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- *Slotted Link* – is recommended for applications where gauge will be subjected to sudden release of pressure such as burst testing. The slotted link option protects the movement from damage due to rapid pressure decrease.
  - *Peak Load Indicator* – tracks pressure change and provides indication of maximum pressure measured.
  - *Wall Mounting Brackets* – 3 factory installed brackets allow gauge to be mounted to any flat service without the need for a panel cutout.

#### **STORAGE REQUIREMENTS**

Gauges should be stored in a sealed plastic bag and kept in a clean dry area. Whenever possible the gauge should be stored in the original carton and packing material. Storage temperatures should be in the range of –25 to +125°F.

#### **SHELF LIFE INFORMATION**

When properly stored, no shelf life limitations will apply. However, if the gauge is in storage in excess of one year, it is recommended that the gauge be recertified prior to use. Heise® gauges do not contain rubber, plastic or any other soft materials subject to drying and/or cracking. There are no O-rings or elastomer seals used in Heise® gauges.

#### **SPECIAL HANDLING REQUIREMENTS**

This is a high precision gauge. As with any precision test equipment it should be handled with care to assure its accuracy is maintained.

#### **FOR A COMPLETE OPERATION AND MAINTENANCE USER'S MANUAL CONTACT THE FACTORY CUSTOMER SERVICE DEPARTMENT.**

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## **Installation and Operating Instructions**

**HEISE® DIAL GAUGES  
MODEL CC, CM & CMM**

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## SAFETY PRECAUTIONS

Pressure gauge selection should be done in accordance with recognized industry codes and safety practices to avoid the possibility of misuse or misapplication which could result in personal injury or damage to property. ASME B40.1 should be consulted by those responsible for gauge selection and installation.

## UNPACKING THE GAUGE

All Heise® gauges are shipped with a piece of foam between the glass window and the pointer. This foam secures and protects the movement from damage during shipment. **THIS FOAM MUST BE REMOVED PRIOR TO INSTALLATION AND OPERATION OF THE GAUGE**

To remove foam, first remove the zero adjust lock screw located beneath the dial face. This is the screw located in the center of the zero adjust knob. With this screw removed lift the bottom of the bezel away from the gauge. Then lift the bezel up and off the alignment pin at the top of the gauge. With bezel assembly off, remove pad. Reinstall bezel through reverse procedure. Be certain to align the teeth for zero adjust mechanism prior to replacing dial adjust lock screw.

## GAUGE INSTALLATION

Unless otherwise specified at the time of order Heise® gauges are calibrated in the upright or vertical position. Gauges should always be mounted in the same position as they were calibrated to eliminate positional errors. Special calibration is required for gauges to be mounted in any position other than vertical. All Heise® gauges have three holes for ¼" screws spaced 120° apart on the back of the bezel to facilitate panel mounting. Factory installed wall mounting brackets are available as an option.

## GAUGE OPERATION

Heise® gauges are precision instruments. Certain procedures and precautions are recommended in order to maximize their performance. These are:

For liquid systems the trapped air should be purged from the system using the bleeder cap on the end of the Bourdon tube. When opening or closing the bleeder cap firmly hold the free end of the Bourdon tube to protect the movement, Bourdon tube or linkages from damage due to stress. To bleed air from system open bleeder cap slightly and carefully apply pressure to the gauge to force fluid through the cap. Allow the fluid to flow for several seconds to purge trapped gas from the tube. Direct the fluid away from the

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gauge to protect the movement from becoming contaminated. Once this is done tighten cap.

It is good practice to pressurize the gauge to full scale for several minutes prior to use. The pressure should then be removed and the dial zeroed, if necessary. The dial adjuster is located at the bottom of the dial. The smaller central knob is an adjustment lock and the larger, outer knob is used for zero adjustment.

## PRESSURE MEDIA

Care should be taken to assure that the process pressure media are compatible with the gauge wetted materials. Hydrogen use should be limited to gauges equipped with Beryllium Copper Bourdon tubes. Consult factory for questions regarding media compatibility.

Unless specially cleaned, the gauge wetted surfaces may include cleaning solvent or hydrocarbon (oil) residue from the manufacturing and calibration processes. These substances may be incompatible with specific installations or process media. Consult factory for special factory cleaning options. **DO NOT USE GAUGES ON OXYGEN SERVICE UNLESS GAUGE HAS BEEN CLEANED AND CERTIFIED FOR OXYGEN USE.** Failure to comply with these recommendations could result in damage to the gauge and personal injury.

## GAUGE ACCURACY & CALIBRATION

Heise, gauges are calibrated at the factory to  $\pm 0.1\%$  F.S. accuracy and certified, traceable to the N.I.S.T., USA. (Note: For gauges equipped with 316 SS Bourdon tubes, hysteresis may exceed 0.1% and is not guaranteed). Primary calibration adjustments on the movement are sealed with liquid metal and should not be altered. Tampering with these calibration points may degrade the accuracy of the gauge and will void the warranty.

Under normal operation, a one-year calibration cycle is recommended for your Heise gauge(s). Recertification services are available at the factory.

## OPTIONAL FEATURES

- *Bimetallic Thermal Compensation* – is recommended for all gauges that are to be installed in non-temperature controlled environments. This option maintains the 0.1% of span accuracy over a range of  $-25$  to  $+125^{\circ}\text{F}$ . Gauges not equipped with this option may incur an additional 0.1% error per  $5^{\circ}\text{F}$  deviation outside the operating temperature window of  $68-72^{\circ}\text{F}$ .