

# 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, cmH<sub>2</sub>O, psi, InHg, InH<sub>2</sub>O, kg/cm<sup>2</sup>, 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, cmH<sub>2</sub>O, psi, InHg, InH<sub>2</sub>O, kg/cm<sup>2</sup>, 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, N<sub>2</sub>, O<sub>2</sub>, CO, NO, CO<sub>2</sub>, H<sub>2</sub>, and NO<sub>2</sub>

#### 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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- CE Certified, where required
- NIST Traceable and Calibrated
- UL, CSA, ETL Certified, where required
- NRC Compliant, where required

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