

DPM4 Parameter Tester

Technical Data



The versatile DPM4 tests and calibrates flow and pressure generators used in many medical devices. With several measurements combined in a single, handheld device, the DPM4 provides a cost-effective solution, eliminating the need for multiple test meters.

The DPM4 features a menu-driven interface for simple operation and an easy-to-read screen that displays multiple parameter measurements simultaneously.

Built-to-order, the palm-sized device comes in four models to meet the varied needs of biomedical engineers and technicians—the 1G, 1H, 2G, and 2H. All models measure differential pressure, vacuum, and temperature. Models 2G and 2H feature a built-in barometer and measure barometric pressure, flow, and humidity. The G and H models vary according to pressure measurement ranges. The 1G and 2G models measure pressure in the -700 mmHg to 5000 mmHg range, and the 1H and 2H models measure pressure in the -350 mmHg to 350 mmHg range. All the devices provide highly accurate test results.

Key features

All models

- Palm size
- High accuracy
- Differential pressure, vacuum, and temperature measurements
- Multiple user-selectable units of measurement
- Simultaneous display of multiple parameter measurements
- Leak-detection/leak-rate calculation
- RS-232 for computer control
- Peak test function to capture peak pressure

Model 1G

- Pressure measurements in -700 mmHg to 5000 mmHg range

Model 1H

- Pressure measurements in -350 mmHg to 350 mmHg range

Model 2G

- Barometric pressure, gas flow, and humidity measurements
- Pressure measurements in -700 mmHg to 5000 mmHg range

Model 2H

- Barometric pressure, gas flow, and humidity measurements
- Pressure measurements in -350 mmHg to 350 mmHg range

Technical specifications

Pressure measurement

Model 1H or 2H

Operating range: -350 mmHg to 350 mmHg
 Accuracy: $\pm 0.3\%$ of range
 Resolution: 0.1 mmHg
 Units of measure: mmHg, mBar, cmH₂O, psi, InHg, InH₂O, kg/cm², and kPa

Model 1G or 2G

Operating range: -700 mmHg to 5000 mmHg
 Accuracy: $\pm 0.3\%$ of range for temperatures from 21 °C to 25 °C and relative humidity from 30 % to 70 % $\pm 0.3\%$ of range; $\pm 0.02\%$ of range per degree C for temperatures < 21 °C or > 25 °C with relative humidity from 30 % to 70 %
 Resolution: 0.5 mmHg
 Units of measure: mmHg, mBar, cmH₂O, psi, InHg, InH₂O, kg/cm², and kPa

Temperature measurement

Operating range

-40 °C to 200 °C
 (-40 °F to 392 °F)

Accuracy

$\pm (2\%$ of reading, + 0.5 °C)

Resolution

0.1 °C and °F

Units of measure

°C and °F

Use standard external temperature probe type PT-100 or PT-1000 (DIN/IEC 751 Class A) for temperature measurements in °C or °F

Temperature Probe PT-100 and PT-1000

PT-100 operating range

-200 °C to 750 °C
 (-328 °F to 1382 °F)

Accuracy

$\pm 0.13\text{ °C @ }100\text{ °C}$
 (0.23 °F at 212 °F);
 $\pm 0.1\text{ °C @ }0\text{ °C}$
 (0.18 °F @ 32 °F);
 $\pm 0.2\text{ °C @ }100\text{ °C}$
 (0.36 °F @ 212 °F)

PT-1000 operating range

-200 °C to 750 °C
 (328 °F to 1382 °F)

Accuracy: 0.3 °C (0.5 °F)

Model 2G or 2H

Note: It is possible to compensate for the sea level and calibrate for offsets

Operating range

380 mmHg to 825 mmHg

Accuracy

$\pm 2\%$ of reading

Resolution

1 mmHg

Units of measure

mmHg, mBar, InHg, and hPa

Gas Flow Model 2G or 2H

Note: Gas flow measures with an embedded sensor with 11 calibration points to compensate non-linearity: calibration constants are stored in firmware

Operating range

-750 ml/min to 750 ml/min

Accuracy

$\pm 1\%$ of range or $\pm 5\%$ of reading

Resolution

0.1 ml/min

Compatibility

Gas: Air, N₂, O₂, CO, NO, CO₂, H₂, and NO₂

Units of measure

ml/min (or SCCM—standard cubic centimeters per minute)

Relative humidity model 2G or 2H

Note: An integrated sensor in the instrument determines relative humidity measurements

Operating range

12 % RH to 95 % RH

Accuracy

$\pm 3.5\%$ of reading $\pm 2\%$ @ 25 °C (77 °F)

Resolution

0.1 % RH

Gas compatibility

Air

Units of measure

% RH

Controls

LCD graphic display,
 128 pixels x 32 pixels

Data input/outputs

1; bidirectional RS-232 for computer control

Power

9 V alkaline battery RG9 or battery eliminator

Power consumption

< 70 mA

Battery life

> 7 hours

Case

ABS plastic case

Dimensions (LxWxH)

156 mm x 94 mm x 34 mm
 (6.1 in x 3.7 in x 1.3 in)

Weight

0.4 kg with battery (0.9 lb)

Temperature

Operating

15 °C to 35 °C (59 °F to 95 °F)

Storage

0 °C to 50 °C (32 °F to 122 °F)

Ordering information

2583121 DPM4 Parameter Tester Model 1H
(± 350 mmHg)

2631330 DPM4 Parameter Tester Model 1G
(-700 to 5000 mmHg)

2637760 DPM4 Parameter Tester Model 2H
(± 350 mmHg, Press, Temp, Flow, RH)

2637772 DPM4 Parameter Tester Model 2G
(-700 to 5000 mmHg, Press, Temp, Flow, RH)

Standard accessories

2572323 User Manual

2547372 Battery Eliminator

XXXXXXX Power Cord (country specific)

XXXXXXX One 9 Volt Alkaline Battery

Optional accessories

2462177 Soft-Sided Carrying Case

2461910 PT-100 Temperature Probe

2461922 PT-1000 Temperature Probe

2461905 Expansion Chamber

2461946 Tubing Kit w/Inflation Bulb

2462335 RS-232 Cable



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