

ADD ON

MAGNASTAT level switch



Working:
Latching type magnetically actuated level switch, mounted externally in weather proof (flame proof) enclosure, gives potential free out put, when liquid reaches preset level.

Technical Specifications

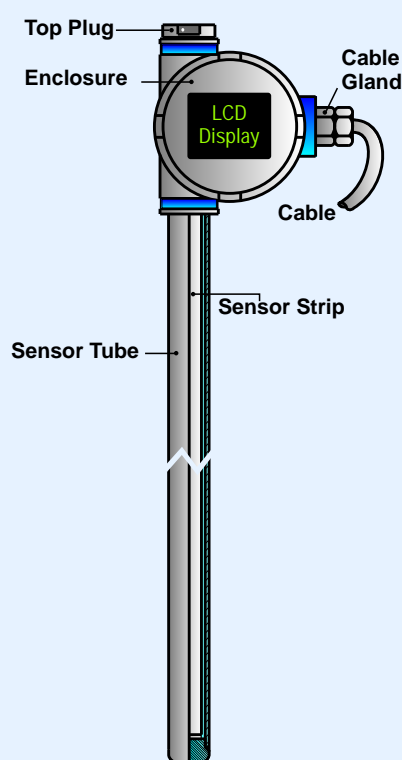
Enclosure	: Die cast Aluminium LM6.
Protection	: Weather proof IP66, Flameproof IS2148 Gr II a II b (II C)
Temperature Class	: T6
Cable Entry	: 1/2" NPT (F)
Adjustment	: Step less over entire range
Type of switch	: Snap acting Micro switch.
Contact Form	: 1 SPDT (2 SPDT)
Contact Rating	: 5 A 240 VAC
Differential	: 12 mm

MAGNATRANS

Magnetically Actuated Level Transmitter (Add-on for Magnetic Level Indicators)

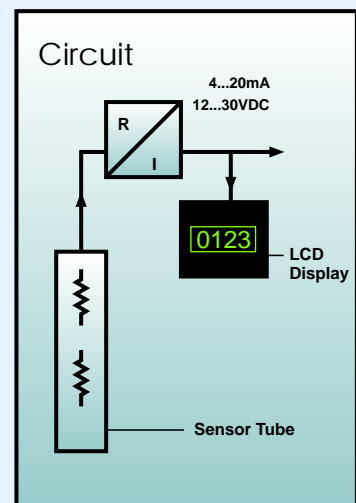
Working:
A magnetic float (for side mounted magnetic level indicator) or a magnetic tip (for top mounted magnetic level indicator) moves in a chamber on which the sensor is mounted. Magnetically operated reed switches connected to a string of resistors, sense the level signal. The sensor resistance varies in proportion to level. This is converted into 4 to 20 mA current by the Loop Powered Transmitter. LCD display(optional) locally shows the reading.

Construction



Technical Specifications

Electrical Sensor	: Resistive
Resolution	: 1 cm.
Excitation	: 2V nom.
Adjustments	: Zero (4mA), Full Scale (20mA)
Output	: 4...20 mA, 30mA max.
Power	: 12...30 V (from the loop)
Burden	: < 750 ohms.
Protection	: Against loop reversal
Indication	: 3 1/2 digit LCD (optional)
Intrinsic safety	: EEx ia IIC T6.
	Cert.No. CMRI/ TC/H512 dt 04 Apr 97
Mechanical Enclosure	: Die Cast Aluminium LM6
Protection	: IP 65 IS 2148 Gr IIa II b
	Cert. No. CMRI/TC/H293 dt.26 Feb 97
Cable Entry	: 1/2" NPT (F)
Terminals	: Screw type.



ABOUT US - Established in 1960, R. K. Dutt Concerns, Pioneers in the field of magnetic indicators, commenced its operation at 750 sq. mtr. works, at Wagle Estate, Thane, in 1974. With application oriented R & D as its strength, it went on to develop several state-of-the-art instruments for the first time in India - like Magnetic Indicator for Liq. Chlorine Magnamount, Intrinsically safe transmitter for LPG- Insetrans, Bicoloured magnetic indication - Rotocyl, Displacer type Indicating Transmitter - Immertrans Displacer Transmitter all with 100% indigenous knowhow.

To cap it all, in 1998, it became the first company in level instrumentation, to get ISO 9002 certificate. It has statutory approvals from bodies like IBR, CCoE, CMRI, NSIC and Prestigious Undertakings like EIL, TOYO, ABB, HP, NPC, DAE, etc. Its products have been exported to USA, USSR, UAE, Thailand, Malaysia, Oman, Iran, Ghana, Bangladesh. Partial list of Indian users includes prestigious companies / undertakings like Indian Oil Corp., IPCL, ONGC, BPCL, DAE, Indian Navy, ISRO, GSFC, Hind. Lever, Reliance, Gharda, NCPL, Transpek, GACL, Cheminova, Pidilite, Meghamani, Hikal, Sadhana Nitro, Vardhaman, Nirma, Ind. Organic, Novartis, Clariant, Glaxo, ICI,UPL, Bayer, etc.

R.K.DUTT

R. K. DUTT CONCERNS
EXCELLENCE THROUGH ENGINEERING

ISO 9001
CERTIFICATED



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As part of the product development process the company reserves its rights to revise and / or change product specifications without any advance notice.

Over 30 years of
Magnetic Magic



Magnetic Level Indicators Transmitters & Switches

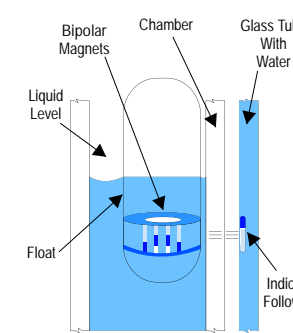
For **Ultimate Safety** in Liquid Level Instrumentation
In the **Chemical Process Industry**

How it works

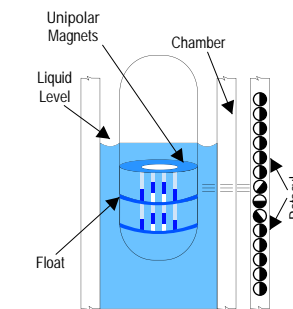
A float containing magnets, moves up & down with changing liquid level, in a non-magnetic - non-fragile chamber. "Indicap follower" or "Bicoloured Rotocyls" indicate level externally.

The "Indicap Follower" moves within a glass tube filled with water. Water makes the capsule weightless and reduces friction. The indication is continuous.

The "Bi-coloured Rotocyl" system comprises of series of bicoloured cylinders that hold each other by tiny magnets within. As the strong magnet of the float moves behind them, they turn inside out. Level is indicated as rising bar of yellow. In contrast empty space above is seen as black. Resolution limited by Rotocyl width.



INDICAP



ROTOCYL

What's Special

Ultimate Safety: No glass breakage, no gland leakage. The non-fragile chamber of metal or plastic eliminates messy and hazardous spills.

Excellent Visibility: Designed for colourless, transparent or even tarry black liquid. Indication is clearly visible from over 30 meters.

Simple, Economical & Maintenance Free: In Reflex - Transparent Gauges, the number of joints, glasses, nut bolts, valves and other parts call for cumbersome maintenance and involve high investment and running cost. In contrast, Magnetic Indicators are maintenance-free and hence very economical.

Interface Application:

1. Magnafront - For level of interface between two liquids such as CS₂ and Water, without vapour space on top.
2. Magnamount - For level of interface between two liquids with vapour on top.



Rotocyl ▶



◀ Indicap

Where is it used Hazardous / Flammable liquids like:

- Liquefied Gases: LPG, Cl₂, NH₃, C₂ cut, AHF
 - Corrosives: H₂SO₄, Oleum 65%, HNO₃, HCl, Acetic Acid, PCI₃, etc.
 - Petrochemicals: Ethylene, EO, ACN, VC, EDC, Butadiene & Solvents.
 - Oils: Veg. Oils, Fatty Acids, Fuels, Thermic fluids, lube oils, etc.
 - Others: Pesticides, H₂SIF₆, Silicates, Brine, Alkalies, Freons, etc.
- In Chemical, Fertilizer, Petrochemical, Pharma, Pesticide and other industries.



R.K.DUTT

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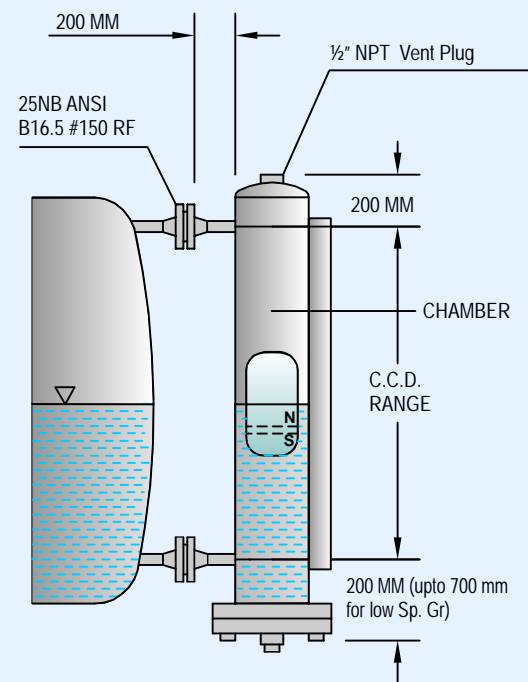
MAGNAFRONT MODEL L13

Technical Specifications

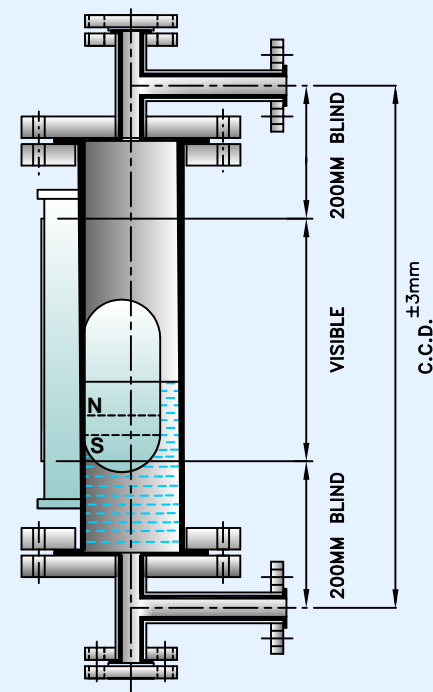
	METALLIC CONSTRUCTION	PLASTIC LINED CONSTRUCTION
Mounting	Side of the Tank	Side of the Tank
MATERIALS		
MoC wetted *	Stainless Steel 304, 316, 304 L, 316 L	PP, PVDF, PTFE
Flanges	CS, SS304, SS316, SS304 L, SS316 L	PP lined IS-2062, PVDF, PTFE lined IS-2062
Chamber	A312 TP SS	PP, PVDF, PTFE lined SS304
Float	SS316L (ECTFE coated SS316L)	PP, PVDF, ECTFE coated SS316L
Guard	SS304	SS304
Scale	Aluminium (SS304, Acrylic, PVC)	Aluminium (SS304, Acrylic, PVC)
Gaskets	CAF (PTFE, Graphoil)	PTFE
Nut bolts	CS (SS304, ASTM A193 Gr b7/ A194 Gr 2h)	CS (SS304, ASTM A193 Gr b7/ A194 Gr 2h)
Paint	Enamel -Phiroza blue, (Epoxy -White)	Enamel -Phiroza blue, (Epoxy -White)
CONNECTIONS		
Process *	Flanged-SORF (WNRF, T & G) (Threaded : NPT / BSP) 25 NB (15 NB to 50 NB) ANSI B16.5 # 150 ,(300, 600) (BS 10: Table D / E / F) (DIN PN10 / 16 / 32)	Flanged SORF 25 NB (40,50 NB) ANSI B16.5 # 150 (BS 10: Table D / E / F) (DIN PN10 or 16)
Drain & Vent	½" NPT Plug(½" Ball / Needle Valve , Flange)	25 NB ANSI B16.5 # 150 Flange (Ball Valve)
OTHER SPECIFICATIONS		
Indication *	Indicap: Red follower Capsule (Rotocyl)	Indicap: Red follower Capsule (Rotocyl)
Centre to Centre Distance *	300 to 5500 mm	300 to 4500 mm
Float F	50 mm to 86 mm	50 mm to 90 mm
Chamber O.D.	64 mm to 110 mm	90 mm to 110 mm
Sp. Gr. *	min 1.0 (low up to 0.45)	min 1.0 (low up to 0.45)
Temperature *	-50 to 150° C	PP: -50 to 100° C PVDF & PTFE: -50 to 150° C
Hydro Test *	5 bar (chamber: 60 bar max, Float: 32 bar max.)	Atm
Vacuum	Full Vacuum	Full Vacuum
Least count	5 mm	5 mm
Accuracy	±1 cms (For Sp.Gr. = 1)	±1 cms (For Sp.Gr. = 1)
OPTIONS		
Mounting	Side-Top, Side-Bottom	Side-Top, Side- Bottom
Switch	Micro, Potential Free contact, 5 A 230VAC SPDT Die cast Al.-LM6 Enclosure, Weather Proof IP65 (Flameproof IS2148 Gr IIa, IIb or IIc)	Micro, Potential Free contact, 5 A 230VAC SPDT Die cast Al.-LM6 Enclosure, Weather Proof IP65 (Flameproof IS2148 Gr IIa, IIb or IIc)
Transmitter	Intrinsically Safe transmitter with 4-20 mA out put (HART ®)	Intrinsically Safe transmitter with 4-20 mA out put (HART ®)
Heating Manifold	Grid of SS304 tubes with ½" NPT(F) inlet / outlet	-

* Marked details are essential for ordering

Features in brackets are against specific request



Magnafront : L13 (Metallic Body)



Plastic (PP or PTFE) Lined : L13



MAGNAMOUNT MODEL L14

Technical Specifications

	METALLIC CONSTRUCTION	PLASTIC LINED CONSTRUCTION
Mounting	Top of the Tank	Top of the Tank
MATERIALS		
MoC wetted *	C.S. Stainless Steel SS304, SS316, SS304 L, SS316 L	PP, PVDF
Flanges	CS, SS304, SS316, SS304 L, Ss316 L	PP lined IS-2062, PTFE lined IS-2062
Top Chamber	A312 TP SS	PP, PVDF
Guide Pipe(Cage)	CS, SS304, SS304L, SS316, SS316L (Cage for interface / slurry application)	PP, PVDF
Float	SS316L (ECTFE coated SS316L)	PP, PVDF, (Glass, ECTFE coated SS316L)
Guard	SS304	SS304
Scale	Aluminium (SS304, Acrylic, PVC)	Aluminium (SS304, Acrylic, PVC)
Gaskets, Nut bolts	Buyer's Scope	Buyer's Scope
Paint	Enamel -Phiroza blue, (Epoxy -White)	Enamel -Phiroza blue, (Epoxy -White)
PROCESS CONNECTIONS		
Type *	Flanged-SORF (Small / Large T & G)	Flanged SORF
Sizes *	100 NB (150, 200 NB)	100 NB (150, 200 NB)
Flange Std *	ANSI B16.5 # 150 ,(300, 600) (BS 10 : Table D / E / F) (DIN: PN 10, PN 16 , PN 32.)	ANSI B16.5 # 150 (BS 10: Table D/ E / F, DIN PN10 or 16)
OTHER SPECIFICATIONS		
Indication *	Indicap: Red follower Capsule (Rotocyl)	Indicap: Red follower Capsule (Rotocyl)
Range *	500 to 3000 mm in single stage 500 to 6000 mm in double stage	500 to 3000 mm 500 to 4500 mm in double stage
Float F	70 mm to 110 mm	50 mm to 90 mm
Guide Pipe O.D.	64 mm to 140 mm	75 mm to 100 mm
Sp. Gr.*	min 1.0 (low up to 0.45)	min 1.0 (low up to 0.45)
Least count	5 mm	5 mm
Temperature *	-50 to 150° C (up to 350° C)	PP: 100° C , PVDF: 150° C
Hydro Test *	5 bar (chamber: max 60 bar, Float: max 32 bar)	Atm
Vacuum	Full Vacuum	Full Vacuum
Accuracy	±1 cms (For Sp.Gr. = 1)	±1 cms (For Sp.Gr. = 1)
OPTIONS		
Mounting	Side-Top, Side-Bottom	Side-Top, Side- Bottom
Switch	Micro, Potential Free contact, 5 A 230VAC SPDT Die cast Al.-LM6 Enclosure, Weather Proof IP65 (Flameproof IS2148 Gr IIa, IIb or IIc)	Micro, Potential Free contact, 5 A 230VAC SPDT Die cast Al.- LM6 Enclosure, Weather Proof IP65 (Flameproof IS2148 Gr IIa, IIb or IIc)
Transmitter	Intrinsically Safe transmitter with 4-20 mA out put (HART ®)	Intrinsically Safe transmitter with 4-20 mA out put (HART ®)
Heating Jacket	SS304 with ½" NPT(F) inlet and outlet	-

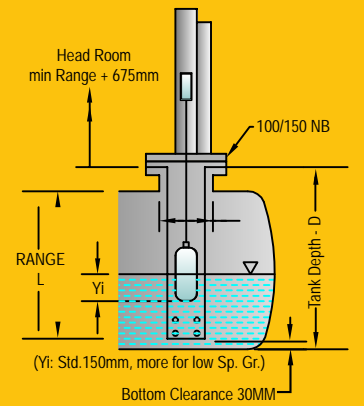
MAGNASEAL L16S, L16SP

Technical Specifications

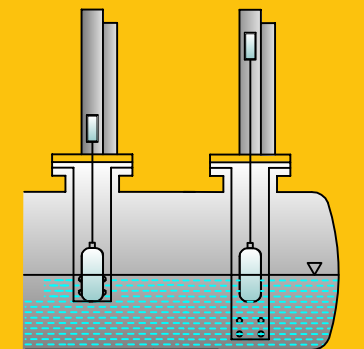
	METALLIC CONSTRUCTION	PLASTIC LINED CONSTRUCTION
Mounting	Top of the Tank and Indication on Side of the Tank	Top of the Tank and Indication on Side of the Tank
Indication *	Indicap: Red follower Capsule (Rotocyl)	Indicap: Red follower Capsule (Rotocyl)
MoC wetted *	Stainless Steel 316 (Float & Rope)	PP
Flanges	CS IS-2062	PP lined IS-2062
Float	390 F SS316 L	390 F PP (HDPE)
Rope	1.6 mm F multi strand SS316L	4 mm F multi strand PP
Pulleys	C.S.(SS) with SS Bush /Shaft	PP
Pulley Housing	Die Cast Aluminium - LM6 (SS)	PP lined Die Cast Aluminium - LM6
Connecting Pipe	C.S.	PP lined CS
Guide Pipe	SS304 (External non wetted)	PP (External)
Scale	75 mm wide white Epoxy painted Al. board with screen printed Meter Scale, 1 cm Least count	75 mm wide white Epoxy painted Al. board with screen printed Meter Scale, 1 cm Least count
Brackets	CS (SS)	CS (SS)
Gaskets, Nut bolts	Buyer's Scope	Buyer's Scope
Paint	Enamel - Phiroza blue, (Epoxy -White)	Enamel - Phiroza blue, (Epoxy -White)
Mounting Flange *	25NB (40, 50 NB) ANSI B16.5 # 150 (BS 10 : Table D / E / F, DIN: PN 10 or 16.)	25NB (40, 50 NB) ANSI B16.5 # 150 (BS 10 : Table D / E / F, DIN: PN 10 or 16.)
Range *	500 to 5000 mm	500 to 5000 mm
Temperature *	-50 to 150° C (up to 350° C)	100° C
Hydro Test *	Atm	Atm

* Marked details are essential for ordering

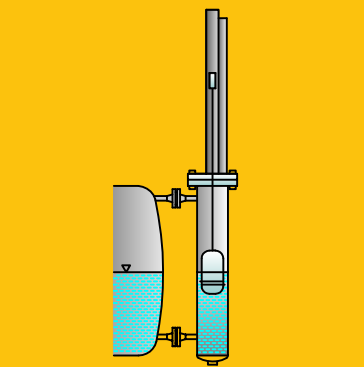
Features in brackets are against specific request



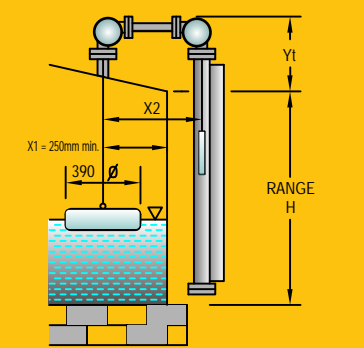
Magnamount L14



Magnamount L14 Double Stage



Side - Top Mounting : L14ST



Magnaseal : L16S or L16SP

All SS flanges are IS2062 flanges with 3 mm thick SS lining. All SS pipes are semi welded pipes. A240 TP SS or A182 F SS flanges, seamless pipes are also available. SS : SS304, SS316, SS304L, SS316L. For any deviation from offered specifications / materials, contact our office for price and delivery.

Ordering details :

- Mounting: Side, Top, Side-Top, Side- Bottom.
- MoC, Liquid, Sp.Gr. , Operating / Max Temp and Pressure, Process Connection: Size and Rating, CCD in mm for L13 & Range, Clear Bore, Depth for L14, Optional and add on features.

Customization beyond above specifications is also welcome.