



**Flex-Tube® Manometer**

**Installation & Operating Instructions**

**1220/1230 Series**

**U-Tube and Well-Type Manometers**

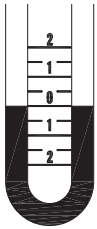


Fig. 1

With both ends of the tube open, the liquid is at the same height in each leg.

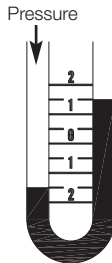


Fig. 2

The difference in height, "h", which is the sum of the readings above and below zero, indicates pressure.

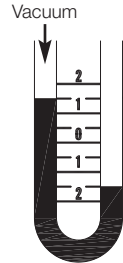


Fig. 3

The difference in height, "h", which is the sum of the readings above and below zero, indicates the amount of vacuum.

**Measuring Pressure, Vacuum and Differential Pressure with Dwyer Manometers**

Dwyer manometers are available in two different styles. The W/M models use either water for readings in inches of water or mercury for readings in inches of mercury. The D models use Dwyer .826 specific gravity red gage oil for readings in inches of water. The scales on the two styles have different lengths, so it is important to use the correct fluid.

**Mounting Dwyer U-Tube Manometers**

**1221** - Mount to a vertical surface through holes in the scale.

**1222** - Attach magnets to steel surface or remove magnets and mount through holes in scale.

**1223** - Attach magnets to steel surface or through the hole in safety trap housing.

**1227** - Because of angled connections, 1227 must be filled with indicating tube at an angle. After filling, check zero in vertical position. Clean all oil from the exterior of the unit to prevent cracking of the backplate.

**Note:** Read vertical range on the right leg with the manometer vertical. Incline the manometer to zero for low range reading.

**Mounting Dwyer Well Manometers**

**1230** - Mount to a vertical surface with flat-head screws through the holes in the scale.

**1235** - Mount behind panel cutout to show only the tube and scale. Attach by drilling holes through the manometer's back-plate and panels. Make the panel cutout for the length and width of the tube and scale.

## Filling U-Tube Manometers

### 1221 - 1222

Open both fittings to atmosphere. Slide scale to mid-point of travel. Add liquid to zero on scale. Clean all oil from the exterior of the unit to prevent cracking of the backplate.

### Filling 1223 - 1230 and 1235 Manometers

Remove large fitting from well using a 3/4" open-end wrench. Also remove cork, disc, and O-ring. Be sure the other side is vented to atmosphere. Adjust zero to middle of travel. Add fluid to well up to the zero on scale. Replace cork, disc, and O-ring before replacing fitting. Clean all oil from the exterior of the unit to prevent cracking of the backplate on 1223 models. To order red gage oil, order part # A-101 (3/4 oz.) To order fluorescein green color concentrate, order part # A-126 (3/4 oz.)

### Operation of 1221, 1222 and 1223 Manometers

Connect either side to pressure or vacuum, leaving the other side open to atmosphere. Add together the readings above and below zero.

It is normal for the two sides to have different readings and has no effect on accuracy. For differential pressure, connect both the high and low fittings. Add the readings above and below zero on the scale.

## Operation of 1230 and 1235 Manometers

**Positive Pressure:** Connect the well reservoir fitting to the pressure source, leaving the other side open to atmosphere.

**Negative Pressure:** Connect the top fitting to vacuum source, leaving well side open to atmosphere.

**Differential Pressure:** Connect higher pressure to well reservoir fitting and lower pressure to upper fitting.

**Note:** When finished, close fitting to prevent spilling or evaporation.

### Maintenance

With proper care, Dwyer Flex-Tube® Manometers will continue to give accurate readings. If cleaning is needed, remove fittings, drain fluid, and rinse with mild soap and water. A cleaning brush (part #A-366) may be used to remove oxidation.

Avoid harsh soaps and solvents which may damage manometer and void warranty.

When replacing O-rings, apply a thin coat of petroleum jelly to assure a good seal. Do not coat O-ring used in the overpressure safety trap.

Avoid using fluids other than those specified. Corrosive fluids may damage the manometer.

If return is needed contact customer service to receive a return goods authorization number before shipping.

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