measuring capacity. These easy to use pressure meters are ideal for measuring non-corrosive gauge or differential air/gas pressure in a wide variety of industries.

Each pressure meter features a custom, LCD display with P1, P2, diff, hold, open circuit, low battery indication and a user selectable backlight. The unit incorporates an auto-power off facility that automatically turns the instrument off after approximately ten minutes, maximising battery life.

Each unit is housed in a durable, ABS case that has an integrated rubber seal to ensure complete water tightness and help reduce the possibility of damage in harsh environments. Supplied complete with a battery, operation manual and two 500 mm long connection hoses



specification	9205		9215		9230		9275	
	range	resolution	range	resolution	range	resolution	range	resolution
psi	$\pm 5$	0.001	$\pm 15$	0.01	$\pm 30$	0.01	$\pm 75$	0.01
inH <sub>2</sub> O	$\pm 138$	0.1	$\pm 415.2$	0.1	$\pm 830$	1	$\pm 2078$	1
Mbar	$\pm 344.7$	0.1	$\pm 1034$	1	$\pm 2068$	1	$\pm 5168$	1
KPa	$\pm 34.47$	0.01	$\pm 103.4$	0.1	$\pm 206.8$	0.1	$\pm 517.1$	0.1
inHg	$\pm 1.018$	0.001	$\pm 30.54$	0.01	$\pm 61.08$	0.01	$\pm 15.00$	0.01
mmHg	$\pm 258.5$	0.1	$\pm 775.7$	0.1	$\pm 1551$	1	$\pm 3878$	1
ozin <sup>2</sup>	$\pm 80.0$	1	$\pm 240.0$	0.1	$\pm 480.0$	0.1	$\pm 1200$	0.1
ftH <sub>2</sub> O	$\pm 11.53$	0.01	$\pm 34.60$	0.01	$\pm 69.20$	0.01	$\pm 173.0$	0.01
cmH <sub>2</sub> O	$\pm 351.5$	0.1	$\pm 1055$	1	$\pm 2109$	1	$\pm 5272$	1
kgcm <sup>2</sup>	$\pm 0.351$	0.001	$\pm 1.055$	0.001	$\pm 2.109$	0.001	$\pm 5.250$	0.001
bar	$\pm 0.344$	0.001	$\pm 1.034$	0.001	$\pm 2.068$	0.001	$\pm 5.138$	0.001
accuracy	$\pm 0.3$ %FS (25 °C)							
repeatability	$\pm 0.2$ % (Max. 0.5 %FS)							
battery	3 x 1.5 volt AAA							
battery life	100 hours							
display	custom LCD							
dimensions	32 x 71 x 141 mm							
weight	220 grams							

order code	description
825-905	9205 $\pm 5$ psi
825-915	9215 $\pm 15$ psi
825-930	9230 $\pm 30$ psi
825-975	9275 $\pm 75$ psi
825-990	500 mm connection hoses (2)
830-257	protective silicone boot - black
832-015	s/steel wall bracket

### connection hoses included

All units are supplied with small, high pressure, barbed stainless steel connectors (for 4 mm ID tube).

