Datasheet

Magnetic Level Transmitter

(Available with or without Bypass Chamber Assembly)

Arka Instruments LLP

Datasheet

Magnetic Level Transmitter

A Magnetic Level Transmitter is an industrial instrument used for accurate and continuous measurement of liquid levels in tanks and vessels. It works on the principle of magnetic coupling between a float inside the chamber and an external sensing element. As the liquid level changes, the float moves accordingly and transmits the level position as an electrical output signal, typically 4–20 mA, for monitoring and control in automation systems. It is widely used in industries such as chemical, oil & gas, water treatment, and power plants due to its reliability, durability, and low maintenance.

Applications

Consider our transmitters for all your continuous liquid level monitoring needs like Water, diesel, lube oils and fuels, chemical and petrochemical liquids.

Here are just few areas where transmitters can be used.

- Utilities
- Beverage Industry
- Medical
- Pharmaceuticals
- Food Processing
- Breweries, etc.

Level Transmitter-Magnetic Type

Features

- Designed for accurate liquid level measurement and alarm signaling in tanks and vessels.
- Uses an array of magnetic reed switches with a resistor chain inside the guide pipe for reliable level detection.
- Equipped with a microprocessor-based system for digital level indication.
- Supports automatic Feed/Drain control settings for different tank operations.
- Provides configurable High and Low level alarm functions.
- Suitable for various types of liquids across industrial applications.
- Can be used in hazardous areas when connected with an intrinsically safe (I.S.) barrier.

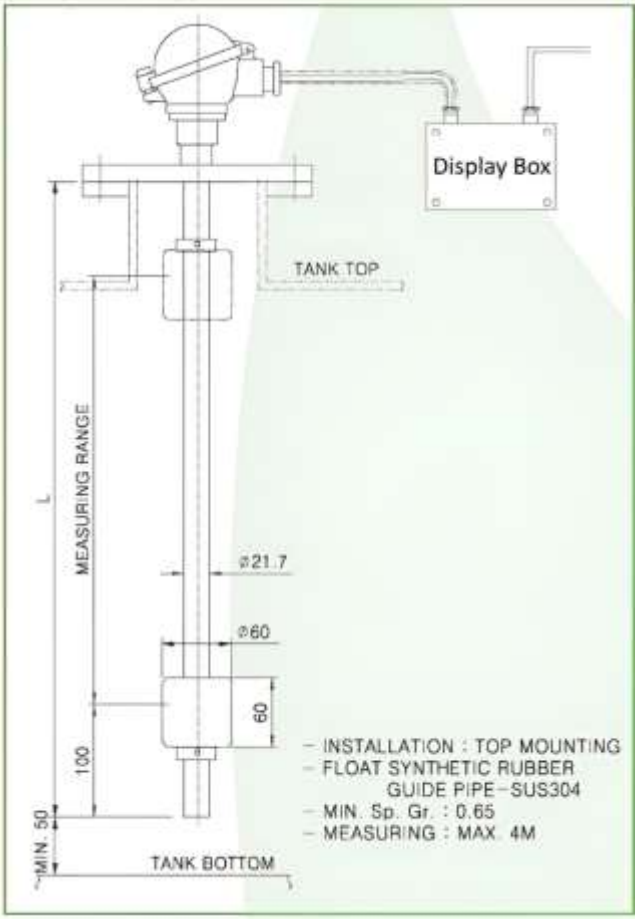
Specifications

Parameters	
Parameter	**Specification**
Overall Length	300 mm to 5000 mm
Measuring Error	± 0.25% of Span
Output Temperature Co-efficient	± 0.007% / °C
Resolution	5 mm / 10 mm
Ambient Temperature	-40 °C to 60 °C
Liquid Temperature Range	-40 °C to 120 °C
Liquid Minimum Density	0.8 g/cm^3
Maximum Pressure	10 Kg/cm^2
Protection Category	Weather Proof IP66 to IS:2147 or Flame Proof Gr. IIA & IIB to IS:2148

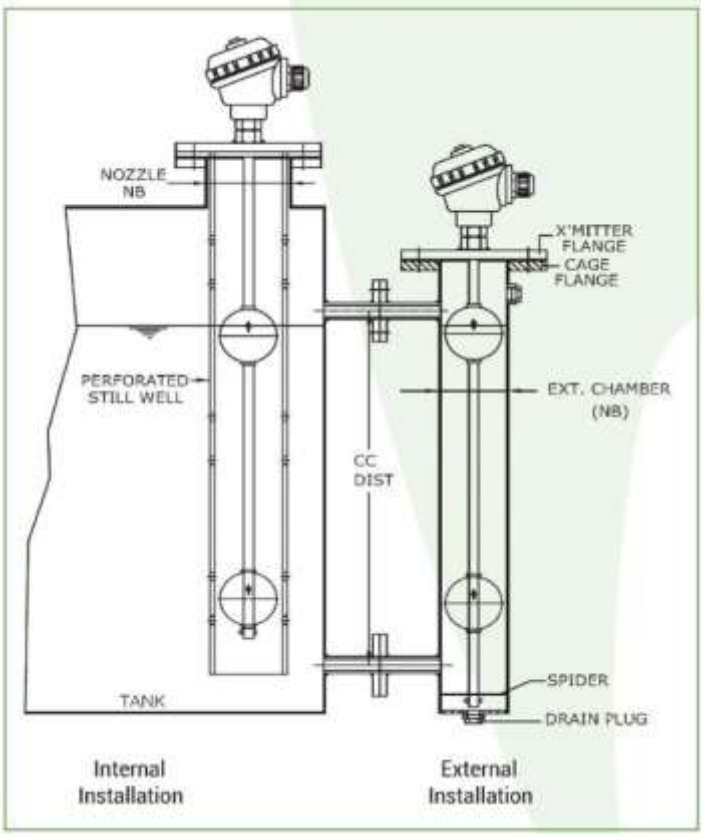
Installation

1) Internal Installation
   Transmitter is top mounted on the tank. A stillwell with perforation is recommended for liquids under turbulence. For fitment of stillwell, ensure that NB of tank nozzle is greater than the diameter of stillwell.
2) External Installation
   Transmitter is top mounted on a chamber, external to the tank. This installation is adopted on the tank, containing mechanical devices like stirrers, ladders & other internals or to overcome space limitation in the tank

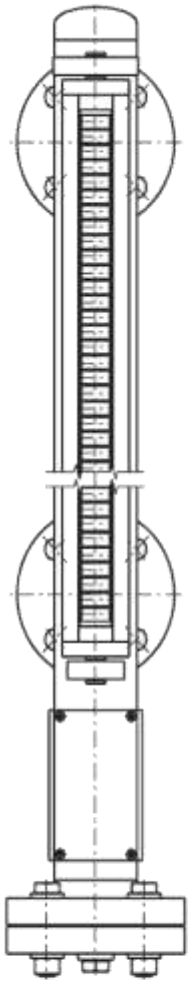
Typical Installation for Level Transmitter-Magnetic Type

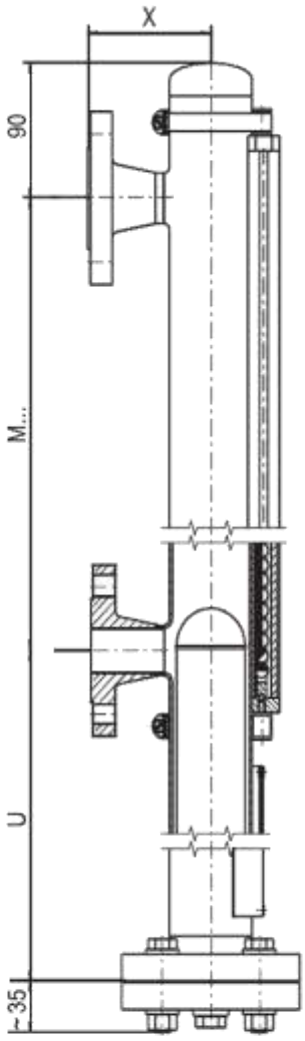


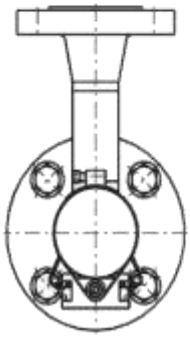
Typical Installation for Level Transmitter -Magnetic Type with Bypass Assembly



Standard Version







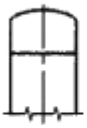
Legend
M = Centre-to-centre distance of the process connections
U = min. 200 mm
X = according to process connection

Specifications	
Bypass chamber	Ø 60.3 x 2 mm, max. 63 bar Ø 60.3 x 2.77 mm, max. 100 bar
Chamber end top	Pipe cap or flange connection ■ Vent screw ■ Vent valve ■ Vent flange → Options see page 17
Chamber end bottom	Flange connection ■ Drain plug ■ Drain valve ■ Drain flange → Options see page 17
Process connections	2 x lateral (options see page 18)
Mounting flange	■ EN 1092-1, DN 10 ... DN 100, PN 6 ... PN 100 ■ DIN, DN 10 ... DN 100, PN 6 ... PN 100 ■ Flange ANSI B 16.5, 1/2" ... 4", class 150 ... class 900
Weld stub	1/2" ... 1"
Threaded bushing	■ G 1/2 ... 1 ■ 1/2 ... 1 NPT
Threaded nipple	■ G 1/2 ... 1 ■ 1/2 ... 1 NPT
Centre-to-centre distance	Min. 150 mm to max. 6,000 mm Larger distances on request
Material	■ Stainless steel 1.4571 (316Ti) ■ Stainless steel 1.4401/1.4404 (316/316L)
Max. nominal pressure	100 bar
Temperature range	-196 ... +450 °C
Float	■ Cylindrical float ■ Corrugated float
Magnetic display	Standard version: < 200 °C High-temperature version: > 200 °C

Special versions on request

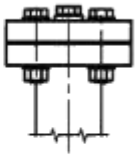
Options for chamber ends

Chamber end top (examples)

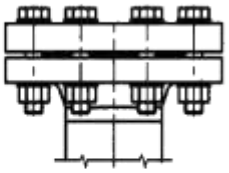


1
Pipe cap without venting

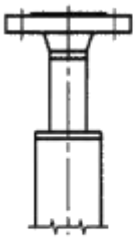
2
Pipe cap with vent screw G 1/2"



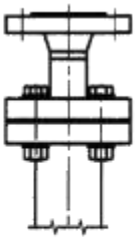
3
Flange connection with vent screw G 1/2"



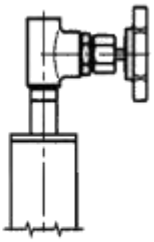
4
Flange connection e.g. sealing faces groove/tongue per DIN 2512



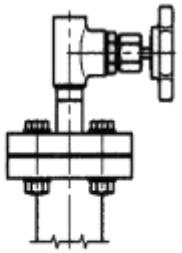
5
Pipe cap with vent flange



6
Flange connection Vent flange

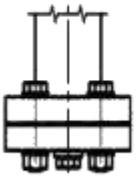


7
Pipe cap with vent valve

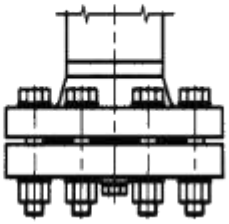


8
Flange connection with vent valve

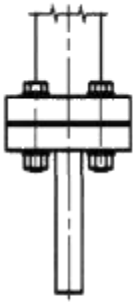
Chamber end bottom (examples)



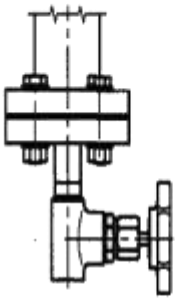
9
Flange connection with drain plug G/NPT 1/2"



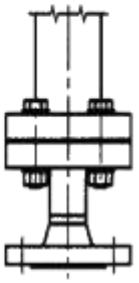
10
Flange connection e.g. sealing faces groove/tongue per DIN 2512 with drain plug G 1/2"



11
Flange connection with drain nozzle



12
Flange connection with drain valve

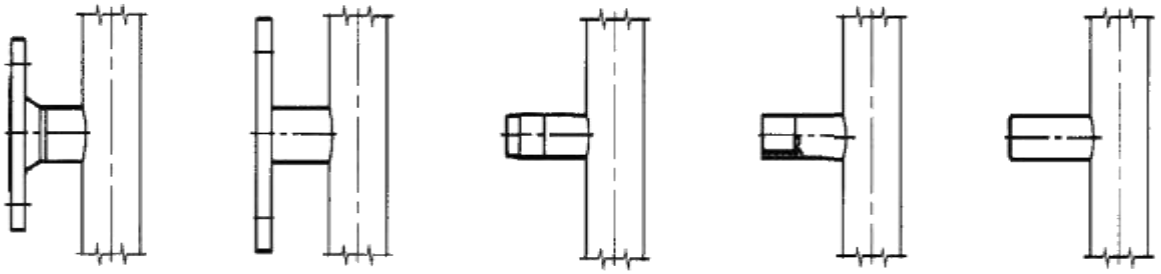


13
Flange connection with drain flange

Other options on request

Option process connection

Process connection (examples)



14
Welding neck flange
up to DN 25

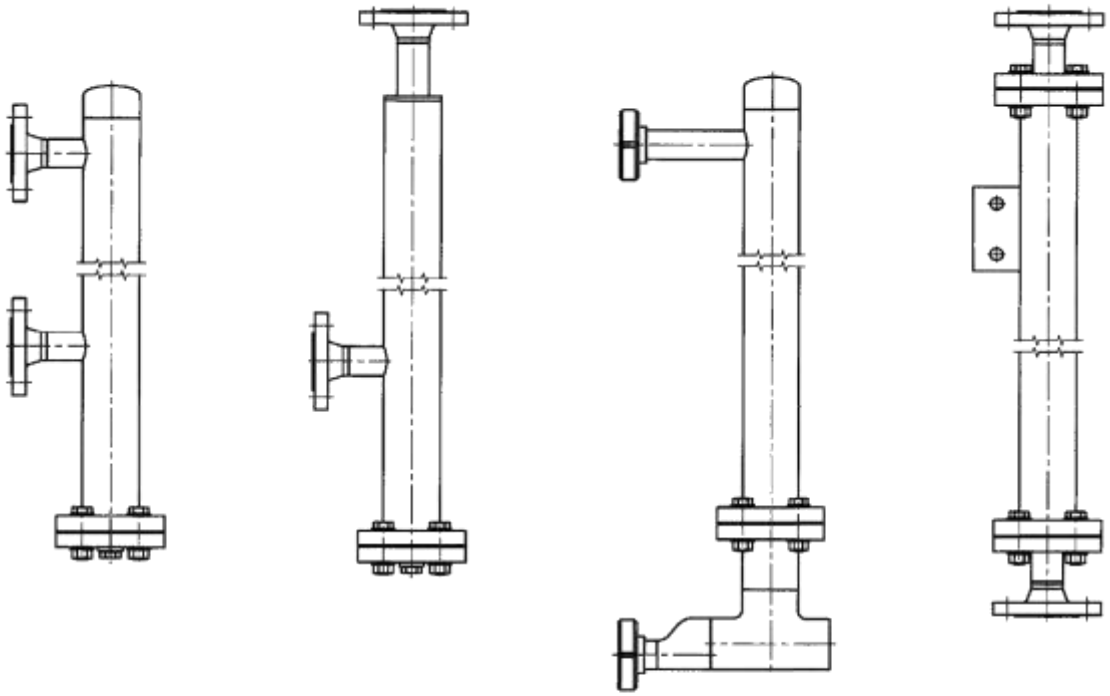
15
Blind flange
above DN 32

16
Threaded coupling GN ...
(male thread)

17
Threaded coupling GM ...
(female thread)

18
Weld stub S ...

Complete instrument (examples)



19
Standard version
Process connections 2 x lateral

20
1 lateral process connection
1 vertical process connection
(top)

21
2 process connections per
DIN 11851
Lower process connection
via eccentric reducer

22
2 vertical process
connections (top/bottom)
Option: Support bracket

Other connections on request