

**Installation :**

**A. For Guided & Direct Indication :**

Refer fig 1 to get general idea of mounting the system on tank.

**a) Selection of Location:**

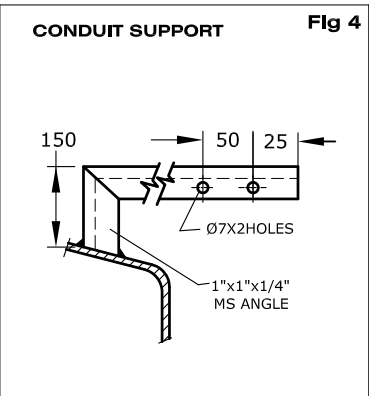
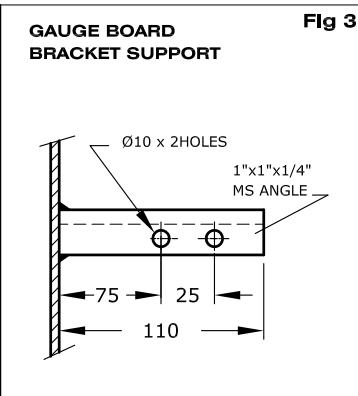
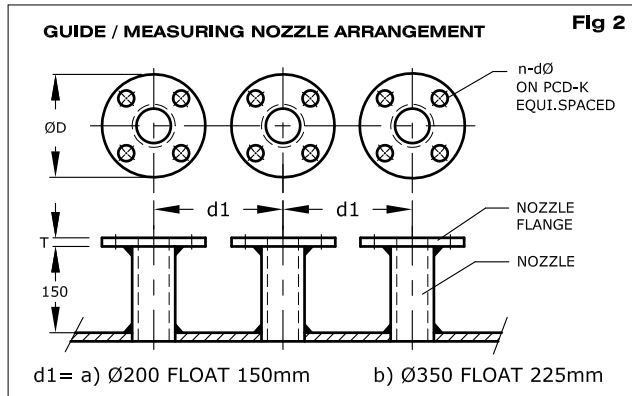
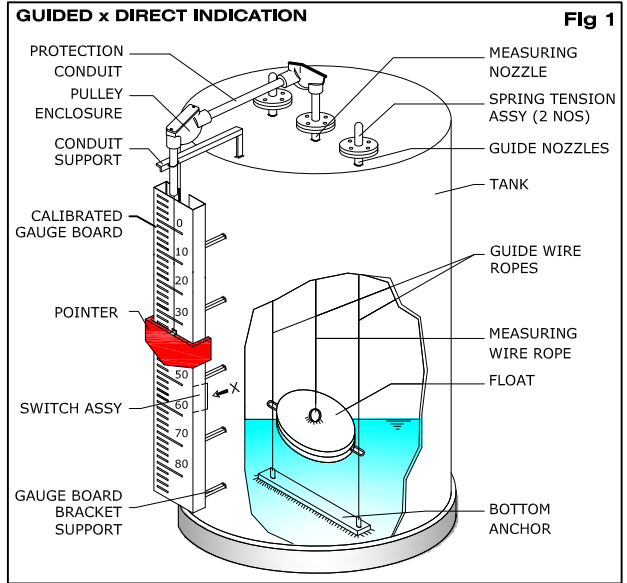
1. There should be no objects to restructure hinder float level
2. The position of mounting nozzle should be far away from the liquid fill pipe to protect float from damage & turbulence testing in faulty readings. Also ensure that tank structures / fittings do not come in the way of calibrated gauge boards

**b. Welding operation on tank: fig 2, 3 & 4**

Locate position of the measuring nozzle at least 500mm from the tank wall and ensure that there is a clearance min 75mm between the float & other internal parts. Refer fig 2 to locate position of guide nozzles and ensure that distance between them 'd1' is maintained according to float size. Bore appropriate holes at located positions and weld the nozzles on to the the holes in an upright position. Locate the position of bottom anchor plate by lowering a plumb line through the guide nozzles.

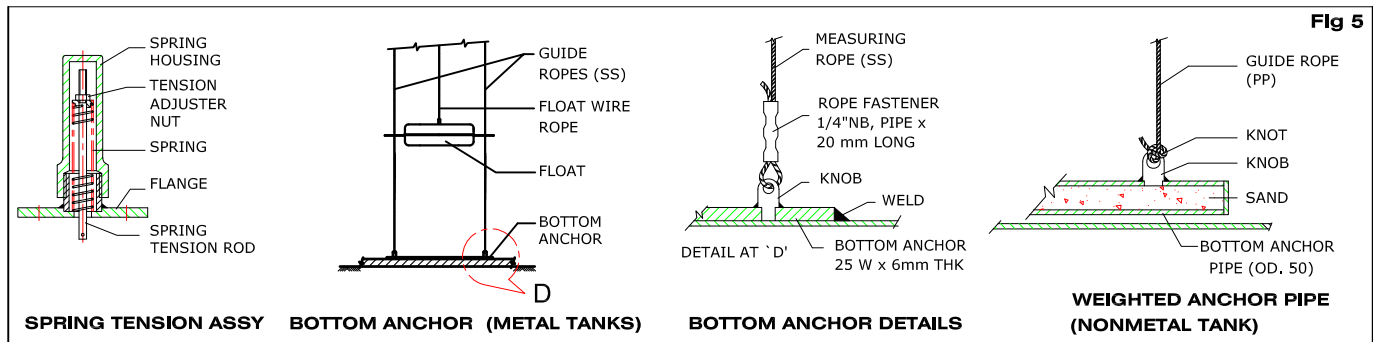
Weld bottom anchor plate to tank bottom in metal tanks. However for non metal tanks, the guide ropes can be weighted down by anchor pipe filled with sand (fig 5)

Now weld 'Conduit support' on tank top (fig 4) and ensure that it is parallel to the gauge board bracket supports.



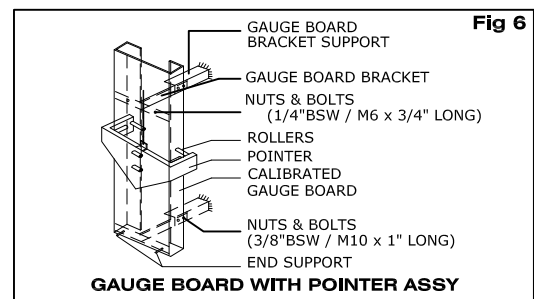
**c. Fitment of Guide ropes : fig 5**

Tie one end of the guide rope to the spring tension rod. Unfold the rope carefully to avoid kinks or loops and pass the end of guide rope inside the tank through guide nozzle. Bolt the spring tension assembly on guide rope nozzle. Now insert the guide rope thru the side brackets on the float and anchor the free end of the guide rope to the bottom anchor plate / anchor pipe. Remove Spring Housing and tighten the tension adjuster nut to provide the guide ropes adequate tension and refit spring housing. Repeat this procedure for other guide rope



**d. Mounting of Gauge Board Assembly : fig 6**

It comprises of 1 meter long calibrated gauge boards with graduations on the front side. The number of boards depend on the level range and they are assembled and mounted with graduations in descending order (i.e. 'Zero' graduation board the top). Fix the gauge board brackets on the gauge (fig 6). Mount protection conduit and pulley assembly on Measuring nozzle & conduit support respectively. (fig 7) Ensure that the center of vertical protection conduit and pointer are in line, so that float wire is in plumb and does not brush with gauge board surface



**e. Mounting of Pulley Enclosure and Protection conduit :**

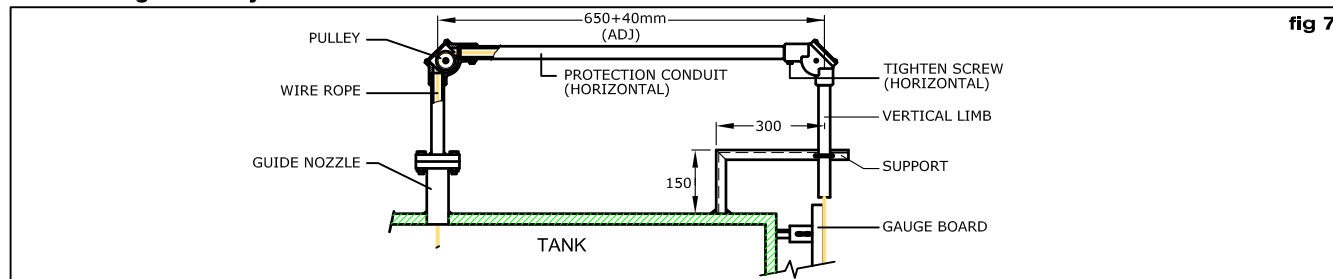


fig 7

**f. Mounting of Pointer, Float wire rope & Float :**

Slide the pointer over the gauge board from top and ensure that Pointer slides smoothly over the length of the calibrated gauge board. Drop one end of the float wire rope through pulley enclosure mounted on measuring nozzle in the tank. Unfold the float wire rope carefully to avoid any loops / kinks. This end of rope is tied to the float bush. Pass the other end of float wire rope through horizontal protection conduit, pulley enclosure and vertical protection conduit and tie this end to the pointer to ensure that pointer reads `Zero', when float is resting on bottom anchor. The excess rope should be coiled and kept well clear of gauge board and should not obstruct the movement of pointer. The equipment is now ready for use

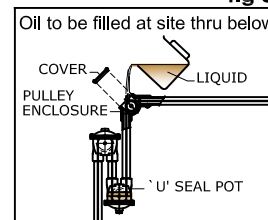
**B. For Guided & Seal Pot Arrangement :**

Installation similar to `A' except, ensure that drain plug of seal pot is tightened properly. Open pulley cover and pour transmitter / silicon oil in the seal pot so that it is half -full. Put the pulley cover in original position

fig 8

**Precautions :** Insure the following,

- 1) There are no kinks / loops formed on the float wire rope / guide wires
- 2) Pulley moves freely and float rope is securely placed within its groove
- 3) Pointer slides freely on the gauge board
- 4) Guide rope pass within the space formed by the brackets & locking pins
- 5) There are no kinks / loops formed on the float wire rope / guide wires



**Performance test :**

Pull the pointer manually downwards over the gauge board till it reaches its bottom end and ensure that the floats lifts upwards to the tank top freely. Now raise the pointer slowly and ensure the float moves downwards freely. Do not remove your hold from the float wire otherwise the float will get damaged

**Final Adjustment :**

During service, check the reading on Float & Board Type Tank Gauge and compare the same with an accurate level gauging system. In case of large error, adjust the level indicating pointer accordingly

**Trouble Shooting :**

Problem	Cause	Solution
1. Float is not lifting , when put in liquid	a. Liquid Sp Gr is less than specified b. Float is stuck c. Float is punctured	a. Replace float to suit the corresponding Sp Gr b. Make the float free c. Replace the float
2. Pointer is stuck on the gauge board	a. Gauge Boards not installed vertically in plumb line b. Misalignment of gauge boards at the joints	a. Align Gauge boards correctly b. Correct the alignment of gauge boards
3. At the max level, the pointer is at bottom position and continues to remain there even through liquid level is reduced	a. Weight of pointer + wire rope is more than the float b. Pointer / Float is stuck	a. Replace float having correct weight b. Remove the obstacle
4. No movement of follower capsule in spite of change in liquid level	a. Indicator tube not filled with water b. Disengagement of magnetic coupling between the counter weight & capsule (No proper coupling)	a. Fill the indicator tube with water b1. Lift the capsule upto counterweight with aid of any available magnet b2. If Capsule & Counter weight do not couple, then replace counter weight
5. Switch is not operating	a. Magnet coupling between pointer & swith not proper b. Switch get damaged because of improper load	a. Ensure proper fitment of switch enclosure to gauge board b. Replace switch
6. Corrosive fumes coning out Through protection conduit	a. Seal pot is not filled with transmitter / silicon oil / water in case of HCL	a. Fill seal pot with corresponding Liquid

All dimensions in mm