

1 YEAR
WARRANTY



User's Guide



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HHP680 Manometer



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The information contained in this document is believed to be correct, but OMEGA Engineering, Inc. accepts no liability for any errors it contains, and reserves the right to alter specifications without notice.

WARNING: These products are not designed for use in, and should not be used for, patient-connected applications.




Specifications

General

Display:

3½ digit liquid crystal display (LCD).

Low battery indication:

The “” is displayed when the battery voltage drops below the operating level.

Operating Temperature:

0 to 40°C (32 to 105°F).

Operating relative humidity:

15 to 90% R. H., non-condensing.

Storage Temperature:

-40°F to 140°F (-20°C to 60°C, 0 to 80% R. H. with battery removed from meter.

Battery:

4 pcs 1.5V (AAA size) MN-2400.

Battery Life:

150 hours typical. (No measurable current draw when in “off” position.)

Dimensions:

190 mm (H) x 44 mm (W) x 40 mm (D).

Weight:

approx: 150 g including battery.

Electrical

Sensor: Solid State

Range: 0-20" water column

Resolution: 0.01"/0.1"

Accuracy: ±2.0% full scale

(at operation temperature 18 ~ 28°C [65°F ~ 82°F])

Temperature coefficient: ±0.15% full scale change in Accuracy per °F for operation temperature above 82°F or below 65°F.

Maintenance

Battery Replacement (Refer to figure 1)

1. When the low battery indication lights.
2. Turn off the meter.
3. Remove the screw at the middle of the back side of the meter, and slide the back cover off.
4. Remove batteries from the compartment.

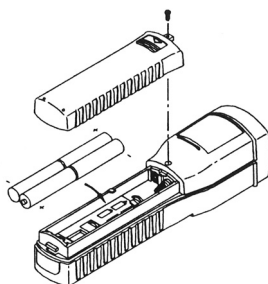


Figure 1. Open Battery Cover

5. Install 4 pcs of new AAA 1.5V batteries (MN-2400), Alkaline type is recommended.
6. Slide battery cover back to its position and fasten the screw. Cleaning Periodically wipe the case with a damp cloth and detergent, do not use abrasives or solvents.

Operation Manual of Mamometer

1. On/Off and Unit Selection (Refer to figure 2):
This is a 3 position switch. Setting the switch at lower position turns off the meter. Slide the switch to middle or upper position to turn on the meter and select the unit as 0.1" or 0.01" of water column respectively.
2. Hold the measured value (Refer position 2 in figure 2 for the "H" button):
Press the "H" button to hold the figure shown in the display at that moment. An indication "H" shown at the top of the display. To release the holding press the button again.
3. Max value of a changing pressure (Refer position 3 in figure 2 for the "MAX" button):
Press the "MAX" button, "MAX" indication shown at the top of the display. The meter hold the maximum value measured. To release the holding press the button again.
4. Zeroing (Refer position 4 in figure 2 for the "ZERO" button):
There are 2 purposes to "Zero" the meter.
 - 4.1 When measuring a high pressure (close or over the range of the meter), the meter might not be able to return to Zero after the pressure removed. Press the "ZERO" button to bring the meter back to zero .
 - 4.2 To set a reference pressure as zero to measure a pressure relative to the reference.

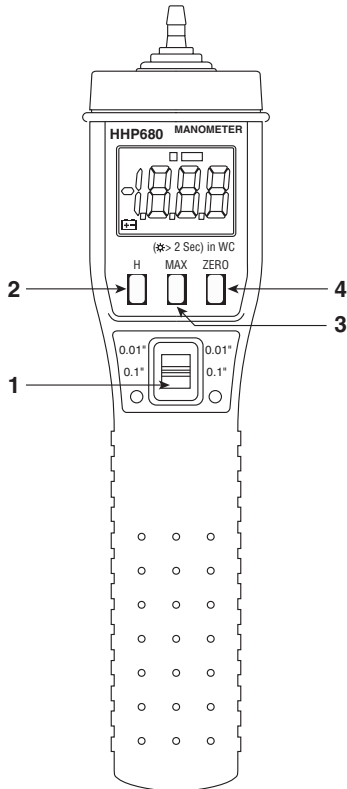


Figure 2. Positions of Switch and Button

HHP680 Calibration Procedure

NOTE

Only qualified technicians who have access to the items, as following should perform the following calibration procedure.

Equipment: Pressure Calibrator, Pressure Pump

Pressure Calibration

1. Connect the calibrator. meter and pressure pump.
2. Set the range to the 0.01", then press "Zero" button.
3. Apply a 19.00 inH₂O pressure to the meter and calibrator. (do not apply pressure that exceeds 20inH₂O.)
4. Adjust VR2 until display reads 19.00.



HHP680 Manometer

NOTES:

WARRANTY/DISCLAIMER

OMEGA ENGINEERING, INC. warrants this unit to be free of defects in materials and workmanship for a period of **13 months** from date of purchase. OMEGA's Warranty adds an additional one (1) month grace period to the normal **one (1) year product warranty** to cover handling and shipping time. This ensures that OMEGA's customers receive maximum coverage on each product.

If the unit malfunctions, it must be returned to the factory for evaluation. OMEGA's Customer Service Department will issue an Authorized Return (AR) number immediately upon phone or written request. Upon examination by OMEGA, if the unit is found to be defective, it will be repaired or replaced at no charge. OMEGA's WARRANTY does not apply to defects resulting from any action of the purchaser, including but not limited to mishandling, improper interfacing, operation outside of design limits, improper repair, or unauthorized modification. This WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of having been damaged as a result of excessive corrosion; or current, heat, moisture or vibration; improper specification; misapplication; misuse or other operating conditions outside of OMEGA's control. Components which wear are not warranted, including but not limited to contact points, fuses, and triacs.

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RETURN REQUESTS/INQUIRIES

Direct all warranty and repair requests/inquiries to the OMEGA Customer Service Department. BEFORE RETURNING ANY PRODUCT(S) TO OMEGA, PURCHASER MUST OBTAIN AN AUTHORIZED RETURN (AR) NUMBER FROM OMEGA'S CUSTOMER SERVICE DEPARTMENT (IN ORDER TO AVOID PROCESSING DELAYS). The assigned AR number should then be marked on the outside of the return package and on any correspondence.

The purchaser is responsible for shipping charges, freight, insurance and proper packaging to prevent breakage in transit.

FOR **WARRANTY** RETURNS, please have the following information available BEFORE contacting OMEGA:

1. Purchase Order number under which the product was PURCHASED,
2. Model and serial number of the product under warranty, and
3. Repair instructions and/or specific problems relative to the product.

FOR **NON-WARRANTY** REPAIRS, consult OMEGA for current repair charges. Have the following information available BEFORE contacting OMEGA:

1. Purchase Order number to cover the COST of the repair,
2. Model and serial number of the product, and
3. Repair instructions and/or specific problems relative to the product.

OMEGA's policy is to make running changes, not model changes, whenever an improvement is possible. This affords our customers the latest in technology and engineering.

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