HYDRONIC MANOMETERS
MODELS HM675, HM685

The HM675 and HM685 Hydronic Manometers are used to balance hydronic heating and cooling systems, check pump performance and to set balancing valves. They can measure and display differential, high side and low side pressure simultaneously, without having to change hose connections or instrument valve settings. Each model features a backlit display and operates on four alkaline or NiMH rechargeable batteries.

Features and Benefits

+ Measure and display high side, low side, and differential pressure simultaneously
+ Robust, splash-proof case
+ Inputs for two temperature probes

Features and Benefits (HM685 only)

+ Calculates flow using valve manufacturers' Cv (Kv) factors [up to 100 Cv (Kv) can be entered]
+ Calculates heat flow, impeller diameter and brake power
+ Stores up to 4,000 data points to memory for later recall/download to a PC using CompuDat™ USB Software and USB interface cable
+ Intuitive menu structure for easy navigation and instrument set up

Applications

+ Test and balance heating and cooling systems
+ Check pump performance
+ Set balancing valves

HM675 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.

HM685 kit includes all items in HM675 kit, plus a temperature probe, CompuDat USB downloading software, and USB interface cable.
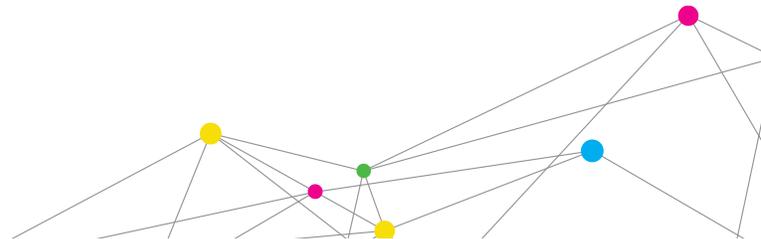
UNDERSTANDING, ACCELERATED

Pressure

Differential Range	-300 to 300 psi (-2,068 to 2,068 kPa)
Gauge Range	-20 to 300 psi (-138 to 2,068 kPa)
Resolution (best)	0.001 psi (0.01 kPa)
Accuracy[1]	±1% of reading plus .072 psi (0.5 kPa)
Units	psi, in. H_2O, ft H_2O, kPa, mm Hg, in. Hg, m H_2O, bar
Pressure Connection	¼" 37° flare fitting, Male

Temperature

Operating (electronics)	40 to 113°F (5 to 45°C)
Storage	-4 to 140°F (-20 to 60°C)
Liquid 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 (HM685 Only)

Range[2]	-22,712 to 22,271 m³/h, -99,999 to 99,999 USGPM (-6,309 to 6,309 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

Time Constant
User selectable (1, 5, 10, 20, and 30 seconds)

Statistics (HM685 only)
min, max, average, sum up to 4,000 readings

Data Storage (HM685 only)
4,000 combined readings, 100 Test IDs

Logging Interval (HM685 only)
User selectable (1 to 3,600 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

[1] Accuracy statement applies from -15 to 250 psi (-103 to 1,724 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.

Product feature comparison	HM675	HM685
Differential, high side, and low side pressures displayed simultaneously	+	+
Reads in in. H_2O, ft H_2O, psi, in. Hg, m H_2O, kPa, mm Hg, bar	+	+
Performs flow calculations		+
Downloading software and USB cable		+
Temperature probe	optional	+
Hard carrying case	+	+
Certificate of Calibration	+	+
Unique Calculations menu for determining:	HM675	HM685
Brake Power		+
Heat flow		+
Calculate Cv/Kv		+
Pump law impeller diameter		+
Pump law delta P		+
Pump law brake power		+