



LEVEL MEASURING

WITH REED CHAIN TRANSMITTER



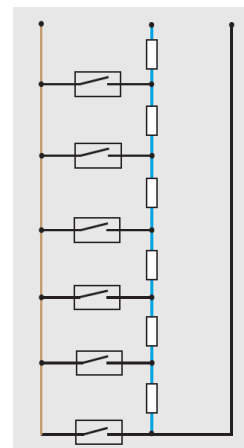
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Introductions

The ARAMAK level transmitters are used for continuous level indication and measurement of all types of liquids in tank/magnetic level gauge. Liquid level measuring sensors utilize a float fitted with permanent magnets to directly transmit information about changes in the liquid level. The sensor float is raised or lowered with the liquid level. The magnetic field exerted by the float magnets operates a reed chain in the guide tube. The output signal is a voltage value proportional to the fluid level.

A range of sensors in different materials and designs, and with different connections, are available for measured-value acquisition.



Applications

Typical industries:

- Oil and gas production
- Petrochemical
- Chemical
- Power generation
- Water and wastewater treatment
- Food and beverage
- Pharmaceutical
- Pulp and paper
- Biotech
- Semiconductor
- Heat transfer fluids - diathermy, thermion and glycol
- Black, green and red liquor
- Refrigerants
- Alcohols
- Caustics
- Chlorine
- Steam condensate - boiler feedwater heater boiler drum level control
- Bitumen
- Vacuum tower bottoms
- Ammonia
- Most liquid to liquid interfaces

Typical applications:

- Oil
- Water
- High and low pressure separators
- Oil and water interface
- Acids - hydrofluoric, hydrochloric, nitric, sulfuric, etc.
- Refined petrochemical - gasoline, propane, butane, ethylene, etc.
- Solvents - acetone, toluene,
- Gas condensate



Technical Data

- **Mounting :**

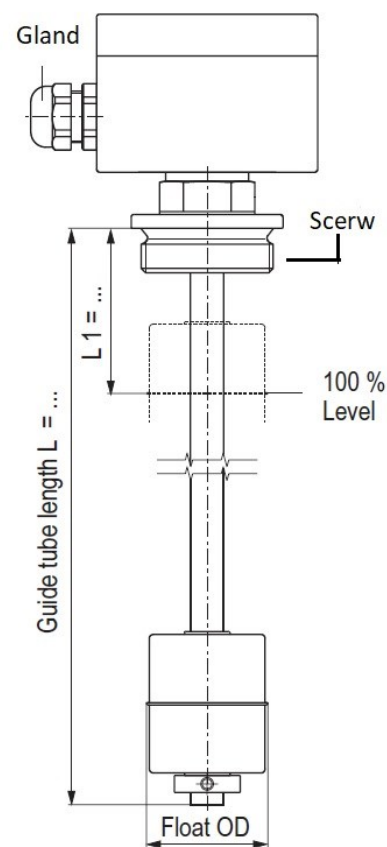
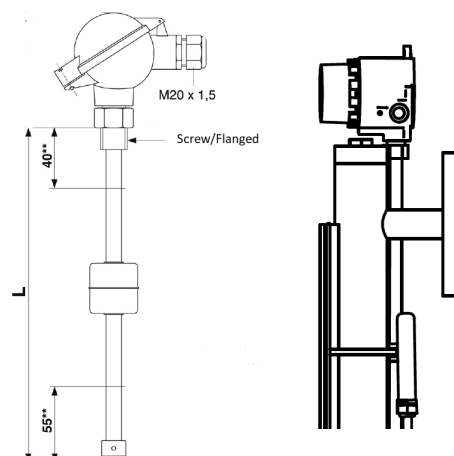
Side Mounted for Magnetic Level Gauge

Top Mount for vessel (Flanged, Screw)

- **Resolution:** 10 mm
- **Hysteresis:** ± 5 mm
- **Liquid density:** ≥ 0.5 kg/l
- **Maximum liquid viscosity:** 1500 cSt
- **Measuring range:** 150 ... 5000 mm
- **Liquid temperature:** -20°C ... $+150^{\circ}\text{C}$
- **Ambient temperature:** -20°C ... $+60^{\circ}\text{C}$
- **Working pressure:** -1 ... 20 bar
- **Ingress protection:** IP68 for housing
- **Connection:**
G1/2" ... G2", 1" ... 2" NPT, DN40...DN125, ANSI 1½" ... 4"
- **Max. resistance of meas. Chain :** $X \Omega$ for each 10 mm

Corrosive/Lightweight Level

- PVC, ECTFE , Polypropylene or PVDF construction, and float





Technical Data

Every liquid level sensor consists of the following three main components. Different versions of these components are available to meet the technical needs of the specific application:

- Guide Tube
- Float
- Process Connection
- Transmitter
- Case

There are also secondary components such as transducers, limit contact sensors, displays and isolating transformers

Guide tube

The guide tube is the heart of the liquid level measuring sensor.

It contains the measuring chain and is available in a selection of materials, diameters and resistance-chain chip spacings.

Materials and diameters:

- Brass (Ø14 mm)
- Stainless Steel (Ø14 mm)
- PVC (Ø20 mm or Eq.)
- PP (Ø20 mm or Eq.)
- Stainless Steel+ PTFE Coated (Ø14 mm)

Process connection

These liquid level measuring sensors are usually attached to the inside of a container cover with a male threaded fitting (3/4", 1"). In such case, the sensor comes with a three-wire connection cable (PVC or silicone jacket) of up to 200 meters in length.

However, if the sensor is to be mounted from the outside of a container and inserted through the container cover, then the sensor must either come with a male threaded fitting that is compatible with the existing tank thread (1", 1-1/2", 2") or be mounted with flanges. The diameter of the tank mounting thread or the mounting flange should be sized so that the sensor float can pass through the opening in the container cover.

Floats

The selection of the float depends on the properties of the fluid to be monitored (corrosive/caustic properties, density), the process parameters (pressure, temperature) as well as the guide tube material and

diameter.

The following float types are available:

Material	Form	Ø (mm)	min. density (kg/m3)	max. pressure (psi / bar)	max. temp. (°C)
PVC	Cylinder	30	700	6	80
		55	650	4	80
		80	450		
PP		55	600		80
		80	500		
PVDF		55	800	120	
		80	700		
Stainless steel	Sphere	45	800	25	200
		2.05 / 52	720	40	

Transmitter:

Level transmitter by means of resistive sensor.

Output signal 4-20 mA, 4-20mA HART, 2 wire @24VDC, with/without Display, compact or DIN rail mounted, for safe area and with ATEX certificate Exd (for case) or Ex ia IIC T6 (for transmitter).



Contact us

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