

THERMOVAC TM 101

Digital Piezo/Pirani Combination Gauge for Pressure Measurements



THERMOVAC TM 101

Handheld Piezo/Pirani combination gauge with data logger.

The temperature compensated handheld THERMOVAC TM 101 is equipped with a Piezo/Pirani combination sensor and capable for total pressure measurement in the range of 1200 to $5 \cdot 10^{-4}$ mbar.

The instrument can also be operated completely under vacuum conditions. The pressure is displayed continuously over the whole measurement range. With the integrated memory-function it is possible to store and display up to 2000 measured values.



THERMOVAC TM 101 in VacuGraph accessory set

Customer benefits

- Measurement range 1200 to 5×10^{-4} mbar (7 decades)
- Usage possible directly in a vacuum
- Data logging via USB interface and internal memory for up to 2000 measured values
- Online measurement via USB possible; measuring data exportable
- Cordless power supply with standard 9 V battery or 12 V AC adapter
- Pressure unit selectable amongst mbar, Torr and Pascal
- Windows software VacuGraph for measuring data storage and PC analysis (optional)

Headquarter Germany

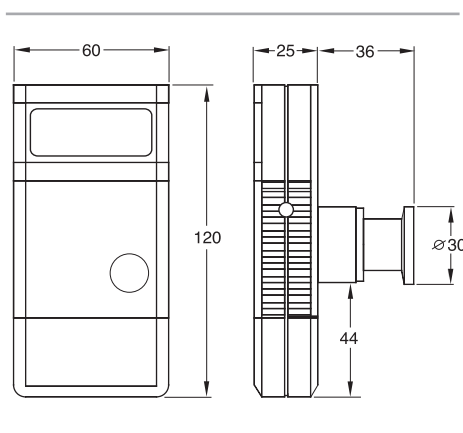
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Typical applications

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



THERMOVAC TM 101 dimensions (in mm)

Technical Data

Measurement principle (gas-type depending)
Indicated measurement units
Measuring range
Measurement accuracy
at 1200 - 10 mbar
at $10 - 2 \times 10^{-3}$ mbar
< 2×10^{-3} mbar
Measuring cycle
Supply voltage
Power consumption < 200 mbar / > 200 mbar
Operation time 6 LR61 Alkali (vacuum mode)
Display
Connection (stainless steel)
PC Interface
Dimensions (without flange)
Protection class
Weight (including battery)

Ordering Information

THERMOVAC TM 101, DN 16 ISO-KF
incl. AIMn block battery, 9V 6LR61
VacuGraph Windows software accessory set,
including USB interface cable (2 m), 12V AC
adapter (100-260V, 50/60 Hz), protection case

Measurement principle

The TM 101 provides high resolution covering the complete measurement range due to the usage of two different physical sensor principles. The TM 101 is equipped with an internal piezoresistive sensor for measurements in the rough vacuum range. Under pressure a thin diaphragm is bent, whilst a resistor bridge is applied on the back. The variation in resistance appearing thereby is subject to the applied total pressure. The internal Pirani sensor applies in the fine vacuum range, using the thermal conductivity of gases for the vacuum measurement. 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/Pirani combination sensors measures > 15 mbar independently of the type of gas. In the lower measurement range the adjustable gas correction factor permits a measurement.

THERMOVAC TM 101

piezoresistive and heat conductivity, Pirani
mbar, Torr, Pa
1200 to $5 \cdot 10^{-4}$ mbar
0.3 % of full scale
10 % of measured value
< factor 2
1.6 s
rechargeable 9 V battery or 12 V AC adapter
60 mW / 0.5 mW
up to 75 h
LCD 12 mm
DN 16 ISO-KF
mini USB B-connector
60 x 120 x 25 mm
IP 40
230 g

THERMOVAC TM 101

Cat. No. 230 081 V01
Cat. No. 230 082 V01

