

Float and Board Level Indicator



1. Product Description

Float & Board Type Tank Level Gauge (indicator) is suitable for large non – pressurized liquid storage tanks / vessels. This gauge is also applicable to cone roof, float roof, floating roof, under grand tanks etc.

This level gauge works on the principle of buoyancy.

The whole unit consist of two types of parts. Viz wetted parts & Non-wetted parts. Wetted parts are those which come in contact with the liquid e.g. Float Anchor Plate, Float Guide Wire etc while. Non-wetted parts are the one which do not come in contact with the liquid e.g. Float Wire, Mounting Brackets, Indicator, Pulley, Pulley Hosing, Scale, indicator etc. In this level gauge, the float is designed as per the specific gravity of the liquid, floating on the liquid levels. This float connected to a pointer through Rope via a Sets of Pulleys, the pointer slides over a CM marked Board, Installed Parallel to the tank. For more than 5 metre height of the tank we provide two guide wires firmly anchored to the tank bottom. So that horizontal movement of the float is restricted.

2. Material of Construction

Float	S.S.316 / S.S.304 / Poly Propylene / SS with PTFE Coated
Float Wire & Float Guide Wire	S.S.316 / Poly Propylene / SS with PTFE Coated
Pulley & Pulley Pin	S.S.304 / PP
Pulley Housing	Aluminium / S.S.304 / S.S.316 die Cast Weather Proof Enclosure / Polypropylene
Board (Scale)	Aluminium / FRP / SS with Powder Coated having 150 mm Width & White Back Ground & Black writing every 10CM and Red Marking at every Meter
Anchor Plate	M.S / S.S.304 / S.S.316 / PP
Scale Bracket (T)	M.S. / S.S.304
Pointer	M.S / S.S.304 with PP Roller for Frictionless Sliding on Board.
Available	From 1 Metre to 30 Metre

3. Applications and Features

A large self-centred float follows the liquid level in this gauge. A rope fitted with a float moves over a pair of dust free pulleys. Level is indicated by a pointer which moves on a 150 mm width aluminium powder coated scale.

Mainly used for storage tanks (underground and overhead) of Oil, Fire / DM water Alkalis, Acids, Furnace Oils, Lube Oil, Vegetable Oil, Molasses, Glucose etc.

Vapours Seals (Magnetic) for special applications like HCl, N2 Purged Tank, Diluted Alkalis, Dilute HNO₃, NH₃, Methanol, Benzene, Toluene, IPA etc.

3.1 Performance

Float Inside the tank raises and deals with the level of fluid this makes the pointer move on the scale indicating level inside the tank. In this level gauge, when tank is full the pointer is at bottom position on board and when tank is empty, the pointer will be at top position.

3.2 Design Features

We also offer vapour Seal Type float & Board type level Gauge which is generally used for tanks having corrosive fumes / vapours OR N₂ [Nitrogen] Purging tanks. In this level gauge the float is connected to a magnetized counterweight moving in a sealed S.S. pipe & which drives a follower magnetized bi - colour capsule inside a glass tube to indicate liquid level.

3.3 Specifications

(1) **Type** : Float actuated target reading

(2) **Range** : Up to 30 meters (Depends on diameter of selected float)

(3) **Service** : Clean and clear non corrosive liquids

(4) **Resolution**: 10 mm on the gauge board

(5) **Markings** : On the gauge board, minor markings at every 100 mm in black (40 mm high) and major markings at every 1000 mm in red (70 mm high)

(6) **Floats** :

<i>SIZE (mm)</i>	<i>GUIDED / UNGUIDED</i>	<i>USED FOR RANGE</i>	<i>ACCURACY (mm)</i>
Φ 400	Guided	0-20 Mtrs.	± 5
Φ 300	Guided	0-10 Mtrs.	± 10
Φ 100	Unguided	0-3 Mtrs.	± 25 (without liquid seal) ± 45 (with liquid seal)

(7) Fittings :

(a) Guide wire spring assembly with SS 316 guide wires – 2 Nos.

(b) 90° elbow assembly in cast Aluminium polyurethane painted with SS316 pulley & Teflon bush – 2 Nos.

(c) Guide wire anchor (CS / SS304 / SS316) – 1 No.

(d) Indicator assembly in Aluminium + SS with SS316 float cable – 1 no.

(e) Aluminium polyurethane painted gauge boards {Total Gauge board length = (tank height + 200) mm} with mounting brackets and suitable hardware required as per tank height.

(8) Optional :

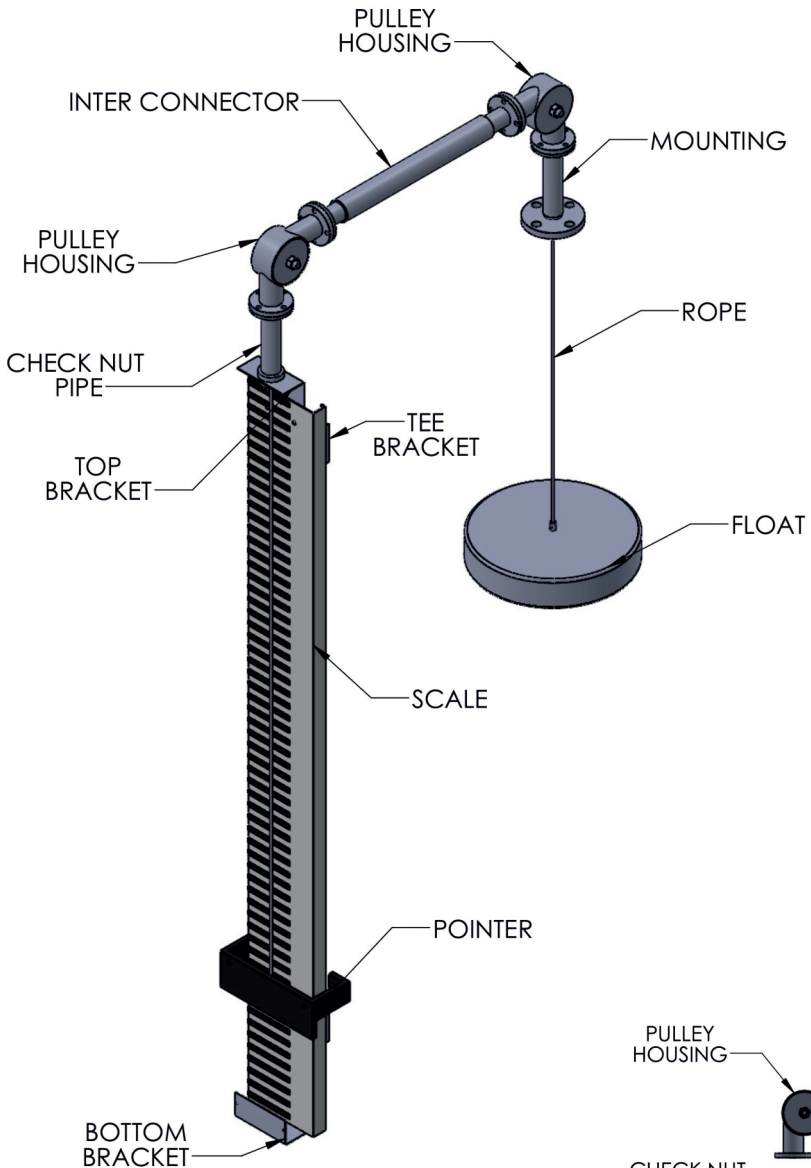
(a) Liquid seal assembly for 200 / 300 / 600 mm WC (water column) with transformer oil as sealant liquid and piping in GI (Optional piping in SS). For liquid seal assembly, refer leaflet no. LF-133-0805 & LF-133-812.

(b) Operation checker assembly with wooden handle and nylon rope.

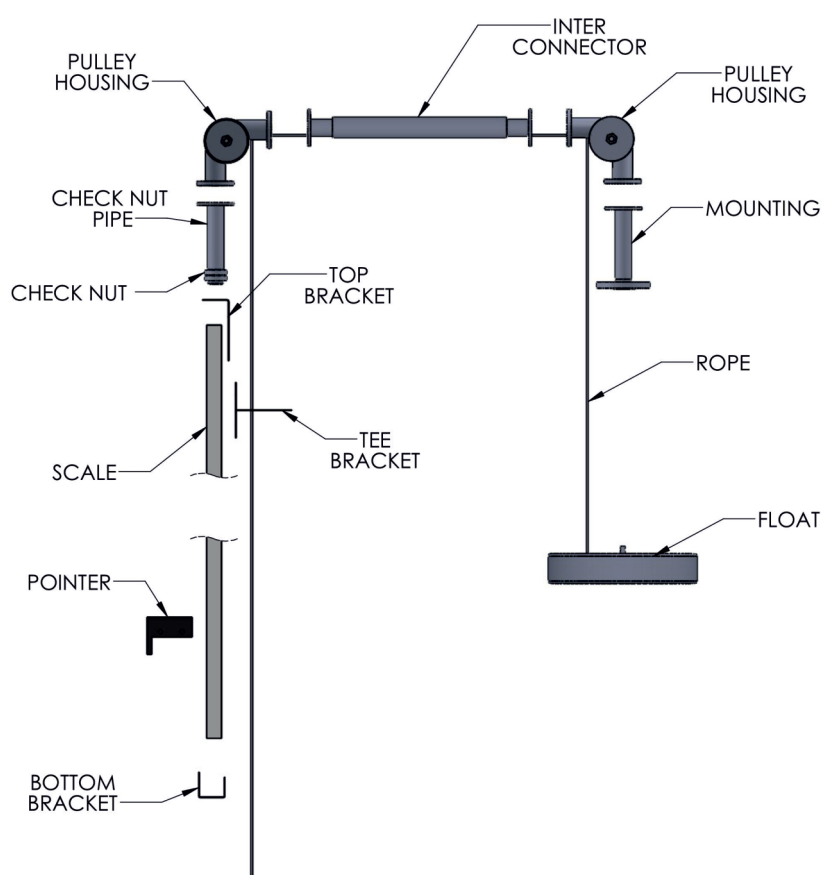
Note: 1) Accuracy mentioned is at specific gravity equal to 1.

2) For unguided 100 mm Φ float, a perforated stilling pipe (150 NB min) must be provided to avoid float swinging. For such applications guide wires and bottom anchor are not required.

4. 3D Drawings of Detail Assembly

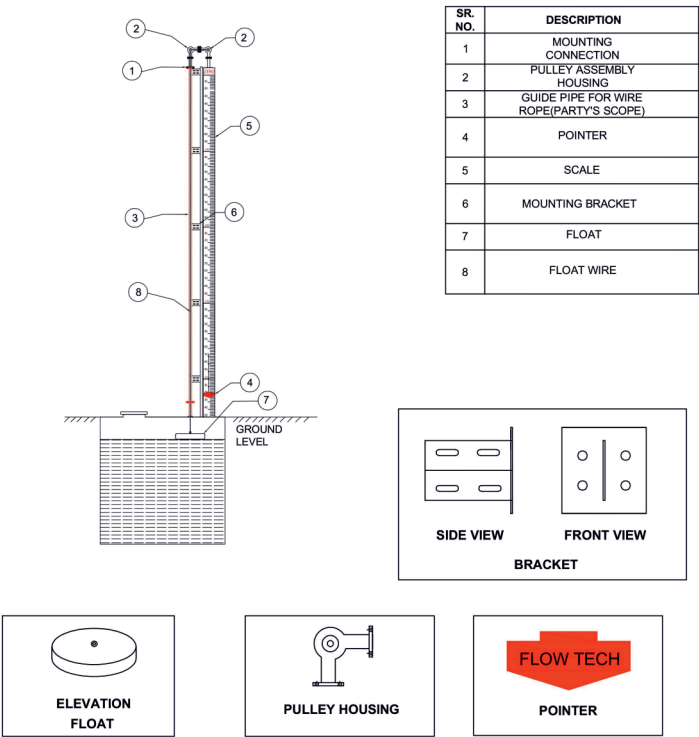


ISOMETRIC VIEW

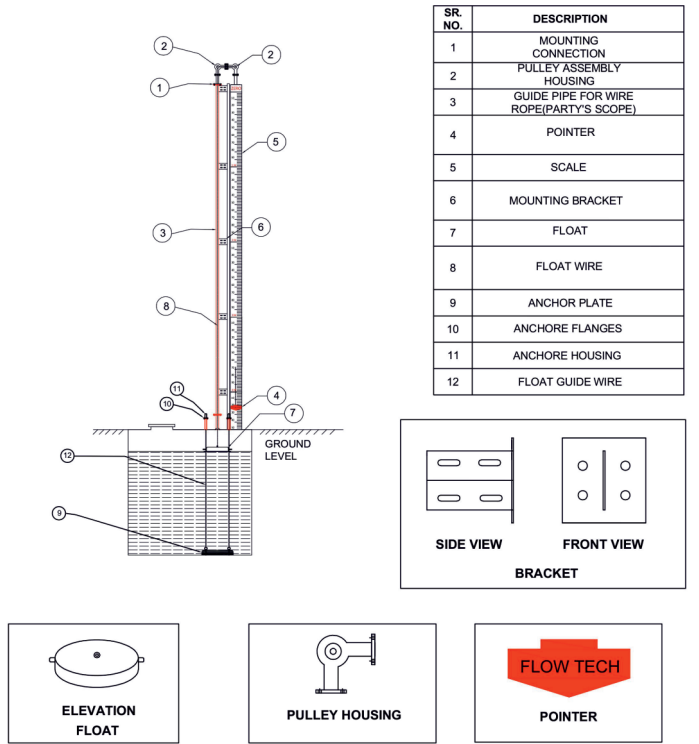


5. 2D Drawings of GA Drawing for Underground Installation

With Anchor



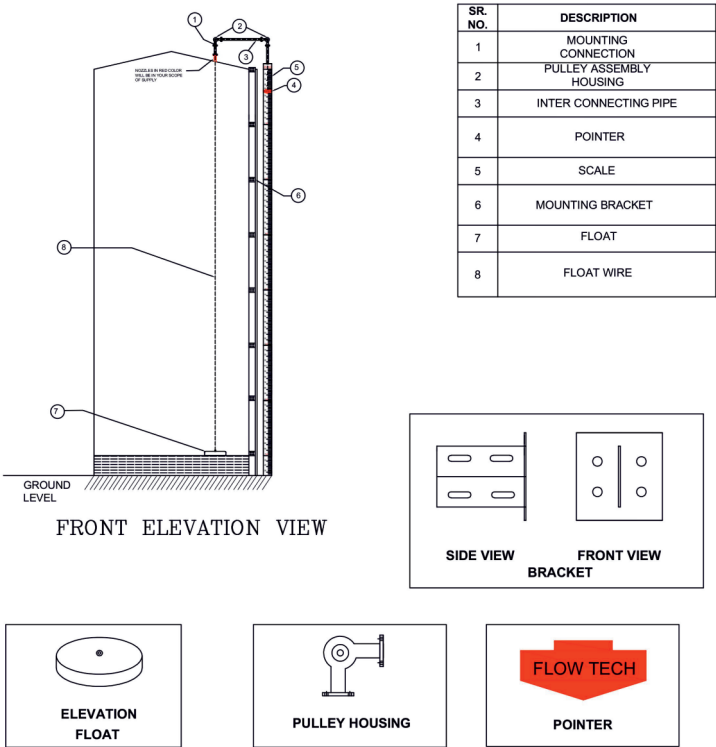
Without Anchor



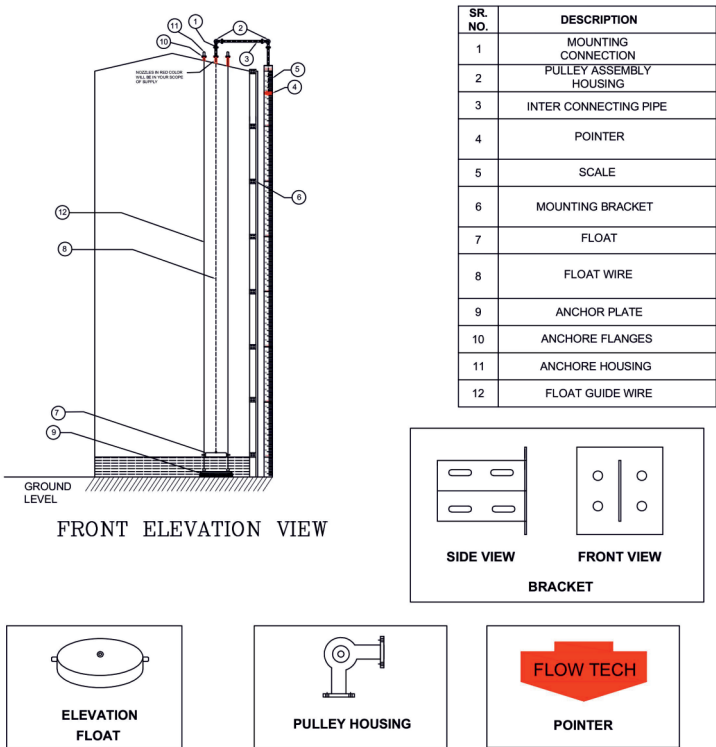
- Note:**
- 1) **Installation Type** : Under Ground Storage Tank
 - 2) Without Anchor Plate
 - 3) All detailed tech. parameters and MOC as per Datasheet
 - 4) Red color will be in party's scope of supply

6. 2D Drawings of GA Drawing for Ground Storage Tank

With Anchor



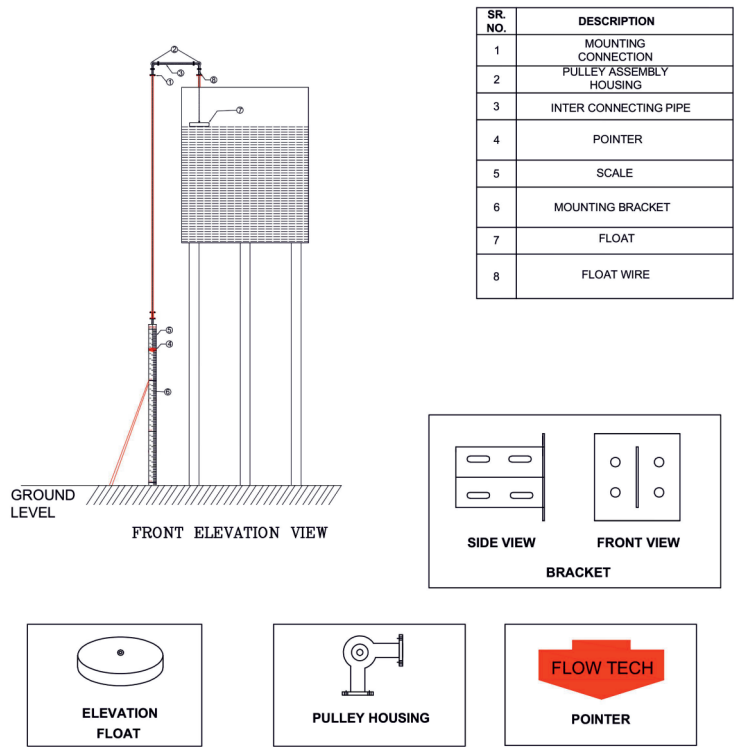
Without Anchor



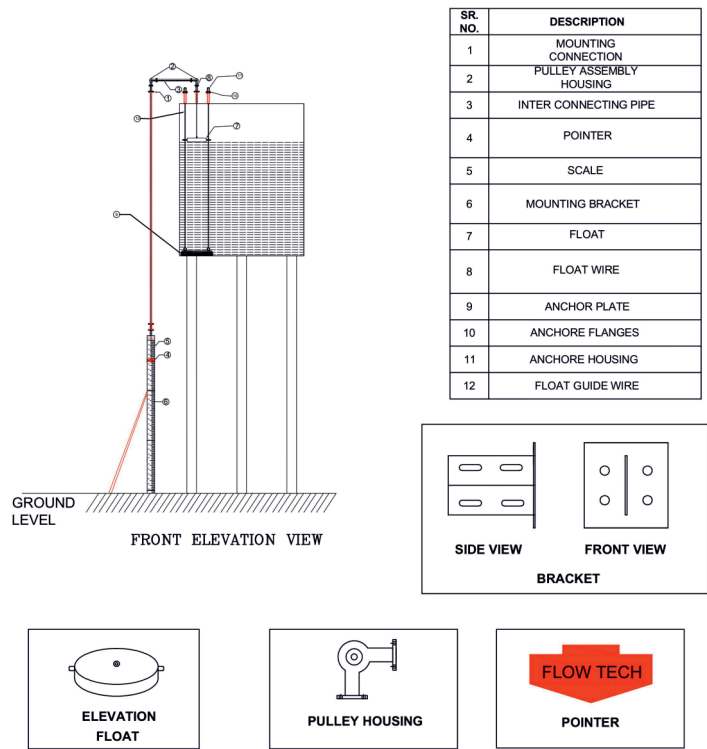
- Note:**
- 1) **Installation Type** : Under Ground Storage Tank
 - 2) Without Anchor Plate
 - 3) All detailed tech. parameters and MOC as per Datasheet
 - 4) Red color will be in party's scope of supply

7. 2D Drawings of GA Drawing for Over Head Tank

With Anchor



Without Anchor



- Note:**
- 1) **Installation Type** : Under Ground Storage Tank
 - 2) Without Anchor Plate
 - 3) All detailed tech. parameters and MOC as per Datasheet
 - 4) Red color will be in party's scope of supply

PRODUCT ORDERING INFORMATION



Order Code for Float & Board Level Gauge

FM IPL-FBLG-		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
F&B TYPE	SIMPLE	S																			
	VAPOR SEAL	V																			
	SIMPLE WITH GUIDED FLOAT	SG																			
	VAPOR SEAL WITH GUIDED FLOAT	VG																			
INSTALLATION TYPE	GROUND LEVEL TANK	GL																			
	UNDER GROUND LEVEL TANK	UG																			
	PARTIALY U/G TANK	PT																			
	OVER HEAD TANK	OH																			
PROCESS CONNECTION SIZE	1"		1																		
	1.5"		1.5																		
	2"		2																		
	CUST.		CU																		
PROCESS CONNECTION MOC	CS			CF																	
	SS 304			SF																	
	SS 316			SF1																	
	PP			PF																	
	CUST.			CU																	
FLOAT SIZE	10" DIA			10																	
	12" DIA			12																	
	14" DIA			14																	
	CUST.			CU																	
FLOAT MOC	SS 304				S1																
	SS 316				S2																
	POLY PROPELENE				P1																
	SS 304 WITH PTFE COATING				SP																
	COPPER				CP																
	CUST.				CU																
INTER CONNECTING PIPE MOC	CS				IC																
	SS 304				IS1																
	SS 316				IS2																
	PP				IP																
	CUST.				CU																
PULLEY & POLLEY PIN MOC	SS 304					SC															
	SS 316					SC1															
	POLY PROPELENE					PC															
	CUST.					CU															
PULLEY HOUSING MOC	ALUMINIUM					PH															
	SS 304					PH1															
	PP					PH2															
	CUST.					CU															
SCALE MOC	ALUMINIUM					SA															
	SS 304					SS															
	FRP					SF															
	CUST.					CU															
SCALE MARKING	CM					C1															
	CUBIC METER (M3)					M															
	LTR.					L															
	CUST.					CU															
POINTER MOC	CS WITH PP ROLLER						PC														
	SS 304 WITH PP ROLLER						PS														
	CUST.						CU														
BRACKET (T) MOC	CS							BC													
	SS 304							BS													
	CUST.							CU													
FASTENERS MOC	GI PLATED								FG												
	SS 304								FS												
	CUST.								CU												
ANCHOR ASSEMBLY	WITH									W											
	WITHOUT									WO											
ANCHOR TYPE	WELDED																AT1				
	WEIGHTED																AT2				
ANCHOR PLATE	CS																	AP			
	SS 304																	AP1			
	SS 316																	AP2			
	CUST.																	CU			
ANCHOR HOUSING	CS																		AH		
	SS 304																		AH1		
	SS 316																		AH2		
	PP																		AH3		
	CUST.																		CU		
ANCHOR SPRING	CS																			AS	
	SS 304																			AS1	
	SS 316																			AS2	
	CUST.																			CU	

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Flowtech Measuring Instruments Pvt Ltd

sales@flowtech-instruments.com

flowtech-instruments.com

