

# Magnetic, Liquid Level Gauge-MLG

**Techtrol**

SINCE 1984

It is commonly used for visual level indication of liquids, which attack glass or are hazardous, flammable, toxic, aggressive, agitated, contaminated and under high temperature & pressure i.e. for services, where glass gauges are unsafe.

## Features :

- Rugged gland less construction to provide safety in handling toxic, flammable & highly corrosive liquid.
- Suitable for glass attacking liquid, where conventional gauge glass can not be used.
- Option of providing continues transmitter for remote indication & control and adjustable level switch for alarm & control.

## Construction & Operations :

It consists of a chamber and an internal float in non-magnetic material, compatible with the liquid. The float containing a magnetic system rides on the liquid level and is coupled to an external visual indicator, which comes in two options. The simpler & economical design consists of a RED magnetic follower capsule, that moves within a glass tube filled with water (to reduce friction) (fig. 1-a) and can be read against a scale. The other system is expensive and consists of a series of bicolour flappers. WHITE on front side and contrasting RED on the reverse. These flappers rotate corresponding to float movement, thus changing their colour from WHITE to RED as the float rises and vice-versa when the float falls. As such the liquid level represented by an external RED column (fig.1-b).

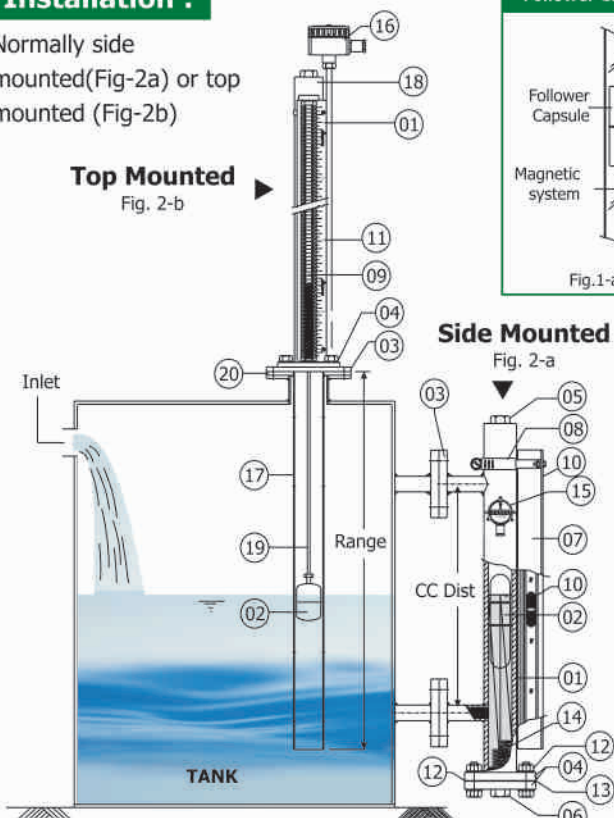


## Installation :

Normally side mounted (Fig-2a) or top mounted (Fig-2b)

**Top Mounted**  
Fig. 2-b

**Side Mounted**  
Fig. 2-a



- |  |                             |
|--|-----------------------------|
| 01) Liquid Chamber                     | 11) Calibrated Scale        |
| 02) Float                              | 12) Nuts, Bolts & Washer    |
| 03) Process Flange                     | 13) Gasket                  |
| 04) Chamber Flange                     | 14) Float Retainer (Spring) |
| 05) Vent Plug                          | 15) Switch (Adjustable)     |
| 06) Drain Plug                         | 16) 'X' Mitter              |
| 07) Local Indicator Housing            | 17) Perforated Steel Well   |
| 08) Indicator mtg. clamps              | 18) Magnetic Chamber        |
| 09) Local Indicator Flappers           | 19) Stem                    |
| 10) Local Indicator (Follower Capsule) | 20) Still Well Flange       |

### Follower Capsule

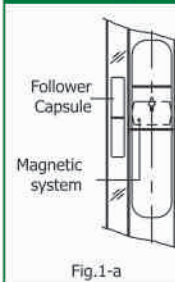


Fig.1-a

### Rotary Flappers

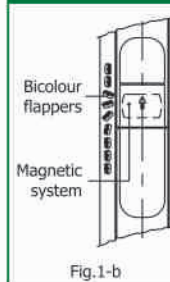
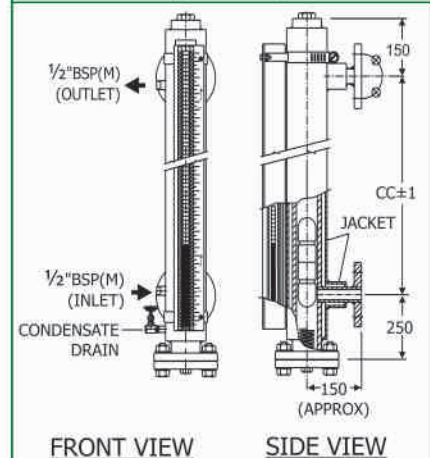


Fig.1-b

## Jacketing Arrangement



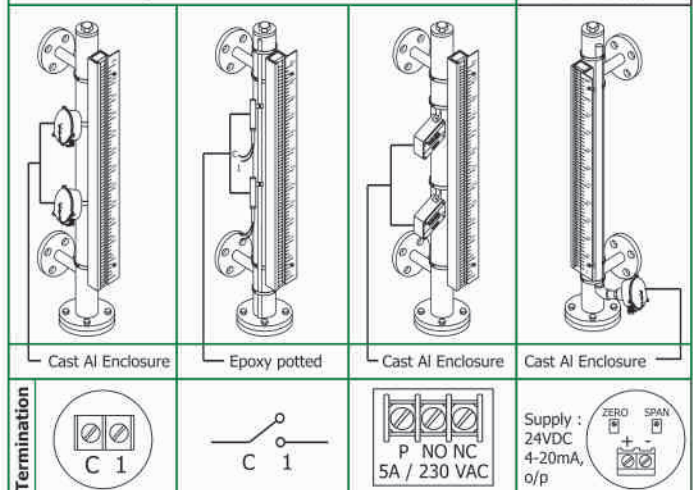
FRONT VIEW

SIDE VIEW

## Accessories

### Magnetic Switches Options

### 'X' mitter



## Model Identification :

MLG -           x CC Dist (mm)



### Mounting

Side Mtd \_\_\_\_\_ S  
Top Mtd (for Sumps) \_\_\_\_\_ T

### Wetted Parts

SS 304 \_\_\_\_\_ N  
SS 316 \_\_\_\_\_ S  
PP (Max-70°C) \_\_\_\_\_ P  
PVDF (Max-100°C) \_\_\_\_\_ T  
Others \_\_\_\_\_ O

### Chamber Type

Top cap with bottom flange \_\_\_\_\_ A  
Top & bottom flanges \_\_\_\_\_ B

### Process Connections

Flanged \_\_\_\_\_ F  
Screwed \_\_\_\_\_ S  
Union \_\_\_\_\_ U  
Others \_\_\_\_\_ O

### Shut off Valves

Not Provided \_\_\_\_\_ W  
Ball Valves (PP - 70°C/ SS - 200°C) \_\_\_\_\_ B  
Globe Valves (SS/CS - 400°C) \_\_\_\_\_ G  
Others \_\_\_\_\_ O

### Vent x Drain

Plug x Plug \_\_\_\_\_ 1  
Plug x Ball Valve \_\_\_\_\_ 2  
Plug (for Top Mtd only) \_\_\_\_\_ 3  
Plug x Globe Valve \_\_\_\_\_ 4  
Others \_\_\_\_\_ O

### Jacketing

Not Provided \_\_\_\_\_ W  
Provided \_\_\_\_\_ J

### Visual Indicator

Not Provided \_\_\_\_\_ W  
PP Follower Capsule, (150°C) \_\_\_\_\_ C  
Plastic Bicolor Flappers, (W-14), 150°C \_\_\_\_\_ R  
SS Bicolor Flappers, (W-14), 250°C \_\_\_\_\_ S  
Plastic Bicolor Rollers, (W-22), 150°C \_\_\_\_\_ L  
Ceramic Bicolor Rollers, (W-22), 400°C \_\_\_\_\_ F  
Others \_\_\_\_\_ O

### Still Well (for Top Mtd)

Without \_\_\_\_\_ W  
CS Still Well \_\_\_\_\_ 1  
SS304 Still Well \_\_\_\_\_ 2  
SS316 Still Well \_\_\_\_\_ 3  
PP Still Well \_\_\_\_\_ 4  
Others \_\_\_\_\_ O

### Accessories

Not Provided \_\_\_\_\_ W  
Magnetic Switch \_\_\_\_\_ 1  
X' mitter \_\_\_\_\_ 2  
Magnetic Switch + 'X' mitter \_\_\_\_\_ 3

### Magnetic Switch

Epoxy Potted x Monostable x 40VA (N/O) \_\_\_\_\_ 1  
Cast Al, WP IP-66 - PG 9 x Monostable - 40VA (N/O) \_\_\_\_\_ 2  
Cast Al, Ex.proof Gr IIB-1/2"NPTx Monostable 40VA (N/O) \_\_\_\_\_ 3  
Cast Al, WP IP-66 - PG 9 x Bistable - 5A, 230 VAC \_\_\_\_\_ 4  
Cast Al, Ex.proof Gr. IIB - 1/2"NPT x Bistable - 5A, 230VAC \_\_\_\_\_ 5  
Others \_\_\_\_\_ O

### No of Switches

One, Two.....Four \_\_\_\_\_ 1 - 4  
Others \_\_\_\_\_ O

### Level Controller (TLC)

Not Provided \_\_\_\_\_ W  
Provided \_\_\_\_\_ C

### 'X' mitter Enclosure

Cast Al. W.proof IP-66 x PG 13.5 \_\_\_\_\_ J  
Cast Al. Ex.proof Gr.IIB x 1/2"NPT \_\_\_\_\_ E  
Others \_\_\_\_\_ O

### Resolution

±12 mm (Std) \_\_\_\_\_ S  
±6 mm (High) \_\_\_\_\_ H

### Level Indicator Controller

Not Provided \_\_\_\_\_ W  
TLIC \_\_\_\_\_ C  
TLPI \_\_\_\_\_ L  
Others \_\_\_\_\_ O

## Specifications :

**Installation** : Side / Top  
**Range (C=C Dist)** : Max. 3000mm (Follower Capsule)  
Max. 5000mm (Bicolour Flappers)  
**Float Chamber** : Ø60.3 in SS304 / SS316 / PP / PVDF  
**Float** : Ø50 mm in SS316 / PP / PVDF (for Side Mtd)  
& Ø75mm in SS316 / PP (for Top Mtd)  
**Visual Indicator** : a) PP Follower Capsule (Red) -150°C (in water filled glass tube)  
b) PP Bicolor Flappers (White-Red) (Width-14)- 150°C  
c) SS Bicolor Flappers (White-Red) (Width-14)- 250°C  
d) Ceramic Bicolor Rollers (White-Red) (Width-22)- 400°C  
e) Plastic Bicolor Rollers (White-Red) (Width 22)- 150°C  
**Stillwell (80NB)** : CS/ SS304 / SS316 / PP (Top Mtd)  
**Calibrated scale** : White powder coated Aluminium / SS (LC=10mm)  
**Shut off Valve** : 20 NB Ball / Globe Valve (SS), 25NB Flanged Ball Valve (PP)  
(Isolation for Gauge)  
**Vent x Drain** : 1/2" Threaded Plugs / Valves  
**Process Connection** : 1) 25NB/40NB/50 NB Flanges for Side Mtd to BS/ ANSI/ DIN  
OR 100NB Flange for Top mtd to BS/ ANSI/ DIN  
2) 1/2"/ 3/4"/ 1" BSP or NPT (M/F) Screwed  
3) 1/2"/ 3/4"/ 1" BSP or NPT (M/F) Union  
**Max Temp.** : 70°C (PP)/100°C (PVDF)/400°C (SS)  
**Max Test Pressure** : 2Kg/cm2 (PP/PVDF)/10Kg/cm2 (SS) or 100Kg/cm2 (SS)  
(at amb temp)  
**Mln Sp. Gr.** : 0.7 (Side Mtd), 0.8 (Top Mtd)

## ACCESSORIES

### a) Adjustable Switch

#### Monostable Reed Switch

**Enclosure x Cable Gland** : Epoxy potted or Cast AL WP- IP66 x PG 9 (Polyamide) OR  
Cast AL Ex. Proof Gr IIB x 1/2" NPT (Brass)

**Switch rating x Form** : 40VA x N/O OR 60VA x C/O

#### Bistable Micro Switch

**Enclosure x Cable Gland** : Cast AL WP- IP66 x PG 9 (Polyamide) OR  
Cast AL Ex. Proof Gr IIB x 1/2"NPT (Brass)

**Switch rating x Form** : 5A, 230 VAC x C/O

### b) Transmitter

**Wiring system** : Two wire

**Resolution** : ±12 OR ±6 mm

**Out put** : 4-20 mA

**Enclosure x Cable Gland** : Cast Al, WP- IP66 x PG 13.5 (Polyamide)  
Cast Al. Ex Proof Gr IIB & IIC x 1/2"NPT (Brass)

## Applications:

**Liquified gases, Lube/ Crude Oil, Dye, Liquor, HCL, H2SO4, Phosphoric Acid, Amonia, Freon, Therminol Solvent, Rerigerat, Downtherm, Gasoline & NaOH**

## Ordering Information :

**Model No x Liquid x Sp.gr x Optg. Temperature & Pressure & CCdistance /Range**

\* for TLC-     Refer catalogue on TECHTROL LEVEL CONTROLLER 'TLC'

\* for TLIC-     Refer catalogue on TECHTROL LEVEL INDICATOR CONTROLLER 'TLIC'

\* for TLPI- Refer catalogue on TECHTROL LOOP POWER INDICATOR 'TLPI'