The Dwyer No. 1420 Transparent Hook Gage was privately developed for certain critical low pressure and vacuum measurements in the Dwyer organization. Demands for this precision instrument by other industries have now led to its being placed on the market. The gage is completely suitable for all applications except fluctuating pressures. Fan manufacturers will find it useful in checking instruments for measuring air flow. Builders of oil burners can make exact laboratory draft tests. For all types of industrial test work and in scientific laboratories, it affords a highly accurate standard. The accuracy for the full scale range of 0-2” of water is within plus or minus .001” w.c.

Simplified action is the key to the Dwyer Hook Gage. The effect of capillary attraction has been reduced to a minimum by employing extra wide water columns. The only moving parts are the two stainless steel hooks controlled by standard depth micrometers. Passing through the leak-proof stuffing box at the base, each hook shows the exact level of its water column by producing a slight “pimple” at the point of contact. After zero-setting of the hooks, the pressure is applied and the resulting vertical movement of the water is read directly from the micrometers.

With the extremely sensitive level vial, which is integral with the base, the operator can locate one hook relative to the other within .001 of an inch of vertical distance. These levels have a sensitivity of 115-125 seconds for 2 mm of bubble movement.

The depth micrometers are manufactured in accordance with ASME B89.1.13-2001, and are traceable to a standard at the National Institute of Standards and Technology.

Catalog No. 1420 Hook Gage is furnished complete with Mounting panel, 3/4 oz. bottle Fluorescein Green Color Concentrate and one set of Type “a” Connectors stated below.

Type “a” - Two molded nylon tubing connectors, rapid shut off type, two 3 ft. lengths flexible tygon plastic tubing, and two 1/8” pipe thread adapters.

Type “b” - Two molded nylon tubing connectors, rapid shut off type, one 9 ft. length rubber tubing and one brass terminal tube.

Type “c” - Two 1/8” pipe thread openings.

Type “d” - Two compression fittings for 1/4” O.D. copper or aluminum tubing.

Type “e” - Two 3-way vent valves, 1/8” S.P.T. to 1/4” metal tubing, at additional cost.

Standard range is 0-2 water. Distilled water with a few drops of Fluorescein color concentrate added is the indicating fluid.
INSTALLATION

1. Select a vibration free location. Mount gage level, and secure to a vertical surface, at a point slightly above eye level, avoiding excessive heat (temperature over 135°F will damage the gage).

2. Add several drops of fluorescein green color concentrate to approximately 9 oz. of distilled water and mix gently. Remove one connection plug, and add to gage until liquid level is at the approximate mid point of the two columns. Be certain no air is contained in the connecting tube between the wells. Bleed by slightly loosening the machine screw plug, if necessary.

3. Check level before using. Set both micrometers at zero position by turning micrometer handles clockwise or counter clockwise.

4. Loosen zero adjustment locking rings on both sides, and turn hook handles until both hooks just dimple water surface (see note at right). Lock zero adjustment locking rings, making sure both micrometers still read zero.

5. Connect to left side for minus (below atmospheric) pressures. Connect to right side for plus (above atmospheric) pressures. Connect to both sides for differential pressures.

6. Impose pressure (plus, minus or differential) on gage, and turn both micrometers until each hook again dimples the water surface.

7. Read each micrometer, and add readings together.

8. Re-check level to insure gage has not moved during test.

NOTE: Experiment for best method of determining the exact point when the hooks contact the water surface. With care, repetitive accuracy of .001˝, is possible. A mirror or polished chrome strip behind the wells is helpful. Light should come from above and either side. Observing from below, the bright mirror-like surface of the water will slightly distort at the exact moment of contact.

CAUTION: Clean with soap and water, naphtha, or gasoline only. Other fluids or cleaning agents may damage the gage. To clean, remove well cap fasteners and lift off well cap.