

*Calibration Technology Starts Here*

## *Hand Held Pressure Calibrator with Integral Electric Pressure Pump*

*The new  
standard  
of pressure  
calibration*



Patent  
Pending

## BetaGauge 330

Martel Electronics Corporation introduces a revolution in pressure calibration technology for the process industries. With the release of its new BetaGauge 330, technicians will have a small, lightweight hand held calibrator that generates pressures up to 150 PSIG using a high performance integral electric pump.

Before the BetaGauge 330, users had to manually generate pressures with tedious and hard to use manual pumps or use large, heavy and unwieldy boxes with limited portability and limited battery life.

The BetaGauge 330 has a form factor only slightly larger than Martel's popular BetaGauge 321 and weighs in at a mere 2.5 pounds. The housing is contoured to easily fit a technician's hand with good balance top to bottom.

Performance doesn't stop with the pump. The BetaGauge 330 provides  $\pm 0.025\%$  of full scale accuracy on its internal, isolated pressure sensor. Temperature compensation on its internal sensor ensures accuracy in field applications. An external pressure module connection supports all 29 ranges of BetaPort-P pressure modules for even greater measurement capability

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### General Features

- Integrated internal electrically operated pneumatic pump: generates pressure to 150 PSI and vacuum to -12 PSI (-1 to 10 Bar, -10 to 100 kPa)
- Accuracy to 0.025% FS
- Source/measure 4-20 mA
- Small, rugged compact design operates on eight (8) standard Alkaline AA batteries
  - Only 8" high x 4" wide x 2-3/8" deep (20 cm x 10 cm x 6 cm)
  - Lightweight at just 2.5 pounds (1.2 kg)
- External pressure module interface supports all 29 BetaPort-P compatible pressure modules (requires optional BPPA-100 module adapter)
- Pt100 RTD input for temperature measurement, accurate to 0.1°C (0.2°F) (measurement only)
- 24 V loop power to power device under test
- Store and recall up to 5 user defined setups
- Large graphic style LCD with backlight can be configured to display up to 3 variables displayed simultaneously (user controlled)
- Ideal for gas flow calibration (custody transfer) applications
- Pressure displayed in the user's choice of 19 engineering units
- Switch test is automatic using internal sensor or external pressure module
- IP56 Rated
- Percent error function

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## BetaGauge 330

### Specifications

#### Ranges

Available Pressure

PSIG:	-12 to 30 PSI / -0.8 to 2 bar (electric pump)
	-12 to 150 PSI / -0.8 to 10 bar (electric pump)
	-12 to 300 PSI / -0.8 to 20 bar (manual pump)

mA	0 to 24 mA, max, load 1000 Ohms
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RTD	Pt100, -50 to 150°C
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#### Engineering Units

psi, bar, mbar, kPa, kgcm<sup>2</sup>, cmH<sub>2</sub>O@4°C, cmH<sub>2</sub>O@20°C, mH<sub>2</sub>O@4°C, mH<sub>2</sub>O@20°C, inH<sub>2</sub>O@4°C, inH<sub>2</sub>O@20°C, inH<sub>2</sub>O@60°F, mmHg@0°C, inHg@0°C, ftH<sub>2</sub>O@4°C, ftH<sub>2</sub>O@20°C, ftH<sub>2</sub>O@60°F

Instrument Power Supply	24 VDC at 24 mA
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#### Accuracy

##### Pressure

±0.025% of full scale on internal sensor module dependent for external sensors

Add 0.005% FS/°C outside of 15 to 35°C

mA	±0.015% of reading ± 2 counts (simulation and measurement)
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Volts	±0.015% of reading ± 2 counts (measurement only)
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Temperature	±0.1°C (0.2°F) (measurement only) (Pt100 RTD)
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#### General

Integrated internal electrically operated pneumatic pump: generates -12 PSI to 150 PSI pressure (-0.8 to 10 Bar, -8 to 100 kPa)

Manual pump version -12 to 300 PSI / -0.8 to 20 Bar

#### Environmental

Operating Temperature -10 °C to +50 °C

Storage Temperature -20 °C to +60 °C

#### Power Requirements

Battery Eight (8) standard Alkaline AA batteries

Battery Life 300 pump cycles to 150 PSI minimum  
1000 pump cycles to 30 PSI

#### Physical

Dimensions 8" high x 4" wide x 2-3/8" deep  
(20 cm x 10 cm x 6 cm)

Weight 2.5 pounds (1.2 kg)

#### Connections

Pressure: 1/8" female NPT

Electrical: standard banana jacks

RTD: 4 pin LEMO style

External module: 6 pin LEMO style

Included Accessories - NIST traceable calibration certificate, batteries installed, test leads, test hose fittings, user guide, carrying case.

### BETAGAUGE 330 Hand Held Pressure Calibrator with Integral Electric Pressure Pump

A Pt100 RTD input is provided for temperature measurements accurate to ±0.1 °C (0.2 °F). In addition, the BetaGauge 330 measures and simulates 4-20 mA loop current signals. It can measure up to 30 VDC. An internal 24 VDC Instrument Power Supply supplies power to a transmitter under test.

Like its calibrator siblings, the 330 displays up to 3 calibration values at one time from the choice of internal pressure sensor, external pressure sensor, temperature from the optional RTD probe or electrical (mA or VDC). The display is a large back lit graphics style LCD that's easy to read in any lighting condition.

The new BetaGauge 330 Pressure Calibrator provides a number of convenience features. Switch test can be performed on internal or external pressure input. Percent (%) Error and damping functions are provided. Up to five frequently used setups can be stored and retrieved with one button recall.

The compact, rugged design operates on eight (8) standard AA Alkaline batteries. Due to the power saving designs incorporated in the BetaGauge 330, it can perform approximately 300 calibration cycles to 150 PSI on one set of batteries.

The 330 comes in 3 ranges of 30 PSI, 150 PSI and 300 PSI. The 300 PSI version uses a manually operated handpump.

Like all Martel calibrators, the BetaGauge 330 comes from the factory ready to go to work with batteries installed, NIST traceable calibration certificate, test leads, carrying case and user manual.



Martel Electronics Corporation

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expanding possibilities through  
measurement.