



TECHNICAL GUIDANCE

LEVEL GAUGE FOR UTILITY TANKS OF ENGINE
ROOM

FM1900 Series METAL TUBE LEVEL GAUGE FOR MARINE APPLICATIONS

■ GENERAL

FM 1900 is a float type metal tube level gauge.
Liquid level is indicated by clear and visible color flappers. This eliminates problems likely in indication by existing glass gauges.

■ OPERATION PRINCIPLE

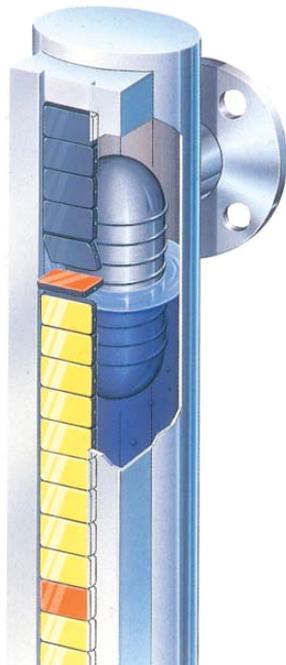
A float, in which a rounded shape magnet is integrated, is located in a non-magnetic tube (called Chamber). This float moves up and down depending on the liquid level in chamber with specified draft line.

Outside of the chamber, an indicator unit is installed, in which plastic magnet rotating flappers are provided.

The front surfaces of such flappers are black and the other sides of flappers are coloured in yellow for every 10mm and red for every 100mm. Then these flappers are rotated by movement of float to indicated liquid level in colour flappers.

■ FEATURES

- Free from breakage and leakage by Metal tube.
- By colour flappers, Liquid level in tanks is easily observed even from a distance. Free from blurs and smudges which are common for Glass Gauges.



Additional Scale Plate
(Option))

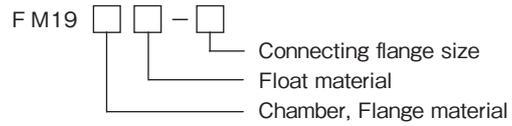
STANDARD SPECIFICATION

- Measuring object : Max. viscosity 600mPa·s and without sticking and crystallization (Water, Fuel oil)
- Available range : 300 ~ 4000 [mm]
- Maximum OP. Press. : 0.3 [MPa]
- Temp. range : 0 ~ 120 [°C]
- Available density : min. 0.85
- Operating temp. : 0 ~ 60 [°C]
- Level indication : By colour flapper (Magnet)
- Interval of flapper : 10 [mm]
- Indication accuracy : ±15 [mm]
- Process connection : Standard Tank side through 1"(25mm) flanges
- Material : To be referred to pages of subject models.

※ The indication can follow up to 2cm/s in liquid level changing speed..

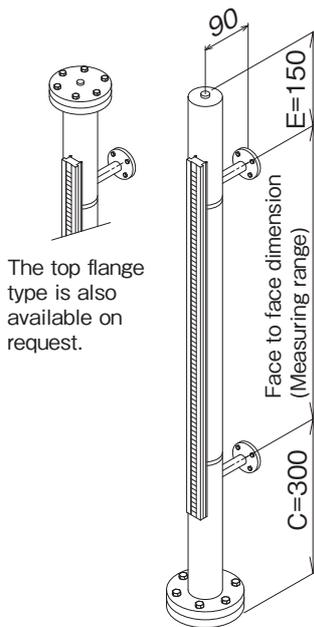
DESCRIPTION OF MODEL CODE

Model code of FM1900 series is described as follows;



Item	Code No.	Specification
Chamber, Flange material	1	SUS304
	2	SUS316
	3	SUS316L
Float material	6	SUS316
Connecting flange size	0	25A JIS 1OK FF
	1	25A JIS 1OK RF
	7	25A JIS 5K FF
	8	25A (1") others
	9	Custom size

DIMENSIONS OF STANDARD TYPE

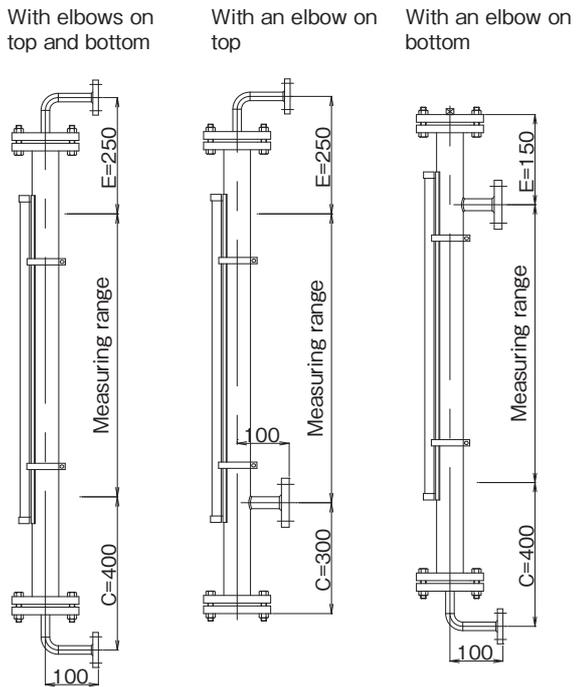


The top flange type is also available on request.

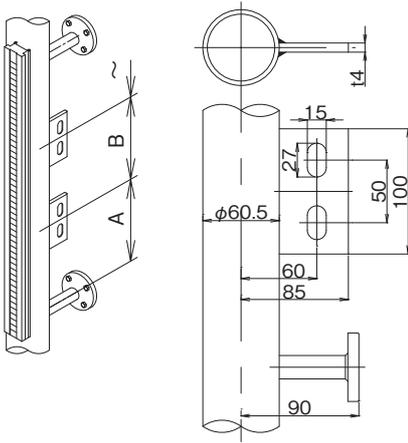
Other types may have different dimensions from the above.

EXAMPLES OF OTHER CONSTRUCTION

(Consult us for customer's requirements not mentioned below)



■ EXAMPLES OF SUPPORT LUGS

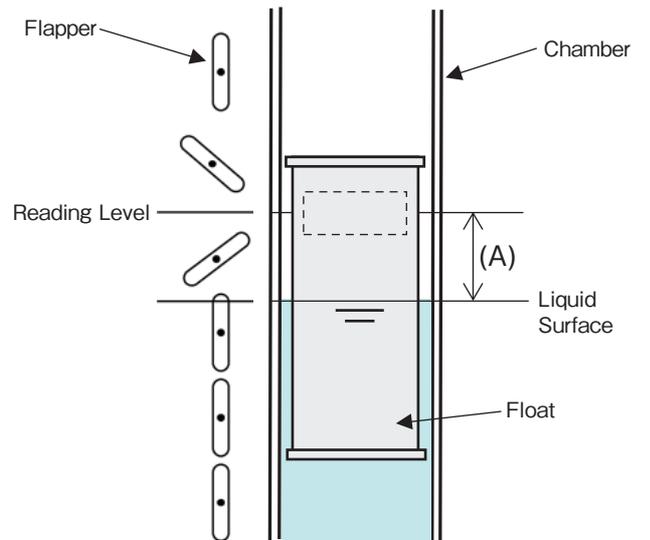


Specify the required number of support lugs and their positions on ordering. Consult us for other types.

■ SUGGESTIONS

The indicator flappers are actuated by magnet in float on FM1900 series.

The position of magnet and actual liquid level (Draft line to float) are different depending on the liquid density. Thus, the position where specific indicator flapper rotates and the position of actual liquid level are different slightly. This gap is fixed and shifted upward in fixed value. This gap (A) is indicated in Approval drawing. The zero line of indicator is to be located above actual liquid zero point by distance of A. Refer to instruction manual for details.



Keep a maintenance space at least 300 mm under the bottom of level gage to replace the float inside the chamber. In addition the isolation valves are advisable to make the maintenance easy.

* Specification is subject to change without notice.

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