



***TE Gauge***

*Precision Pressure Instrumentation*

# Product Brochure



## TEG Digital Pressure Gauges

Precision gauges for pressure measurement up to 2500bar ..... **3-4**

The TEG range of digital pressure gauges are available as gauge, absolute, differential, and compound pressure versions. Each model is simple operation with comprehensive features that make them ideal for a variety of pressure applications. With accuracy up to 0.025% of full scale the TEG range is suitable for use with all field and laboratory pumps.



## Pneumatic Pressure Pumps

Portable and laboratory pneumatic pumps ranging up to 100bar ..... **5**

TE Gauge offers three pumps for pneumatic pressure applications. The 7090 is a well proven hand pump with vacuum to 40bar range. For laboratory pressure the 7190 is a micro-pressure pump provides -0.4bar vacuum to 0.4 bar pressure. The 7193 is the mid-range pump enabling vacuum to 40bar, and the 7194 is the high pressure pump providing vacuum to 100bar pressure generation.



## Hydraulic Pressure Pumps

Field and laboratory hydraulic pumps for applications to 700bar ..... **6**

For hydraulic pressure requirements in the field the 7095 hand pump offers a compact and easy to use solution. It is durable and comfortable to operate, achieving 700bar. For laboratory pressure generation the 7195 enables a stable and fast dual pressure source to 600bar. It is can be used as a comparison pump for calibrating pressure measuring instruments, using a TEG gauge as reference.



## Auto-Ranging Digital Pressure Gauge

A unique precision gauge with 0.1% of reading accuracy to 200bar ..... **6**

The 7078 is a high performance digital pressure gauge that has the ability to auto-range and maintain a 0.1% of reading accuracy from vacuum to 200bar. It eliminates the need for multiple gauges to span many different ranges, solving the problem of over ranging errors. Designed with advanced technology it provides unmatched accuracy and is simple operation, ideal for field or lab applications.



## Pressure Calibration Accessories Kit

Providing all the essential pressure adaptors, fittings, connectors and tools ..... **6**

The 7198 is a comprehensive set of pressure accessories to accompany pumps, gauges, and calibrators. It includes adaptors, fittings, connectors, and hoses to provide a quick solution to pressure component requirement in both the field and laboratory. Adaptors for metric, BSP parallel, taper threads, and NPT are provided. The kit is supplied in a robust case for adaptors and hose bag.



## About TE Gauge

TE Gauge is a subsidiary brand of Time Electronics Ltd, established to provide precision pressure instrumentation to industries worldwide.

Time Electronics is a UK based company founded in 1967. We manufacture calibration and metrology instrumentation, with products ranging from portable test equipment to fully customised calibration benches and laboratories.

Time Electronics' headquarters is in Tonbridge, Kent, UK, situated 30 miles south of London and occupies 10,000 sq ft of factory and office space. Time Electronics also has sales offices in New York (USA), Moscow (Russia) and Dubai (UAE).

During our 45 plus years of continuous development we have built strong business relationships and a wealth of engineering experience.

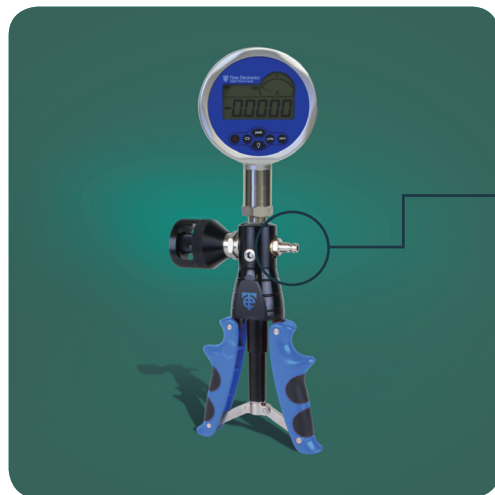
We have a global distribution network, and are represented by companies with strong technical work staffs and highly skilled engineers.

Quality is an integral part of our company philosophy. In addition to building accurate and durable products we provide extensive customer support. This has given us a valuable reputation with organisations and companies worldwide. Time Electronics is accredited to ISO 9001:2008.



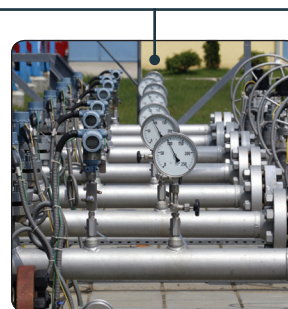
## TE Gauge in the lab

For pressure applications in laboratories and testing facilities TEG instruments provide a quick and simple solution to pressure generation and measurement. Benchtop pumps can be used with precision gauges for calibration and more.



## TE Gauge in the field

Pressure calibration and device checking in the field is vital to plant operations. TEG field pumps are specifically designed for arduous use. Accompanied by a TEG gauge routine site work is more efficient and the testing process made easier.



## Company Details:

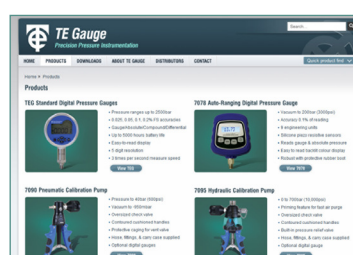
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# Digital Pressure Gauges

Precision gauges for pressure measurement applications

## Features

- Pressure ranges up to 2500bar (37500psi)
- Gauge/Absolute/Differential/Compound models
- 0.025%, 0.05%, 0.1% or 0.2% FS accuracy
- Easy-to-read backlit display with 5 digit resolution
- Unique self-protection capability technology
- 3 times per second measure speed
- Fully temperature compensated accuracy
- Long working period - low power consumption
- RS-232 interface on all models



The TEG range of digital pressure gauges provide high accuracy, resolution and stability. Their robust design means that each gauge can be used in critical environments where it is necessary to measure with accuracy, reproducibility, long-term stability and protection against dust.

Gauges are available with accuracy up to 0.025% of full scale, with simple controls and various features for excellent usability. An RS-232 port situated on the rear of the unit for software readback. Applications include lab and field pressure calibration when accompanied by a TEG pump for pressure generation.

## General Specifications

Ranges .....	Vacuum to 2500bar (see page 4 for available models and ranges)
Pressure Types.....	Gauge / Absolute / Differential / Compound
Accuracy .....	0.2% / 0.1% / 0.05% / 0.025% of full scale
Pressure Units .....	Total of 11 pressure units possible: Pa, kPa MPa, Kg/cm <sup>2</sup> , mmH <sub>2</sub> O, inH <sub>2</sub> O, mmHg, inHg, PSI, mbar, bar.
Over pressure warning .....	120%
Measure speed .....	0.2 - 10 Readings per second, user settable
Display.....	LCD with backlight, pressure values displayed (5 digit) with 15mm character height & analogue dial graph
Resolution .....	5 digits
Analogue dial graphic.....	Includes pressure swing, % indication, low/high alarm
Peak detection .....	Maximum and minimum peak values can be displayed.
Ambient temperature measurement.....	Measurement of ambient temperature, range -10°C to 50°C, resolution 0.1°C.
RS-232 Interface .....	DB9. EasyCal software compatible (available from Time Electronics)
Pressure Port.....	1/4"G BSP male thread, 1/2"G BSP male thread (>1000bar) 0.156 inch (4mm) test hose for differential pressure
Environment.....	Operating Temp: -10°C to 50°C (14°F to 122°F) / Compensation Temp: -10°C to 50°C (14°F to 122°F) Storage Temp: -20°C to 70°C (-4°F to 158°F) / Relative humidity: < 95%
Power .....	Battery: 1 x 9V alkaline battery. Battery life: 300 hours (10 readings/sec), 6000 hours (1 reading/10sec), Power auto-off: 60 minutes power auto-off, can be disabled by user, 9V 5.5 x 2.1mm External power socket.
Materials.....	Case material: Aluminium alloy. Wetted parts: 316SS.
Dimensions .....	Display head only: 112mmx35mm, Total height: 178mm.
Weight .....	580g.



## Pressure Ranges

The compensated temperature for 0.025% FS is 20°C ± 3°C. The compensated temperature for 0.05% FS is 10°C to 50°C

### Gauge Pressure (models above 70bar = Sealed Gauge Pressure)

Media: Gas only from vac to 700mbar. Gas or Liquid from 1bar to 2500bar.  
Burst Pressure: Vac to 350bar = 3x, 700 to 1000bar = 2x, 1600 to 2500bar = 1.5x.

Model #	Range (bar)	Range (psi)	Accuracy (% FS)			
TEG-GVAC	-1 to 0bar	-15 to 0psi	0.025	0.05	0.1	0.2
TEG-G160mb	0 to 160mbar	0 to 2psi	–	0.05	0.1	0.2
TEG-G350mb	0 to 350mbar	0 to 5psi	0.025	0.05	0.1	0.2
TEG-G700mb	0 to 700mbar	0 to 10psi	0.025	0.05	0.1	0.2
TEG-G1b*	0 to 1bar	0 to 15psi	0.025	0.05	0.1	0.2
TEG-G2b*	0 to 2bar	0 to 30psi	0.025	0.05	0.1	0.2
TEG-G3.5b	0 to 3.5bar	0 to 50psi	0.025	0.05	0.1	0.2
TEG-G7b	0 to 7bar	0 to 100psi	0.025	0.05	0.1	0.2
TEG-G10b	0 to 10bar	0 to 150psi	0.025	0.05	0.1	0.2
TEG-G20b	0 to 20bar	0 to 300psi	0.025	0.05	0.1	0.2
TEG-G35b	0 to 35bar	0 to 500psi	0.025	0.05	0.1	0.2
TEG-G70b	0 to 70bar	0 to 1000psi	0.025	0.05	0.1	0.2
TEG-G100b	0 to 100bar	0 to 1500psi	0.025	0.05	0.1	0.2
TEG-G200b	0 to 200bar	0 to 3000psi	0.025	0.05	0.1	0.2
TEG-G350b	0 to 350bar	0 to 5000psi	0.025	0.05	0.1	0.2
TEG-G600b	0 to 600bar	0 to 8700psi	0.025	0.05	0.1	0.2
TEG-G700b	0 to 700bar	0 to 10000psi	0.025	0.05	0.1	0.2
TEG-G1000b	0 to 1000bar	0 to 15000psi	–	–	0.1	0.2
TEG-G1600b	0 to 1600bar	0 to 25000psi	–	–	0.1	0.2
TEG-G2000b	0 to 2000bar	0 to 30000psi	–	–	0.1	0.2
TEG-G2500b	0 to 2500bar	0 to 36000psi	–	–	0.1	0.2

\* 0.025% FS for gas media only on these models.

### Differential Pressure

Media = Gas.

Burst Pressure: 2.5 & 5mbar = 100x, 10mbar = 50x, 25 to 100mbar = 20x.

Model #	Range (mbar)	Range (inH <sub>2</sub> O)	Accuracy (% FS)
TEG-DP2.5mb	0 to 2.5mbar	0 to 1inH <sub>2</sub> O	0.4
TEG-DP5mb	0 to 5mbar	0 to 2inH <sub>2</sub> O	0.2
TEG-DP10mb	0 to 10mbar	0 to 5inH <sub>2</sub> O	0.1
TEG-DP25mb	0 to 25mbar	0 to 10inH <sub>2</sub> O	0.1
TEG-DP50mb	0 to 50mbar	0 to 20inH <sub>2</sub> O	0.05
TEG-DP100mb	0 to 100mbar	0 to 30inH <sub>2</sub> O	0.05

### Absolute Pressure

Media = Gas only from 350mbar to 3.5bar. Gas or Liquid from 7bar to 350bar.

Burst Pressure: 3x on all ranges.

Model #	Range (bar)	Range (psi)	Accuracy (% FS)	
TEG-A350mb	0 to 350mbar	0 to 5psi	0.1	0.2
TEG-A700mb	0 to 700mbar	0 to 10psi	0.1	0.2
TEG-A1b	0 to 1bar	0 to 15psi	0.1	0.2
TEG-A2b	0 to 2bar	0 to 30psi	0.1	0.2
TEG-A3.5b	0 to 3.5bar	0 to 50psi	0.1	0.2
TEG-A7b	0 to 7bar	0 to 100psi	0.1	0.2
TEG-A10b	0 to 10bar	0 to 150psi	0.1	0.2
TEG-A20b	0 to 20bar	0 to 300psi	0.1	0.2
TEG-A35b	0 to 35bar	0 to 500psi	0.1	0.2
TEG-A70b	0 to 70bar	0 to 1000psi	0.1	0.2
TEG-A100b	0 to 100bar	0 to 1500psi	0.1	0.2
TEG-A200b	0 to 200bar	0 to 3000psi	0.1	0.2
TEG-A350b	0 to 350bar	0 to 5000psi	0.1	0.2

### Compound Pressure

Media = Gas.

Burst Pressure: 0.6mbar & 2.5mbar = 250mbar. 10mbar to 100mbar = 500mbar.  
160mbar to 400mbar = 1000mbar. 600mbar & 1000mbar = 2500mbar. 2bar to 40bar = 3x.

Model #	Range (bar)	Range (inH <sub>2</sub> O & psi)	Accuracy (% FS)			
TEG-C0.6mb	0 to ±0.6mbar	0 to ±0.24inH <sub>2</sub> O	1.6			
TEG-C2.5mb	0 to ±2.5mbar	0 to ±1inH <sub>2</sub> O	0.5			
TEG-C10mb	0 to ±10mbar	0 to ±5inH <sub>2</sub> O	0.1			
TEG-C20mb	0 to ±20mbar	0 to ±15inH <sub>2</sub> O	0.05			
TEG-C50mb	0 to ±50mbar	0 to ±20inH <sub>2</sub> O	0.05			
TEG-C100mb	0 to ±100mbar	0 to ±30inH <sub>2</sub> O	0.05			
TEG-C160mb	0 to ±160mbar	0 to ±2psi	0.025	0.05	0.1	0.2
TEG-C250mb	0 to ±250mbar	0 to ±3.6psi	0.025	0.05	0.1	0.2
TEG-C400mb	0 to ±400mbar	0 to ±6psi	0.025	0.05	0.1	0.2
TEG-C600mb	0 to ±600mbar	0 to ±9psi	0.025	0.05	0.1	0.2
TEG-C1000mb	0 to ±1000mbar	0 to ±15psi	0.025	0.05	0.1	0.2
TEG-CV2b	-1 to 2bar	-15 to 30psi	0.025	0.05	0.1	0.2
TEG-CV4b	-1 to 4bar	-15 to 60psi	0.025	0.05	0.1	0.2
TEG-CV10b	-1 to 10bar	-15 to 150psi	0.025	0.05	0.1	0.2
TEG-CV25b	-1 to 25bar	-15 to 360psi	0.025	0.05	0.1	0.2
TEG-CV40b	-1 to 40bar	-15 to 600psi	0.025	0.05	0.1	0.2

## Ordering Information

How to Order.....**Model Number / Accuracy** (eg. TEG-G1b / 0.2%)

### Options

C202.....Factory Calibration Certificate (NPL traceable) for TE gauge

C203.....UKAS Calibration Certificate (ISO 17025) for TE gauge

9804.....Carrying case for digital pressure gauge (up to 4 pc gauges)

9805.....110V/220V external power adaptor (DC 9V) for digital pressure gauge



# Pneumatic Pressure Pumps

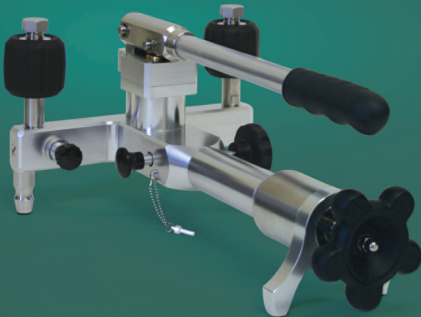
Portable and benchtop pumps for laboratory and field use



## 7190 Pneumatic Micro-Pressure Pump

The 7190 is a pneumatic pressure pump designed to generate vacuum to -0.4bar (-6psi) or pressures to 0.4bar (6psi). It is suitable for precision low pressure applications including calibration of micro manometers and switches.

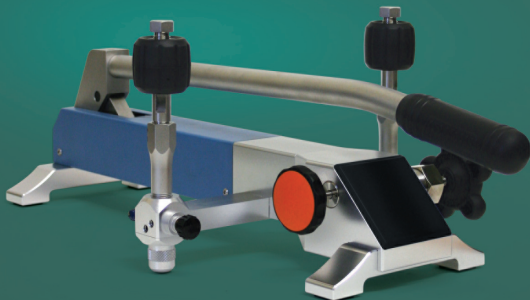
- -0.4bar vacuum to 0.4bar (6psi) pressure
- Dual pressure source (double output manifold)
- High resolution: 0.0001mbar (0.01Pa)
- High-quality screw press for fine pressure adjustment
- Specially designed bellows minimise leakage and provide excellent stability
- Isothermal chamber reduces the influence from environmental temperature changes
- Compact and lightweight design, easily transportable
- w165 x h145 x d240mm, weight 1.6kg
- Recommended gauges: TEG-C400mb (Accuracies: 0.025%/0.05%/0.1%/0.2%)



## 7193 Mid-Range Pneumatic Benchtop Pressure Pump

A hand operated benchtop pneumatic pump that generates 95% vacuum or up to 40bar (600psi) pressure. Compact and easy to use, it provides a highly stable dual pressure source ideal for reference calibration with accompanying precision gauge.

- 0.95bar vacuum to 40bar (600psi) pressure
- Dual pressure source (double output manifold)
- Ideal for use as gauge comparator with TEG precision digital gauge as reference
- High pressure resolution (0.1mbar)
- High-quality screw press for fine pressure adjustment
- Shut-off valve makes the pressure stability as high as possible during calibration
- Built-in isolation valve provides increased protection for the pump
- w198 x h140 x d315mm, weight 2.7kg
- Recommended gauges: TEG-C40b (Accuracies: 0.025%/0.05%/0.1%/0.2%)



## 7194 Pneumatic Benchtop High Pressure Pump

A benchtop pneumatic pressure pump that is a dual pressure source with the ability to achieve high pressures with minimal effort. It provides both 95% vacuum and pressure to 100bar (1500psi). It is suitable for pressure calibration in the lab.

- 0.95bar vacuum to 100bar (1500psi) pressure (120bar over pressure)
- Dual pressure source (double output manifold)
- Ideal for use as gauge comparator with TEG precision digital gauge as reference
- High pressure resolution (0.1mbar) and stability
- Easy to use pressure lever with ergonomic grip
- Built-in isolation valve provides increased protection for the pump
- Ideal for high pressure calibration instead of hydraulic pumps or gas cylinders
- w270 x h178 x d450mm, weight 7.5kg
- Recommended gauges: TEG-G100b (Accuracies: 0.025%/0.05%/0.1%/0.2%)



## 7090 Pneumatic Field Pump

A pressure and vacuum calibration hand pump that combines performance with rugged design. It is designed for arduous use in the field or as a pressure and vacuum source in the lab. The 7090 is ideal for checking the calibration of gauges, pressure switches, transmitters, recorders and other pressure equipment.

- Pressure to 40bar (600psi)
- Vacuum to -950mbar
- Oversized check valve
- Contoured cushioned handles for comfortable use
- Protective caging for vent valve
- Supplied as kit with carry case, hoses, and fittings
- h200 x w125mm, weight 0.91kg
- Recommended gauges: TEG-C40b (Accuracies: 0.025%/0.05%/0.1%/0.2%)



# Hydraulic Pumps & Additional Products

Handheld and benchtop hydraulic pumps, auto-ranging gauge, and accessories



## 7095 Hydraulic Field Pump

The 7095 is a hydraulic calibration hand pump with a robust design that makes it an ideal solution to high pressure sourcing in the field. Compact, with simple and comfortable operation, it is suitable to take on site to check gauges, transmitters, recorders, and much more.

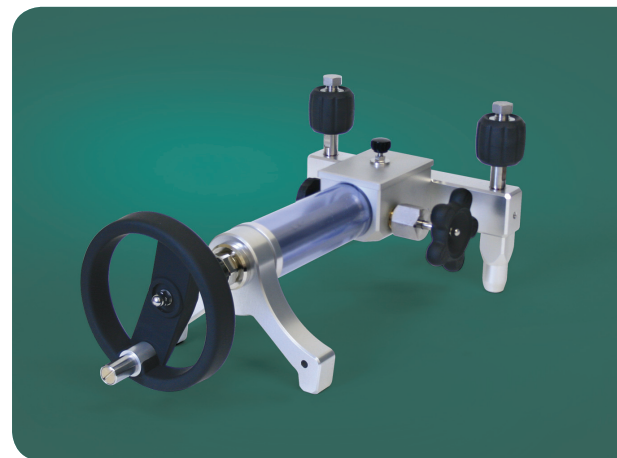
- 0 to 700bar (10,000psi)
- Priming feature for fast air purge
- Oversized check valve
- Contoured cushioned handles for comfortable use
- Built-in pressure relief valve
- Supplied as kit with carry case, hoses, and fittings
- H240 x W125mm, weight 1.4kg
- Recommended gauges: TEG-G700b (Accuracies: 0.025%/0.05%/0.1%/0.2%)



## 7195 Hydraulic Benchtop Pump

A compact hydraulic pump that generates either 90% vacuum or 600bar (8700psi) pressure. It is a highly stable dual pressure source with 0.001bar adjustment fineness. The 7195 can be used for hydraulic pressure calibration applications in the lab or field.

- 0.9bar vacuum to 600bar (8700psi) pressure
- For use with oil or deionized water
- High pressure can be generated easily, increased and decreased smoothly
- Dual pressure source (double output manifold)
- Ideal for use as gauge comparator with TEG precision digital gauge as reference
- High-quality screw press for fine pressure adjustment
- Built-in isolation valve provides increased protection for the pump
- W198 x H140 x D290mm, weight 3.2kg
- Recommended gauges: TEG-G600b (Accuracies: 0.025%/0.05%/0.1%/0.2%)



## 7078 Auto-Ranging Digital Pressure Gauge

A high performance digital pressure gauge that has the ability to auto-range and maintain a 0.1% of reading accuracy from vacuum to 200bar. The 7078 eliminates the need for multiple gauges to span many different ranges, solving the problem of over ranging errors.

- Vacuum to 200bar (3000psi)
- 0.1% of reading accuracy
- 9 engineering units – bar, PSI, Hg, kPa, Inch Hg, Inch H<sub>2</sub>O, MMHg, MMG20, mbar
- High accuracy silicone piezo resistive sensors
- Reads both gauge and absolute pressure
- Easy to read colour display with full 2 line alpha numerics
- Compact and robust with protective rubber housing
- H165 x W115 x D55mm, weight 0.88kg



## 7198 Pressure Calibration Accessories Kit

A comprehensive set of pressure accessories to accompany pumps, gauges, and calibrators. The 7198 kit includes adaptors, fittings, connectors, and hoses to provide a quick solution to pressure component requirement in both the field and laboratory.

- Adaptors for metric, BSP parallel, taper threads, and NPT (male and female)
- Coupling connectors included allow any two adaptors to be connected together
- 1/4 BSP G hose fittings for pushfit 4mm and 6mm external diameter hose
- Quick release couplings and barbed 6mm and 8mm internal diameter hose
- Nylon hose set with quick release connectors for low pressure connections
- Additional 4mm and 6mm nylon hoses to build up custom lengths as required
- Minimes 1620 test point adaptors and micro bore hose for high pressure
- 10" adjustable spanner and PTFE tape
- Kit supplied in adaptor case and hose bag





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