

**1 YEAR**  
WARRANTY



# User's Guide



*Shop online at*

**omega.com<sup>®</sup>**

Ω OMEGA<sup>®</sup>

*www.omega.com*

*e-mail: info@omega.com*

**ISO 9001**  
CERTIFIED  
CORPORATE QUALITY

STAMFORD, CT

**ISO 9002**  
CERTIFIED  
CORPORATE QUALITY

MANCHESTER, UK

# HHP680 Manometer



**OMEGAnet® Online Service**  
**www.omega.com**

**Internet e-mail**  
**info@omega.com**

### **Servicing North America:**

**USA:**  
ISO 9001 Certified

One Omega Drive, Box 4047  
Stamford CT 06907-0047  
Tel: (203) 359-1660 FAX: (203) 359-7700  
e-mail: info@omega.com

**Canada:**

976 Bergar  
Laval (Quebec) H7L 5A1  
Tel: (514) 856-6928 FAX: (514) 856-6886  
e-mail: info@omega.ca

### **For immediate technical or application assistance:**

**USA and Canada:** Sales Service: 1-800-826-6342 / 1-800-TC-OMEGA®  
Customer Service: 1-800-622-2378 / 1-800-622-BEST®  
Engineering Service: 1-800-872-9436 / 1-800-USA-WHEN®  
TELEX: 996404 EASYLINK: 62968934 CABLE: OMEGA

**Mexico:**

En Español: (001) 203-359-7803 e-mail: espanol@omega.com  
FAX: (001) 203-359-7807 info@omega.com.mx

### **Servicing Europe:**

**Benelux:**

Postbus 8034, 1180 LA Amstelveen, The Netherlands  
Tel: +31 (0)20 3472121 FAX: +31 (0)20 6434643  
Toll Free in Benelux: 0800 0993344  
e-mail: sales@omegaeng.nl

**Czech Republic:**

Rudé armády 1868, 733 01 Karviná 8  
Tel: +420 (0)59 6311899 FAX: +420 (0)59 6311114  
Toll Free: 0800-1-66342 e-mail: info@omegashop.cz

**France:**

11, rue Jacques Cartier, 78280 Guyancourt, France  
Tel: +33 (0)1 61 37 29 00 FAX: +33 (0)1 30 57 54 27  
Toll Free in France: 0800 466 342  
e-mail: sales@omega.fr

**Germany/Austria:**

Daimlerstrasse 26, D-75392 Deckenpfronn, Germany  
Tel: +49 (0)7056 9398-0 FAX: +49 (0)7056 9398-29  
Toll Free in Germany: 0800 639 7678  
e-mail: info@omega.de

**United Kingdom:**

ISO 9002 Certified

One Omega Drive, River Bend Technology Centre  
Northbank, Irlam, Manchester  
M44 5BD United Kingdom  
Tel: +44 (0)161 777 6611 FAX: +44 (0)161 777 6622  
Toll Free in United Kingdom: 0800-488-488  
e-mail: sales@omega.co.uk

It is the policy of OMEGA to comply with all worldwide safety and EMC/EMI regulations that apply. OMEGA is constantly pursuing certification of its products to the European New Approach Directives. OMEGA will add the CE mark to every appropriate device upon certification.

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

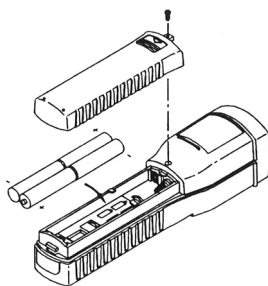
(at operation temperature 18 ~ 28°C [65°F ~ 82°F])

**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.

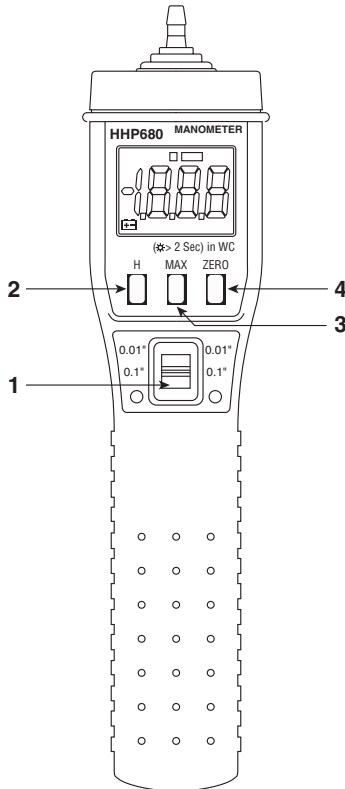


Figure 2. Positions of Switch and Button

## 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 inH<sub>2</sub>O pressure to the meter and calibrator. (do not apply pressure that exceeds 20inH<sub>2</sub>O.)
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.

**OMEGA is pleased to offer suggestions on the use of its various products. However, OMEGA neither assumes responsibility for any omissions or errors nor assumes liability for any damages that result from the use of its products in accordance with information provided by OMEGA, either verbal or written. OMEGA warrants only that the parts manufactured by it will be as specified and free of defects. OMEGA MAKES NO OTHER WARRANTIES OR REPRESENTATIONS OF ANY KIND WHATSOEVER, EXPRESS OR IMPLIED, EXCEPT THAT OF TITLE, AND ALL IMPLIED WARRANTIES INCLUDING ANY WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED. LIMITATION OF LIABILITY: The remedies of purchaser set forth herein are exclusive, and the total liability of OMEGA with respect to this order, whether based on contract, warranty, negligence, indemnification, strict liability or otherwise, shall not exceed the purchase price of the component upon which liability is based. In no event shall OMEGA be liable for consequential, incidental or special damages.**

CONDITIONS: Equipment sold by OMEGA is not intended to be used, nor shall it be used: (1) as a "Basic Component" under 10 CFR 21 (NRC), used in or with any nuclear installation or activity; or (2) in medical applications or used on humans. Should any Product(s) be used in or with any nuclear installation or activity, medical application, used on humans, or misused in any way, OMEGA assumes no responsibility as set forth in our basic WARRANTY/DISCLAIMER language, and, additionally, purchaser will indemnify OMEGA and hold OMEGA harmless from any liability or damage whatsoever arising out of the use of the Product(s) in such a manner.

## 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.

OMEGA is a registered trademark of OMEGA ENGINEERING, INC.

© Copyright 2002 OMEGA ENGINEERING, INC. All rights reserved. This document may not be copied, photocopied, reproduced, translated, or reduced to any electronic medium or machine-readable form, in whole or in part, without the prior written consent of OMEGA ENGINEERING, INC.

# Where Do I Find Everything I Need for Process Measurement and Control? **OMEGA...Of Course!** *Shop online at [www.omega.com](http://www.omega.com)*

## **TEMPERATURE**

- ☑ Thermocouple, RTD & Thermistor Probes, Connectors, Panels & Assemblies
- ☑ Wire: Thermocouple, RTD & Thermistor
- ☑ Calibrators & Ice Point References
- ☑ Recorders, Controllers & Process Monitors
- ☑ Infrared Pyrometers

## **PRESSURE, STRAIN AND FORCE**

- ☑ Transducers & Strain Gages
- ☑ Load Cells & Pressure Gages
- ☑ Displacement Transducers
- ☑ Instrumentation & Accessories

## **FLOW/LEVEL**

- ☑ Rotameters, Gas Mass Flowmeters & Flow Computers
- ☑ Air Velocity Indicators
- ☑ Turbine/Paddlewheel Systems
- ☑ Totalizers & Batch Controllers

## **pH/CONDUCTIVITY**

- ☑ pH Electrodes, Testers & Accessories
- ☑ Benchtop/Laboratory Meters
- ☑ Controllers, Calibrators, Simulators & Pumps
- ☑ Industrial pH & Conductivity Equipment

## **DATA ACQUISITION**

- ☑ Data Acquisition & Engineering Software
- ☑ Communications-Based Acquisition Systems
- ☑ Plug-in Cards for Apple, IBM & Compatibles
- ☑ Datalogging Systems
- ☑ Recorders, Printers & Plotters

## **HEATERS**

- ☑ Heating Cable
- ☑ Cartridge & Strip Heaters
- ☑ Immersion & Band Heaters
- ☑ Flexible Heaters
- ☑ Laboratory Heaters

## **ENVIRONMENTAL**

### **MONITORING AND CONTROL**

- ☑ Metering & Control Instrumentation
- ☑ Refractometers
- ☑ Pumps & Tubing
- ☑ Air, Soil & Water Monitors
- ☑ Industrial Water & Wastewater Treatment
- ☑ pH, Conductivity & Dissolved Oxygen Instruments