

**LONGRUN**

**ULTRASONIC  
FLOWMETER  
SAMPLE BOOK**

**TYPE:LRF-3300S**  
Concentrating on Flow  
Measurement

**LONGRUN**  
**Industrial Instrument**  
**Co., Ltd**



## Introduction



LRF-3300S is a wall-mount, Insertion-type ultrasonic flowmeter which use the transfer time technology. At the same time LRF-3300S has our unique calculate software to ensure the high accuracy and low velocity response. Suitable for measurement in many different working conditions. Passed our test of 50000 hours continuous work without any fault.

0.5 Clamp-on type

Weather-proof robust housing material makes it corrosion-resistant, rust-resistant, and freeze resistant. Designed to be user friendly, 304 stainless steel insertion transducer easy to operate. Suitable for measurement in many different working conditions.



## Illustrative



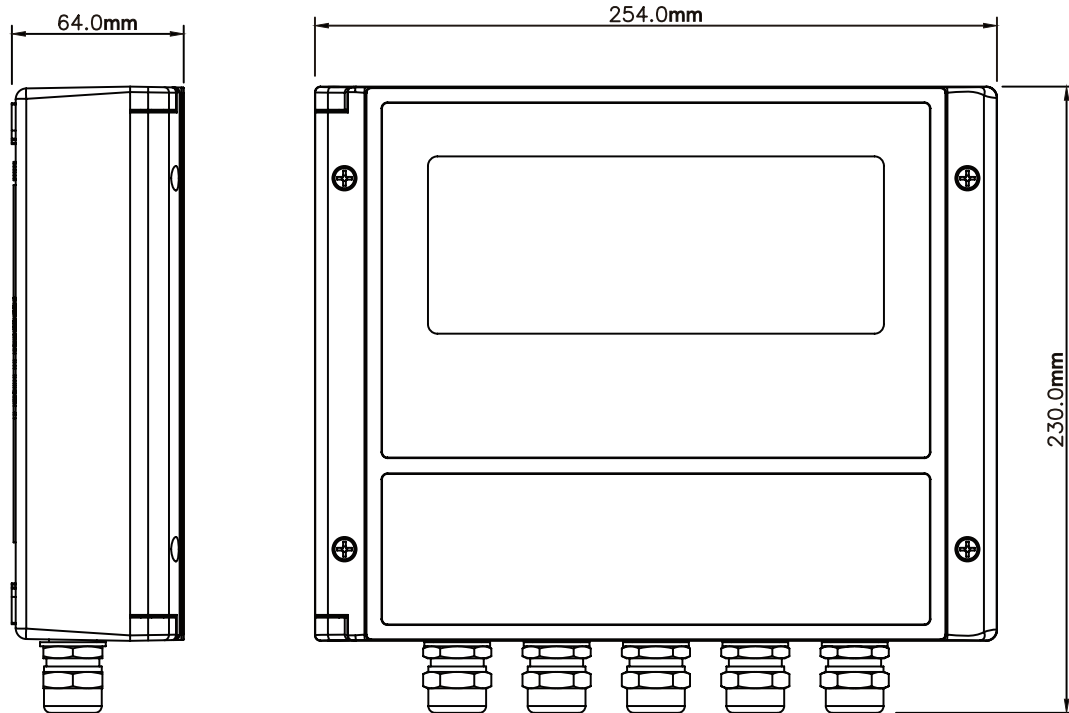
## Specification

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Performance	
Flow range	$\pm 0.09\text{ft/s} \sim \pm 40\text{ft/s}$ ( $\pm 0.03\text{m/s} \sim \pm 12\text{m/s}$ )
Accuracy	$\pm 0.5\%$ of reading (for $\pm 1.5\text{ft/s} \sim \pm 40\text{ft/s}$ )
Repeatability	0.1% of measured value
Linearity	$\pm 0.5\%$
Pipe size	DN25mm to DN5000mm(A pair of sensors)
Function	
Outputs	Analog output: 4~20mA, max load 750 $\Omega$ . Pulse output: 0~9999Hz, OCT, (min. and max. frequency is adjustable) Relay output: SPST, max 1Hz,(1A@125VAC or 2A@30VDC)
Communication	RS232&RS485
Memory	TF card (Max 8G)
Power supply	90 to 245 VAC, 48 to 63 Hz. Or 10 to 36VDC
Display	240*128 back lit LCD
Temperature	Transmitter: $-14^{\circ}\text{F} \sim 140^{\circ}\text{F}$ ( $-20^{\circ}\text{C} \sim 60^{\circ}\text{C}$ ) Transducer: $-40^{\circ}\text{F} \sim 266^{\circ}\text{F}$ ( $-40^{\circ}\text{C} \sim 130^{\circ}\text{C}$ )
Humidity	Up to 99% RH,non-condensing
Physical	
Transmitter	IP65
Transducer	IP68 Encapsulated design Double-shielded transducer cable Standard/maximum cable length:30ft/1000ft(9m/305m)

## size and weight

### Transmitter size



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### Transmitter weight



Transmitter weight:  
3.62kg

# LRF-3300S Ultrasonic Flowmeter

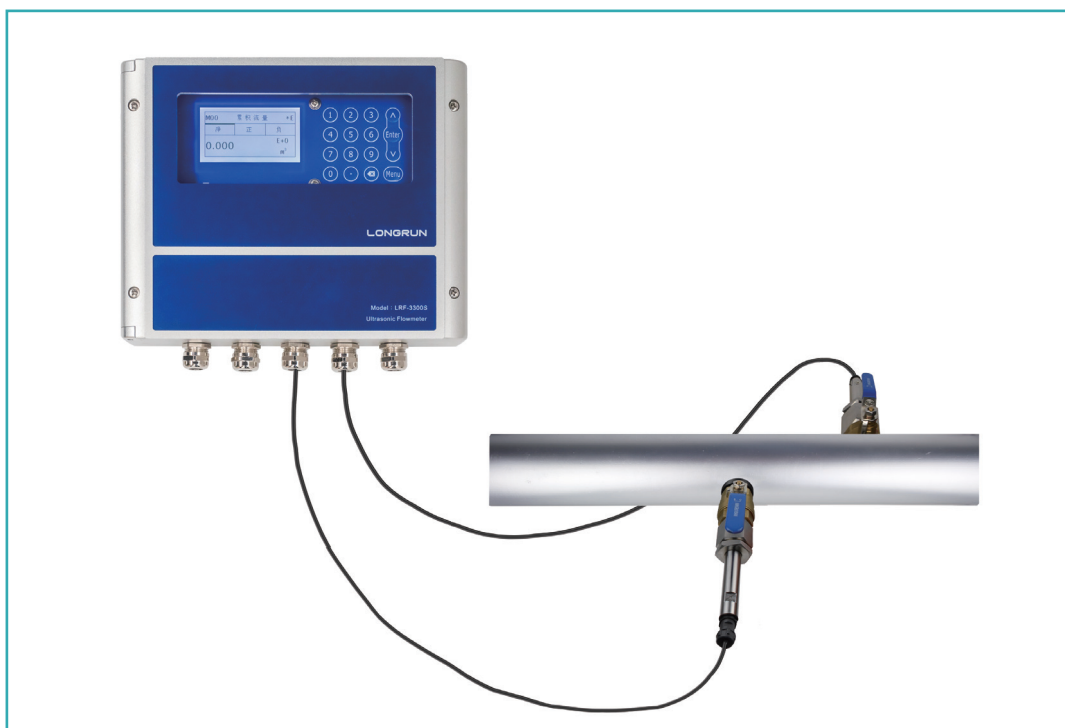
- Transducer weight

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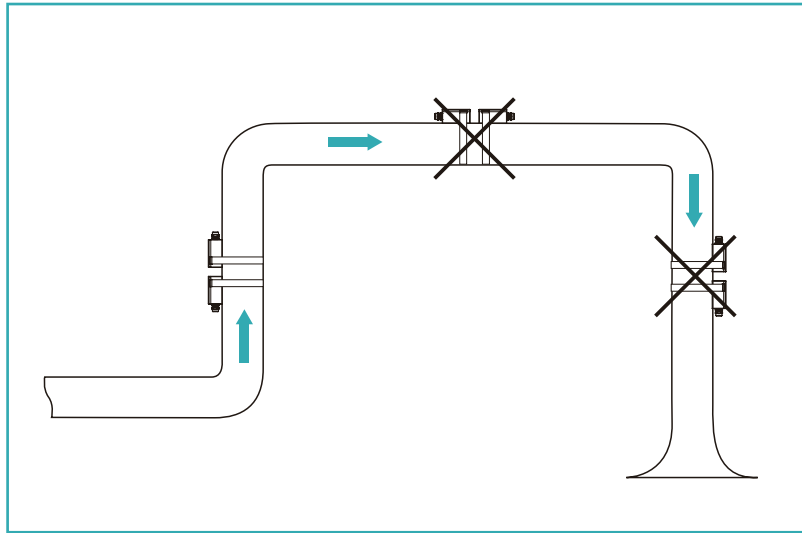
Transducer weight:  
2.83kg

## Installation diagram



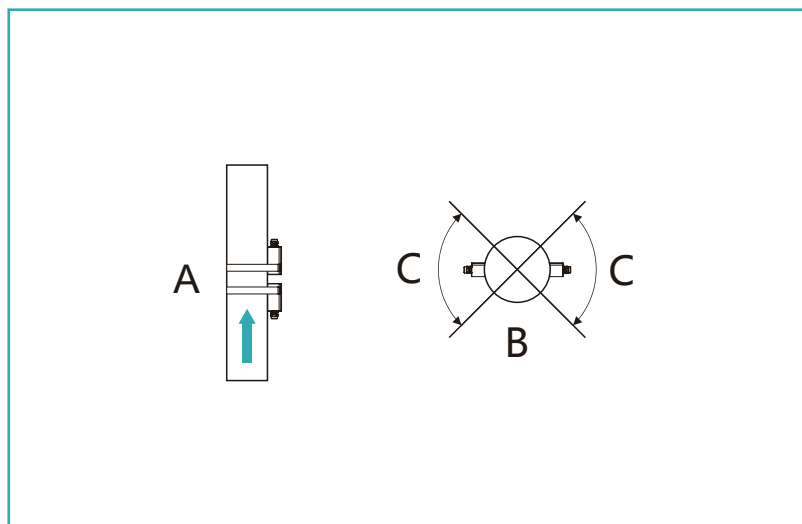
## Installation site selection

The first condition for ultrasonic flow meter is the pipe must be full of liquid, the bubbles will greatly influence the accuracy of the measurement, please avoid the follow installation position:



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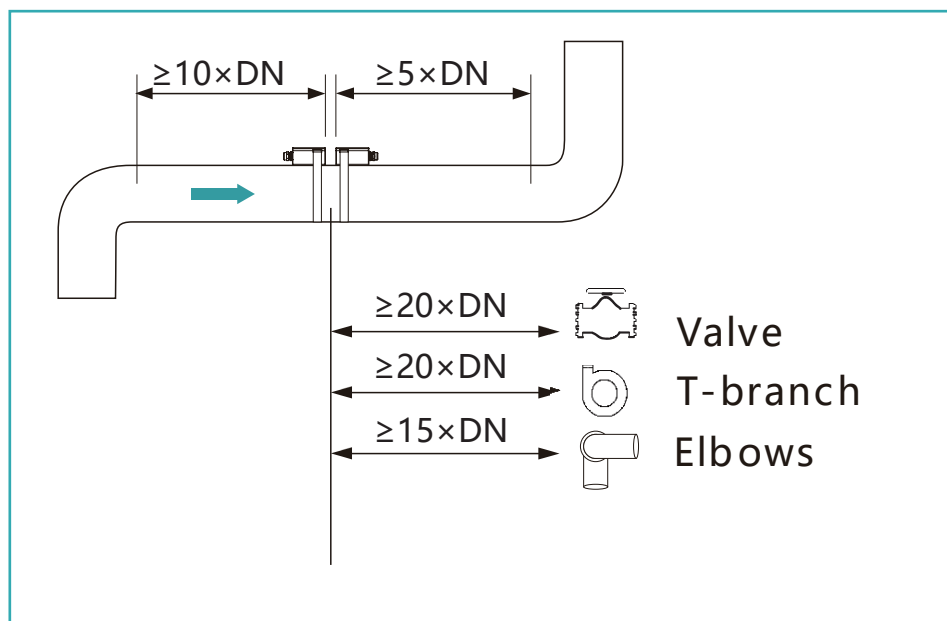
The suggestion installation area is as following:



- A is for upright pipeline, please notice the water direction is from the bottom to top.
- B is for horizontal pipeline, the transducers need to be installed inside the C area, angle for area C, max 120°.

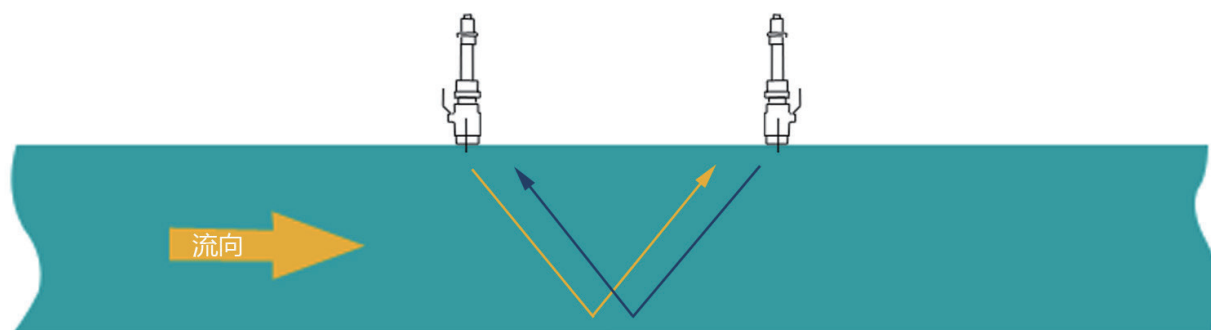
## ■ Straight pipe demand ■

We suggest avoiding the valve, T-branchpipe and elbows if the condition allow. Please satisfied the hardest position installation requirements when you face more than one interfering resource.



## ■ Measuring principle ■

Transfer time technical means the ultrasonic signal from the transducer is transmitted and received through the moving liquid, there will be a difference between the upstream and downstream transit time, which can be used to calculate flow and velocity.





## Ordering confirmation

Model	Transmitter
LRF-3300S	Ultrasonic flowmeter Wall mount Flow range : $\pm 0.01\text{m/s} \sim \pm 12\text{m/s}$ Accuracy : $\pm 0.5\%$ of the measure value Repeatability: 0.1% of the measure value Display: 240*128 backlit LCD Power supply: 90-250VAC, 48-63Hz or 10-36VDC Output: 4-20Ma, OCT, Relay Communication : RS232/RS485, Modbus
Code	Output
1	OCT, Relay, RS232/485, 4-20mA
2	OCT, Relay, RS232/485, 4-20mA, RTD
Code	Transducer
TT05	Insertion, IP68. Operating temperature: $-40\text{ }^{\circ}\text{F} \sim +266\text{ }^{\circ}\text{F} (-40\text{ }^{\circ}\text{C} \sim +130\text{ }^{\circ}\text{C})$
XXX	Transducer cable length
030	Standard length 30ft (9m)
XXX	Max length to 1000ft (305m)
Code	Temperature sensor
PT1000	Pt1000 temperature sensor

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Standard model: LRF-3300S - 2 - TT05 - 030

Description: Standard ensure Insertion-type ultrasonic flowmeter, OCT, Relay, RS485, 4-20mA, 30ft cable.