

# KENCO ENGINEERING COMPANY

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## 88M50, 88M75, 88F50, & 88F75 Installation / Operating Instructions

### Installation / Operating Instructions

Only qualified personnel who are familiar with tubular gauges and their operation should undertake installation of this product. Failure to properly install could result in serious personal injury and property damage.

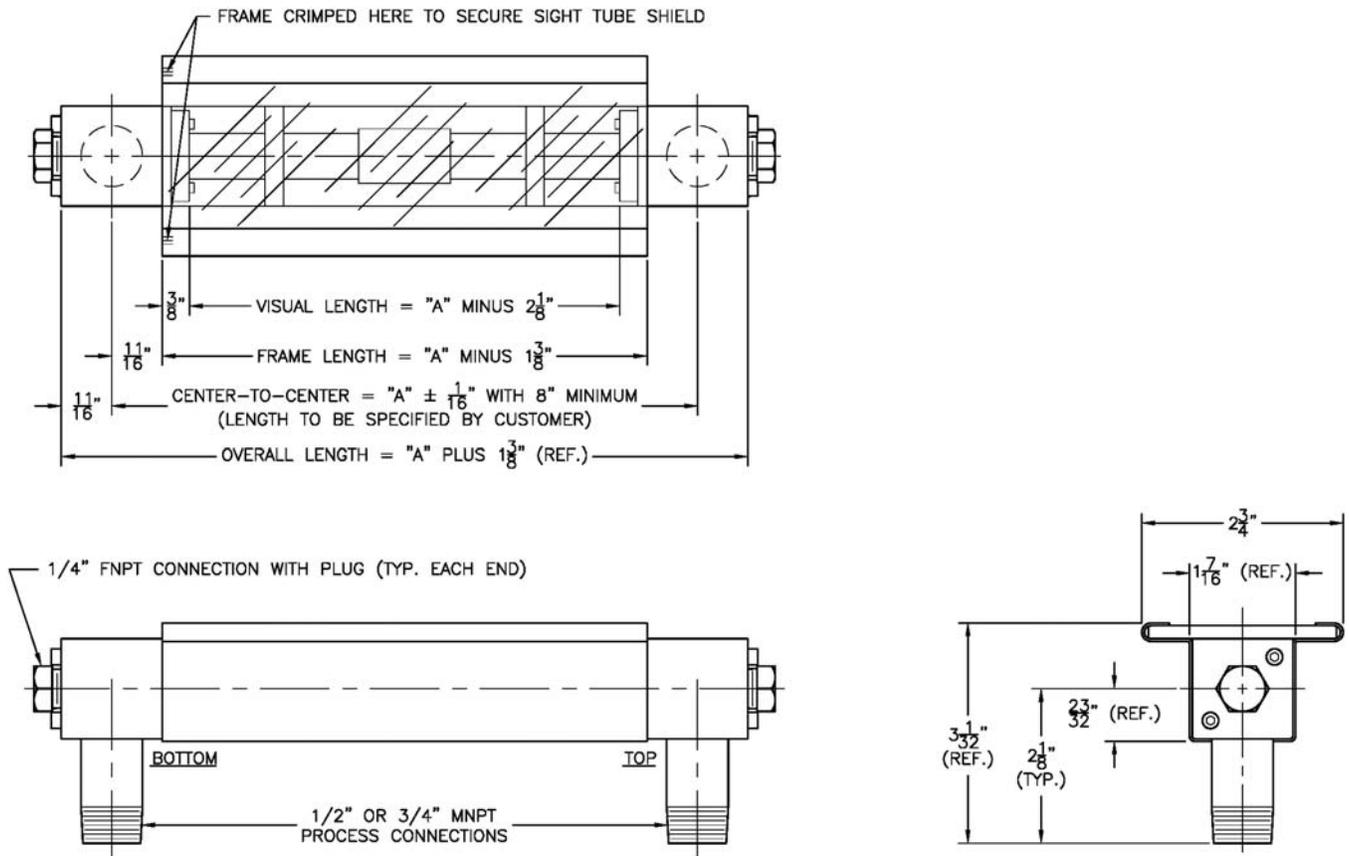
1. Apply PTFE tape or equivalent to male process connection threads on each end of gauge and install onto side of vessel.  
Note: We recommend using a union type pipe fitting between gauge process connections and vessel isolation valves in case gauge needs to be removed while vessel is in service.
2. Check gauge process connections as well as threaded vent/drain connections on each end of gauge to ensure they are pressure tight.
3. Open isolation valves very slowly to avoid excessive thermal shock and mechanical stress on tubular gauge glass sight tube contained inside gauge frame.
4. Allow gauge temperature and pressure to slowly equalize with vessel.  
Note: Failure to slowly bring gauge into service will cause rapid pressurization of sight tube, which could result in serious personal injury and property damage.
5. Inspect gauge to ensure there are no leaks prior to proceeding with installation.

### Maintenance Instructions

1. During system shutdown, gauge should be drained, relieved of all pressure and allowed to cool down to ambient temperature before proceeding with any maintenance.
2. Should gauge need maintenance while vessel is still in service, valves on each end of gauge are to be closed completely to allow gauge to cool to ambient temperature if necessary. Liquid can be carefully drained using threaded port on lower end of gauge.  
Note: Do not proceed with any maintenance unless gauge has been relieved of all pressure or vacuum and has been allowed to reach ambient temperature. Gauge should also be flushed out to remove any hazardous liquids before handling if applicable.
3. Cleaning inside of sight tube can be done without removal of tube itself. This can be accomplished by using a tube brush with access through threaded vent/drain connection ports on each end of gauge.
4. Removal of sight tube contained inside gauge frame is as follows:
  - a. Remove existing clear polycarbonate or expanded metal shield by bending crimped portion of gauge frame on each end away from shield so it can easily slide out.
  - b. Remove (2) hex socket head cap screws in blocks on each end of gauge holding 1-1/4" square x 1/4" thick o-ring compression plates in place.
  - c. Push sight tube up into upper block as far as is required to enable lower end of sight tube to swing out from inside gauge frame.
  - d. Carefully lower sight tube out of block in upper end of gauge frame.  
Note: If sight tube has a splicer, extra care should be taken so sight tube assembly does not come apart.
  - e. Remove o-ring compression plates and o-ring seals from sight tube.

5. Installation of sight tube is as follows:

- a. Insert sight tube into splicer if one exists. If a Teflon shrink-tube type splicer exists, it will be necessary to place Teflon o-ring cushion between adjoining sight tubes and heat-shrink new Teflon splicer in place.
- b. Slide 1-1/4" square x 1/4" thick o-ring compression plates onto each end of sight tube.
- c. Slide o-ring seals onto each end of sight tube.
- d. Rotate 1-1/4" square x 1/4" thick o-ring compression plates as required to line up with existing holes in gauge process connection blocks.
- e. Push one end of sight tube into hole in block inside frame on upper end of gauge as far as is required to enable lower end of sight tube to swing over and into hole in block inside frame on lower end of gauge.
- f. Install hex socket head cap screws into blocks on each end of gauge and thread into holes in 1-1/4" square x 1/4" thick o-ring compression plates and tighten securely.  
**Note: Alternate between screws while tightening to ensure that compression plates are tightened down evenly against inside surface of connection blocks inside gauge frame.**



**Note:** Dimensions above represent gauges with carbon steel or stainless steel wetted parts only. Gauges with PVC wetted parts are constructed differently and have different length subtractors. Consult factory for additional information.