

Ultrasonic Sludge Blanket Monitoring System



The ENV100 Ultrasonic Sludge Blanket Level Meter manufactured by WESS, utilizes enhanced ultrasonic technology to measure the sludge interface level in various types of clarifiers, settling tanks and thickeners with superior accuracy and reliability. The instrument continuously provides the user with important information which includes numeric & graphic screens representing the distance to the blanket, an echo profile image to ensure correct configuration during commissioning and saved data analysis.

Additional features such as ASF (Abnormal Signal Filter), allows elimination of irregular field noise which can result from moving structures intermittently obscuring the signal. The ENV100 technology additionally incorporates a compressed air cleaning system to maintain the sensor in optimum condition and guarantee maintenance-free measurement. Specially designed mounting hardware is also available.

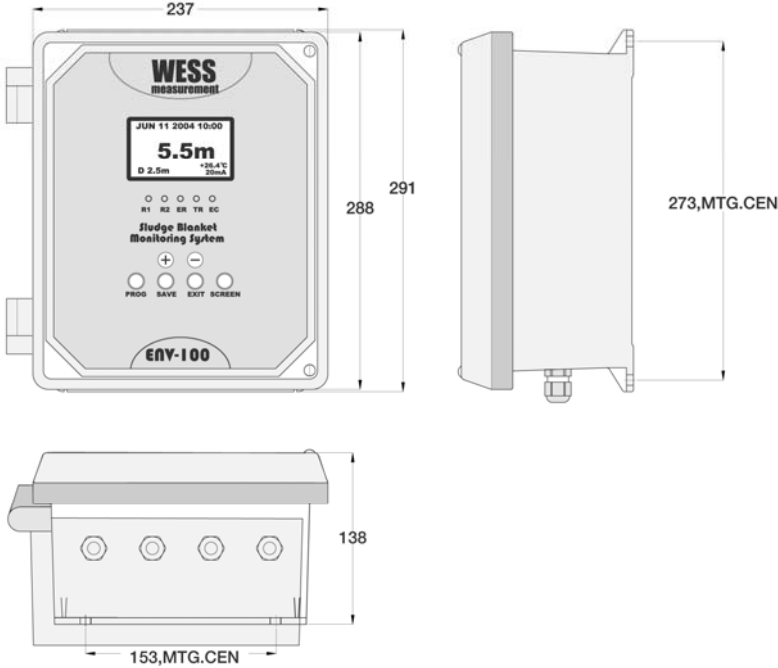
Product Features

- Continuous and real-time measurement
- 4 sensors measurement with one controller enables economic operation
- Maximum 400 days data logging and monitoring
- Wireless option avoids cabling cost
- Automatic sensor cleaning guarantee maintenance-free measurement
- Built-in unique algorithm eliminates stationary and moving structures
- Free WESSWARE software enables field data analysis and menu setup

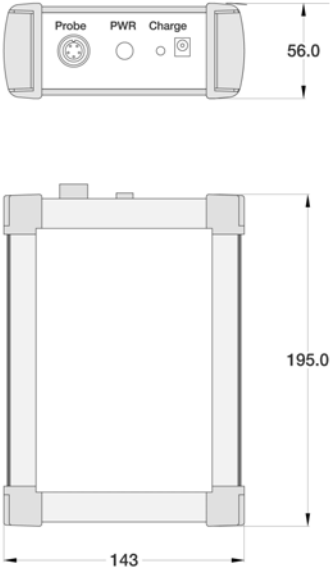
Product Dimensions

Controllers

ENV100-S/M

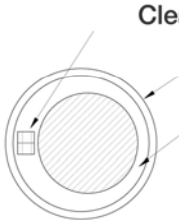
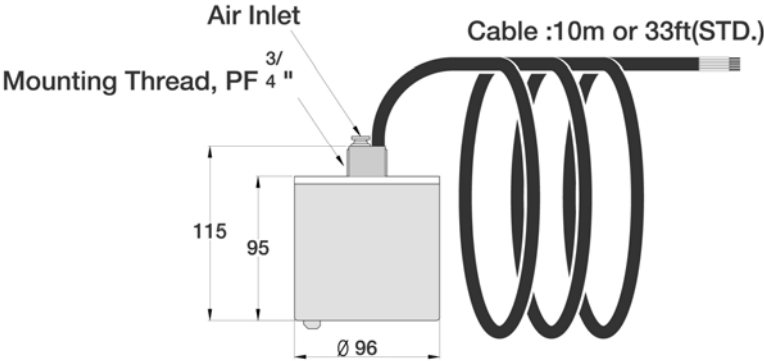


ENV100-P



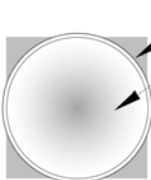
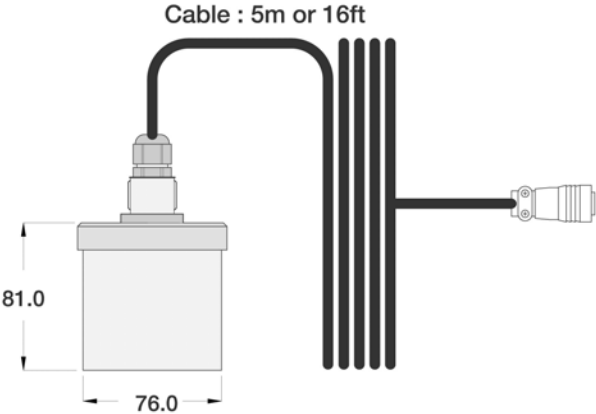
Sensors

S1-G



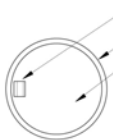
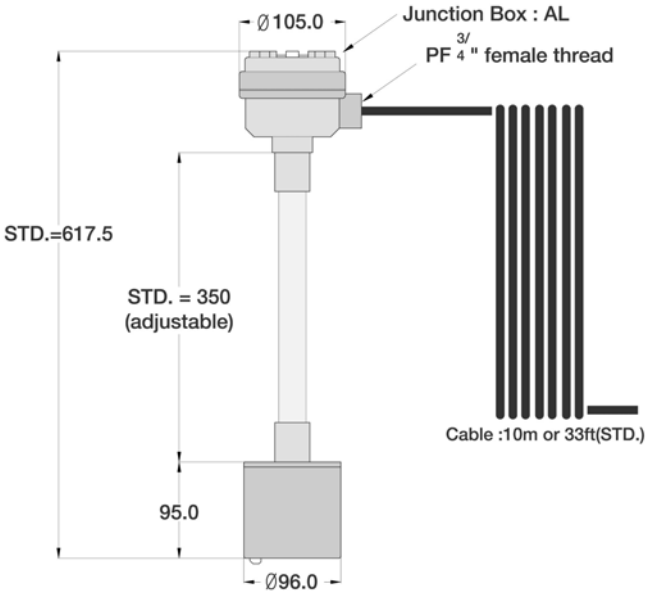
Cleaning Nozzle
 Probe body : SUS 316
 Ultrasonic Head: PVC + Epoxy

S1-P



Probe body : Clean PVC
 Ultrasonic head : Epoxy

S1-T



Cleaning Nozzle
 Probe body : SUS 316
 Ultrasonic Head: Teflon

Product Specifications**Controllers*****ENV100-S***

Measuring Principle	Ultrasonic Echo Flight Time
Measuring Ranges	0.35 ~ 10m(1~33ft)
Resolution	1cm(metric units), 0.1ft(UK units)
Accuracy	+/- 0.5% of measured range or 1 inch, whichever is greater
Operational Temperature	-20 ~ 70°C(-4~158°F)
Sensor Control	1 Point

Outputs

Current : 4~20mA, nom. Load 250Ω (load range : 100 ~ 750Ω)

Relay : 3 SPDT(5A, 250VAC) – “ER” “R1” “R2”

Digital : RS232C(Standard), RS485 or Profibus-DP(option)

Power Supply

Standard : 100 ~ 240V AC, 50~60Hz, ≤6W

Option : 20~30V DC

Enclosure Material	Body/Cover : FRP Window : Polycarbonate
Dimension	237(W) x 291(H) x 138(D)mm
Mounting	Hole center 153(W) x 273(H) mm(Ø 8.2 x 4ea)
Weight	3 kg
IP Rating	IP67
Data Saving	Maximum 400 days
Screens	Numeric, Echo Profile, Data Trend
Display	Sludge Level, Distance, Temperature, mA, Present Time
Certificate	CE

ENV100-M

Measuring Principle	Ultrasonic Echo Flight Time
Measuring Ranges	0.35 ~ 10m(1~33ft)
Resolution	1cm(metric units), 0.1ft(UK units)
Accuracy	+/- 0.5% of measured range or 1 inch, whichever is greater
Operational Temperature	-20 ~ 70°C(-4~158°F)
Sensor Control	Maximum 4 Points

Outputs

Current : 4EA X4~20mA, nom. Load 250Ω (load range : 100 ~ 750Ω)

Relay : 3 SPDT(5A, 250VAC) – “ER” “R1” “R2”

Digital : RS232C(Standard), RS485 or Profibus-DP(option)

Power Supply

Standard : 100 ~ 240V AC, 50~60Hz, ≤6W

Option : 20~30V DC

Enclosure Material	Body/Cover : FRP Window : Polycarbonate
Dimension	237(W) x 291(H) x 138(D)mm
Mounting	Hole center 153(W) x 273(H) mm(Ø 8.2 x 4ea)
Weight	3 kg
IP Rating	IP67
Data Saving	Maximum 400 days
Screens	Numeric, Echo Profile, Data Trend
Display	Sludge Level, Distance, Temperature, mA, Present Time
Certificate	CE

ENV100-P

Measuring Principle	Ultrasonic Echo Flight Time
Measuring Ranges	0.35 ~ 10m(1~33ft)
Resolution	1cm(metric units), 0.1ft(UK units)
Accuracy	+/- 0.5% of measured range or 1 inch, whichever is greater
Operational Temperature	-20 ~ 70°C(-4~158°F)
Sensor Control	1 Point

Outputs

Digital : RS232C(Standard), RS485(option)

Power Supply

3EA X AA Lithium ion rechargeable battery

Enclosure Material	Aluminum
Dimension	143(W) x 195(H) x 56(D)mm
Weight	1.5 kg
IP Rating	IP67
Data Saving	Programmable Memory
Screens	Numeric, Echo Profile
Display	Sludge Level, Distance, Temperature, Present Time
Certificate	CE

Sensors

S1-G

Material	Probe body : S.S. 316 , Ultrasonic Head : Grey PVC
Mounting Thread	3/4" PF female thread
Cable Length	10m(33ft)Standard, Max. 300m extensible on request
Operational Temperature	-10 ~ 60°C(14 ~ 140°F)
Beam Angle	8 degree
Frequency	160kHz
Weight	3kg
IP Rating	IP68
Cleaning Method	Air jet (built-in cleaning nozzle)

S1-P

Material	Probe body : Clean PVC, Ultrasonic Head : Epoxy
Cable Length	5m(17ft)
Operational Temperature	-10 ~ 60°C(14 ~ 140°F)
Beam Angle	8 degree
Frequency	160kHz
Weight	3kg
IP Rating	IP68

S1-H

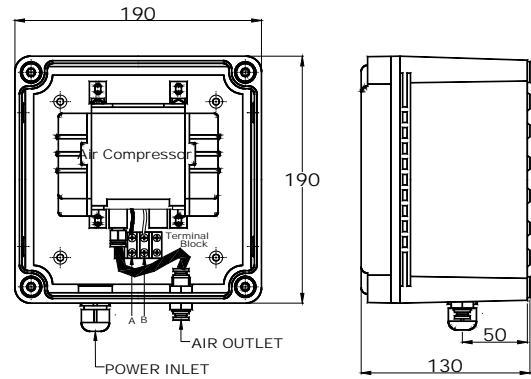
Material	Probe body : S.S. 316, Ultrasonic Head : Teflon Junction: Aluminum die-casting
Mounting Thread	3/4" PF female Thread
Cable Length	10m(33ft)Standard, Max. 300m extensible on request
Operational Temperature	-10 ~ 100°C(14 ~ 212°F)
Beam Angle	8 degree
Frequency	160kHz
Weight	4kg(include Junction)
IP Rating	IP68
Cleaning Method	Air jet (built-in cleaning nozzle)
Pipe Length Between Sensor and Junction	35cm(1ft)Standard, extensible on request

Optional Devices

Sensor Cleaning Device

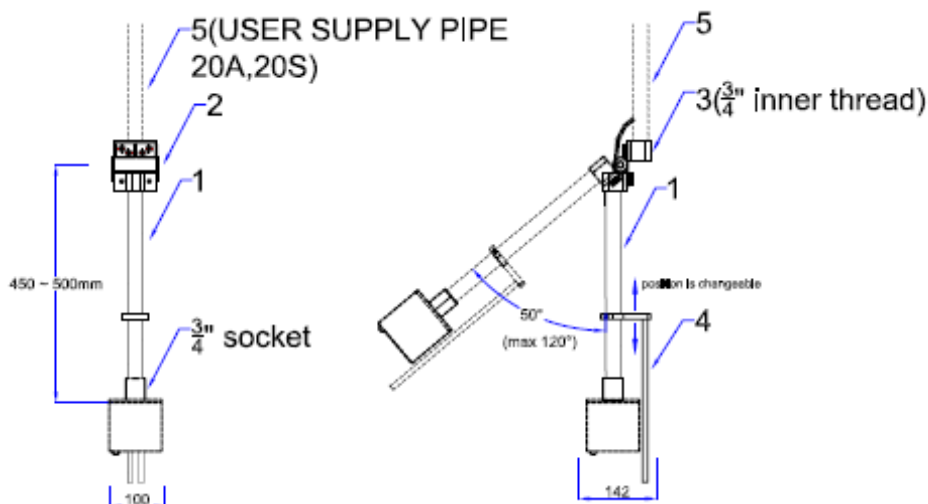
Periodical sensor cleaning is recommended as a precaution since floating debris and biological material is in contact with the ultrasonic sensor

Free Flow Rate	40L/min
Max Pressure/Vacuum	0.3bar/250mmHg
Oper. Temp.	-10 ~ 60°C (14~ 140°F)
Power supply	
	Standard : 220V AC ±10% , 50~60Hz, ≤40W
	Option: 110V AC ±10% , 50~60Hz
Enclosure Material	ABS
Dimension	190(W) x 190(H) x 130(D)mm
Mounting	Center hole 155(W) x 100(H) (M5 x 4ea)
Weight	2 kg
IP Rating	IP65



Swing Bracket

The swing bracket is to secure skimmer passage at clarifiers. Once it has passed, the bracket is free to fall, re-immersing the sensor into the clarifier water



Ordering Code

Controller C1- ■■■■

		Measuring Points	
	S	1 Point	
	M	2~4 Points	
	P	Portable	
		Power Requirement	
	A	AC 100 ~ 240V	
	D	DC 20 ~ 30V	
		Communication	
	S	RS-232C(Standard)	
	4	RS-485	
	P	Profibus-DP	
C1 -	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Sensor & Option S1- ■■■■

		Sensor Material	
	S	Stainless Steel	
	H	High Temperature	
	P	PVC sensor(Portable)	
		Cable Length(S, H sensors)	
	10	Standard 10m	
	**	Type total length in meters	
		Sensor Cleaning Device(SCD)	
	O	With SCD	
	X	Without SCD	
		Swing Bracket(SB)	
	O	With SB	
	X	Without SB	
S1-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>