

ITEM NO. : 14

ITEM : SIDE MOUNTED EXTERNAL CAGE TYPE MAGNETIC LEVEL INDICATOR
(DRAG TYPE) WITH / WITHOUT SWITCHES REF. OUR G. A. DRG. NO. RSMLIDA-3001

PRINCIPLE OF OPERATION :

SS float which is equipped with alnico moves up and down along with level rise or decrease. This float magnets movement will be magnetically coupled to the follower outside the chamber which is enclosed in a glass tube.

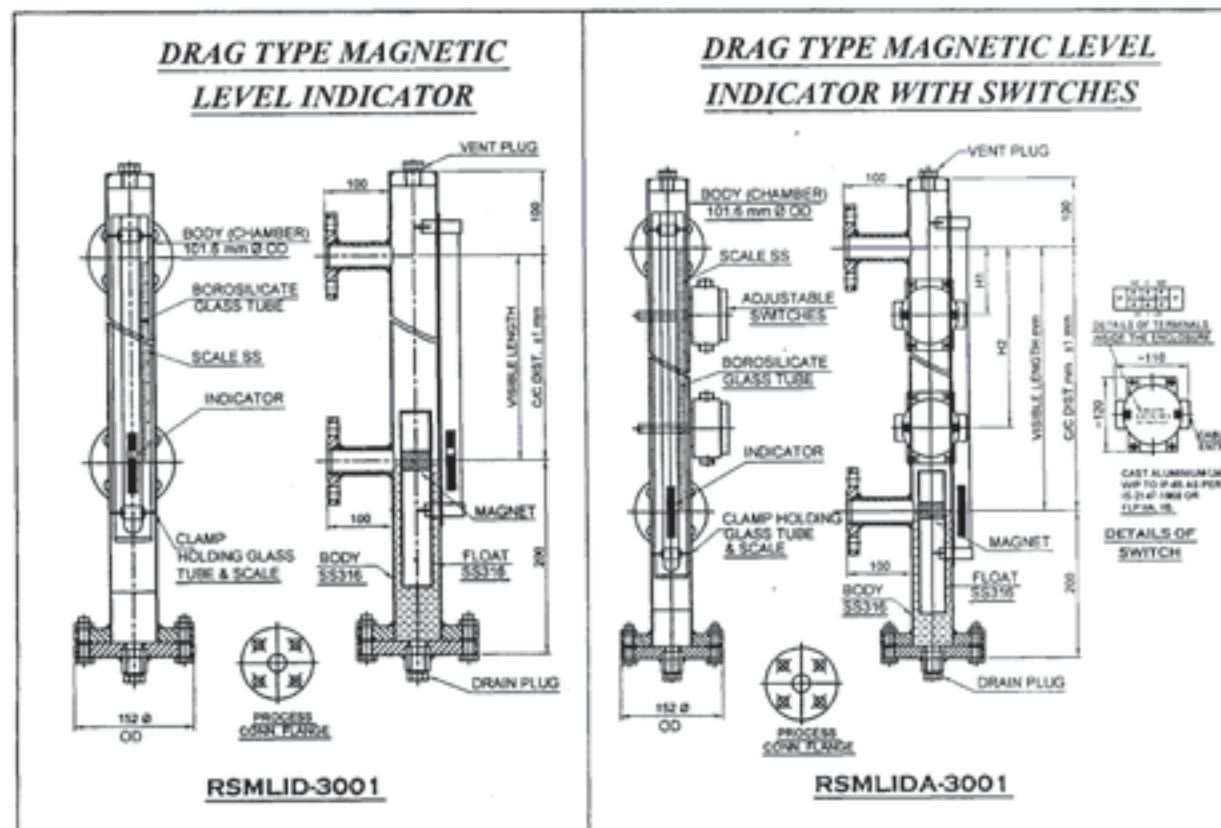
MATERIAL SPECIFICATION

- | | | |
|---|---|---|
| 1. Type | : | Magnetic. |
| 2. Mounting | : | Vertical side-side |
| 3. C/C distance | : | To mention |
| 4. Visible length | : | Same as C/C distance |
| 5. Service liquid | : | To mention |
| 6. Op. pressure Kg/Cm2g/temp. ° C /Sp.Gr. | : | To mention |
| 7. Hydro test pressure Kg/Cm2g | : | 1.5 times of max. Op. pressure |
| 8. Vent & Drain | : | 1/4" BSP (F) with plug |
| 9. Float Material | : | SS304/SS316/PP/PVC/HDPE/PVDF/PTFE |
| 10. All wetted parts Material | : | SS304/SS316/PP/PVC/HDPE/PVDF/PTFE |
| 11. Scale | : | Linear making i.e Acrylic / SS white background with black markings in cms. Lines are engraved @each line in 10mm |
| 12. Indication | : | Local indication capsule type on graduated scale. |
| 13. Process connection size & rating | : | 1/4" ANSI 150 # RF flanged or to mention |
| 14. Gaskets | : | Will be Teflon |
| 15. Bolts & Nuts | : | SS304 |
| 16. Alarms / qty | : | If required will be provided as per our general arrangement DRG NO. RSMLIDA-3000 |
| 17. Enclosure / Cable entry | : | Weatherproof or flameproof / 1/4" ET (F) |

LIMIT SWITCHES FOR SWITCHES

One or two or four limit switches may be provided externally to the indicator as shown in our drg.no.REC/LICA/3005/A/O and these switches will changeover their contacts as soon as the level sensed by the float increases or decreases above the set point.

- | | | |
|-------------------|---|--|
| 1. Contact rating | : | 230 VAC 5 A (surge) 60 W / VA . 1 NO. SPDT Contact for each level sensing. |
| 2. No of switches | : | To Mention |



ITEM NO. : 15

**ITEM : TOP MOUNTED MAGNETIC LEVEL INDICATOR ROLLER (OR) DRAG TYPE.
REFER OUR G. A. DRG. NO. RTMLID-1022-A/O (OR) RTMLIR-1023-A/O.**

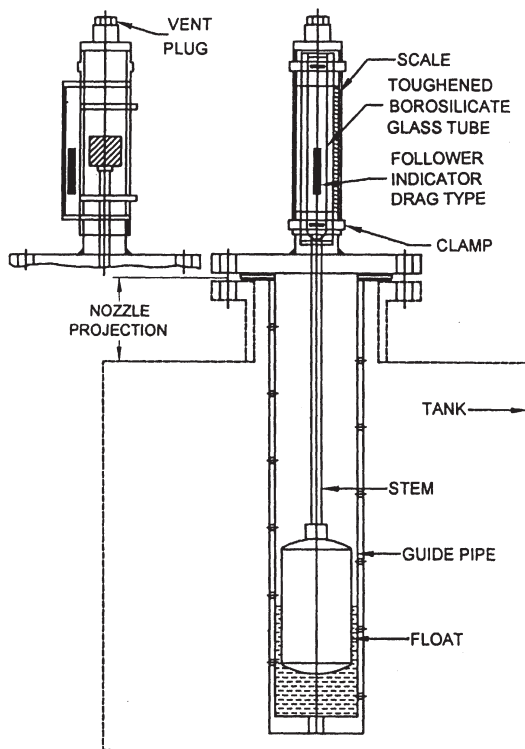
PRINCIPLE OF OPERATION :

This indicator is used as a direct local level indicator mounted on top of the vessel. The floats are made out of stainless steel. As the level inside the tank rises the float which buoys up, moves up, moving the connecting stem to the region of visibility on top, through magnetic coupling.

MATERIAL SPECIFICATIONS :-

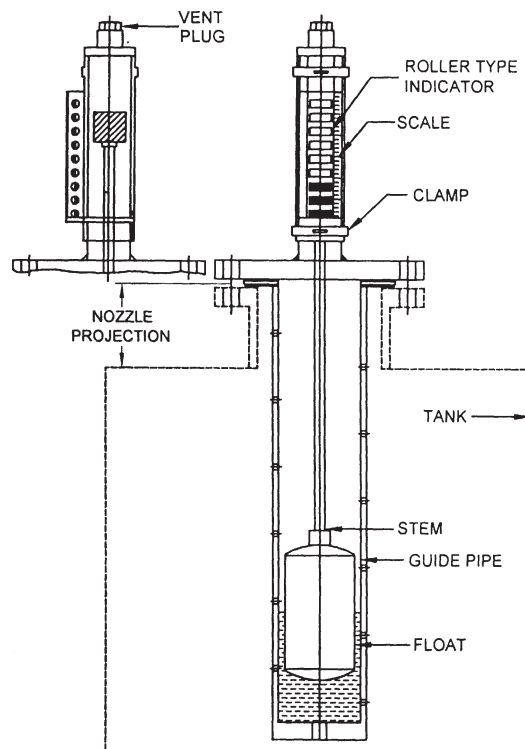
- | | | |
|--|---|---|
| 1. Type | : | Top Mounted Magnetic Level Indicator Drag type / Roller type |
| 2. Service | : | To Mention |
| 3. Op.pressure Kg/Cm2g / temp. ° C /Sp.Gr. | : | To mention |
| 4. Hydro test pressure Kg/Cm2g | : | 1.5 times of max. Op. Pressure |
| 5. Process connection size & rating | : | Flanged to 100 NB ANSI 150# RF, B-16.5 (or) to Mention |
| 6. All Wetted parts | : | SS 304 / SS 316 / PP/ PVC/ PVDF |
| 7. Material of Flange | : | CS clad with SS 304 / SS 316 / PP/ PVC/ HDPE / PVDF |
| 8. Float Material | : | SS 304 / SS 316 / PP/ PVC/ HDPE / PVDF |
| 9. Guide Pipe Material | : | SS 304 / SS 316 / PP/ PVC/ PVDF |
| 10. Mounting | : | Tank top |
| 11. Scale | : | Acrylic / SS white background with black markings in cms. Lines are engraved @ each 10 mm. i.e. ± 10 mm could be adjusted |
| 12. Indicator accuracy | : | ± 10 mm |
| 13. Quantity | : | To Mention |

TOP MOUNTED MAGNETIC LEVEL INDICATOR WITH DRAG TYPE LEVEL INDICATION



RTMLID-1022-A/O

TOP MOUNTED MAGNETIC LEVEL INDICATOR WITH ROLLER TYPE LEVEL INDICATION



RTMLIR-1023-A/O

ITEM NO. : 16

**ITEM : TOP MOUNTED MAGNETIC LEVEL INDICATOR DRAG OR ROLLER TYPE
LEVEL INDICATION AND WITH OR WITHOUT SWITCHES.
REFER OUR G. A. DRG.NO.RTMLIDA-1022-A/O (0R) RTMLIRA-1023-A/O**

PRINCIPLE OF OPERATION :

Here in this case this Indicator is used as a direct local level indicator mounted on top of the vessel or RCC tank. The float is made out of SS304/SS316/PP/PVC/PTFE/PVDF. As the level inside the tank rises the float, which buoys up, moves the connecting pipe to the region of visibility on top.

Moreover there will be clamp on type Magnetic Switches are provided as per your request having repulsion type magnetic arrangement to have the actuation at desired levels. These switches are housed in a Cast Aluminium enclosure and they are adjustable over the entire range of the Level Indicator.

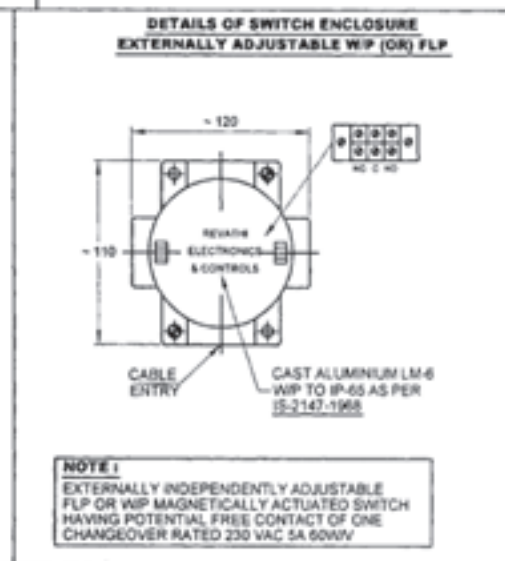
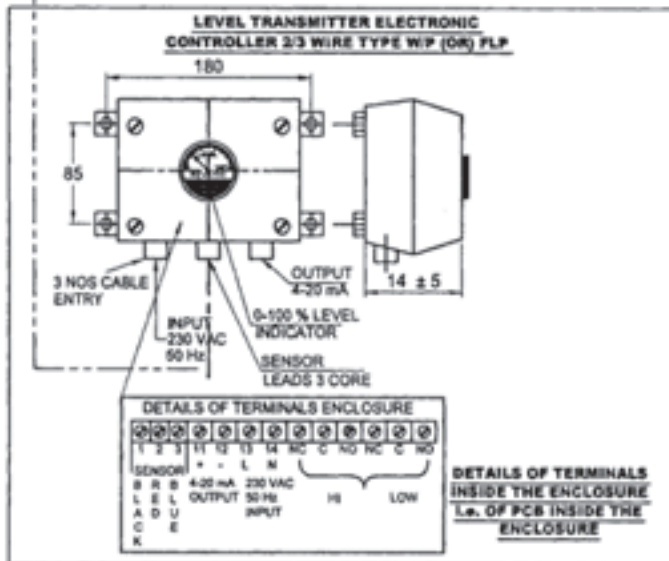
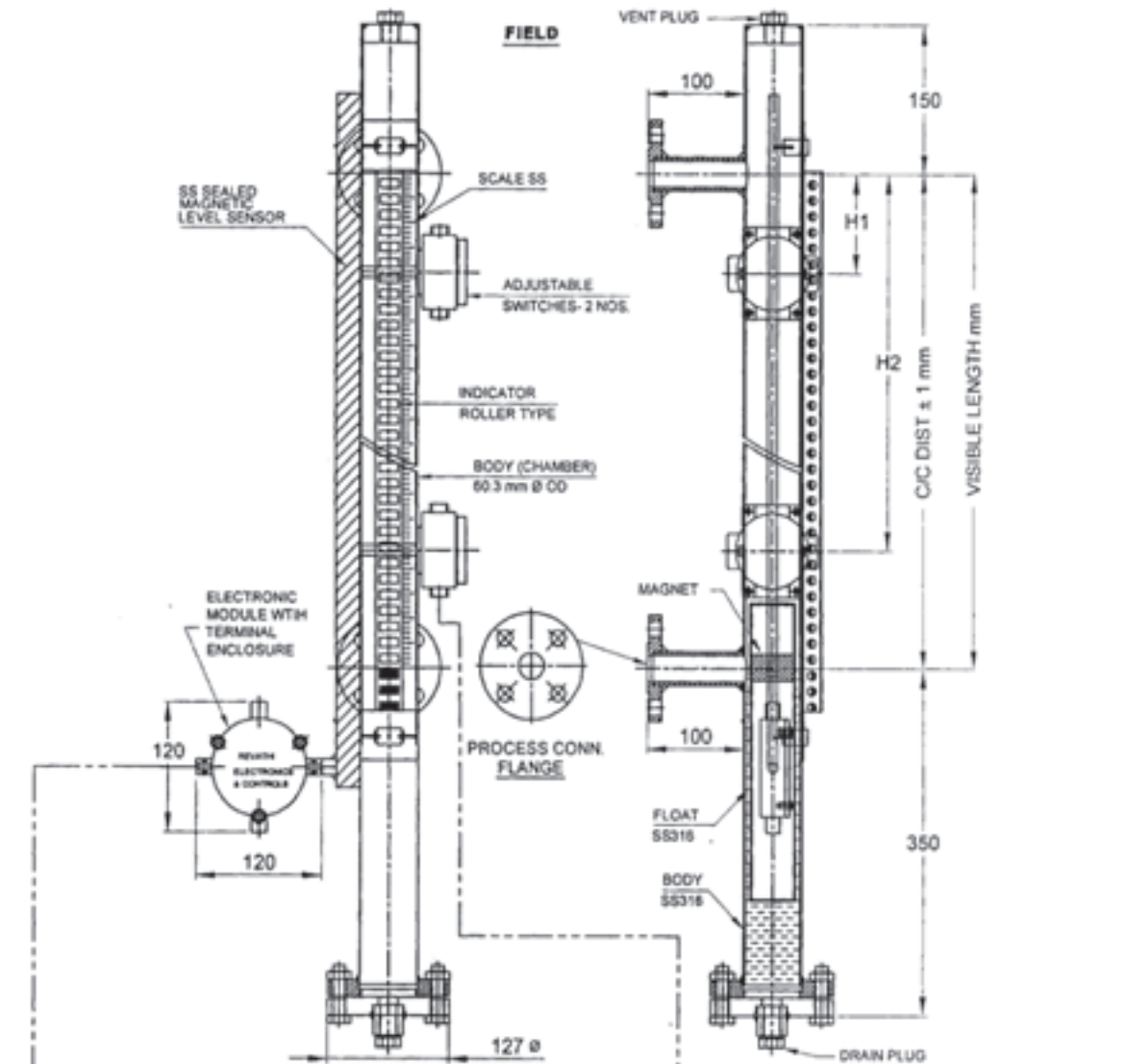
DETAILS OF MAGNETIC SWITCH :

The basic switch used in all case will be of imported origin and sealed type. The switch used is hermetically sealed, inert gas filled magnetic switch with gold plated contacts of the following specifications.

MATERIAL SPECIFICATIONS :

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|--|---|---|
| 1. Type | : | Top mounted level indicator with Drag / Roller type with / without switches |
| 2. Process conn. Flange size & rating | : | 4" BS 10 table 'E' or 4" ANSI 150 RF B 16.5 |
| 3. Service | : | To mention |
| 4. Op.pressureKg/Cm2g/temp.° C /Sp.Gr. | : | To mention |
| 5. Hydro test pressure Kg/Cm2g | : | 1.5 times of max. Op. Pressure |
| 6. All wetted parts material | : | SS 304 / SS 316 / PP/ PVC/ HDPE/PVDF |
| 7. Material of Flange | : | CS with SS lipping to have wetted parts as SS. |
| 8. Float Material | : | SS 304 / SS 316 / PP/ PVC/ HDPE /PVDF |
| 9. Guide Pipe Material | : | SS 304 / SS 316 / PP/ PVC/ PVDF |
| 10. Mounting | : | Tank top |
| 11. Scale | : | Acrylic / SS white background with black markings in cms. Lines are engraved @ each 10 mm. i.e. ± 10 mm could be adjusted |
| 12. Indicator accuracy | : | ± 10 mm |
| 13. Measuring range | : | To mention |
| 14. Glass tube Material | : | Transparent Borosilicate |
| 15. Contact Rating | : | 230 VAC 5 Amps (Surge) 60 VA/W in the case of SPDT switch can directly operate 110/230 VAC Siemens or L&T size 1 contactor. |
| 16. Max..Initial contact resistance | : | 150 milli ohms |
| 17. Max. Operate time | : | 0.5 milli second |
| 18. Max. Release time | : | 0.1 milli second |
| 19. Life expectancy | : | 100-million operations |
| 20. Basic Switch | : | Will have SPDT |
| 21. Alarms / Qty | : | If required will be provided as per our general arrangement DRG NO. RTMLIDA-1022-A/O (0R) RTMLIRA-1023-A/O |
| 22. Enclosure | : | Weatherproof or flameproof |
| 23. Cable entry | : | ¾" ET (F) |
| 24. Quantity | : | To Mention |

ITEM NO.: 21 *FLOAT OPERATED SIDE MOUNTED MAGNETIC LEVEL TRANSMITTER WITH EXTERNALLY ADJUSTABLE SWITCHES W/P (OR) FLP*



RSMLIRTA-2/3-3000-WPR/FLPR

ITEM NO.: 22**ITEM : TOP MOUNTED FLOAT TYPE MAGNETIC LEVEL INDICATOR ROLLER
TYPE CUM TRANSMITTER WITH OR WITHOUT SWITCHES
REFER OUR G. A. DRG. NO. RTMLIRTA-2/3-1023-WPR/FLPR****PRINCIPLE OF OPERATION:**

SS float which is equipped with alnico magnet moves up or down alongwith level rise or decrease. This float magnet movement will be magnetically coupled to the coloured roller outside the chamber with scale for indication. By the side of the indicator the adjustable switches are provided. By the side of the above level indicator the transmitter sensor will be clamped. The magnet embedded float of the level indicator buoys up alongwith the level rise and it cuts in or cuts out a series of the resistors kept scaled outside the level indicator chamber. The output which is a current signal of 4-20 mA is transmitted to a remote area say pump room or control room.

MATERIAL SPECIFICATIONS:

- | | | |
|--|---|---|
| 1. Type | : | Top mounted Level Indicator cum level transmitter with adjustable switches. |
| 2. Mounting | : | Top Mounted (Internal) |
| 3. Service | : | To Mention |
| 4. Op.pressureKg/Cm ² g/temp. ° C /Sp.Gr. | : | To mention |
| 5. Hydro test pressure Kg/Cm ² g | : | 1.5 times of max. Op.pressure |
| 6. Process conn. Flange size and rating | : | 4 " ANSI 150 # RF B-16.5 flanged or to mention |
| 7. Process conn. Flange malt. | : | SS 304 / SS 316 / Polypropylene / PVDF / PTFE |
| 8. All wetted parts malt. | : | SS 304 / SS 316 / Polypropylene / PVDF / PTFE |
| 9. Vent connection | : | 1/2" BSP (F) with Plug |
| 10. Measuring Range | : | To Mention |
| 11. Tank height / Nozzle projection | : | To Mention |

DETAILS OF LOCAL INDICATOR:

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|----------------------------|---|---|
| 1. Type | : | Top mounted magnetic level indicator with roller type bicolour level indication |
| 2. Coloures of the rollers | : | Red & White. White colour indicates empty space & red colour indicates filed space. This will have yellow coloured rollers @ every 100 mm and blue coloured rollers @ every 500 mm. |
| 3. Indicator accuracy | : | ± 10 mm of the total range |
| 4. Indicating device | : | Magnetic bicoloured rollers |
| 5. Frame / Housing Malt. | : | Aluminium supported transparent acrylic window for clear visibility from a distance. |
| 6. Scale | : | Liner marking ie. SS / Acrylic white background with black marking in Cms. Lines are engraved @ each 10 mm |

DETAILS OF EXTERNALLY ADJUSTABLE W/P (OR) FLP SWITCHES :

- | | | |
|----------------------------|---|---|
| 1. No. of Alarms | : | 1/2/3/4 Nos. (for HiHi, Hi,Lo & LoLo). These alarms are adjustable throughout the range externally. |
| 2. Type of switch | : | Sealed magnetic switch |
| 3. Contact Form & Rating | : | 1 No. SPDT 230 VAC 5 A (SURGE) 60 W / VA for each level sensing. |
| 4. Switch differential | : | Fixed 20 mm approx. |
| 5. Enclosure / cable entry | : | Cast aluminium W / P or FLP / ¾" ET (F) |

DETAILS OF TRANSMITTER ELECTRONIC UNIT :

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|-----------------------------|---|--|
| 6. Sensor type | : | Float operated |
| 7. Input supply | : | 24 VDC or 230 / 110 VAC 50 Hz 1 ø |
| 8. Output supply | : | 4 -20 mA 2/3 wire type |
| 9. Accuracy | : | ± 0.5% of the total range |
| 10. Indicator | : | Will be 2 ½ " Dial analogue meter |
| 11. Enclosure / cable entry | : | Will be cast Aluminium WP (or) FLP / ¾" ET (F) |