



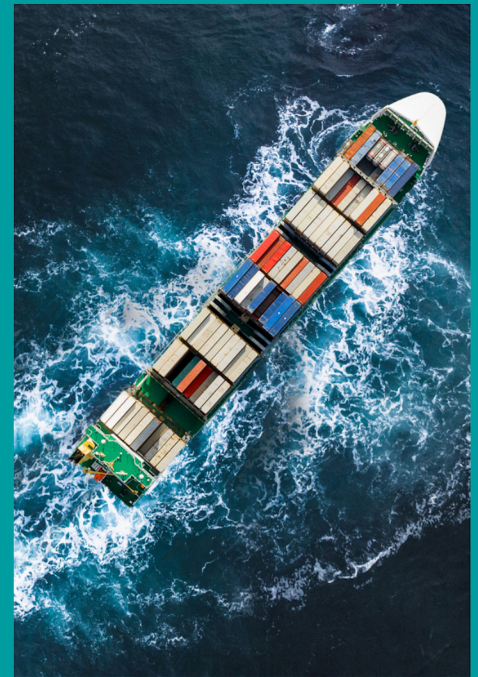
Top Ten Guides to Tank Level Measurement

Help to reduce risks and avoid issues when designing, specifying, installing and commissioning tank sensors and systems.

Using our many years of tank level measurement experience, we have assembled lists of the top thirty issues and considerations for incorporating tank sensors and control systems.

THE TOP 10 MOST COMMON MISTAKES WHEN PLANNING TANK MANAGEMENT SYSTEMS

1. Not finding out what tank gauging solutions consist of or the function they serve.
2. Select the wrong measurement solution. Pneumatic, hydrostatic, non-contact etc.
3. Make insufficient allowance for system design, manufacturing & delivery lead time.
4. Providing inaccurate specifications of measured liquids, tank calibration tables, and location of sensors.
5. Underestimating the costs of getting an appropriate solution, including allowing for logistics costs.
6. Not providing accurate SG values or recognise that these may change in service and so need updating.
7. Not providing tank tables in an editable format. (Ideal examples are Word or Excel files.)
8. Choosing the wrong sensors, for example, absolute sensors when gauge pressure measurement would give far better accuracy.
9. Not fully specifying any interfaces to external systems required.
10. Not allowing for the attendance of an engineer to validate installation, setup, and warranty.



THE TOP 10 THINGS PEOPLE FORGET WHEN IT COMES TO LEVEL GAUGING

1. If regulations define the tank entry point for sensors. For example many marine societies will not permit side entry on Fuel Oil tanks.
2. Sensors cannot measure liquid below their physical measuring diaphragm.
3. Sensor output will be affected by the movement of the vessel, unless compensated for in the monitoring system.
4. Liquids have a specific gravity (SG Value). Incorrect SG values will give inaccurate tank readings.
5. Small inaccuracies in the sensor installation height measurements can translate into large volumetric reading errors.
6. Certification requirements are needed, for example, intrinsically safe, I.S, or non-I.S.
7. There is a need for Safety Barriers if intrinsically safe installation is required.
8. That correct calibration of sensors needs tank height, sensor fitting height and SG values to be known accurately.
9. To make allowance for the vent pipe height when selecting the nominal range of a sensor.
10. A new system will need to have the installation validated and be commissioned before use.

THE TOP 10 THINGS PEOPLE FORGET WHEN IT COMES TO INSTALLING AND COMMISSIONING

Remember to:

1. Record accurate information relating to the actual physical fitting height of the sensor.
2. Check the sensor output when the tank is empty.
3. Calculate the output based on actual barometric pressure.
4. Apply point pressure to a measurement diaphragm, when testing the output.
5. Use appropriate protection when using metal tie clips to secure sensor cables in cable trays.
6. Ensure the vent pipe has not been kinked, trapped, or crushed.
7. Use a vented junction box.
8. Remember that a hazardous area safety barrier is designed to protect the equipment attached (if the safety barrier is stopping the equipment from functioning it is doing its job and the installation needs checking).
9. Ensure that sensors supplied with remote electronics must be matched together.
10. Ensure that any enclosures fitted with a breather port for gauge measurement sensors, do not get blocked.



Why choose PSM

To avoid costly and time-wasting issues that can affect project completion please contact us for help and advice. We are a tank gauging solutions provider and many rely on us to reduce the risk of making a mistake when it comes to level measurement.

We've been designing, building and improving marine level measurement systems for over 40 years. By having us support you, we give you the peace of mind that everything needed will have been considered and your level measurement system will be accurate, reliable and durable.

Vessels across the world choose PSM to provide level measurement solutions.

Applications

Naval	Superyachts	Cruise Ships	Ferries
Tankers	Offshore	Tugboats	Workboats

