

Product Information

Pharmaceutical

Magnetostrictive Liquid Level Transmitters



SANITARY BY DESIGN

Level Plus® LP-Series transmitters have been used in sanitary applications for over 30 years. With our extensive sanitary applications knowledge, we have developed a comprehensive line of options to configure our level transmitters to operate in almost any vessel. Our design has 3-A approval and our wetted parts are available in sanitary polish (Ra 25 µin., 0.64 µm) and electropolished (240 Grit/Ra 15) finish. Temposonics also offers numerous sizes of Tri-Clamp process connections as well as four different standard end plug designs. The NEMA housings are designed for cleanability and wash down applications with specially slotted and self draining heads.

Overview

- Output
 - 4 to 20 mA
 - HART®
- 3-A Approval
- Sanitary Finish (Ra 25 µin., 0.64 µm)
- Electropolished Finish (Ra 15 µin., 0.38 µm)
- NEMA 4X Rated
- Wetted Parts: 316L Stainless Steel or Nickel Alloy C-276
- Intrinsically Safe and/or Explosion Proof

MEASUREMENT IN HARSH CONDITIONS

No other technology offers better accuracy under harsh conditions than magnetostrictive technology. The SoClean® level transmitter is immune to the effects of foaming, misting, steam, condensation, and agitation. Temposonics level sensors are also not affected by changes in dielectric constant as liquids change during a mixing process. The secret to the success is that the sensing element for magnetostrictive technology is isolated from the process inside of the pipe and this allows for better performance in harsh applications. Stop wasting time and money on recalibrating and recommissioning the wrong level technology. Move to a better product and the SoClean level transmitter for Bioreactors, CIP tanks, and other applications.



Fig. 1: SoClean® transmitter

BIOREACTORS

The details of the processes in bioreactors is proprietary to each company but the general process of mixing different chemicals is understood. In order to achieve the correct vaccine, medicine, or compound the accuracy requirements are extreme. The SoClean level transmitter can meet these requirements with its inherent +/- 1 measurement accuracy even under harsh conditions. The measurement accuracy does not change due to foam, shifts in dielectric constants, or agitation which are all common in a bioreactor. The proven performance of the SoClean level transmitter and its hygienic design have allowed for validated installation in numerous bioreactors.



Fig. 2: CIP Tank

CIP TANKS

CIP (clean-in-place) tanks are used for mixing concentrated cleaning agents with water for the CIP process to clean the bioreactors and piping. The dosing and mixing of the concentrated cleaning agent are critical. The SoClean level transmitters offer high accuracy for tracking dosing of the chemical and a rugged 5/8" OD pipe that is able to stand up to high agitation without deforming or losing accuracy. Temposonics has replaced lots of lower cost alternatives when their cheap pipes were not able to stand up in the harsh environment. Don't pay for what might work, pay for quality that has 30 years of working with Temposonics.

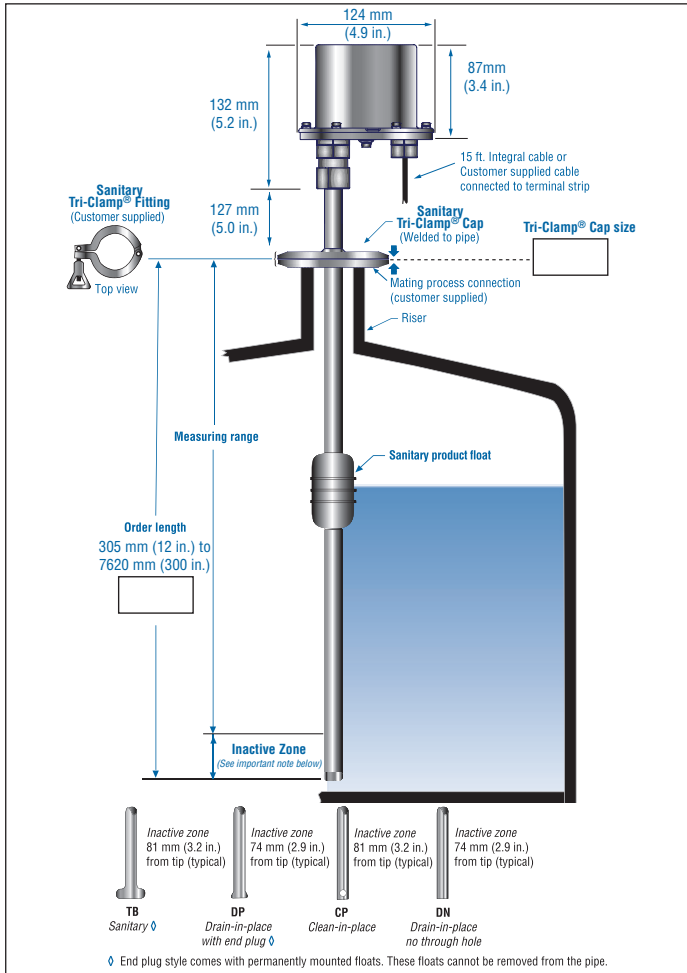


Fig. 3: Sanitary Pipe Installation and Mounting Reference

MINIMAL INACTIVE ZONES

What good is a level transmitter if it cannot measure to the bottom of the tank? The Level Plus SoClean® transmitter is able to measure as little as 1 inch (25 mm) of liquid at the bottom of the tank when equipped with the correct end plug and float. Other technologies are limited to almost a foot of inactive zone at the bottom of their transmitters. The same problem occurs at the top of the tank where either you suffer from a large dead zone or you have to add a riser pipe for mounting. If you cannot measure it then you cannot use it.

NO MAINTENANCE

The LP-Series is designed for simplicity and ease of use. Once the level transmitter is installed in the tank it should not have to be removed. Temposonics does not require recalibration or routine maintenance. If something does go wrong the level transmitters are designed to be fully field replaceable. This means if the electronics or the sensing element becomes damaged, they can easily be replaced from the top of the vessel without removing the pipe assembly. This design has been developed to reduce downtime or draining the tank.

CIP, SIP & AUTOCLAVE

Temposonics has liquid level transmitters installed in applications that utilize clean-in-place (CIP), steam-in-place (SIP), and autoclaves for sterilization. The hygienic design has allowed all of Temposonics's customers to validate the cleanability of the wetted parts of the level transmitter in their processes. The customers are across multiple sanitary industries including pharmaceutical, biotechnology, and food & beverage. A unique design feature of the LP-Series is the ability to remove all the electronics without removing the wetted parts from the tank or breaking the seal on the tank. With the electronics removed the wetted parts can be kept in the tank at elevated temperatures without any risk to damaging the electronics or having to open the tank and risk contamination.

THE COST OF INACCURACY

As the cost of the pharmaceutical liquid being measured rises, so does the cost of inaccuracy. The cost of the main ingredient can be very expensive, sometimes costing hundreds if not thousands of dollars per gallon. So what happens if you add too much or too little of the main ingredient? Either your product no longer functions correctly, or you have wasted money. Multiply this over numerous batches through the course of a year you can easily lose millions of dollars. The choice is simple. Purchase an accurate Level Plus SoClean® transmitter today or pay every time you make a batch.

OTHER APPLICATIONS

Temposonics has mentioned only a few of the possible applications where level transmitters can be used. There are hundreds of more applications and the only limitation is the creativity in applying the technology. Temposonics can be used for storage, mixing, dosing, monitoring, overflow prevention, and many other types of applications. If you have an idea and would like to discuss it please contact Temposonics at the contact information on the back cover.

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