



Ceryificates



XI'AN YUNYI INSTRUMENT COMPANY LIMITED



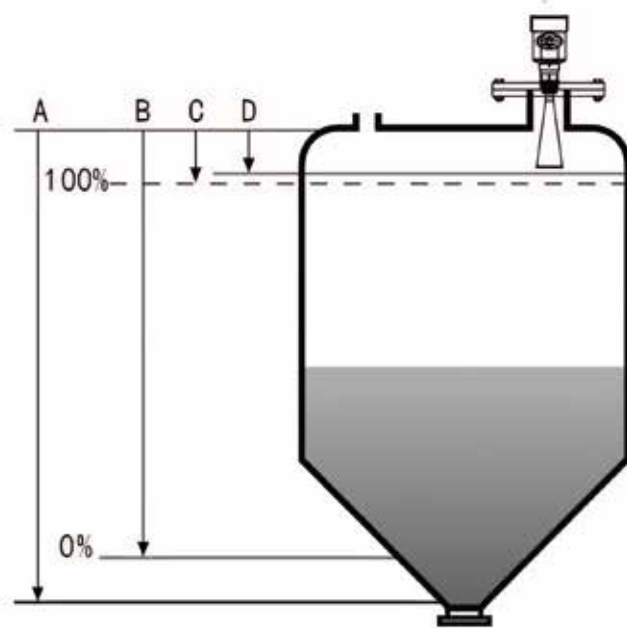
1. Pressure Transmitter
2. Pressure Guage
3. Pressure Calibrator
4. Dead Weight Tester
5. Level Transmitter
6. Flow Transmitter
7. Temperature Transmitter
8. Density Meter

Product overview

Sensor is 26G High Frequency radar level measurement instrument, measure the maximum distance to 70 meters. Antenna being further optimized, fast new microprocessor could be higher-speed signals processing, makes the instrument can be used in reactors, solid-state storage bin and some complicated measuring conditions.

Principle

Radar antenna send narrow microwave pulses and pass antenna transfer downward. Microwaves reflected back into contact with the surface being measured, only to be again received by the antenna system will automatically transmit signals to the electronic circuit part converts position signal (because the microwaves spread extremely quickly, reaches its destination and return receiver by reflection of electromagnetic waves it back and forth the length of time is almost instantaneous).



A Setting Range

B Lower position adjustment

C Higher position adjustment

D Blind Zone Span

Measurement of the Datum is: Bottom surface of thread or seal surface of flanges.

Note: when use of radar level meter, please make sure the highest level not enter blind zone of measurement (likes picture show D zone.)

26G Radar Level Meter Features:

Antenna size is small, easy to install; non-contact radar, no abrasion, no pollution. Which is almost not influenced by corrosion and foam. And virtually unaffected by water vapor, temperature and pressure changes in the atmosphere.

Serious dust environment has little effect on high frequency level meter. Shorter wavelength, and has a better reflection on inclined solid surface. Beam angle, energy concentration, while enhanced echo and to avoid the interference. Measure blind spots smaller canisters measure will achieve good results.

The low noise ratio, even in case of fluctuations can get better performance.

High frequency is the best choice for measuring solids and low dielectric constant.

Instrument Introduction

YLR806A1



Application: All kinds of corrosive liquids Measurement Span: 0 to 20 meters

Process Connection: Thread or Flanges

Medium Temperature Span: $-40 \sim 120^{\circ}\text{C}$

Process Pressure: $-1\text{Bar} \sim 3\text{ Bar}$

Accuracy: $\pm 5\text{ mm}$

Proof Grade: IP67

Supply: DC24V or 85-265VAC

The Frequency Span: up to 26G Hz

Explosion proof grade: Exib II CT6 Gb

Signal Output: 4...20mA/HART (2 wires/4 wires) RS485/Modbus

YLR806A2



Application: Temperature resistant, pressure resistant, slightly corrosive liquids.

Measurement Span: 0 to 30 meters 12m/15meters (powder); 18m/20m(particle); 22m/25m(lumpmaterials)

Process Connection: G1-1/2" Thread or Flanges

Medium Temperature Span: $-40 \sim 150^{\circ}\text{C}$

Process Pressure: $-1\text{Bar} \sim 40\text{ Bar}$ (Thread and Flat flange)

$-1\text{Bar} \sim 1\text{ Bar}$ (Multidirectional flange)

Accuracy: $\pm 3\text{mm}$; Proof Grade: IP67

Supply: DC24V or 85-265VAC

The Frequency Span: up to 26G Hz

Explosion proof grade: Exib II CT6 Gb

Signal Output: 4...20mA/HART (2 wires/4 wires) RS485/Modbus

YLR806A3



Application: Solid material, process container or strong dust (with purging function), easy to crystallize and show fields.

Measurement Span: 15m/20m/35m (powder);
20m/30m/45m (particle);
35m/45m/55m(lump materials)
0-1m...70m(liquids)

Process Connection: Multidirectional flange

Medium Temperature Span: $-40 \sim 250^{\circ}\text{C}$

Process Pressure: $-1\text{Bar} \sim 1\text{ Bar}$

Accuracy: $\pm 15\text{mm}$

Proof Grade: IP67

Supply: DC24V or 85-265VAC

The Frequency Span: up to 26G Hz

Explosion proof grade: Exib II CT6 Gb

Signal Output: 4...20mA/HART (2 wires/4 wires) RS485/Modbus

YLR806A5



Application: It is suitable for monitoring the water level of lakes, river courses, reservoirs, open channels, tidal water level, water level of Bridges, and water level in low-lying areas of cities.

Features: high precision; Strong anti-interference ability, not affected by temperature, humidity and wind power; Simple installation and debugging; Low power consumption.

Measurement Span: 0 to 70 meters

Process Connection: PP/Stainless steel Bracket

Medium Temperature Span: $-40 \sim 100^{\circ}\text{C}$

Process Pressure: $-1\text{Bar} \sim 1\text{ Bar}$

Accuracy: $-1\text{Bar} \sim 1\text{ Bar}$

Proof Grade: IP67

Supply: DC24V (RS485 is 6-24Vdc supply)

The Frequency Span: up to 26G Hz

Explosion proof grade: Exib II CT6 Gb

Signal Output: 4...20mA/HART (2 wires/4 wires)
RS485/Modbus

YLR806A4 (Parabolic antenna)



Application: Solid material, strong dust, easy to crystallization, condensation occasions

Measurement Span: 50m (powder); 70m (particle); 70m (lump materials)

Process Connection: Multidirectional flange

Medium Temperature Span: $-40 \sim 250^{\circ}\text{C}$

Process Pressure: $-1\text{Bar} \sim 1\text{ Bar}$

Accuracy: $\pm 15\text{mm}$

Proof Grade: IP67

Supply: DC24V or 85-265VAC

The Frequency Span: up to 26G Hz

Explosion proof grade: Exib II CT6 Gb

Signal Output: 4...20mA/HART (2 wires/4 wires) RS485/Modbus

YLR 806A6



Application: Liquid, slurry, condensation, corrosive liquids.

Measurement Span: 0 to 20 meters

Process Connection: Thread or Flanges

Medium Temperature Span: $-40 \sim 150^{\circ}\text{C}$

Process Pressure: $-1\text{Bar} \sim 1\text{ Bar}$ (Atmospheric)

Accuracy: $\pm 3\text{ mm}$

Proof Grade: IP67

Supply: DC24V or 85-265VAC

The Frequency Span: up to 26G Hz

Explosion proof grade: Exib II CT6 Gb

Signal Output: 4...20mA/HART (2 wires/4 wires) RS485/Modbus

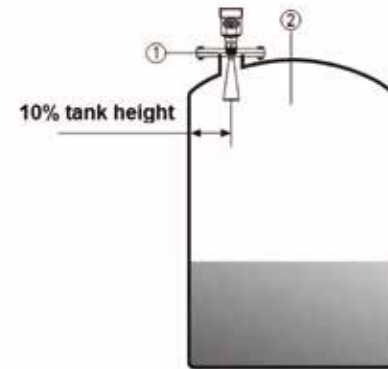
The Installation Requirements

Installation Guide

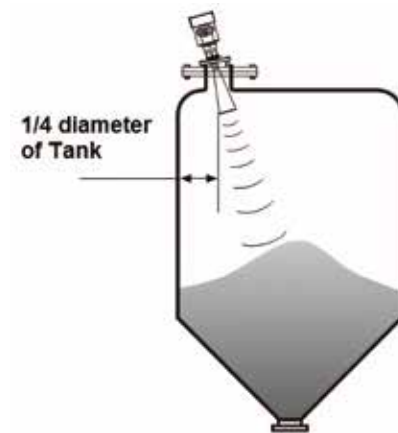
Installed in the $\frac{1}{4}$ or $\frac{1}{6}$ diameter of tank.

Note: the minimum distance from the tank wall should be tank high $\frac{1}{10}$.

Note: ① base level ② Container central or axis of symmetry



Conical tank top faces, can be installed in the Middle top, Ensures that the measurement to the bottom cone.



When there is a stack, the antenna should Vertical alignment the surface of medium. If the surface is not flat, stack angle big, you should use multidirectional flange installation and let's meter Bell mouse face the surface of medium.
(due to the solid surface tilt will cause echo attenuation, even loss of signal problem)

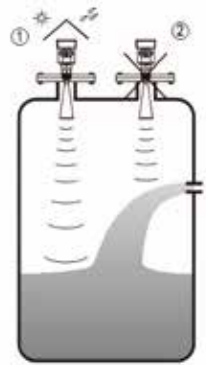
Tapered tank cannot be installed on the top of the feeding mouth.

Also note: outdoor installation should be taken sunshade, Rain-proof measures.

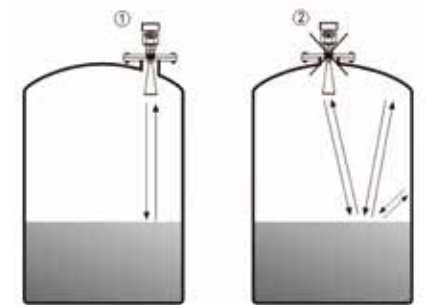
The instrument cannot be installed in the middle of an arch or a circular tank top. In addition to produce indirect echo is also affected by the echoes. Multiple echo can be larger than the true value of signal echo, because through the top can concentrate multiple echo. So cannot be installed in the central position.

When the tank obstacles affect the measurement, install a reflection plate for the normal measurement.

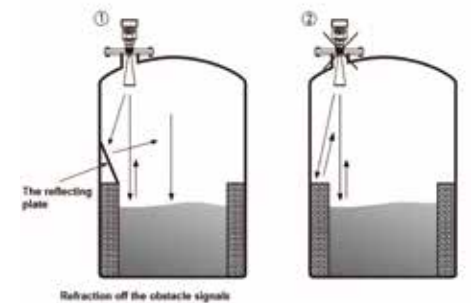
When the tank obstacles affect the measurement, install a reflection plate for the normal measurement.



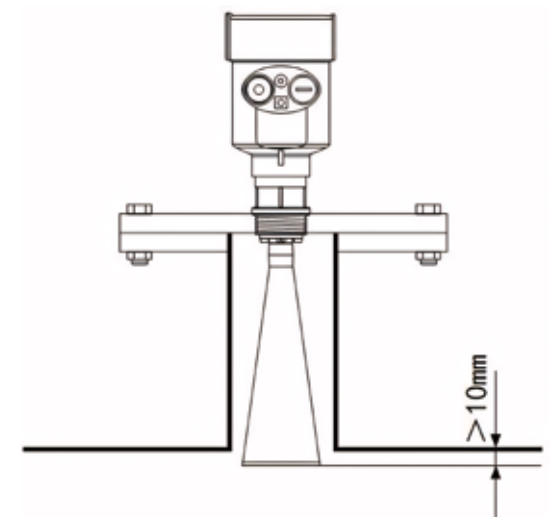
① Right ② wrong



①right ②wrong



①right ②wrong



Electronic Connection

Power Supply

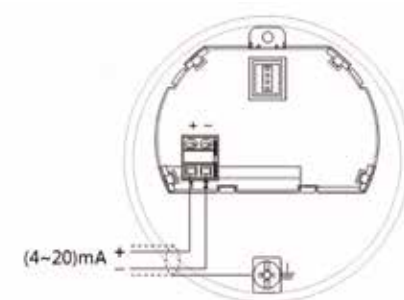
(4~20) mA/HART (2 wires) The power supply and the output current signal sharing a two core shield cable. The specific power supply voltage range of see technical data. For intrinsically safe type must be added a safety barrier between the power supply and the instrument.

(4~20) mA/HART (4 wires) Separate power supply and current signals, respectively using a cable. The specific power supply voltage range of see technical data.

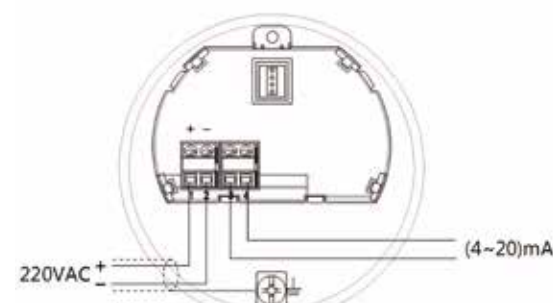
RS485/Modbus Power supply and Modbus signal lines separated respectively using a shielded cable, the specific power supply voltage range of see technical data.

Connection Wires:

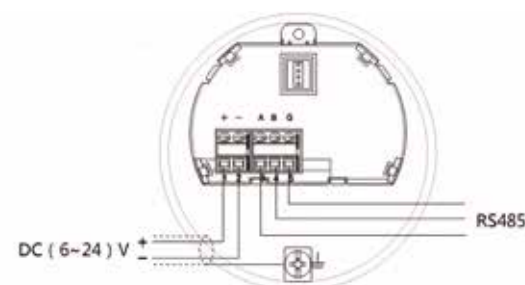
24V two wire wiring diagram as follows:



220V four wire connection as shown below:



24V RS485/Modbus wiring diagram as follows:



Safety instructions

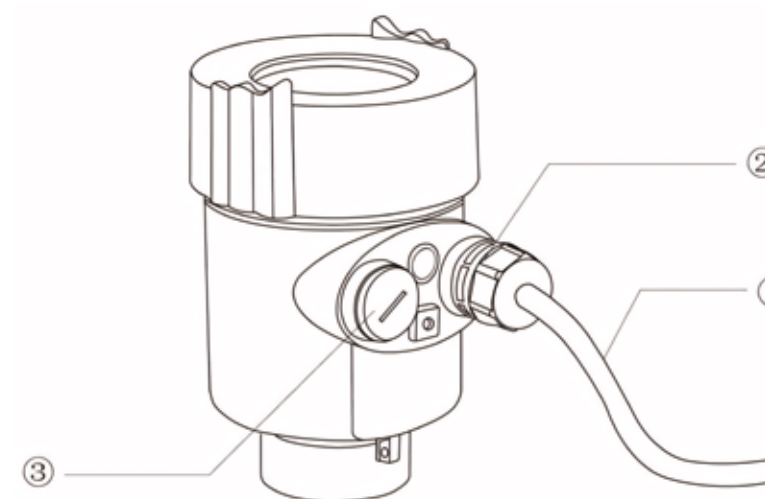
Please observe the local electrical installation requirements!

Please comply with local requirements for personnel health and safety rules. All of the instrument electrical parts operation must be completed by training professionals.

Please check the instrument nameplate to ensure product specifications meet your requirements. Please make sure that the power supply voltage and instrument nameplate requirements.

Protection grade

This instrument fully meet the requirements of protection grade IP66/67, please make sure that the water-proof sealed cable head. The following diagram:



How to ensure that the installation to meet the requirements of IP67

Please make sure that the sealing head is not damaged.

Make sure that the cable is not damaged.

Make sure the cable is used with electrical connection specification.

After entering the electrical interface front, the cable bending downward, to ensure that the water cannot flow into the shell, see the ①

Tighten the cable sealing head, see the ②

Please electrical interface will not use by blind wall tightly, see the ③

Instrument Commissioning

Three kinds of debugging method:

Display / key

PC debugging

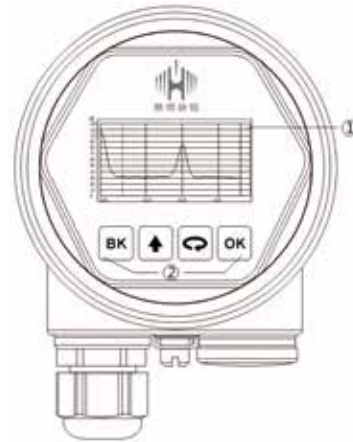
HART handheld programmer

By showing the 4 buttons on the screen of the instrument for debugging. Debug menu languages. After debugging, generally used only for display, through the glass window can be clearly read measured value.

Display/Keys

① LCD display

② Keys



YLR806A2

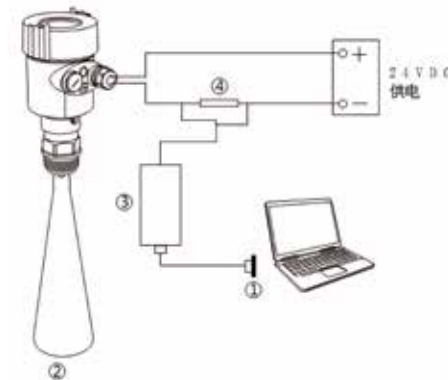
Connected with the host computer through the HAR

① The RS232 interface or USB interface

② The radar level meter

③ The HART adapter

④ The 250 resistor



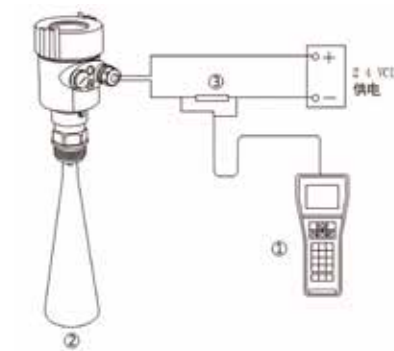
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HART handheld programmer

① The HART handheld programmer

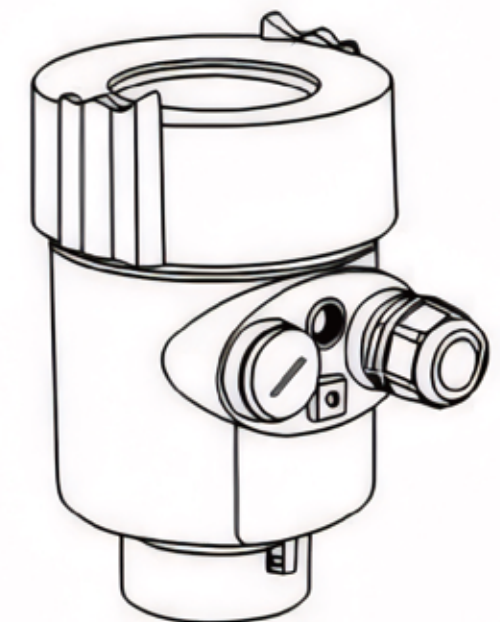
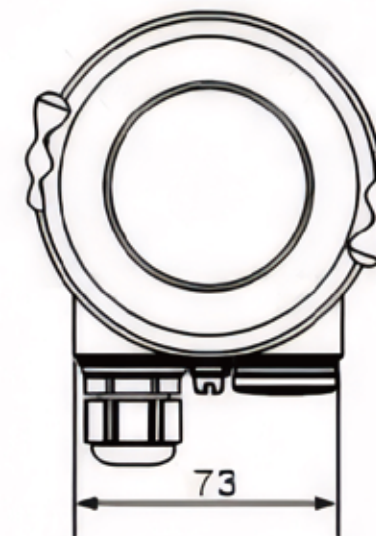
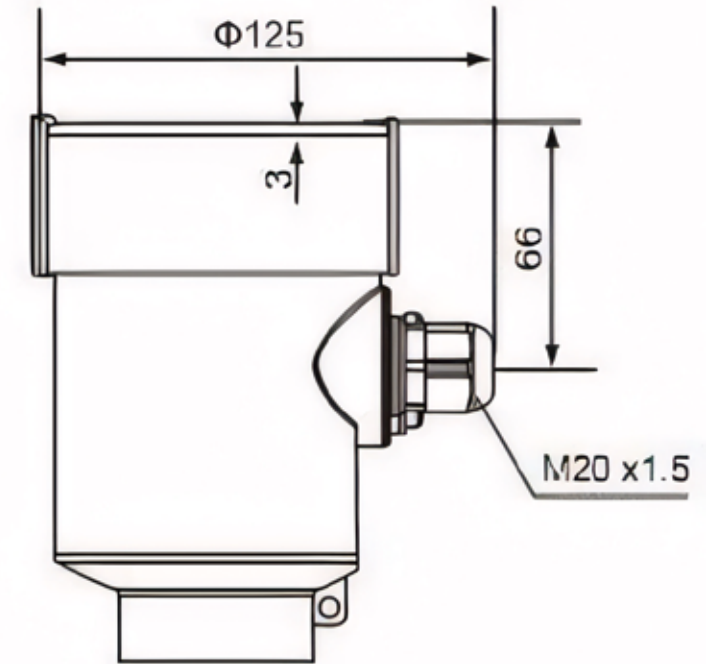
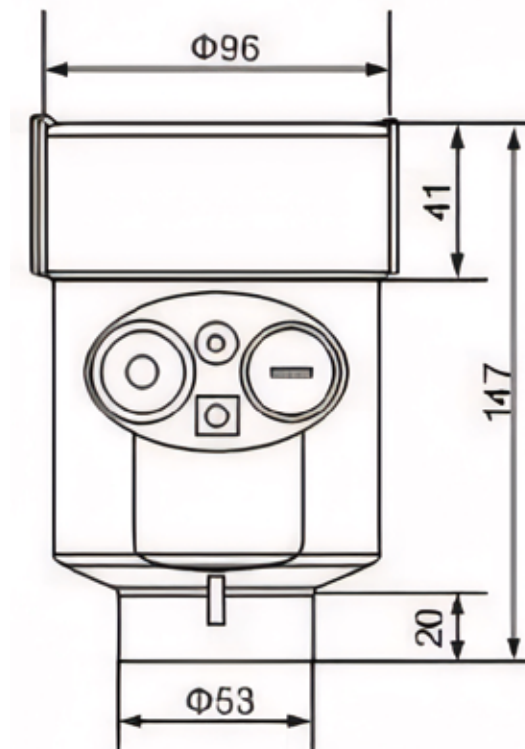
② The radar level meter

③ The 250 resistor



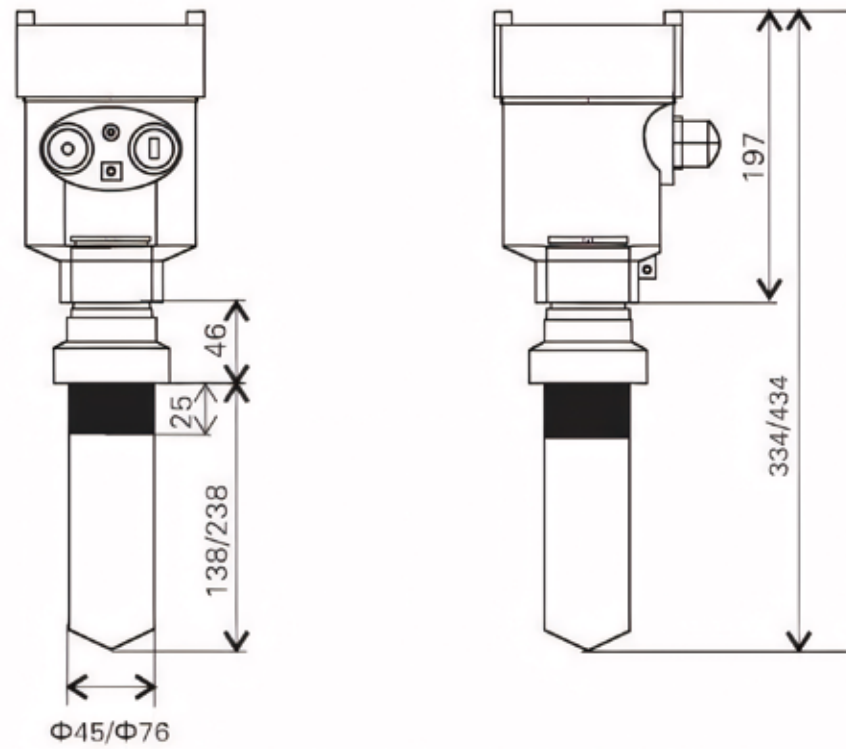
The Structure Size, Unit: mm

Housing:

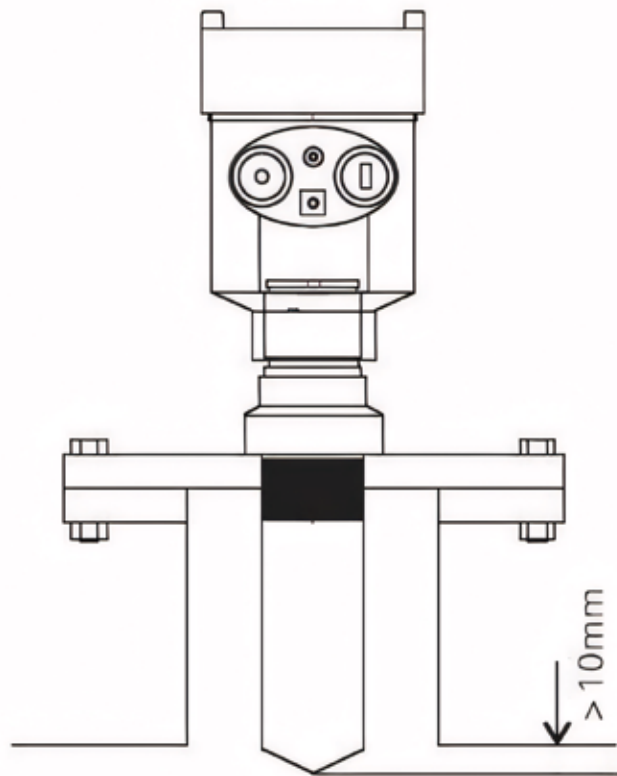


Diemension:

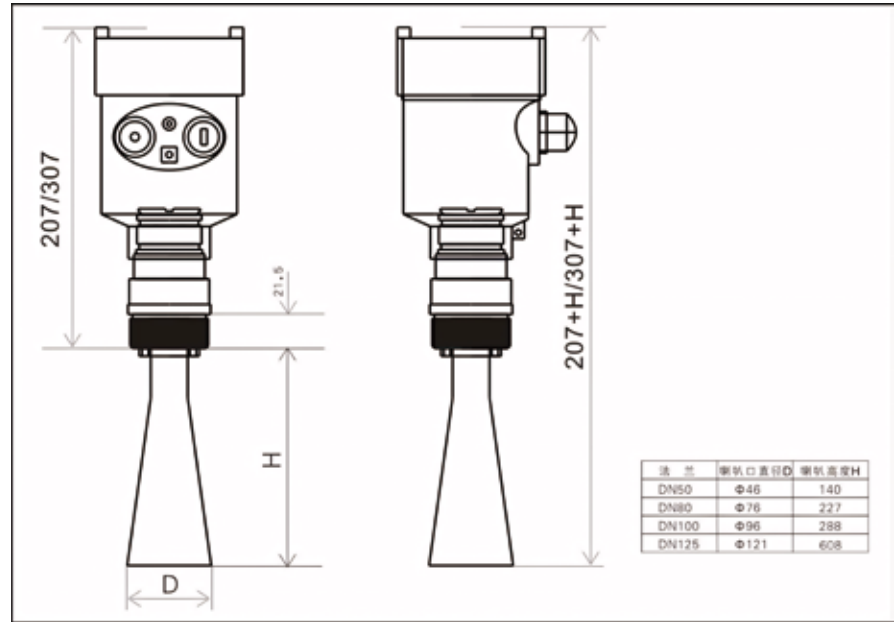
YLR806A1



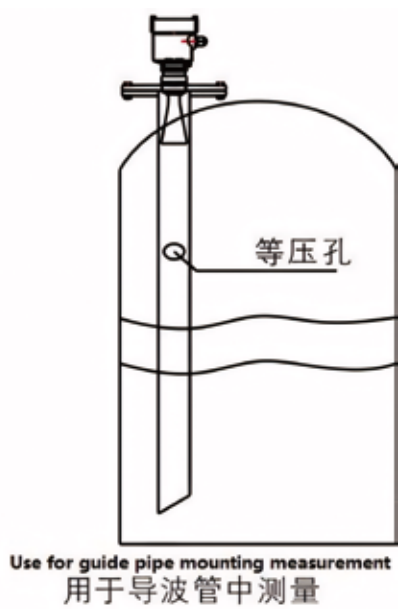
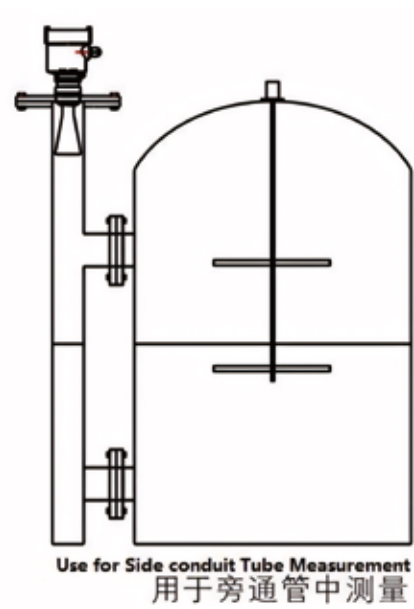
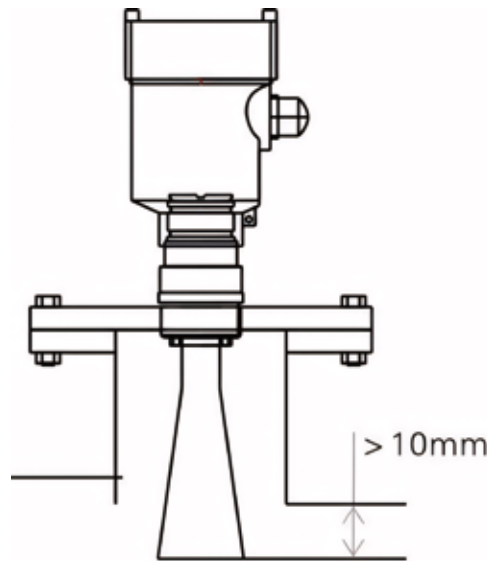
Installation Drawing:

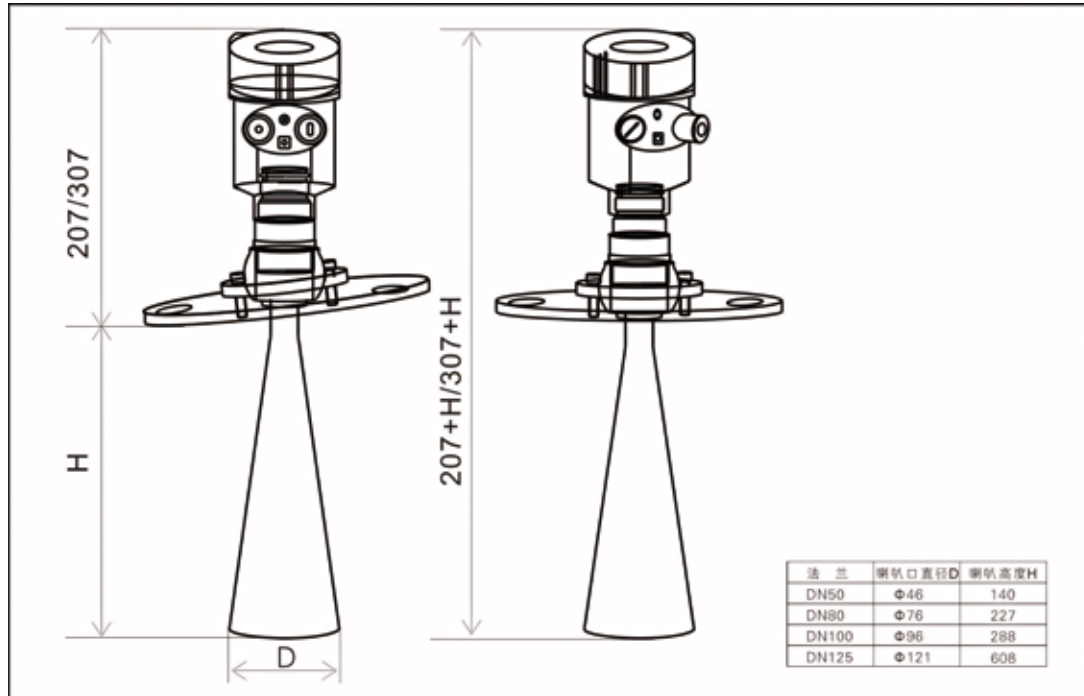


YLR806A2

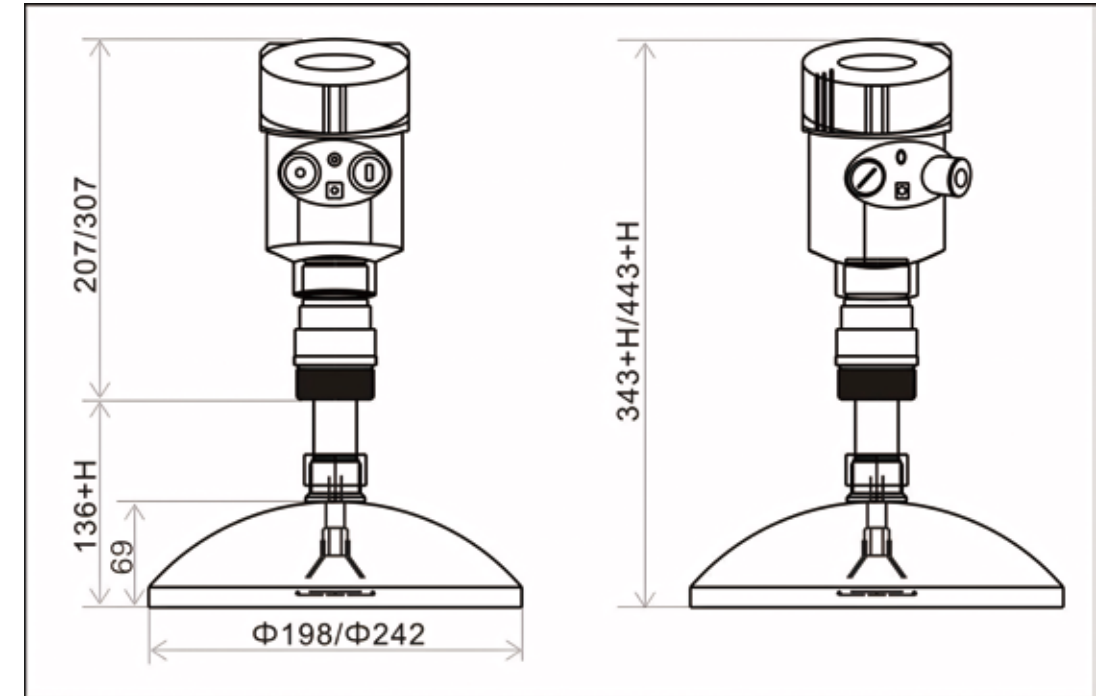
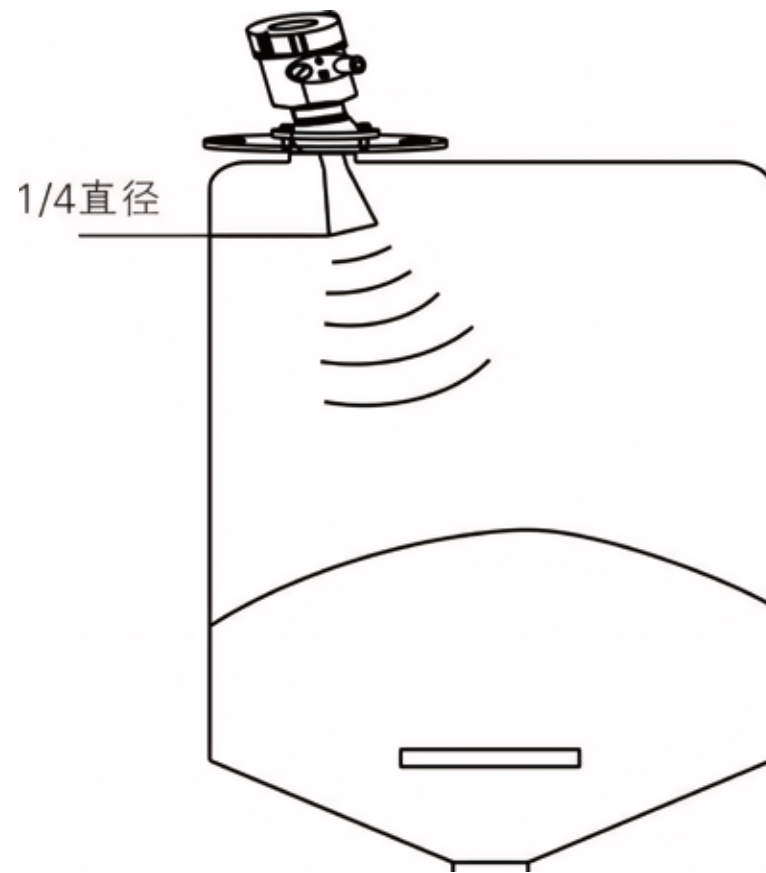


Installation Drawing:

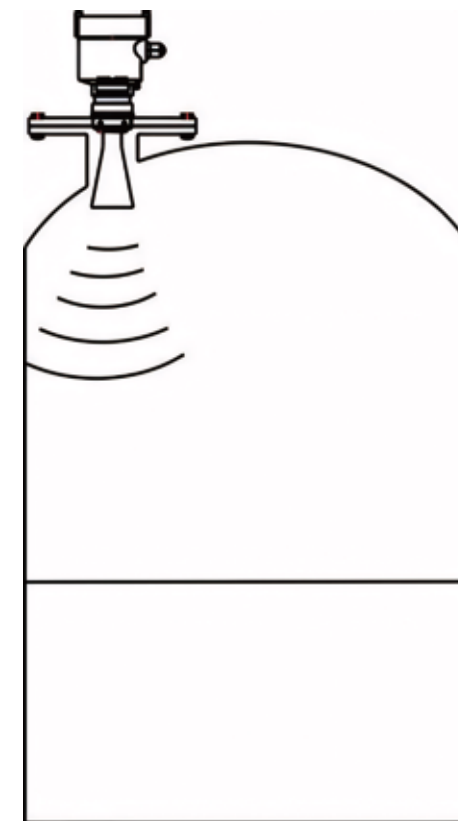




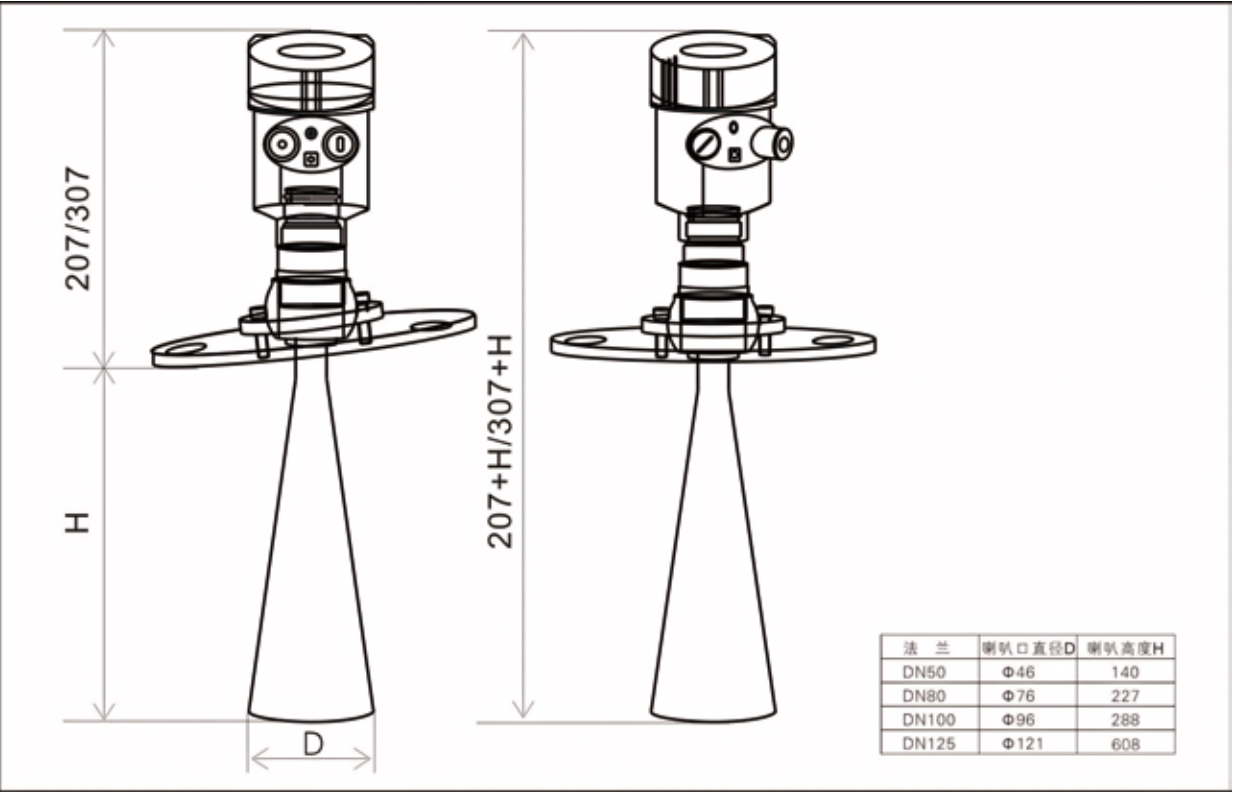
Installation Drawing:



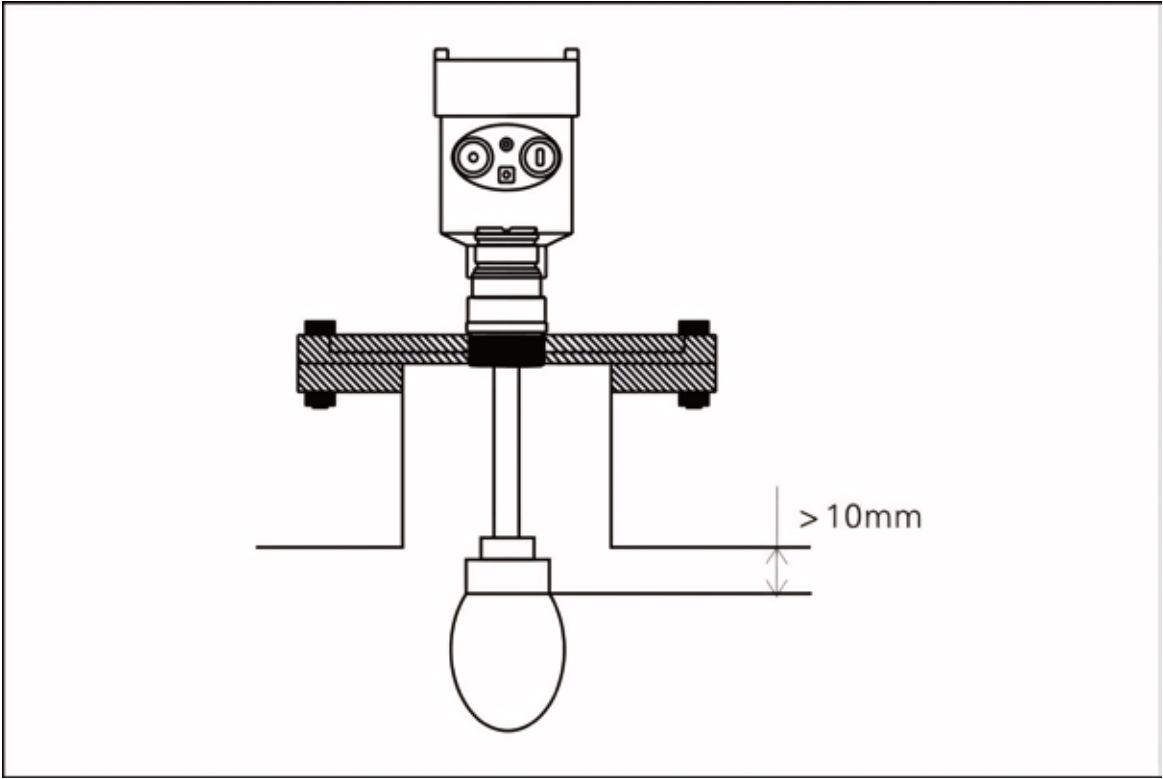
Installation Drawing:



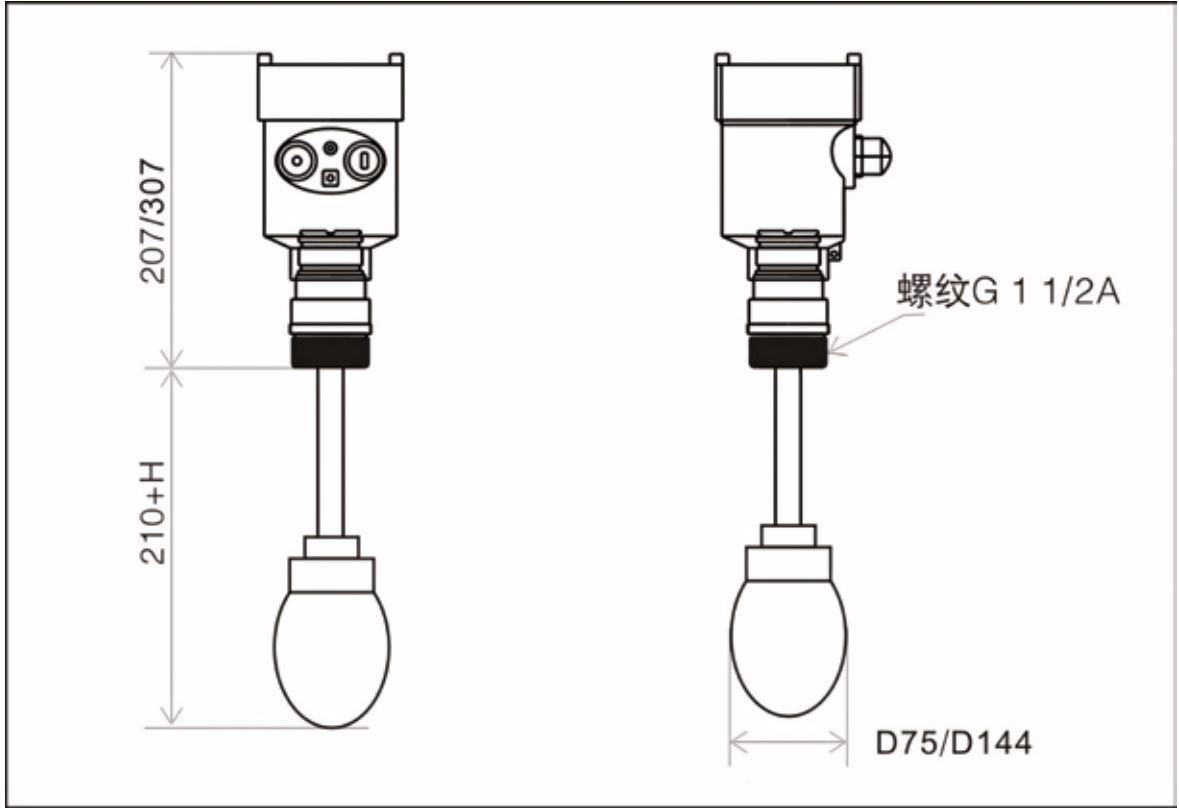
YLR806A5



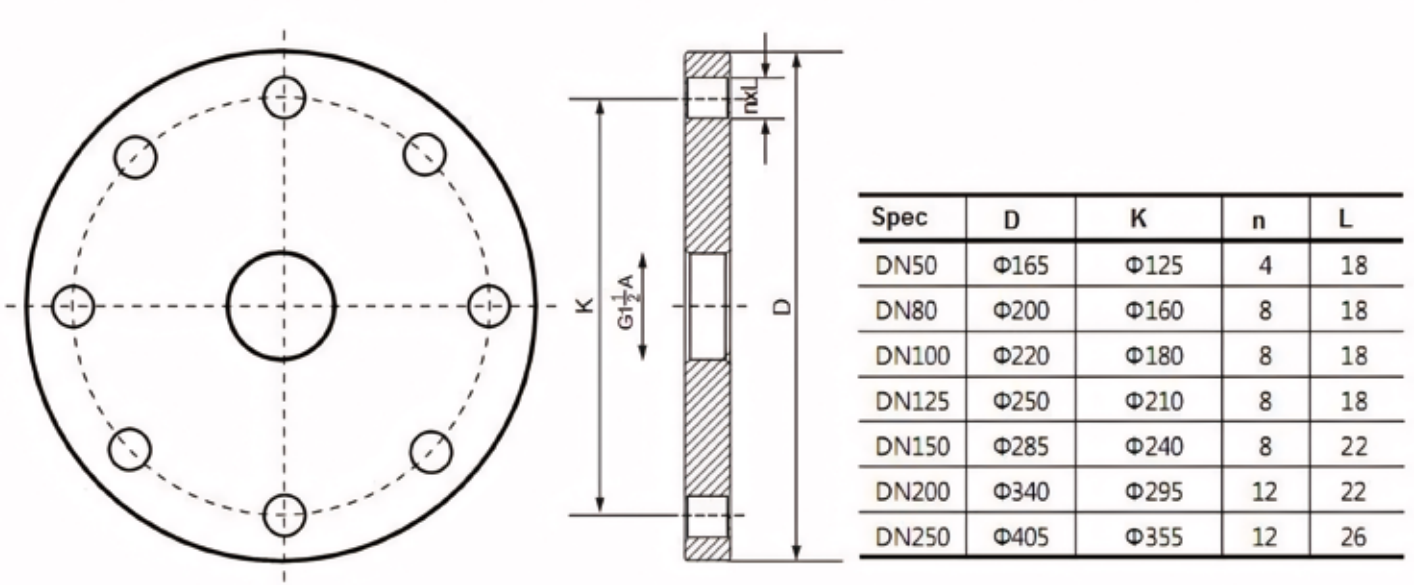
Installation Drawing:



YLR806A6



Flange Selection:



The Technical Parameters

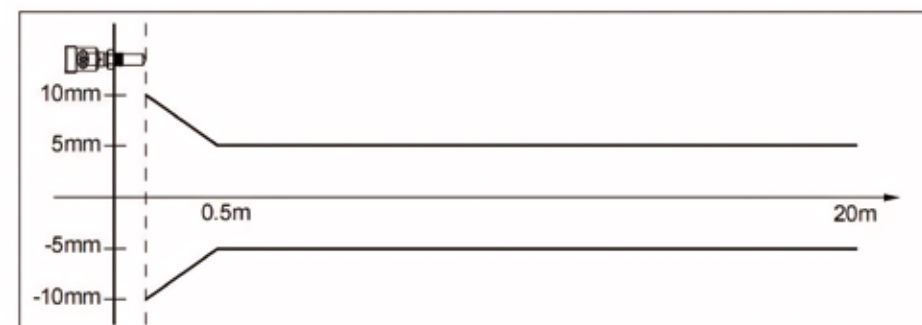
Housing:

The seal between the shell and the shell cover	Silicone rubber
Window of housing	Polycarbonate
The ground terminal	stainless steel
Power Supply 2 wires type:	standard type (16 ~ 26) V DC Intrinsic safety type (21. 6 ~ 26. 4) V DC Consumption max 22. 5mA / 1W Allowable ripple - <100Hz U _{ss} <IV - (100 ~ 100K) Hz U _{ss} <10mV
The Cable parameters	Cable entrance / plug the M20x1.5 cable entrance Terminal conductor cross section 1.0 mm ²
Output parameters:	Signal output: (4 ~ 20) mA Communication Protocol: HART Resolution: 1. 6u A The fault signal current output unchanged 20. 5mA 22mA; 3.9mA The integral time (0 ~ 50)s adjustable
Blind Zone	the ends of the antenna
The max measuring distance	30 meters
Microwave frequency	26GHz
The communication interface:	HART communication protocol
The measurement interval	about 1 second (depending on the parameter settings)
Adjust time	about 1 second (depending on the parameter settings)
Display resolution	1 mm
Working storage and transportation temperature	(-40 ~ 100) °C
Process temperature (the temperature of the antenna part)	(-40 ~ 250) °C
Pressure	Max. 40Bar
shock-proof	Mechanical vibration 10m/s ² , (10 ~ 150)Hz

Linear Instruments

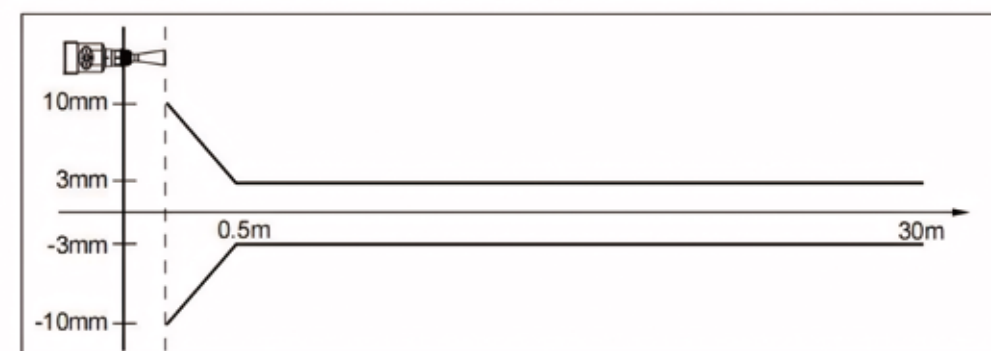
YLR806A1

Emission angle 20°
Accuracy sees below picture



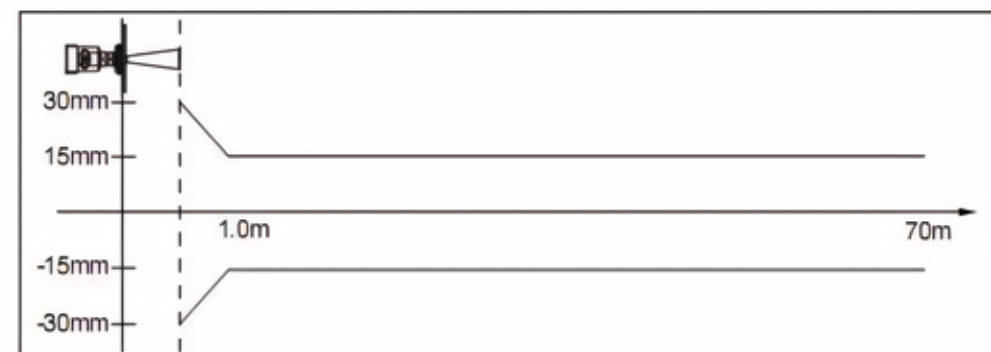
YLR806A2

Emission angle Depending on the size of the antenna
 - Ø 46mm 18°
 - Ø 76mm 12°
 - Ø 96mm 8°
 Accuracy sees below picture



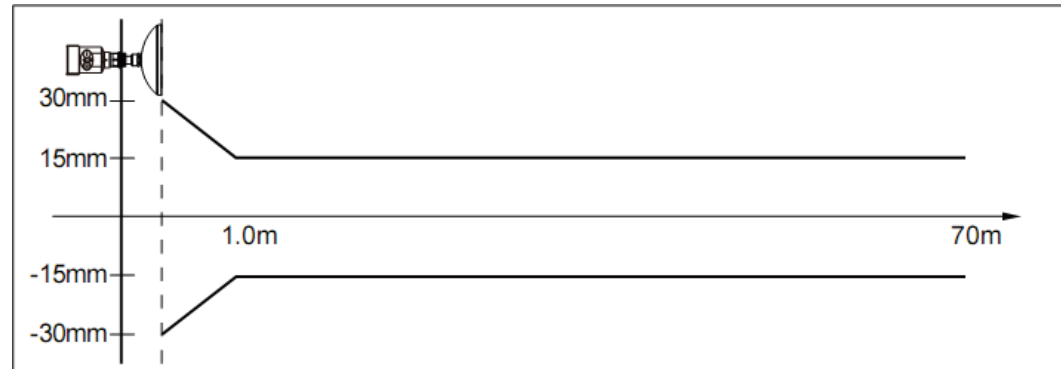
YLR806A3

Emission angle Depending on the size of the antenna
 - Ø 76mm 12°
 - Ø 96mm 8°
 - Ø 121mm 6°
 Accuracy sees below picture



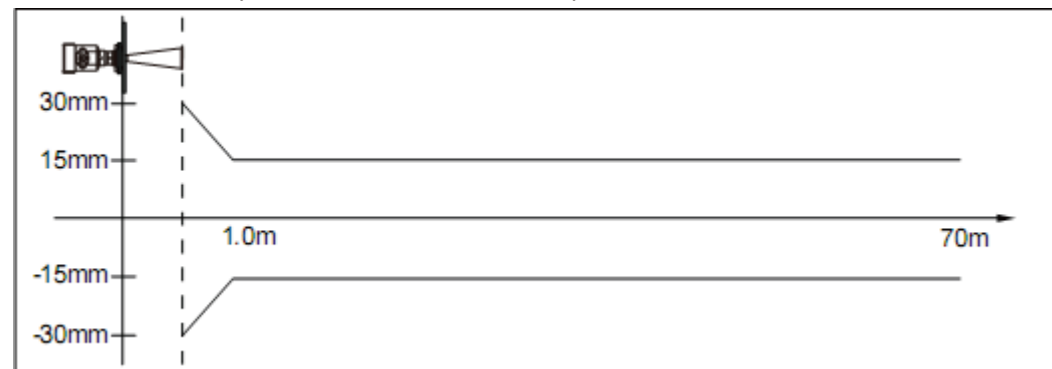
YLR806A4

Emission angle
 - $\varnothing$ 196mm
 - $\varnothing$ 242mm
 Accuracy
 Depending on the size of the antenna
 4°
 4°
 sees below picture



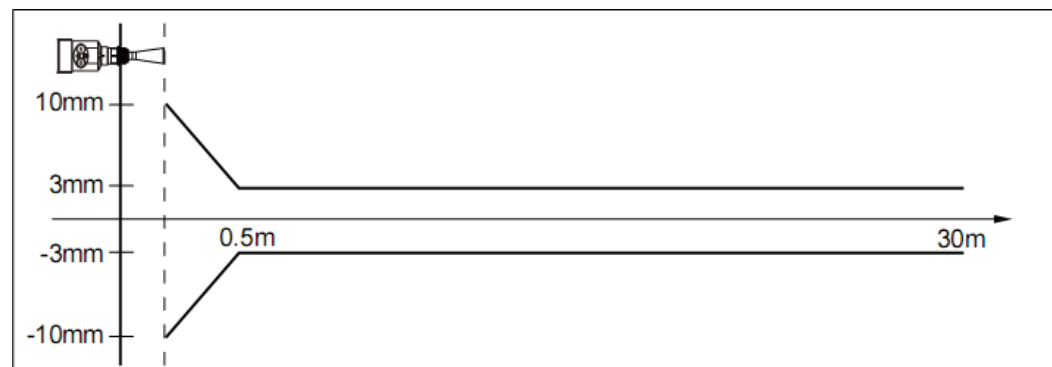
YLR806A5

Emission angle
 - $\varnothing$ 76mm
 - $\varnothing$ 96mm
 - $\varnothing$ 121mm
 Accuracy
 Depending on the size of the antenna
 12°
 8°
 6°
 sees below picture



YLR806A6

Emission angle
 - $\varnothing$ 46mm
 - $\varnothing$ 76mm
 - $\varnothing$ 96mm
 Accuracy
 Depending on the size of the antenna
 18°
 12°
 8°
 sees below picture



Instrument Model Codes Selection Table

| Principle

Type

- P Standard Type (Non explosion proof)
- I Intrinsic safety type (Exib IIC T6 Gb)
- D Flameproof and Intrinsic safety types (Exd [ib] /Exib IIC T6 Gb)

Antenna type / materials

F Sealing horn / PTFE (-40~120℃)

Process connection / materials

- G Thread G1½ A
- N Thread 1½ NPT
- A Flange DN50/PP
- B Flange DN80/PP
- C Flange DN100/PP
- Y specially customized

Electronic Output

- 2 (4~20)mA/24V DC 2 wires
- 3 (4~20)mA/24V DC/HART 2 wires
- 4 (4~20)mA/220V AC/4 wires
- 5 RS485/Modbus

Housing/ Proof Grade

- L Aluminum /IP67
- G Stainless Steel 304/IP67

Cable Conduit Port

- M M20 x l. 5
- N ½ NPT

Local Display/ Programming

- A Yes
- X No

|YLR806A2

Type

- P Standard Type (Non explosion proof)
- I Intrinsic safety type (Exib IIC T6 Gb)
- D Flameproof and Intrinsic safety types (Exd [ib] /Exib IIC T6 Gb)

Process connection / materials

- G Thread G1½ A/Stainless Steel 304
- N Thread 1½ NPT/Stainless Steel 304
- A Flange DN50/Stainless Steel 304
- B Flange DN80/Stainless Steel 304
- C Flange DN100/Stainless Steel 304
- D FlangeDN125/Stainless Steel 304
- E FlangeDN150/Stainless Steel 304
- Y Specially Customized

Antenna type / materials

- A Horn antenna Φ46mm/Stainless Steel 304
- B Horn antenna Φ76mm/Stainless Steel 304
- C Horn antenna Φ96mm/Stainless Steel 304
- Y Specially Customized

Sealing/Process Temp

- V Common Sealing/ (-40~150) ℃
- K High Temp Sealing/ (-40~250) ℃

Electronic Output

- 2 (4~20)mA/24V DC 2 wires
- 3 (4~20)mA/24V DC/HART 2 wires
- 4 (4~20)mA/220V AC/4 wires
- 5 RS485/Modbus

Housing/ Proof Grade

- L Aluminum/IP67
- G Stainless Steel304/IP67

Cable Conduit Port

- M M20 x l. 5
- N ½ NPT

Local Display/ Programming

- A Yes
- X No

|YLR806A3

Type

- P Standard Type (Non explosion proof)
- I Intrinsic safety type (Exib IIC T6 Gb)
- D Flameproof and Intrinsic safety types (Exd [ib] /Exib IIC T6 Gb)

Process connection / materials

- G Thread G1½ A/Stainless Steel 304
- N Thread 1½ NPT/Stainless Steel 304
- B Flange DN80/Stainless Steel 304
- C Flange DN100/Stainless Steel 304
- D FlangeDN125/Stainless Steel 304
- E FlangeDN150/Stainless Steel 304
- F Flange DN200/Stainless Steel 304
- H Flange DN250/Stainless Steel 304
- M Flange DN80/Multidirection/Stainless Steel 304
- K Flange DN100/Multidirection/Stainless Steel 304
- T Flange DN125/Multidirection/Stainless Steel 304
- Z Flange DN150/Multidirection/Stainless Steel 304
- W Flange DN200/Multidirection/Stainless Steel 304
- V Flange DN250/Multidirection/Stainless Steel 304
- Y Specially Customized

Antenna type / materials

- A Horn antenna Φ76mm/Stainless Steel 304
- B Horn antenna Φ96mm/Stainless Steel 304
- C Horn antenna Φ123mm/Stainless Steel 304
- Y Specially Customized

Sealing/Process Temp

- V Common Sealing/ (-40~150) ℃
- K High Temp Sealing/ (-40~250) ℃

Electronic Output

- 2 (4~20)mA/24V DC2 wires
- 3 (4~20)mA/24V DC/HART2 wires
- 4 (4~20)mA/220V AC/4 wires
- 5 RS485/Modbus

Housing/ Proof Grade

- L Aluminum/IP67
- G Stainless Steel304/IP67

Cable Conduit Port

- M M20 x l. 5
- N ½ NPT

Local Display/ Programming

- A Yes
- X No

| YLR806A5

Type

- A2 30M Range Type
- A3 70M Range Type
- A5 70M Solar Power Type

Process connection / materials

- Z Steel Bracket
- G Thread G1½ A/Stainless Steel 304
- N Thread 1½ NPT/Stainless Steel 304
- A Flange DN50/PP
- B Flange DN80/PP
- C Flange DN100/PP
- D Flange DN125/PP
- E Flange DN50/Stainless Steel 304
- F Flange DN80/Stainless Steel 304
- H Flange DN100/Stainless Steel 304
- K Flange DN125/Stainless Steel 304
- Y Specially Customized

Antenna type / materials

- A Horn antenna Φ76mm/Stainless Steel 304
- B Horn antenna Φ96mm/Stainless Steel 304
- C Horn antenna Φ121mm/Stainless Steel 304
- Y Specially Customized

Sealing/Process Temp

- V Common Sealing/ (-40~100) ℃

Electronic Output

- 2 (4~20)mA/24V DC2 wires
- 3 (4~20)mA/24V DC/HART2 wires
- 5 RS485/Modbus RTU/6-24Vdc (Standard Type)

Housing/ Proof Grade

- L Aluminum/IP67

Cable Conduit Port

- M M20 x l. 5
- N ½ NPT

Local Display/ Programming

- A Yes
- X No

| YLR806A6

Type

- P Standard Type (Non explosion proof)
- I Intrinsic safety type (Exib IIC T6 Gb)
- D Flameproof and Intrinsic safety types (Exd [ib] /Exib IIC T6 Gb)

Process connection / materials

- B Flange DN80/Stainless Steel 304
- C Flange DN100/Stainless Steel 304
- D FlangeDN125/Stainless Steel 304
- E FlangeDN150/Stainless Steel 304
- F Flange DN200/Stainless Steel 304
- Y Specially Customized

Antenna type / materials

- A Horn antenna Φ46mm/Stainless Steel 304
- B Horn antenna Φ76mm/Stainless Steel 304
- C Horn antenna Φ96mm/Stainless Steel 304

Sealing/Process Temp

- V Common Sealing/ (-40~150) ℃

Electronic Output

- 2 (4~20)mA/24V DC2 wires
- 3 (4~20)mA/24V DC/HART2 wires
- 4 (4~20)mA/220V AC/4 wires
- 5 RS485/Modbus

Housing/ Proof Grade

- L Aluminum/IP67
- G Stainless Steel304/IP67

Cable Conduit Port

- M M20 x l. 5
- N ½ NPT

Local Display/ Programming

- A Yes
- X No

Radar Level Meter Selection Models Parameter Table

Customers Info Register

Company name:	Contact name:			
Address:	Post Code:			
Tel:	Fax:	Mobile:		
E-mail:	Date:	Year	Month	Day

Type

- ☐ Intrinsic safety Type (Exib IIB T5)
- ☐ Intrinsic safety Type (Exib IIC T6 Gb)
- ☐ Standard Type (Non explosion proof)
- ☐ Intrinsic safety Type + Marine Type (Exib IIC T6 Gb)
- ☐ Flameproof and Intrinsic safety types (Exd [ib] IIC T6 Gb)

Tank / container information

Tank / container Type :

- ☐ Storage tank
- ☐ Reaction tank
- ☐ Separation tank
- ☐ Marine tank

Tank structure:

Dimension :	Material :		Pressure :	
Height : m	Diameter : m			
Top of tank :	☐ Vault type	☐ Flat type	☐ Open type	☐ Taper type
Bottom of tank :	☐ Taper type	☐ Flat type	☐ Slope type	☐ curved type
Installation :	☐ Top installation ☐ Side installation			
	☐ by-pass installation ☐ Guided wave pipe installation			

Tank / container Type :

Tube height: mm	Diameter: mm
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Tank / container Type :

Medium name:	☐ Liquid	☐ Solid	☐ Mixed Medium
Temperature of medium:	℃	dielectric constant:	
THanging:	☐ Yes	☐ No	
Mixing:	☐ Yes	☐ No	

Process Connection

Thread:	☐ G1½A	☐ 1½NPT	) Flange (DN=	) Flange (ANSI=	)
Power Supply:	☐ 24V DC 2 wires ☐ 24V DC 4 wires ☐ 220V AC4 wires				
Output:	☐ 4-20mA	☐ HART	☐ RS485 MODBUS		
Display:	☐ Yes	☐ No			