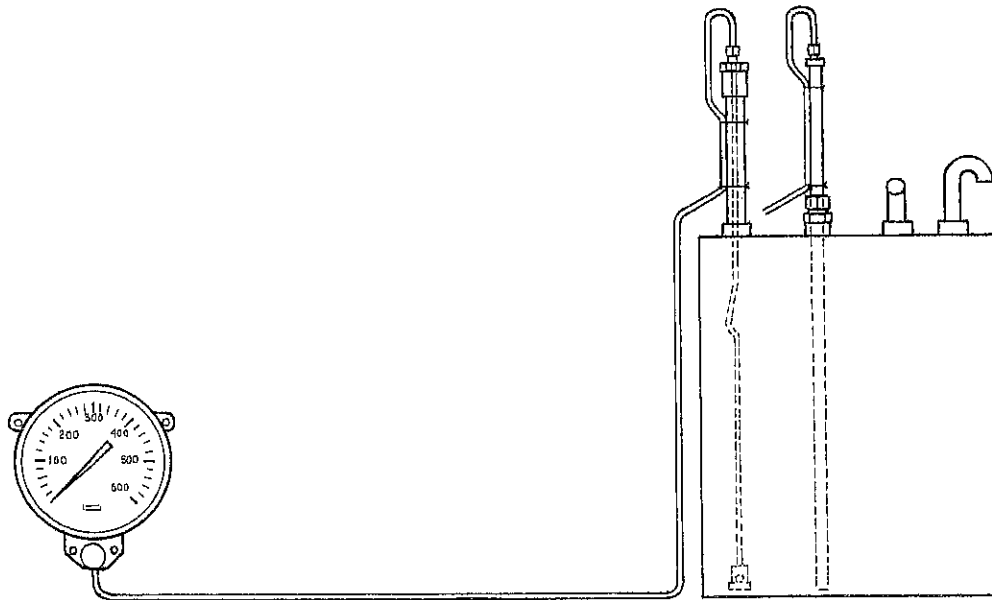


# NORMOND TANK CONTENTS GAUGES

## Types G6, G8, G12

### Installation, Operation and Maintenance

Normond Tank Contents Gauges are self-contained instruments operating on the hydrostatic principle. As air from a built-in pump is the transmitting medium, no external source of power is necessary. Each instrument consists of a tank unit, a gauge with integral hand pump and connecting tubing.



#### INSTALLATION

(a) **Tank Unit.** A boss threaded  $1\frac{1}{2}$ " BSP must be provided on the top surface of the tank. The balance chamber of the tank unit is fed through this opening and lowered by the attached tubing until it positions itself on the base. The lower surface of the chamber is magnetised so that it is held firmly in position during the surging that occurs during filling.

Care should be taken that the balance chamber reaches the bottom of the tank and does not attach itself to a side wall, strut or baffle. In case of doubt, mark the tubing to indicate tank depth.

When the balance chamber is satisfactorily positioned, screw the  $1\frac{1}{2}$ " reducing bush provided into the tank boss. Feed in an extra 2" (50 mm.) of tubing to keep it slack. Then position olive and nut on the reducing bush and tighten.

NOTE: Do not over-tighten, as this can cause damage to the tubing.

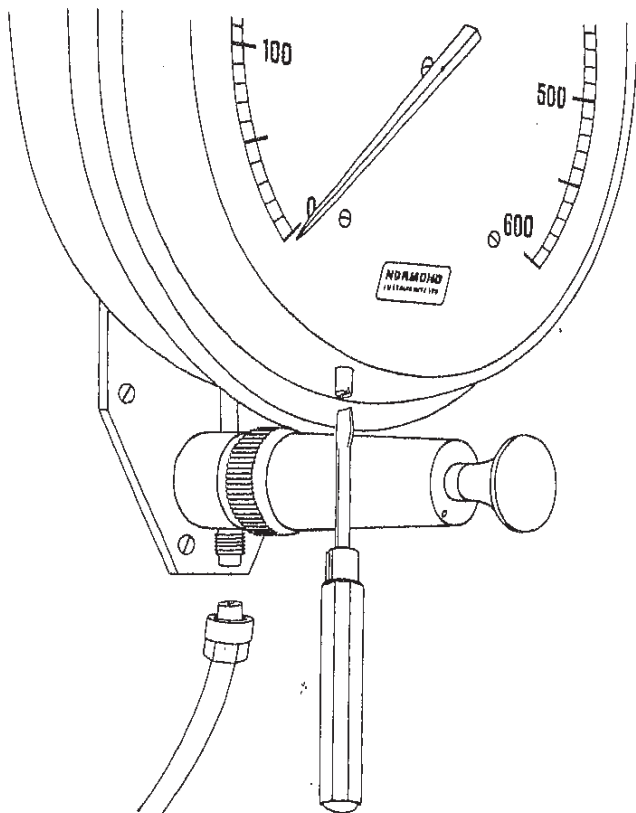
Support for the tubing, if required, can be provided by an 18" (50 cm.) length of pipe, threaded BSP and screwed into the tank boss, with a standard  $1\frac{1}{2}$ " socket at the upper end to take the reducing bush. Tubing to the gauge can then be taped to the extension pipe.

A RIGID BALANCE CHAMBER is available as an alternative fitting, and gives positive location of the chamber in the tank. This needs no extension, as it comes well above the surface of the tank. All rigid balance chambers come with 1" BSP compression fitting thus requiring a 1" socket in the tank top. Long rigid balance chambers are supplied in more than one piece, and should be assembled and the joints tested for air-tightness before insertion into the tank.

(b) **Gauge.** The standard gauge may be mounted on a wall, partition or panel, provided it is sheltered from heat and the full effects of the weather. It must be mounted vertically to avoid gravity errors, but will function efficiently irrespective of its height in relation to the tank. For outdoor mounting, a simple protective cover is advisable, such as a wooden base and roof, or box type surround, sufficient to guard against sun and rain.

**Adjustment.** Before connecting up, see that the pointer indicates zero. If necessary, remove the rubber cap on the adjuster projecting from the lower edge of the perspex cover, insert screwdriver and adjust by turning in the appropriate direction. Replace rubber cap after adjustment.

*(continued overleaf)*



(c) **Tubing.** To connect up, unroll the tubing from the tank unit, carrying it upwards for 18" (50 cm.) or so before taking it to the gauge position; this prevents surge of liquid into the tubing during tank filling. Secure the tubing at intervals, avoiding pinching and damage. Cut off to length. The gauge coupling is of Kematal and should not be over stressed, screw it as far as possible by hand and complete with a further  $\frac{1}{2}$  to  $\frac{3}{4}$  turn with a spanner in order to make a perfect joint.

Actuation of the hand pump at the base of the gauge charges the system with air and displaces liquid from the balance chamber in the tank. The resulting pressure in the balance chamber is indicated on the calibrated gauge.

To prime, operate the pump until the pointer ceases to advance. If the pointer tends to return to zero when there is liquid in the tank, an air leak is indicated, which should be traced and rectified.

It is recommended that a few strokes of the pump be given before a reading is taken, as low readings can be caused by loss of air due to temperature changes. Contents should be read when the pointer is at its maximum and ceases to oscillate.

**CAUTION:** Do not over-pump, which can damage the gauge.

## MAINTENANCE

In general, little attention is required other than an occasional smear of petroleum jelly on the pump washer and stainless steel spindle. The knurled pump body is designed to be leakproof when finger-tight, and should not be overtightened.

If the pointer does not remain steady and tends to return to zero (when there is liquid in the tank and no air-leaks in tubing and connections), disconnect tubing from the gauge. Then place a moistened finger over the inlet to the gauge and operate the pump until the pointer is at the half-full mark. If the pointer still tends to return to zero, unscrew body and plunger, and inspect non-return valve for foreign matter under the O-ring seal.

If it is necessary to dismantle O-ring seal, grip loop of spring with long-nose pliers, extend spring slightly and remove the retaining pin. Release spring and allow valve head to fall into the hand. Examine seal and face of valve, wash assembly with surgical spirit, allow to dry, and reassemble valve. Refit into pump, reassemble and test as described above.

