# Hydronic Manometers

Model HM680

## Hydronic Manometers
### Models HM670, HM680

The HM670 and HM680 Hydronic Manometers are used to balance hydronic heating and cooling systems and to check pump performance. Both models can measure and display differential, high side, and low side pressures simultaneously without having to change hose connections or instrument valve settings. Both models feature a backlit display and operate on four alkaline or NiMH rechargeable batteries.

The HM680 can also display volumetric flow when a Cv (Kv) factor is programmed. Up to 100 Cv (Kv) factors can be entered. In addition, the HM680 can calculate brake power, heat flow, Cv (Kv) factors and impeller sizing. Up to 1,000 data points can be stored to memory for later recall or downloaded to a PC using CompuDat™ USB software and USB interface cable.

### Features and Benefits

- Measure and display high side, low side, and differential pressure simultaneously from 0 to 300 psi (0 to 2068 kPa)
- Robust, splash-proof case

### Features and Benefits (HM680 only)

- Calculates flow using valve manufacturers' Cv (Kv) factors
- Calculates heat flow, impeller diameter, and brake power

### Applications

- Test and balance heating and cooling systems
- Check pump performance

HM670 kit includes hard carrying case, (2) 6.7 ft x ¼-in. (2 m x 6 mm) hoses with shut-off valves, (2) B&G readout probes, (2) P/T gauge adapter probes, and power cord.

HM680 kit includes all items in HM670 kit, plus a temperature probe, CompuDat USB downloading software, and USB interface cable.

# Specifications

Models HM670 and HM680

## Pressure

Differential Pressure
0 to 300 psi (0 to 2068 kPa)

| | |
|---|---|
| Gauge Pressure | 0 to 300 psi (0 to 2068 kPa) |
| Resolution (best) | 0.001 psi (0.01 kPa) |
| Accuracy[1] | ±1% of reading or .072 psi (0.5 kPa), whichever is greater |
| Units | in. $H_2O$, ft $H_2O$, in. Hg, kPa, mm Hg, m $H_2O$, psi, bar |
| Connection | ¼ in. (6.25 mm) 37° Flare Fitting, Male |

## Temperature

Operating (electronics)
40 to 100°F (4 to 38°C)

| | |
|---|---|
| Storage | 0 to 140°F (-18 to 60°C) |
| Media | 32 to 180°F (0 to 82°C) |
| Probe | -40 to 250°F (-40 to 121 °C) |
| Resolution | 0.1°F (0.1°C) |
| Accuracy | ±0.5°F (0.3°C) from 32 to 160°F (0 to 71°C); max ± 2.0°F (1.2°C) from -40 to 32°F (-40 to 0°C) and from 160 to 250°F (71 to 121°C) |
| Units | °F, °C |

## Flow

| | |
|---|---|
| Range[2] | 0 to 2271 m³/h, 0 to 9,999 USGPM (0 to 631 l/s) |
| Resolution (best) | 0.0001 USGPM (0.00001 l/s) |
| Accuracy | per pressure accuracy + valve deviation |
| Units | USGPM, UKGPM, m³/h, l/s, l/m |

## Statistics

min, max, average, sum up to 1000 readings (HM680 only)

## Data Storage

1000 combined readings, 100 Test IDs (HM680 only)

## Logging Interval (HM680 only)

User selectable, 5 to 3600 seconds

## Averaging Interval (HM680 only)

User selectable, 1 to 30 seconds

## External Meter Dimensions

11.1 in. × 4.7 in. × 3.5 in. (28.2 cm × 11.9 cm × 8.8 cm)

## Meter Weight with Batteries

2.65 lbs (1.20 kg)

## Power Requirements

Four AA-size cells, or AC adapter

| | HM670 | HM680 |
|---|---|---|
| Differential, high side, and low side pressures displayed simultaneously | • | • |
| Range 0 to 300 psi (0 to 2068 kPa) | • | • |
| Reads in in. $H_2O$, ft $H_2O$, psi, in. Hg, m $H_2O$, kPa, mm Hg, bar | • | • |
| Performs on-board universal flow and btu/hr calculations | | • |
| Downloading software and USB cable | | • |
| Temperature probe | optional | • |
| Hard carrying case | • | • |
| Free Certificate of Calibration | • | • |

[1] Accuracy statement applies from 0 to 250 psi (0 to 1724 kPa)
[2] The flow reading is a calculated value determined from the measured Differential pressure, user entered valve flow coefficient (Kv or Cv), and fluid specific gravity

Specifications subject to change without notice.