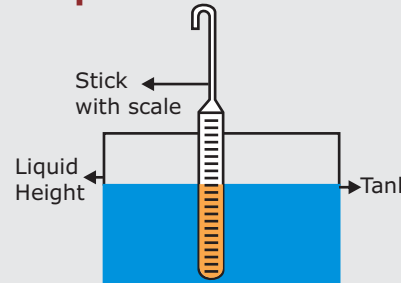


Direct Methods

Direct methods sense the surface or interface of the liquid and is not affected by changes in material density.

- ! Dip Stick
- ! Sight Glass
- ! Floats

Dip Stick



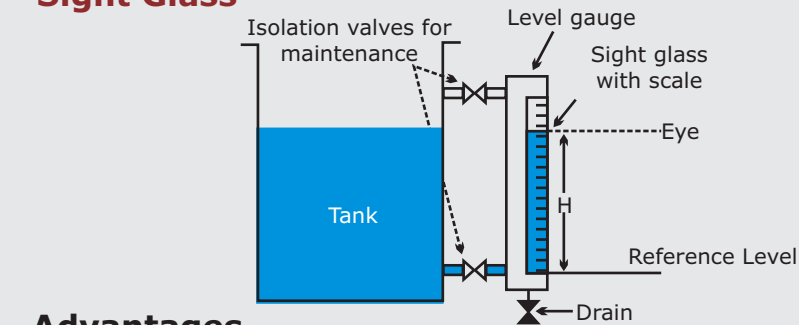
Advantages

- ! Simple and cheap
- ! Can be used with any wet material and not affected by density

Disadvantages

- ! Can not be used with pressurized tanks
- ! Visual indication only

Sight Glass



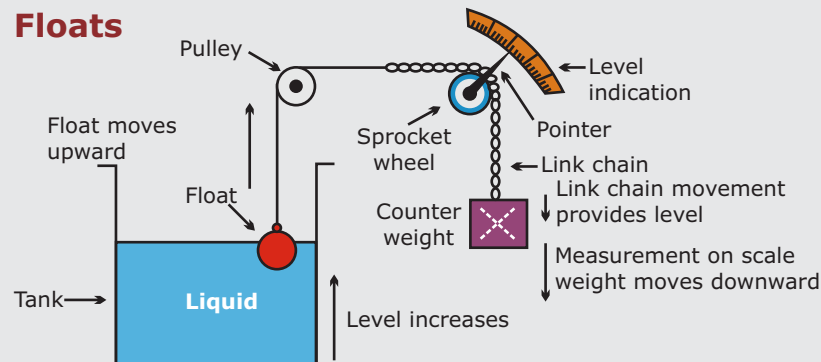
Advantages

- ! Direct reading is possible
- ! Can be used in pressurized tanks

Disadvantages

- ! Visual indication only
- ! Accuracy depends on cleanliness of glass and fluid

Floats



Advantages

- ! Low cost
- ! Level can be measured from any level of ground

Disadvantages

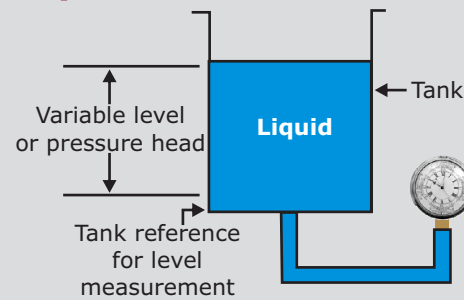
- ! Limited to moderate pressures

Indirect Methods

Indirect methods sense level by measuring other physical parameter such as pressure, weight, or temperature.

- ! Hydrostatic Head Method
- ! Bubbler or Purge Method
- ! Air Bellow

Hydrostatic Head Method



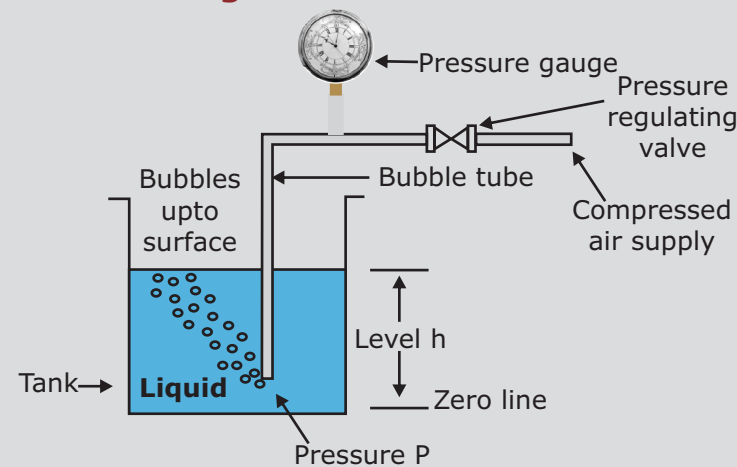
Advantages

- ! Simple and cheap
- ! Level can be measure

Disadvantages

- ! Can not be used with pressurized tanks on site measurement

Bubbler or Purge Method



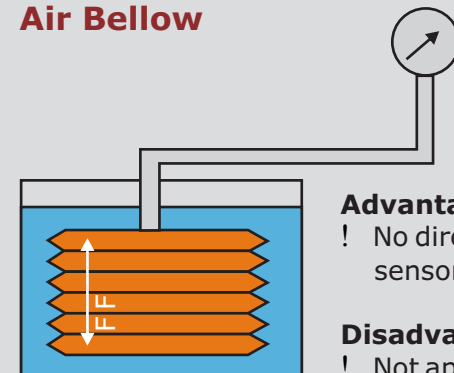
Advantages

- ! Continuous reading providing analog or digital signal
- ! Good accuracy and repeatability

Disadvantages

- ! Not suitable for pressurized tanks
- ! Tanks must be freely vented

Air Bellow



Advantages

- ! No direct contact between meter and sensor

Disadvantages

- ! Not applicable for high pressure

Electrical Methods

Electrical method sense the level of liquid and provides the proportionate electrical output signals.

- ! Capacitance Level Gauge
- ! Ultrasonic Level Gauge
- ! Nucleonic Gauge

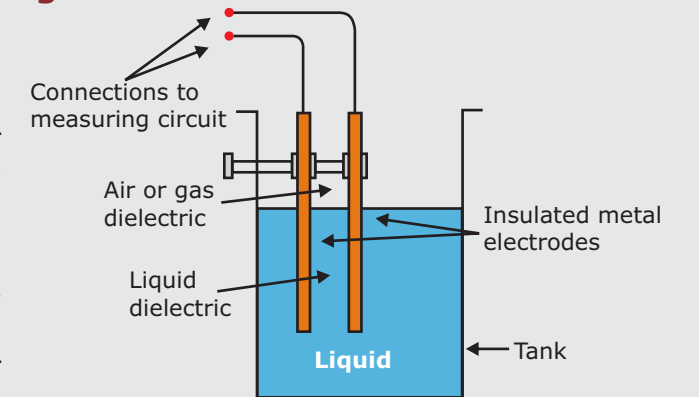
Capacitance Level Gauge

Advantages

- ! Continues indication and control
- ! Prob material for corrosive fluid are available

Disadvantages

- ! Measurement affected by temperature change
- ! Fluid must have proper dielectric qualities



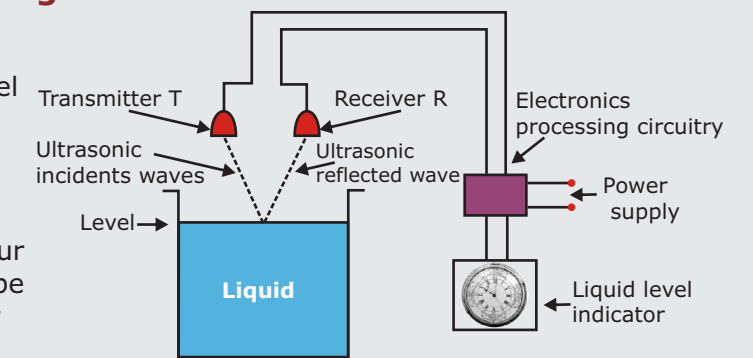
Ultrasonic Level Gauge

Advantages

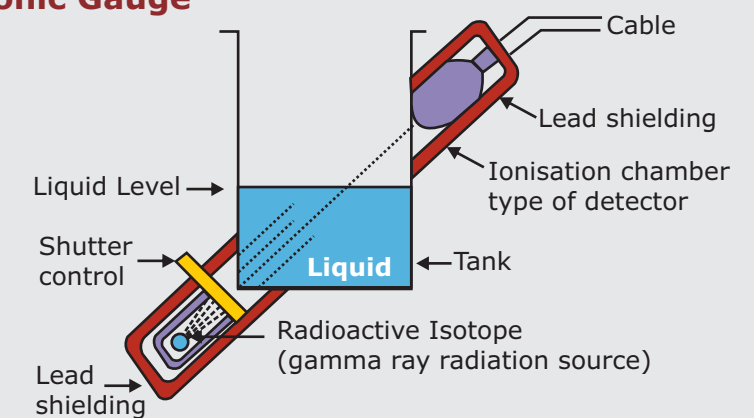
- ! Non contact type of level Measurement
- ! Reliable technique

Disadvantages

- ! Interference may occur dirt, irregular and slope surface affect accuracy



Nucleonic Gauge

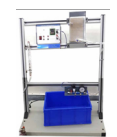


Advantages

- ! Non contact type of level measurement
- ! Useful on high temperature range

Disadvantages

- ! Costly
- ! Can change the density of liquid



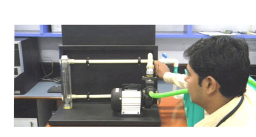
52009D
Level Process Control
Trainer



52068C
Electro Hydraulic Trainer



52072A
Arduino Development Board



52086
Flow Rate Measurement
Trainer



52102
Basic Pneumatic Trainer Kit



52106
Electro Pneumatic
Trainer Kit



52200
Modular Production /
Manufacturing System



55504
Wind Energy Trainer