

HYDROSTATIC PRESSURE TYPE LEVEL TRANSMITTER

HT-100P Series



ASME



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HITROL CO., LTD.

Overview

HT-100P Series is a Hydrostatic Pressure Type Level Transmitter installing on top or side of tank continuously measures the liquid levels in the tank. It measures hydrostatic pressure and converts it to the current output, DC 4~20mA. It can be widely used in various industries such as PC Tank, Dam Surge Tank, Sluiceway, River and Wastewater without special work.

Characteristics

- Installation on top or side of tank
- Easy installation and maintenance
- No effect by a conductivity or composition change of medium
- High sensitive sensor is used.
- NAMUR NE43 is applied.

Operation Principle and Composition

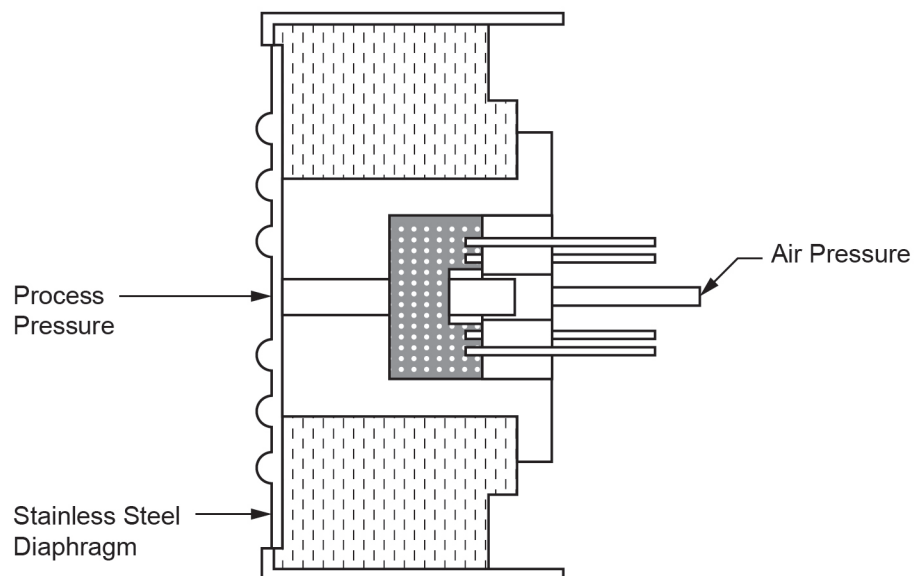
- Piezoresistive Pressure Transducer is a sensor to continuously measure a hydrostatic pressure of a liquid according to the certain height of the liquid column. Hydrostatic pressure is calculated using the equation given below.

$$P = \rho \times g \times h$$

[P= Hydrostatic Pressure, ρ =Density of Liquid, g=Gravity of Acceleration, h=Height of Liquid Column]

- As seen in above equation, if density of liquid does not change, measured hydrostatic pressure is detected as an electric signal proportional to the height of liquid column, since the height of liquid column is only variable.

Piezoresistive Sensor

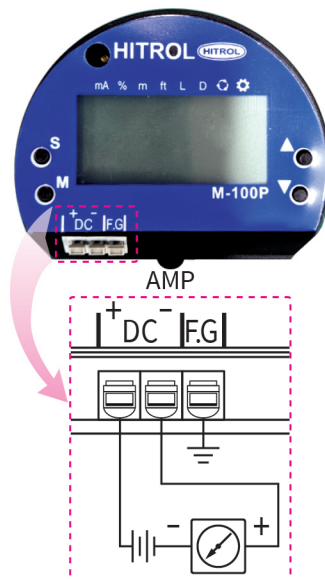


Specification

► Specification		HT-100PT	HT-100PS
Installation		Top	Side
Process Temperature		Max. 70°C	
Process Pressure		ATM	
Ambient Temperature		-20°C ~ +60°C	
Power Supply		DC 24V	
Output		DC 4~20mA(2~wire)	
Enclosure		Weather-Proof(PBT: IP65, AL.: IP66)	
Process Connection		50A JIS 10K RF (Std.)	
Material	Housing	PBT(Std.), AL.	
	Process Connection	SUS 304, SUS 316L	
	Sensor	SUS 316L	
	Cable	Polyurethane	None
Cable Entry		PF 1/2"(F) (Std.)	
Accuracy		±0.25% of F.S	
Measuring Range		5m (Std.), 30m (Max.)	

► Wiring

- - When wiring of power supply, + -should be wired correctly.
- - Power source should be DC +17V ~ +40V.
- - Power should be applied after completion of installation and wiring.



► **Order Code** can be printed at our website (www.hitrol.com)

Setting

- Zero/Span adjustment is not required if there is no change of density or measuring range (Factory set according to measuring range and density of the medium).
- Zero/Span can be adjusted within $\pm 10\%$ of full scale if there is any change of density or measuring range caused by change of process condition.
- In order to set 0%, the pressure sensor should be positioned in atmospheric and turn the Zero Volume to current output of 4mA.
- In order to set 100%, the pressure sensor should be installed in the tank with filling of liquid to the desired full range level and turn the Span Volume to current output of 20mA.

Caution

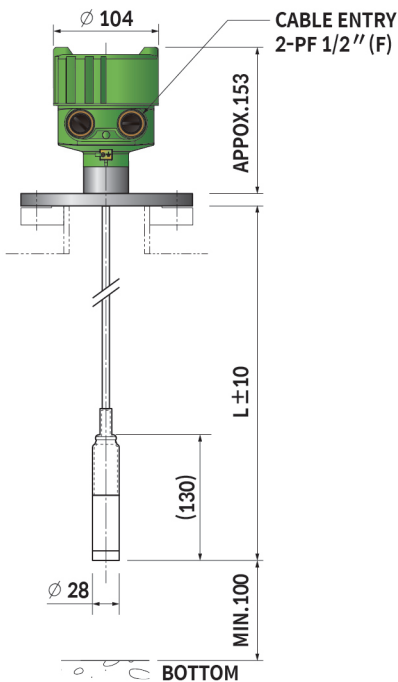
- 1) Touching or pushing to the diaphragm receiving pressure by anything of sharp object such as awl should be avoided and pay more attention not to damage to the sensor during installation.
- 2) For signal transmission cable, the shield cable should be used.
- 3) Except wiring or setting, the housing cover should be always closed.

Maintenance

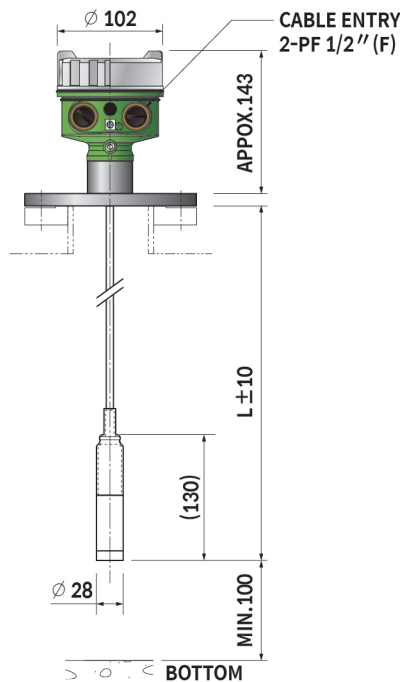
- 1) The Diaphragm should be periodically (about 2~3 months) cleaned using fresh water in order to avoid blockage of the diaphragm by any substance.
- 2) Zero/Span can be adjusted within $\pm 10\%$ of full scale if there is any change of density or measuring range caused by change of process condition.

Dimension

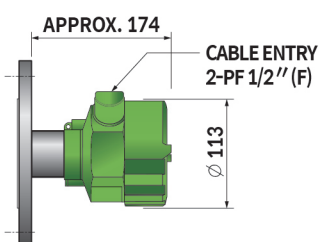
AL. Housing



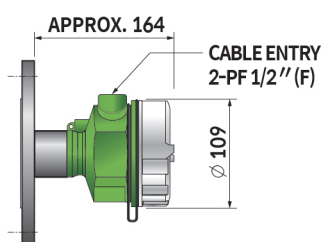
PBT Housing



AL. Housing



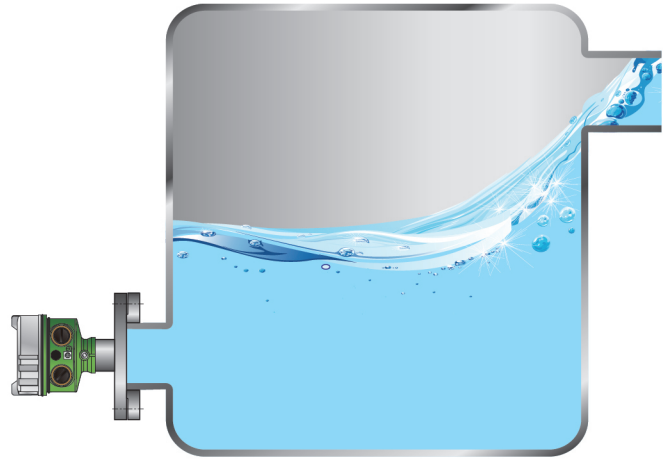
PBT Housing



- Actual product may have a tolerance slightly.

Installation

- Below recommendation should be considered when installation.



Product should be installed at the place far from inlet in order to avoid the malfunction.



When there is flow or sloshing in the measured object or there is a stirrer around the sensor, the protective tube type should be used.



Valve should be installed between the tank nozzle and sensor when the installation to the side of tank.

HYDROSTATIC PRESSURE TYPE LEVEL TRANSMITTER

HT-100P Series

01

Easy Installation to where the space is narrow

02

Suitable for measurement of wastewater

03

High Accuracy and Easy Setting

04

Various Combination Unit
Digital Indicator (HI-100D & HTA Series)



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* Design of product can be changed for upgrade without notice.