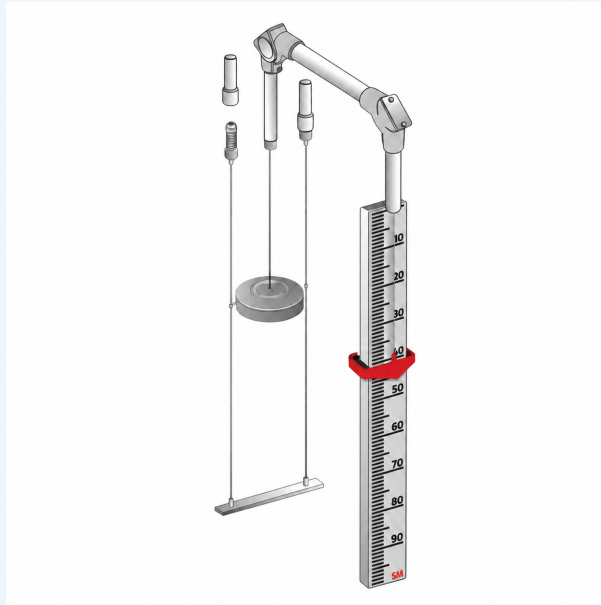


**LEVEL MEASUREMENT**

# Float & Board Level Gauge

Installation, Operation, and Maintenance Manual for Model FLG.



## 01 / Product overview &amp; specifications

# Float & Board Level Gauge

## Overview

The Float & Board type level gauge is a float-operated liquid level measuring system applicable for low-pressure storage tanks and vessels. A float is connected to a pointer with the help of a wire via a pulley and guide pipes along with a scale board. The pointer slides over a scale board parallel to the tank in a vertical direction. When the material level rises, the float moves upward with the application media, causing the pointer to move downward, and vice versa.

## Salient features

- Low maintenance.
- Better for long distance visibility.
- Better performance in turbulence.

## Applications

- Water Treatment Plant
- Oil & Refinery
- Petrochemical
- Storage Tank

## Specifications

| Parameter          | Specification                            |
|--------------------|------------------------------------------|
| Type of Gauge      | Guided type                              |
| Mounting           | Top                                      |
| Pressure           | up to 2 kg/cm <sup>2</sup>               |
| Temperature        | 100°C (Configurable)                     |
| Measuring range    | 10000 mm (Configurable)                  |
| MOC of Float       | SS316                                    |
| MOC of Wire        | SS316                                    |
| Scale Board        | SS316                                    |
| Density            | > 0.8 Specific Gravity                   |
| Process Connection | Flange (Size & rating per project specs) |

## Construction & Components

| Component       |                    |
|-----------------|--------------------|
| Guide Wire      | Pulley System      |
| Float           | Process Connection |
| Tension Flanges | Anchor Plate       |
| Float Wire      | Scale Board        |
| Scale Bracket   | Pointer            |
| Protection Tube |                    |

## 02 / Installation &amp; Operation

# Installation & Operation Guidelines

## Pre-Installation Checks

Before commencing installation, ensure the following:

1. Verify that the supplied gauge specifications (materials, pressure, temperature) match the approved project engineering documents and the application requirements.
2. Inspect all components for any transit damage. Ensure the float, wires, pulleys, and scale board are intact.
3. Confirm that the tank roof has the correct process connections (flanges) prepared as per the approved GA drawings.

## Installation Procedure

1. **Anchor Plate & Guide Wires:** Install the anchor plate at the bottom of the tank. Attach the guide wires to the anchor plate and route them up to the top tension flanges. Ensure the wires are plumb and properly tensioned.
2. **Float Installation:** Pass the guide wires through the guide rings on the float. The float should move freely along the guide wires without binding.
3. **Float Wire & Pulleys:** Attach the float wire to the top center of the float. Route the wire through the protective pipes and over the pulley system down the exterior of the tank.
4. **Scale Board & Pointer:** Mount the scale board vertically on the exterior of the tank using the provided scale brackets. Attach the pointer to the external end of the float wire.
5. **Calibration:** With the tank empty, adjust the pointer to read zero on the scale board.

## Operation

The Float & Board Level Gauge operates on a simple mechanical principle. As the liquid level in the tank rises, the float rises due to buoyancy. This upward movement creates slack in the float wire, which is taken up by the weight of the pointer assembly on the outside, causing the pointer to slide down the scale board. Conversely, as the liquid level drops, the weight of the float pulls the wire, drawing the pointer up the scale board.

## Maintenance

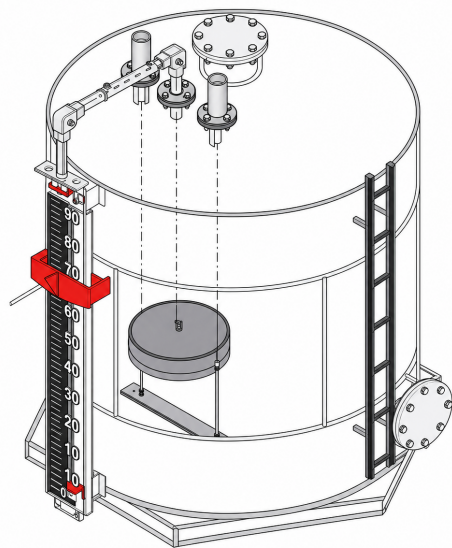
- Periodically inspect the float wire and guide wires for signs of wear, fraying, or corrosion. Replace if necessary.
- Check the pulleys to ensure they rotate freely. Lubricate the pulley bearings as required.
- Ensure the scale board remains legible and securely fastened. Clean the board if obscured by dirt or debris.
- Verify that the float moves freely and is not hindered by sludge or deposits.

**Installation Control:** These instructions are for general orientation. Exact installation requirements, structural supports, and tank modifications must be verified against approved project engineering documents and the nameplate.

## 03 / Reference Visualizations

# Typical Tank Installations

Reference visualizations demonstrating typical top-mounted tank configurations.



Isometric Installation Reference



Transparent Tank Visualization

**Application control:** These visualizations are for general orientation only. Exact installation requirements, structural supports, and tank modifications must be verified against approved project engineering documents.