NAGLEV Series - US

ULTRASONIC LEVEL TRANSMITTER

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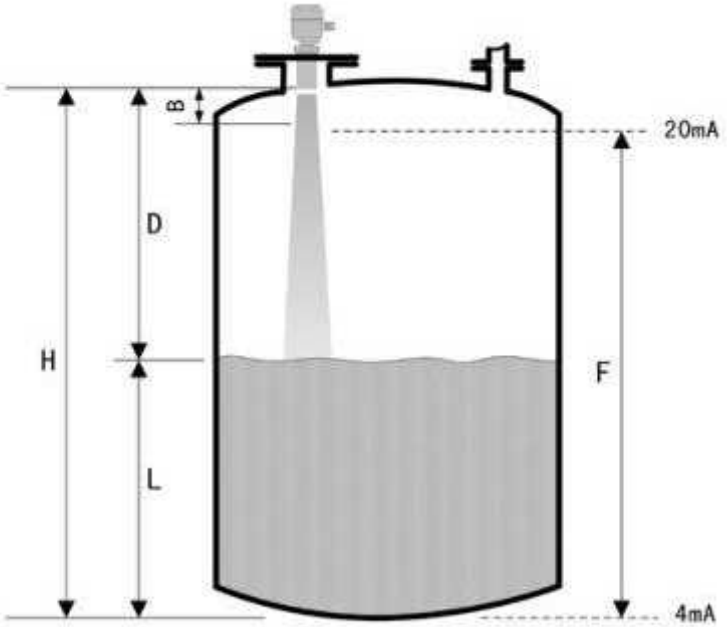
❖ Features

- Integrated design, installed conveniently;
- Protected in the excessive voltage and current
- protected in the thunder and lightning;
- The big show window of LCD is easy to debug and observe;
- Over-voltage over-current protection, lightning protection;
- Advanced since the clamp type terminal, to ensure that wiring never loose;
- Intellectual signal treatment technology, guarantee that the instrument meets various kinds of operating occasion;
- All plastic probe, acid and alkali resistant, adapt to bad environment;

❖ Principle

The sensor of the meter pulses in the direction of the product surface. There, they are reflected back and received by the sensor.The meter measures the time t between pulse transmission and reception. The meter uses the time t (and the velocity of sound) to calculate the distance D between the sensor membrane and the product surface:
D = c •t/2. As the device knows the empty distance H from a user entry, it can calculate the level as follows: L= H – D.



B:Blanking distance D:distance value L:level value
H: installation height F:level span

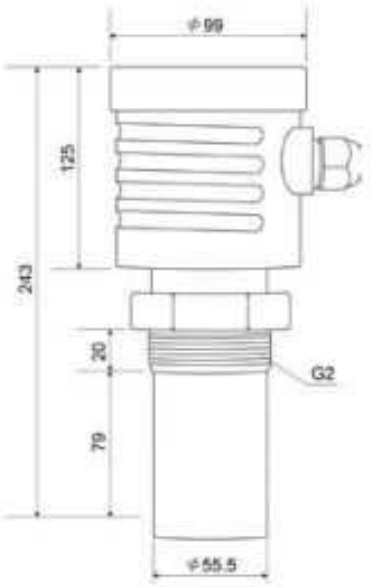
The ultrasonic velocity in gas is influenced by the gas temperature,So the level meter need to detect the gas temperature at work. So the material level meter need to detect the gas temperature at work,compensation for sound velocity.
Blanking distance: Span F may not extend into the blanking distance B. Level echo from the blanking distance cannot be evaluated due to the transient characteristics of the sensor.

❖ Product Introduction

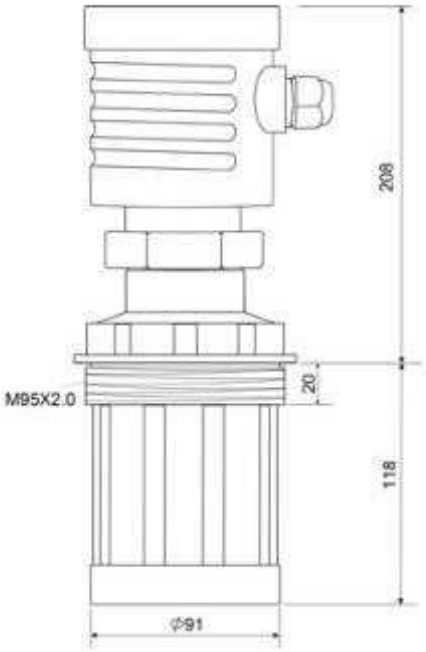
Model / Parameters	US 4	US 6	US 8	US 10	US 12	US 20	US 30
Application	Industrial Level Measurement						
Measuring Range	liquid:0.2-4 m	liquid:0.25-6 m	liquid:0.3-8 m	liquid:0.4-10m	liquid:0.5-12 m	liquid:0.8-20 m	liquid:1.2-30 m
Process Connection	G2 Thread				M95X2.0Thread		
Energy Transducer Material	ABS,PVC,PTFE						
Temperature	-40~ 75 Deg C (LCD：-20ºC~ +70ºC)						
Temperature compensation	The whole range with automatic compensation						
Process Pressure	±0.1MPa						
Precision	0.2% of actual range						
Signal output	4-20mA(Option: RS485 / HART/ Alarm)						
Power Supply	DC20V~32 ≥30mA						
Display Resolution Ratio	1mm						
Mode of Indication	4 Digit LCD						
Cable Diameter	Ø 6-12mm						
Single Wire Diameter	Ø 0.5-1.78mm						
Cable Entry/Seal	M20/PG13.5						
Beam Angle	8º(3db)						
Measurement Cycle	1.5 second						

❖ Dimension

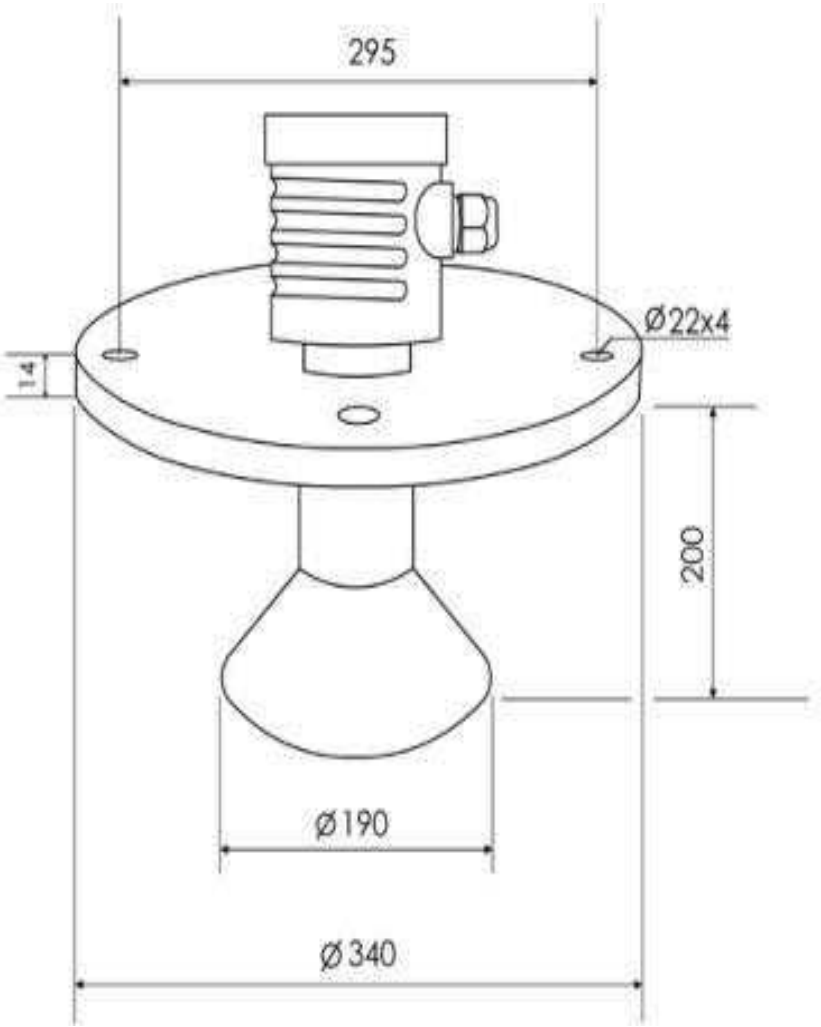
- **US 4, US 6, US 8, US 10 Type**



- **US 12 Type**



- **US 20, US 30 Type**



❖ Model Selection

● US 4 Model Selection

License
P Standard Type(Non ex-proof)
Energy Transducer Material/Process Temperature/Protection Grade
A ABS/(-40-75)℃/IP67 B PVC/(-40-75)℃/IP67 C PTFE/(-40-75)℃/IP67
Process Connection/Material
G Thread D Flange /PP
Electronic Unit
2 4~20mA/24V DC Two Wire 3 4~20mA/24V DC /HART Two Wire 4 4~20mA/24V DC /RS485 Modbus Four Wire 5 4 -20mA/24VDC /Alarm(Two Points)Four Wire
Shell / Protection Grade
L Aluminum / IP67
Cable Entry
M M20*1.5
Programmer/Display
A With Display

US 6 Model Selection

License
P Standard Type(Non ex-proof)
Energy Transducer Material/Process Temperature/Protection Grade
A ABS/(-40-75)℃/IP67 B PVC/(-40-75)℃/IP67 C PTFE/(-40-75)℃/IP67
Process Connection/Material
G Thread D Flange /PP
Electronic Unit
2 4~20mA/24V DC Two Wire 3 4~20mA/24V DC /HART Two Wire 4 4~20mA/24V DC /RS485 Modbus Four Wire 5 4 -20mA/24VDC /Alarm(Two Points)Four Wire
Shell / Protection Grade
L Aluminum / IP67
Cable Entry
M M20*1.5
Programmer/Display
A With Display

US 8 Model Selection

License
P Standard Type(Non ex-proof)
Energy Transducer Material/Process Temperature/Protection Grade
A ABS/(-40-75)℃/IP67 B PVC/(-40-75)℃/IP67 C PTFE/(-40-75)℃/IP67
Process Connection/Material
G Thread D Flange /PP
Electronic Unit
2 4~20mA/24V DC Two Wire 3 4~20mA/24V DC /HART Two Wire 4 4~20mA/24V DC /RS485 Modbus Four Wire 5 4 -20mA/24VDC /Alarm(Two Points)Four Wire
Shell / Protection Grade
L Aluminum / IP67
Cable Entry
M M20*1.5
Programmer/Display
A With Display

- **US 10 Model Selection**

License
P Standard Type(Non ex-proof)
Energy Transducer Material/Process Temperature/Protection Grade
A ABS/(-40-75)℃/IP67 B PVC/(-40-75)℃/IP67 C PTFE/(-40-75)℃/IP67
Process Connection/Material
G Thread D Flange /PP
Electronic Unit
2 4~20mA/24V DC Two Wire 3 4~20mA/24V DC /HART Two Wire 4 4~20mA/24V DC /RS485 Modbus Four Wire 5 4 -20mA/24VDC /Alarm(Two Points)Four Wire
L Aluminum / IP67
Cable Entry
M M20*1.5
Programmer/Display
A With Display

- **US 12 Model Selection**

License
P Standard Type(Non ex-proof)
Energy Transducer Material/Process Temperature/Protection Grade
A ABS/(-40-75)℃/IP67 B PVC/(-40-75)℃/IP67 C PTFE/(-40-75)℃/IP67
Process Connection/Material
G Thread D Flange /PP
Electronic Unit
2 4~20mA/24V DC Two Wire 3 4~20mA/24V DC /HART Two Wire 4 4~20mA/24V DC /RS485 Modbus Four Wire 5 4 -20mA/24VDC /Alarm(Two Points)Four Wire
Shell / Protection Grade
L Aluminum / IP67
Cable Entry
M M20*1.5
Programmer/Display
A With Display

- **US 20 Model Selection**

License
P Standard Type(Non ex-proof)
Energy Transducer Material/Process Temperature/Protection Grade
A ABS/(-40-75)℃/IP67 B PVC/(-40-75)℃/IP67 C PTFE/(-40-75)℃/IP67
Process Connection/Material
G Thread D Flange /PP
Electronic Unit
2 4~20mA/24V DC Two Wire 3 4~20mA/24V DC /HART Two Wire 4 4~20mA/24V DC /RS485 Modbus Four Wire 5 4 -20mA/24VDC /Alarm(Two Points)Four Wire
Shell / Protection Grade
L Aluminum / IP67
Cable Entry
M M20*1.5
Programmer/Display
A With Display

- **US 30 Model Selection**

License
P Standard Type(Non ex-proof)
Energy Transducer Material/Process Temperature/Protection Grade
A ABS/(-40-75)℃/IP67 B PVC/(-40-75)℃/IP67 C PTFE/(-40-75)℃/IP67
Process Connection/Material
G Thread D Flange /PP
Electronic Unit
2 4~20mA/24V DC Two Wire 3 4~20mA/24V DC /HART Two Wire 4 4~20mA/24V DC /RS485 Modbus Four Wire 5 4 -20mA/24VDC /Alarm(Two Points)Four Wire
Shell / Protection Grade
L Aluminum / IP67
Cable Entry
M M20*1.5
Programmer/Display
A With Display