

Tech-Tip **Ultrasonic Stand-Pipe Installation Overview**

Introduction

Before starting, please read the sensor manual thoroughly. Substantial foam, process turbulence or limited measurement space can be challenging application factors to an ultrasonic level sensor. An easy approach to limit space and isolate the sensor measurement away from foam and turbulence is to install the sensor within a stand-pipe. The following tech-tip addresses proper stand-pipe installation.

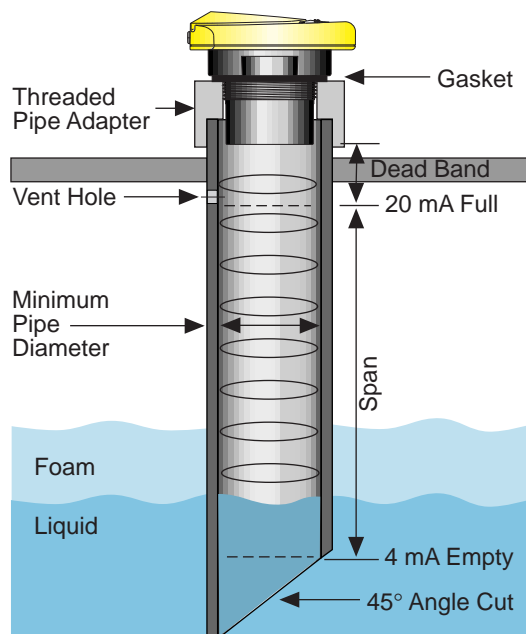
Pipe Selection

Determine which product series you have by identifying the first four digits of the part number (ie: LU12). For optimum performance, use a stand pipe minimum diameter that is consistent with the below pipe selection chart. If the application liquid has light particulate or coating characteristics that can adhere to the inner pipe wall (ie: wastewater), increase the recommended pipe diameter by 1". If the particulate or viscosity is high enough to potentially clog or impede the sensor's measurement in the pipe (ie: sodium hydroxide), then a stand-pipe installation is not recommended.

Pipe Selection Chart				
Product		Pipe Diameter		
Series	Name	≥2"	≥3"	≥4"
LU74	EchoSwitch		✓	
LU73			✓	
LU72		✓		
LU71		✓		
LU60	EchoPump		✓	
LU50	Echotouch			✓
LU30			✓	
LU20			✓	
LU14			✓	
LU13	MiniMe		✓	
LU12		✓		
LU05	MicroSpan	✓		

Pipe Assembly

Select a straight, uniform pipe section which has a continuously smooth inner diameter with no breaks or couplings that may impede the measurement. Install an appropriate threaded adapter on one end of the pipe. If required, install the necessary threaded reducer bushing (ie: 3" to 2" or 2" to 1") that matches the sensor's mounting threads. Determine the overall stand pipe length which is a combination of the installed sensor height above the tank, and distance to the bottom of the tank at the point of sensor installation. Cut the pipe to length with a 45 degree angle cut. The angle makes the level inside the pipe less susceptible to pressure changes induced by turbulence at the pipe entrance. Using a 1/4" bit, drill a vent



hole for pressure equalization near the top of the pipe located in the dead band of the sensor. Depending upon your requirements, the hole may vent to atmosphere or the tank. A single vent hole is sufficient for most applications. A second vent hole may be needed for unusually turbulent and/or fast fill or empty scenarios. After drilling, make sure that the pipe inner diameter is smooth and free of residual burr material.

Pipe Installation

Locate the stand pipe away from any significant sources of turbulence such as mixers or fill pipes that induce foam or agitation in the pipe. Make sure that the pipe is installed perpendicular to the liquid surface.

Sensor Installation

Please refer to the sensor owner manual.

