



LT-10 Liquid Level Gauge & Transmitter.

Simply constructed and resistant to adverse conditions of temperature and pressure. Materials in AISI-316, PVC, PP or PTFE for most applications in industries such as:

- Chemical, petrochemical and other processes.
- Refrigeration, Retorts and Heat Treatment.
- Boilers, marine & industrial.
- Evaporators & Condensers.
- Storage Tanks.

Features:

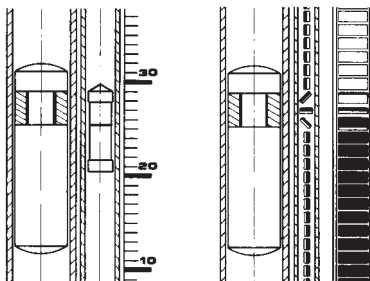
- Full process isolation, no risk of leakage.
- Alarms contacts adjustable over the full range.
- Clear indication with magnetic float or magnetic strips.
- Transmitter output of 0...4-20 mA.
- Excellent chemical and mechanical resistance.



Operation

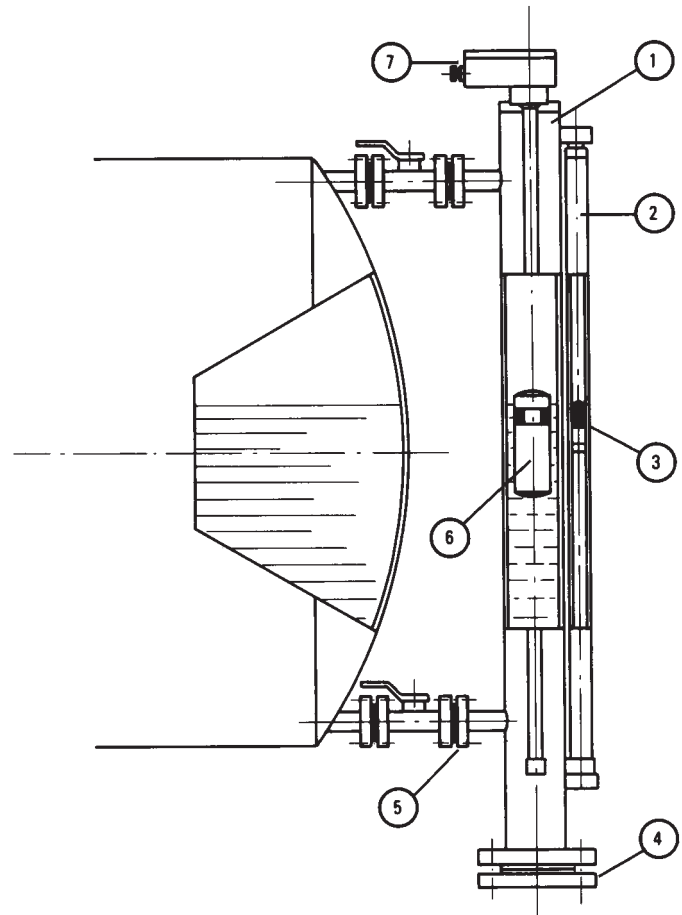
A vertical measuring chamber, connected to the tank at each end, contains a magnetic float that rises and falls with the liquid level. An indicating chamber is attached, but not directly connected, to the measuring chamber. The indicating chamber contains a magnetic strips indicator or magnetic float that follows the position of the float in the measuring chamber to provide an indication of the tank level.

Adjustable contacts, actuated by the float's magnetic field, can provide switch points for control or alarms. A sensor detecting the float position can provide a 4-20 mA signal for proportional control.



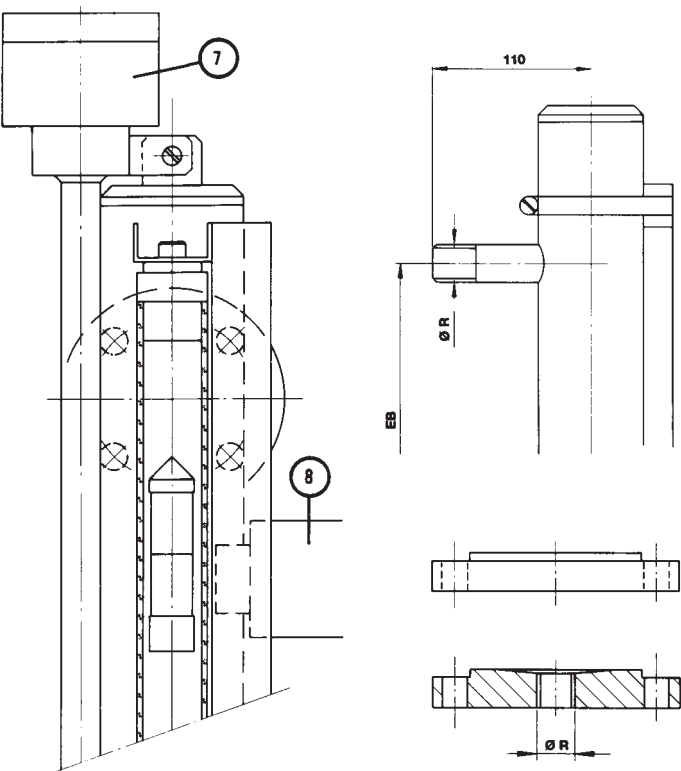
Technical Data

- Installation: Vertical, parallel to the tank.
- Connections: DN-25, PN-16 DIN Flanges (Std).
(On request, ASA, RF)
- Accuracy: $\pm 3 \dots 4\text{mm}$
- Scale: cm (% and volume on request)
- Density: 0.45 to 3 kg / l
- Viscosity: Maximum 1500 cSt ($1.8 \times 10^{-4} \text{ m}^2\text{s}$)
- Pressure: 16 Bar for AISI-316 (Std), PTFE
400 Bar for AISI-316 (Special)
10 Bar for PVC, PP
- Temperature: -20°C to +150°C AISI-316 (Std) & PTFE
-150°C to +400°C AISI-316 (Special)
0°C to +50°C PVC
-10°C to +90°C PP
- Length: Max 6,000mm for AISI-316 (Std) & PTFE
Max 15,000mm for AISI-316 (Special)
Max 6,000mm PVC & PP
- Accessories: Thermal isolator.
- Contacts: AMM Micro-switch, 3A 220V
AMD Inductive proximity sensor with relay amplifier (3A 220V) intrinsic safety. WE77/Ex 1 or 2 contacts
AMR/APR Bi-stable reed switch (0.5A 200V 60 VA)
ADF Explosion proof connector
- Transmitter: 0...4-20 mA, 220, 125, 24VAC or 24VDC



Materials

Item	Part	LT-/SS	LT-/PVC	LT-/PTFE
1	Body	AISI 316	PVC	PTFE + AISI-316
2	Measuring Tube	Borosilicate/Aluminium	Borosilicate/Aluminium	Borosilicate/Aluminium
3	Indicating Tube	PP/Aluminium + Magnet	PP/Aluminium + Magnet	PP/Aluminium + Magnet
4	End Flange	AISI-316	PVC	PTFE + AISI-316
5	Connecting Flange	AISI-316	PVC	PTFE + AISI-316
6	Float	AISI-316	PVC	PTFE
7	Transmitter	Aluminium/AISI 316	Aluminium/PVC	Aluminium/AISI-316



Series LT Level Gauge

Designed with separate functional components to enable the LT to be adapted to individual application requirements. The base unit provides a level measurement which can include the following:

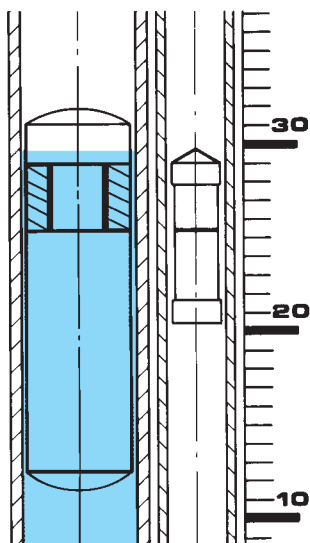
- Visual indication by float or magnetic sheet.
- (8) Adjustable alarm points (Hi/Lo).
- (7) 0...4-20 mA transmitter signal.

The transmitter signal can connect to the MC-01 processor to provide:

- Maximum & minimum level alarms.
- Indication of level (height,%) and VOLUME simultaneously.
- Programming of tank data via the key pad for volume calculation.
- Programs are adaptable to each installation and process.

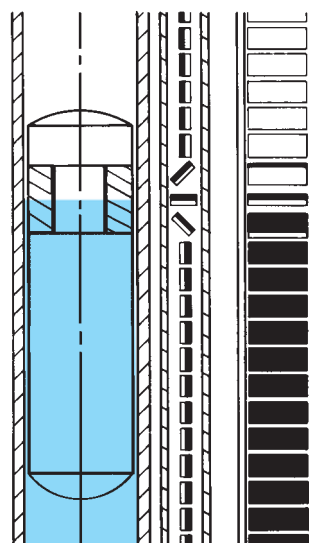
Float Level Indication

A borosilicate glass tube, containing a magnetic float, is attached to the measuring tube. The magnetic float follows the liquid in the measuring tube to provide a visual indication of the liquid level. The indicating tube has a graduated scale in cm.



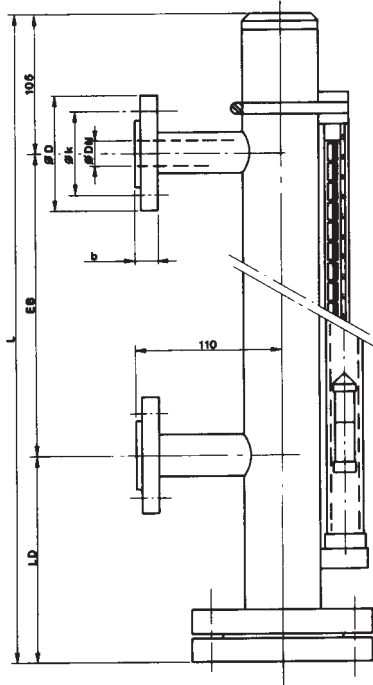
Magnetic Strips Level Indication

An aluminium tube assembly containing a Mekralon transparent cover is attached to the front of the measuring tube. The assembly contains a column of bi-colour magnetic tabs that form a vertical strip to provide a visual indication of the fluid level.





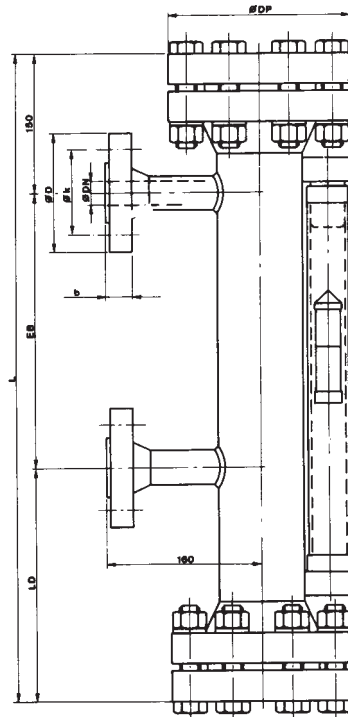
Series LT-10/SS
Magnetic Level Indication
PN-16...PN-40



Technical Data

- Material: AISI-316 L
- Length EB: 6,000mm max
15,000mm (Special)
- Flange LT-10 DN-25 PN-16...PN 40
DN-20 PN-16...PN-40
- Thread LT-11 1" BSP/NPT
1/2" and 3/4" BSP/NPT
- Temperature: -20°C +150°C (Std)
-150°C +400°C (Spec)
- Floats: See page 7
- Alarms: LT-AMM, LT-AMD,
LT-AMR & LT-APR
- Output: LTE (0...4.20 mA)

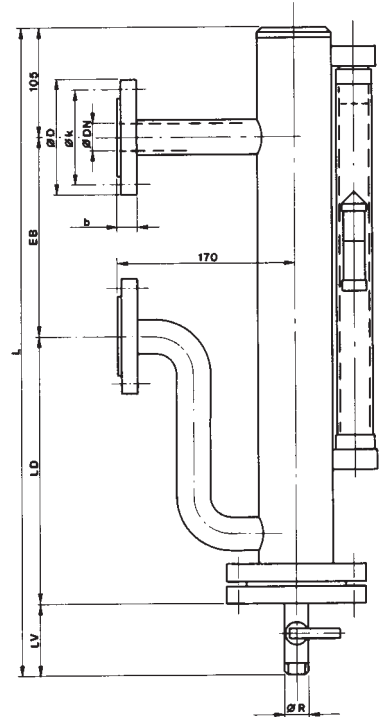
Series LT-16/SS
Magnetic Level Indication
PN-64...PN-400



Technical Data

- Material: AISI-316 L
(others also available)
- Length EB: 6,000mm, max
- Flange: DN-25 PN-64...PN 400
(on request ASA,RF)
- Temperature: -20°C +150°C (Std)
-120°C +400°C (Spec)
- Floats: See page 7
- Alarms: LT-AMM, LT-AMD,
LT-AMR & LT-APR
- Output: LTE (0...4-20 mA)

Series LT-19/SS
Magnetic Level Indication
for evaporators
PN-16...PN-64



Technical Data

- Material: AISI-316 L
(others also available)
- Length EB: 6,000mm, max
- Flange: DN-25 PN-40
DN-20 PN-40
- Temperature: -20°C +150°C (Std)
-120°C +400°C (Spec)
- Floats: See page 7
- Alarms: LT-AMM, LT-AMD,
LT-AMR & LT-APR
- Output: LTE (0...4-20 mA)

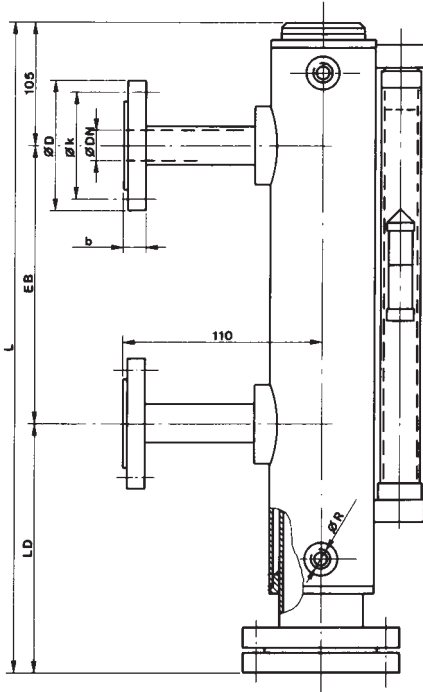
Special Data for Magnetics Levels:
LT-10, LT-11, LT-16

Density (min) Kg/L	0.950	0.800	0.600
LD	286	362	456

LT-19

Density (min) Kg/L	0.950	0.800	0.600
LD	286	362	456

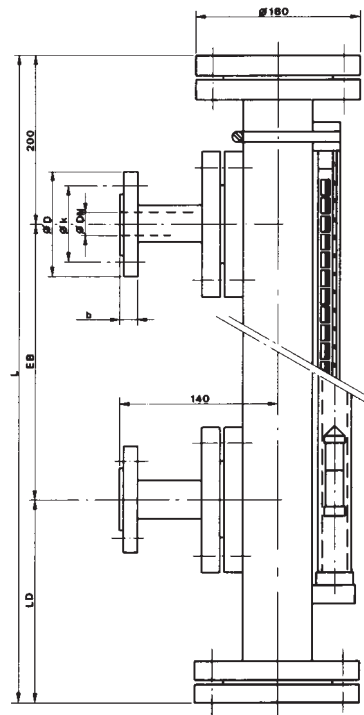
Series LTGCBR
Hi & Lo Temperature Cover
for LT-10, 11, 14, 15 & 19.



Technical Data

- Material: AISI-316 L for LT-10, 11, 15,19; PVC for LT-14.
- Length EB: 6,000mm max
15,000mm (Special)
- Flanges: DN-20 PN-16...PN 40
Threads: $\frac{3}{4}$ " BSP/NPT
 $\frac{1}{2}$ " and $\frac{3}{4}$ " BSP/NPT
- Temperature: -20°C +150°C (Std)
-150°C +400°C (Special)

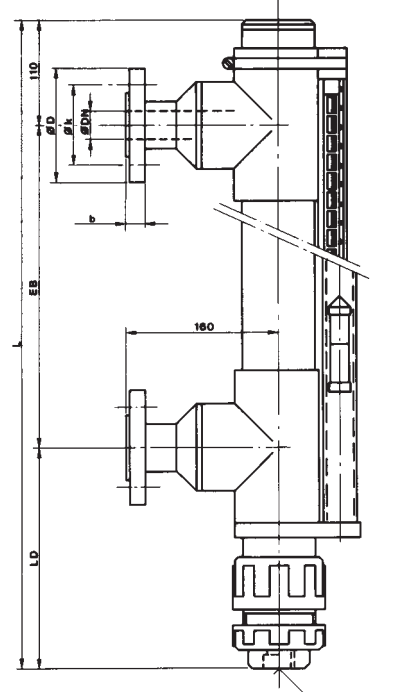
Series LT-15/PTFE
Magnetic Level Indication
PN-16



Technical Data

- Material: PTFE (SS-316 L case)
- Length EB: 6,000mm, max
- Flange: DN-25 PN-16
Others on request.
- Temperature: -60°C +150°C
- Floats: See page 7
- Alarms: LT-AMM, LT-AMD,
LT-AMR & LT-APR
- Output: LTE (0...4-20 mA)

Series LT-14/PVC
Magnetic Level Indication
PN-10



Technical Data

- Material: PVC, PP, PVDF
- Length EB: 6,000mm, max
- Flange: DN-25 PN-10
Others on request.
- Temperature: 0°C +40°C PVC
-10°C +90°C PP, PVDF
- Floats: see page 7
- Alarms: LT-AMM, LT-AMD,
LT-AMR & LT-APR
- Output: LTE (0...4-20 mA)

LD

Depending the model and density.

LT-15

Density (min) Kg/L	0.950	0.800	0.600
LD	286	362	456

LT-14

Density (min) Kg/L	0.950	0.800	0.600
LD	240	310	400

Alarms

LT-AMM

- Painted aluminium enclosure to IP-65.
- Micro-switch based electrical contact.
- Contact Rating: 3A, 220VAC, 50 Hz.
- Hysteresis: ± 6 mm.
- Ambient Temp.: -25°C $+80^{\circ}\text{C}$.
- Mechanical Life: 20×10^6 operations.
- Max Load: 3A @ 220VAC.
0.5A @ 24VDC.

LT-AMD

- Painted aluminium enclosure to IP-65.
- Inductive sensor based alarm for IS applications.
- Voltage: 8VDC.
- Hysteresis: ± 5 mm.
- Ambient Temp.: -25°C $+70^{\circ}\text{C}$.

WE77/Ex Relay Amplifier:

- 1 or 2 contacts rated to EExIIC.
- Contact Rating: 4A 250VAC, 250VA.
- Supply: 220VAC, 45-60Hz.

LT-AMR

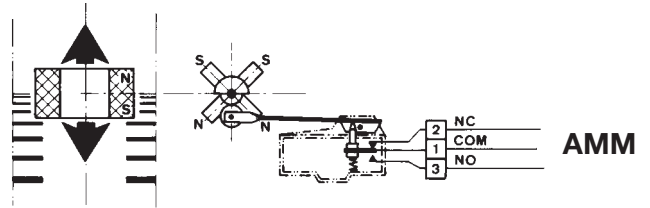
- Painted aluminium enclosure to IP-65.
- Bi-Stable reed switch based electrical contact.
- Hysteresis: ± 6 mm.
- Ambient Temp.: -10°C $+70^{\circ}\text{C}$.
- Contact Rating: 0.5A, 220VAC, 60VA.

LT-APR

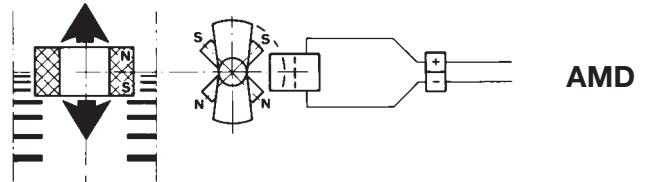
- Painted aluminium enclosure to IP-65.
- Plastic enclosure to IP-65.

ADF Connection (EExdIIc T6)

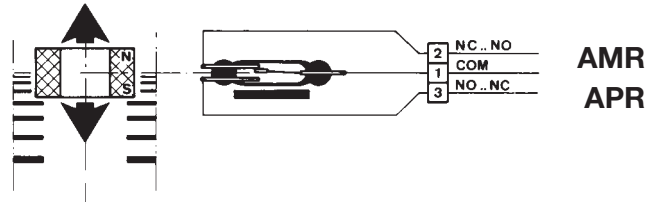
- Explosion proof connection for alarm contacts.



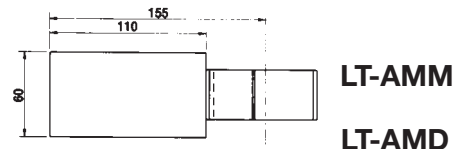
AMM



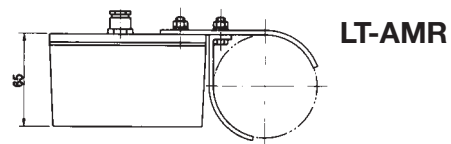
AMD



**AMR
APR**

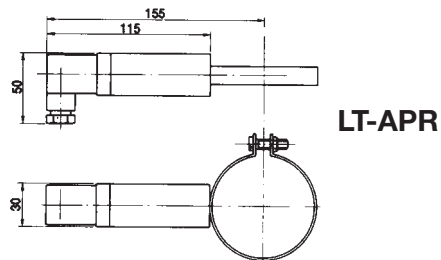


LT-AMM

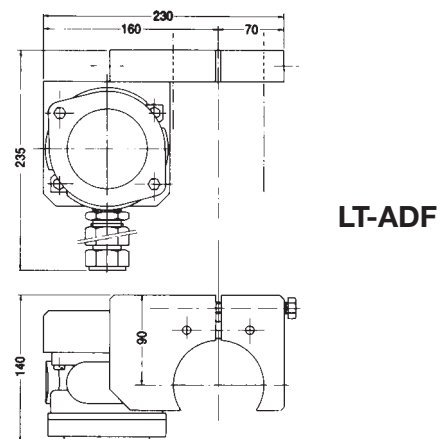


LT-AMD

LT-AMR



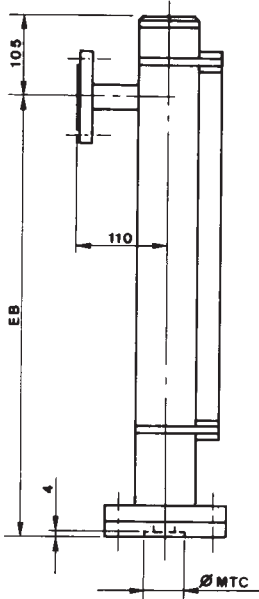
LT-APR



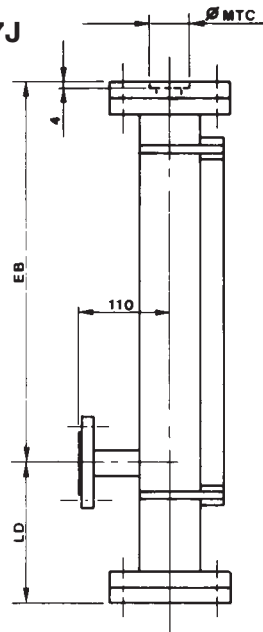
LT-ADF

Special Mountings

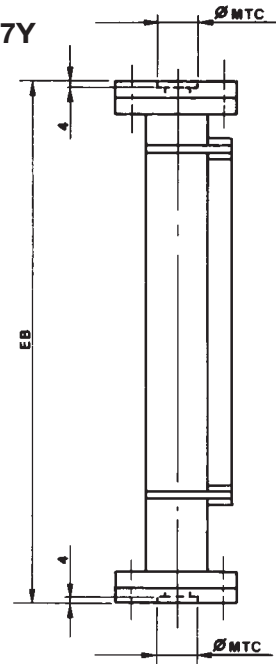
LT-17P



LT-17J



LT-17Y



(MTC is sized for each installation)

LT Floats

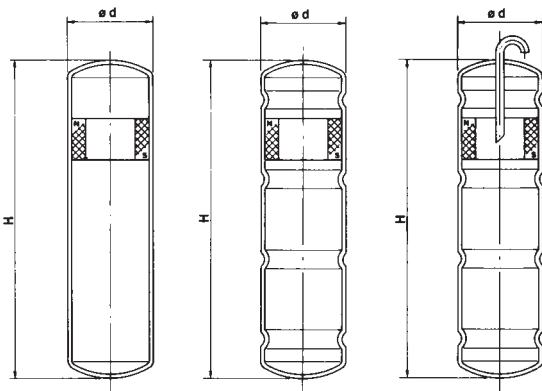


Figure 1

Figure 2

Figure 3

For special applications, the floats can be built with different materials and for different working conditions to those shown.

Important!

The pressurisation of the floats should be carried out slowly to avoid sharp pressure changes. Pressure shocks may deform the floats. This is especially important for floats designed for high pressures and with compensation tubes.

The self regulating floats and floats with compensation tubes must not be used in applications with condensable gases and vapours.

Model	Material	Figure	Density (kg/l) Minimum	PN (Bar)	max T°C	Fd	H
LTG8119	AISI-316	1	0.950	25	200	62	230
LTG8128	AISI-316	1	0.850	16	200	62	280
LTG8138	AISI-316	1	0.800	10	200	62	330
LTG8148	AISI-316	2	0.800	40	200	62	430
LTG8166	AISI-316	2	0.600	25	180	62	430
LTG8190	AISI-316	3	0.800	100	200	62	330
LTG8318	PVC	1	0.800	10	50	62	250
LTG8326	PVC	1	0.600	10	50	62	300
LTG8519	PTFE	1	0.900	10	150	62	280
LTG8527	PTFE	1	0.700	10	150	62	350
LTG8916	PP	1	0.650	10	90	62	250



LTE Series Transmitter, 0...4-20 mA Signal

A 0...4-20 mA output signal from a chain of reed switches and resistors, over the measured range.

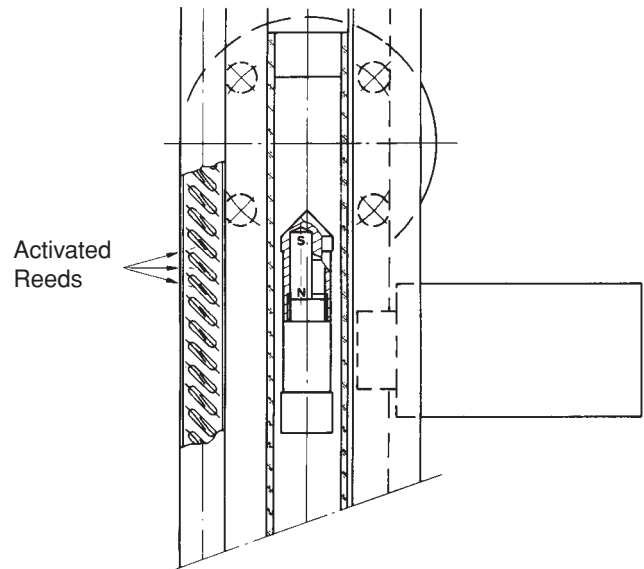
Technical Data

Probe

- Reed separation: 10 mm.
- Max Length: 6 m.
- Temperature (Fluid): -20°C +150°C.

Electronics

- Enclosure: Plastic IP40.
- Mounting: Rail DIN 46277.
- Power supply: 220, 110 & 24VAC; 24VDC. 3A.
- Temperature (Air): -20°C +50°C.
- Connection: 4 Wire.



MC-01 Indicator & Controller

Technical Data

- LCD Screen, 2 lines of 20 characters, 5mm line height.
- Level indication in 7 digits and volume in 7 digits.
- Programmable of High-Low level of alarms.
- All programming via the operating keys.
- Output 4-20 mA
- 4-20 mA input (optional).
- Power supply: 220V \pm 20%/50-60Hz
24V/50Hz
24VDC
- Battery backup of memory with duration of 200 hrs.
- Galvanically isolated control circuit.
- Polycarbonate front cover.
- Membrane style keyboard for: Start/Stop operation, programming, screen & alarm selection.
- Moulded plastic enclosure for panel mounting with protection to IP-64 (IP-65 on request).
- Dimensions 96 x 96 mm (panel cut out 92 x 92 mm)



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