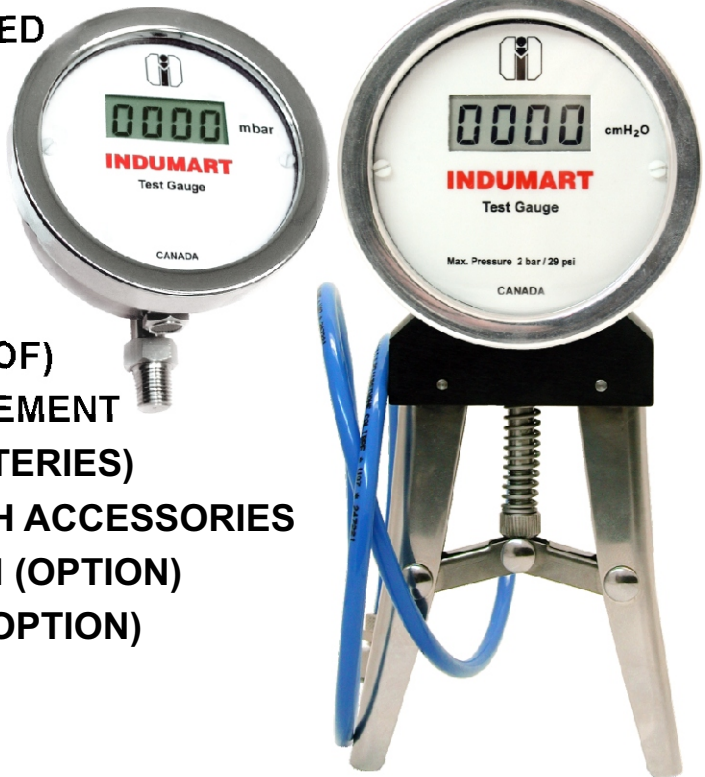




## MODEL: PCA50

- PORTABLE & BATTERY OPERATED
- TWO PRESSURE PORTS
- 4-DIGIT LCD DISPLAY
- FINE ADJUSTMENT VALVE
- ST. STEEL INDICATOR CASE
- OVER-PRESSURE PROTECTION
- IP-67 PROTECTION (WATERPROOF)
- SWITCHABLE UNIT OF MEASUREMENT
- LONG BATTERY LIFE ("AA" BATTERIES)
- QUICK CONNECTION PUMP WITH ACCESSORIES
- TEMPERATURE COMPENSATION (OPTION)
- INTRINSICALLY SAFE SYSTEM (OPTION)
- LOW BATTERY WARNING
- FLEXIBLE HOSE AND SEALS
- RUGGED CARRYING CASE

0.2% accuracy



## INTRODUCTION

Indumart PCA50 Pneumatic Calibrator is the ideal tools for calibration of pneumatic instruments, pressure transducers, pressure switches, I/P converters, etc.

The PCA50 combines the latest developments in sensor and component technology to offer a fully reliable, small size, battery-operated and versatile pneumatic calibrator.

The calibration unit includes one or two precision digital test gauge, a calibration hand pump, a set of connector seals, flexible hose(s) and a sturdy carrying case.

If used for calibration of pressure instruments with pneumatic output, the master test gauge will be a 0-850"H<sub>2</sub>O (30 PSI) digital pressure indicator, and a second test gauge (0-30 PSI) is also required and must be included for measuring the output signals.

The pressure indicators are housed in a 4" diameter, stainless steel case protected against water immersion and dust penetration. The measuring element is an Alumina ceramic diaphragm strain gauge, compatible with most gases and liquids.

The four-digit, 12.7 mm high LCD display can show pressure measurements in either of the two selected units of measurements. The two units of measurements are selected by the customer at the time of ordering and operators may switch between the two units at the site.

As a standard practice, all PCA50 Series are calibrated at 20°C. If operating at a significant temperature range, you can order temperature compensation option to correct for the drifts.

For use in hazardous areas, such as oil and gas processing plants, an intrinsically safe version of the test gauge is available. These gauges are certified and approved to EEx ia IIC T4 (-20...+60°C).

The precision pump has a fine adjustment knob with 0.5 mmH<sub>2</sub>O (0.0007 psi or 0.05 mbar) sensitivity and an adjustable system to limit the maximum pressure produced by the hand pump to prevent the items under test from over pressure damages.

The hand pump is a quick connection system. A set of quick connectors are supplied in the carrying case to make calibration fast and easy.

## SPECIFICATIONS

### TEST GAUGE

#### Accuracy

0.2% of full scale; it includes:  
Linearity + Hysteresis + Repeatability  
0...30 psi (2 bar);  
The user may switch between  
the measurement units;  
Other available measurement  
units are mm H<sub>2</sub>O, cm H<sub>2</sub>O,  
in H<sub>2</sub>O, mm Hg, in Hg, mbar.  
Other pressure ranges are also  
available upon request.

#### Pressure Range

<1.25 x full scale

#### Over Pressure

#### Case & Bezel

Stainless steel

#### Connection

1/4" male; back or bottom port

#### Pressure Sensor

Alumina ceramic (Al<sub>2</sub>O<sub>3</sub>)

diaphragm strain gauge

#### Display

4-digit LCD, 12.7 mm high

#### Display Update Rate

0.5 or 2 sec. - user selectable

#### Power

3 VDC; 2 x 1.5 V "AA Cells"

#### Battery Life

1 year, if used continuously

#### Low Power Warning

Display will alternate between  
pressure reading and BATT

#### Calibration Temperature

20°C

#### Temp. Compensation

-10...+60°C (Option)

#### Span Adjustment

±30% of full scale

#### Zero Adjustment

Push button zero

#### Linearity Adjustment

Available

#### Ambient Temperature

-10...+60°C

#### Ambient Humidity

5 to 95% RH non-condensing

#### Storage Temperature

-20 to 85°C

#### Environ. Protection

IP-67 / NEMA 4X

#### Explosion Protection

Ex ia IIC T4 (-20...+60°C)

Group II Category I (option)

Emission: EN 50081-1

Immunity: EN50082-2

#### EMC Compatibility

#### Weight

900 g (2 lb)

Indumart battery-powered digital gauges (DG50) are CE compliant.

### HAND PUMP

#### Pump Material

Painted anodized aluminum

#### Inner Parts

Stainless steel and brass

#### Output Pump Pressure

Maximum: 220 psi (15 bar)

Recommended: up to 150 psi

#### Stroke Limiter

Limits the pumping speed and  
the maximum pressure limit  
(it can be set such that pumping  
does not exceed 30 psi)

#### Pressure Adjustment

Fine adjustment valves

#### Adjustment Sensitivity

0.5 mmH<sub>2</sub>O (0.0007 psi)

#### Pressure Connections

First port: Quick coupling with  
the required accessories for  
connecting 1/4" male instruments  
(example: the test gauge), and  
an additional quick connector  
for a 6x4 mm pipe.

2nd port: 6x4 mm hose connector;  
Three additional connectors (1/4"F,  
1/8"F & 1/8"M) are supplied to be  
fixed to the end of the hose.

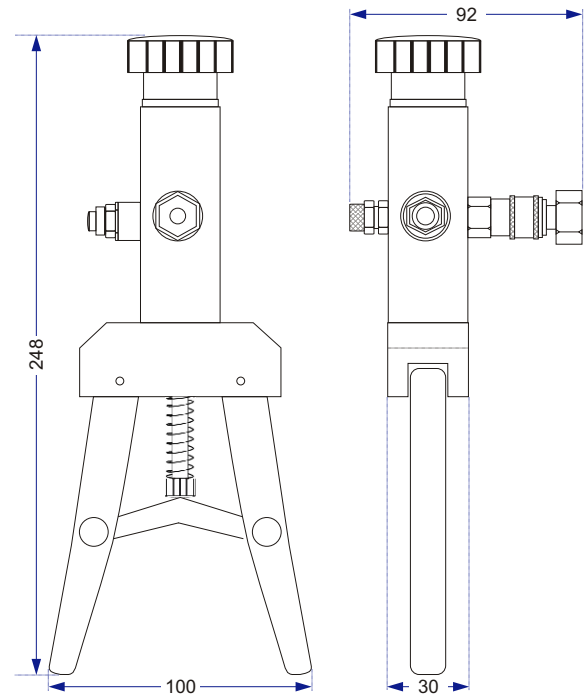
As standard, provisions are made  
for connecting 1/4"M, 1/4"F, 1/8"F &  
1/8"M instruments. Other sizes and  
multiple connections are options.

#### Weight

700 g (1.5 lb)

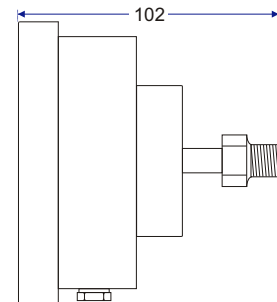
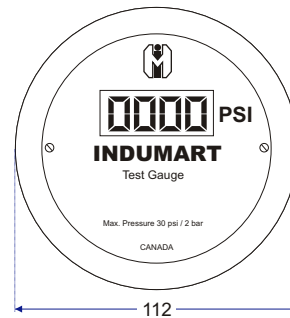
A repair kit with the required gaskets is included in the carrying case for future maintenance of the pump.

## DIMENSIONS (mm)



Front view

Side view



Dimensions of the bottom connection gauge is: 127 x 65 mm (H x D)

## ORDER CODE

PCA50 [ ] - [ ] - [ ] - [ ] - [ ]

Intrinsically Safe Required  X  
Not Required  N

One Pressure Gauge (back connection)  1  
Two Gauges (1 back & 1 bottom connection)  2

Temperature Compensation Required  T  
Not Required  N

Calibration Certificate  C  
None  N

Two Units of Pressure for the Master Gauge

Two Units of Pressure for the Second Gauge

### EXAMPLE:

PCA50X-2TN-INH2O/PSI-MBAR/PSI

Other measuring ranges of the digital pressure gauges are also available.



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