TECFLUID s.a.

Instrumentation for fluids

# Level gauge Series LS

# Instructions Manual

R-MI-LS Rev.: 0 English version

## PREFACE

Thank you for choosing the level gauge series LS from Tecfluid S.A.

This instruction manual allows the installation and operation of the level gauge series LS. It is recommended to read it before using the equipment.

## WARNINGS

- This document shall not be copied or disclosed in whole or in any part by any means, without the written permission of Tecfluid S.A.
- Tecfluid S.A. reserve the right to make changes as deemed necessary at any time and without notice, in order to improve the quality and safety, with no obligation to update this manual.
- Make sure this manual goes to the end user.
- Keep this manual in a place where you can find it when you need it.
- In case of loss, ask for a new manual or download it directly from our website www.tecfluid.com Downloads section.
- Any deviation from the procedures described in this instruction manual, may cause user safety risks, damage of the unit or cause errors in the equipment performance.
- Do not modify the equipment without permission. Tecfluid S.A. is not responsible for any problems caused by a change not allowed. If you need to modify the equipment for any reason, please contact us in advance.

**TABLE OF CONTENTS**



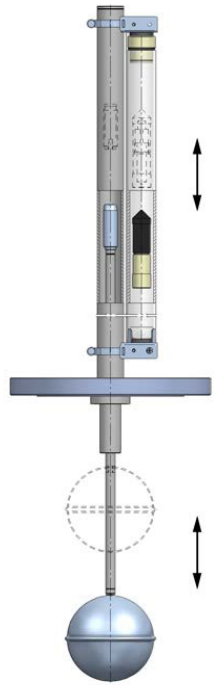
# 1 INTRODUCTION

The LS series level gauge is mounted on the top of the tank by means of a suitable flange or coupling thread.

It consists of a float connected to a guide rod with a magnetic system on its end.

The float moves inside the tank, varying its height according to the liquid level in the tank. The float is designed for the specific gravity of operating liquid.

The magnet assembly at the end of the guide acts on the indication system (external magnetic follower or magnetic strips, mounted externally to the tank), obtaining an indirect level reading of the tank. It also acts on the optional switches installed in the indicator.



## 2 RECEPTION

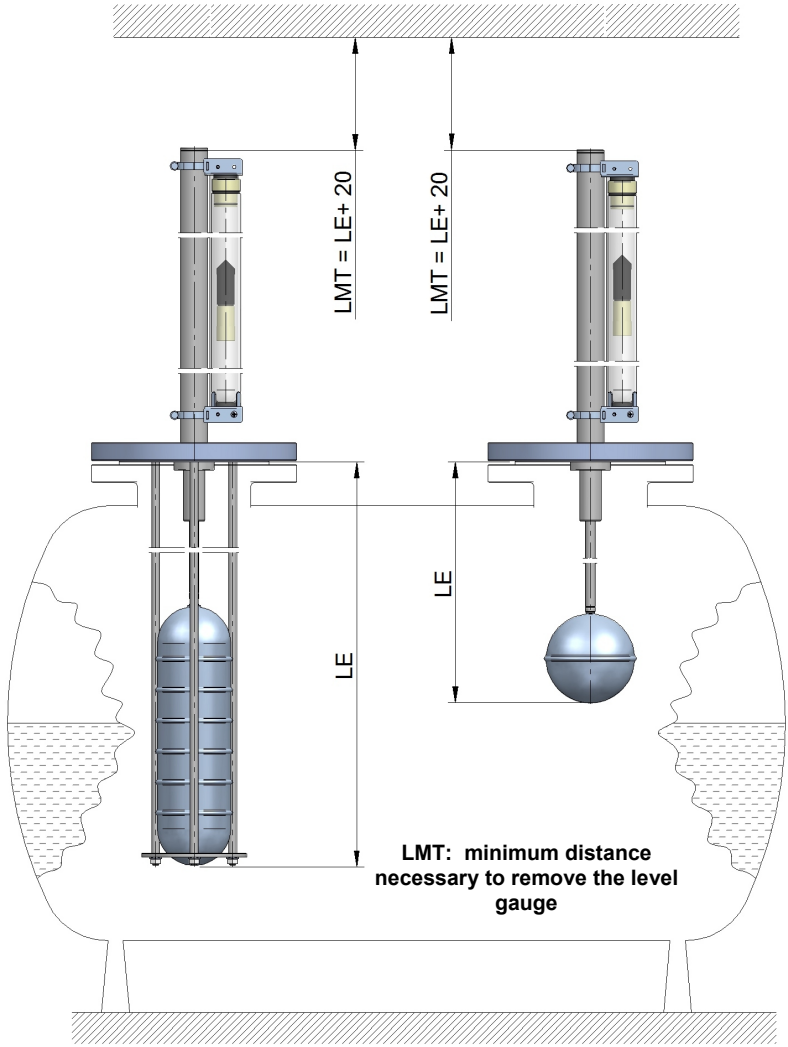
The level gauges are supplied conveniently packaged for transportation together with their instruction manual for installation and operation.

All devices have been verified in our facilities.

Check that there are no knocks on the float.

Pull with care the float from the coupling flange or thread and check that the shaft guide of the float is not bent and does not have any dent that avoids the smooth movement along its entire length.

## 3 INSTALLATION



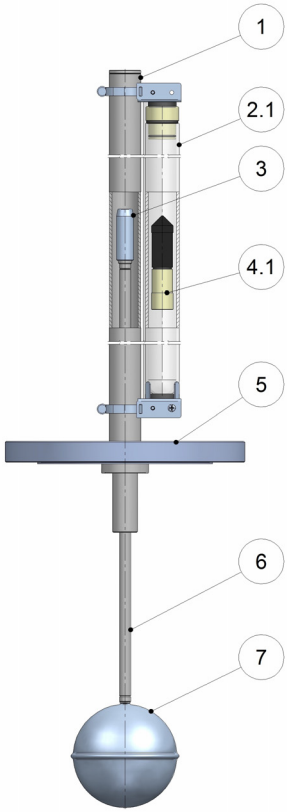
The mounting position of the gauge is vertical on top of the tank. The float level varies according to the level of the liquid.

Introduce with care the float through the mounting hole until the flange or coupling thread couples with the tank. If the diameter of the float is larger than the tank hole, the float should be removed by unscrewing it, and reassembled from inside the tank.

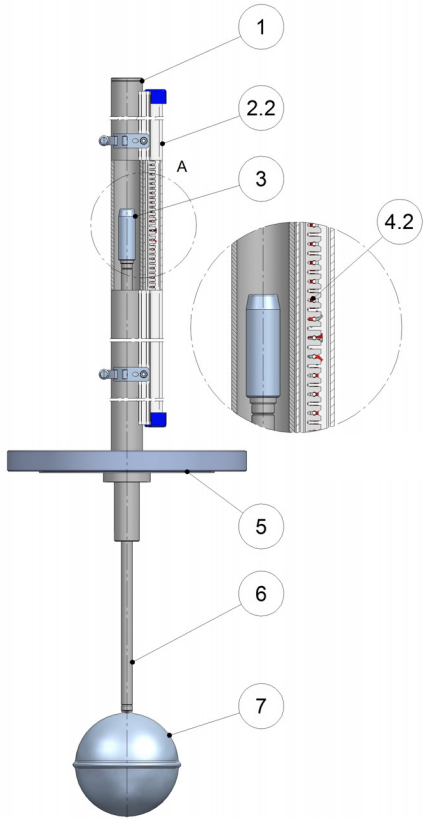
Fix the flange with the appropriate nuts and bolts or screw the level gauge to the tank.

In the case of a coupling thread, turn until tight. **Do not apply torques greater than 60 Nm.**

# 4 MATERIALS




**Models LS**




**Models LSL**

| Nº | Description | Models LS20 … 21 | Models LSL20 … 21 |
|---|---|---|---|
| | | EN 1.4404 (AISI 316L) | EN 1.4404 (AISI 316L) |
| 1 | Body | EN 1.4404 | EN 1.4404 |
| 2.1 | Guide tube | Borosilicate glass | ——— |
| 2.2 | Mag strips rail | ——— | Aluminium + Polycarbonate |
| 3 | Internal magnet assembly | EN 1.4404 | EN 1.4404 |
| 4.1 | External float | PP / Aluminium | ——— |
| 4.2 | Mag strips | ——— | POM resin |
| 5 | Connection | EN 1.4404 | EN 1.4404 |
| 6 | Rod | EN 1.4404 | EN 1.4404 |
| 7 | Float | EN 1.4404 | EN 1.4404 |

## 5 TECHNICAL CHARACTERISTICS

Accuracy: ±4 mm measured value

Scale:

- LS models: cm
- LSL models: cm, available on request

Liquid density: 0.55 ... 2 kg/l (others on request)

Measuring range: 150 mm ... 15 m

Liquid temperature:

- LSL20 … 21: -20ºC ... 250ºC
- LS20 … 21: -20ºC ... 400ºC, depending on configuration

Working pressure: PN16 for models in AISI 316L

Connections:

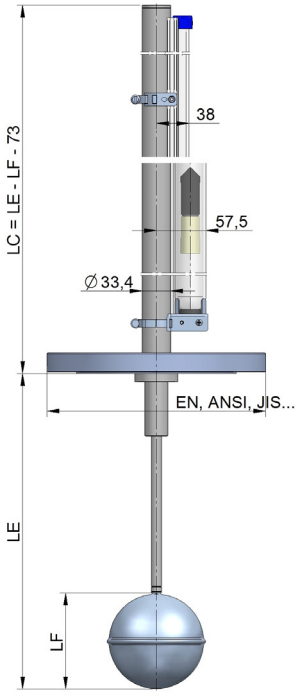
EN 1092-1 or ANSI flanges. Other flange standards on request (JIS,...)
BSP or NPT threaded connections

Mounting: vertical on top of the tank

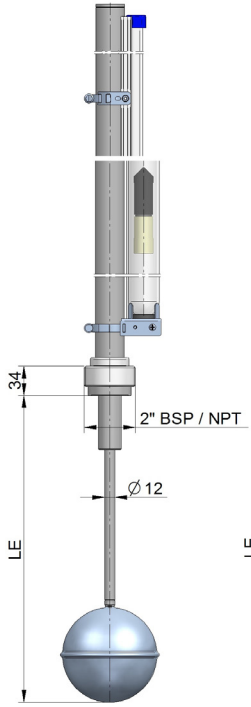
Conforms to Pressure Equipment Directive 97/23/CE CE

This equipment is considered as being a pressure accessory and **NOT** a safety accessory as defined in the 97/23/EC Directive, Article 1, paragraph 2.1.3.

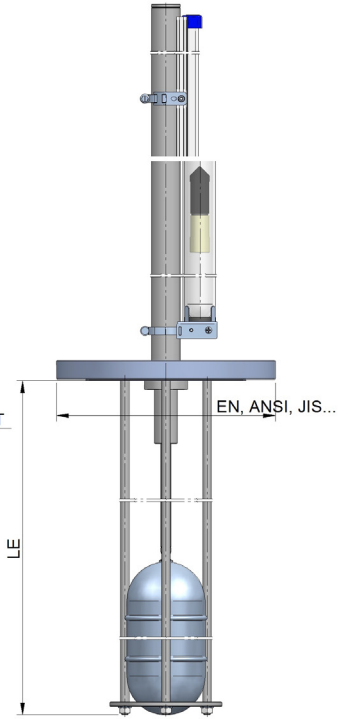
# 6 DIMENSIONS




**Models LS … LSL20**




**Models LS … LSL21**




**Models LS … LSL20 guided**

## WARRANTY

Tecfluid S.A. guarantee all the products for a period of 24 months from their sale, against all faulty materials, manufacturing or performance. This warranty does not cover failures which might be imputed to misuse, use in an application different to that specified in the order, the result of service or modification carried out by personnel not authorized by Tecfluid S.A., wrong handling or accident.

This warranty is limited to cover the replacement or repair of the defective parts which have not damaged due to misuse, being excluded all responsibility due to any other damage or the effects of wear caused by the normal use of the devices.

Any consignment of devices for repair must observe a procedure which can be consulted in the website www.tecfluid.com, “After-Sales” section.

All materials sent to our factory must be correctly packaged, clean and completely exempt of any liquid, grease or toxic substances.

The devices sent for repair must enclose the corresponding form, which can be filled in via website from the same “After-Sales” section.

Warranty for repaired or replaced components applies 6 months from repair or replacement date. Anyway, the warranty period will last at least until the initial supply warranty period is over.

## TRANSPORTATION

All consignments from the Buyer to the Seller´s installations for their credit, repair or replacement must always be done at freight cost paid unless previous agreement.

The Seller will not accept any responsibility for possible damages caused on the devices during transportation.

Tecfluid
The art of measuring

**Tecfluid S.A.**
Narcís Monturiol 33
08960 Sant Just Desvern
Barcelona
Tel: +34 93 372 45 11
Fax: +34 93 473 44 49
tecfluid@tecfluid.com
**www.tecfluid.com**

Quality Management System ISO 9001 certified by

Pressure Equipment Directive 97/23/CE certified by

ATEX European Directive 94/9/CE certified by