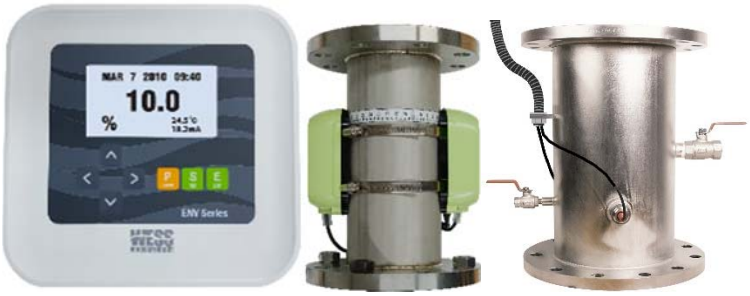
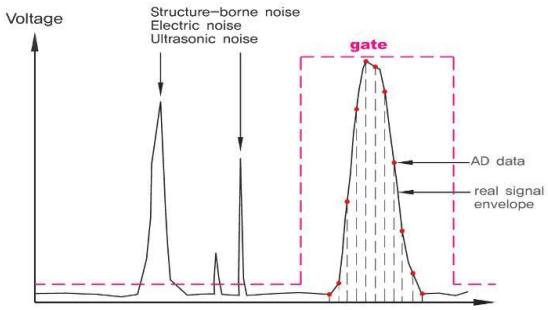
Ultrasonic Sludge Density Meter_ *ENV200*



The ENV200 is an ultrasonic instrument that measures the density of suspended solid in liquid. The ENV200 utilizes the EEA (Envelope Energy Average) method that saves reception signal envelop and then calculates its energy, rather than using the reception signal's amplitude change. ENV200 comprises of a controller and two types of sensors, such as Spool-piece and Clamp-on type to accommodate all field demands at installation.

Measuring Algorithm _ EEAM

Conventional ultrasonic attenuation density meter just determines density with amplitude of received signals. Unlike this, ENV200 is able to measure changes of concentration in a more sophisticated manner by adopting the patented EEAM (envelope energy averaging method), which measures not only the amplitude of received signals but also observes the shape of signal. It takes all energy as envelope and then convert it into density



Features

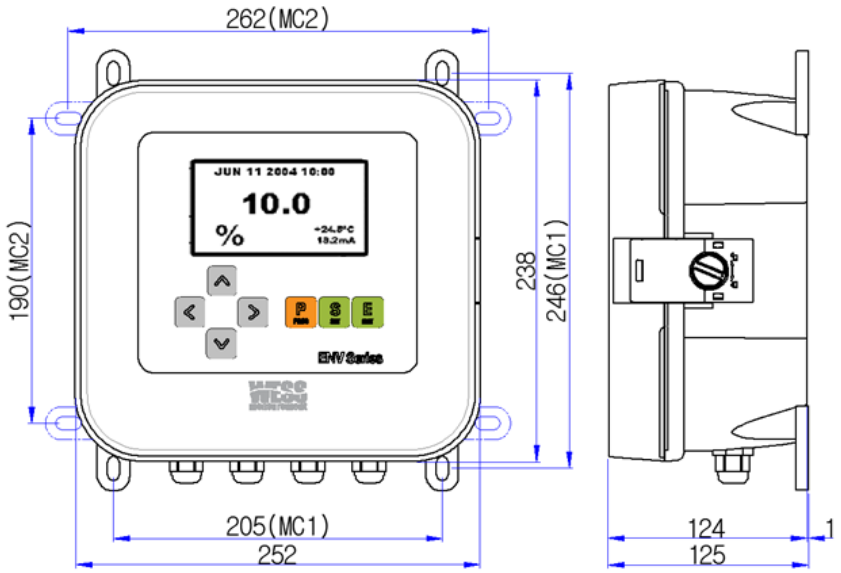
- Continuous and real-time measurement
- Reliable signal control EEAM(Envelope Energy Average Method) algorithm
- Various types of sensors to accommodate all field demands at installation
- Offer several density units, %, mg/l, g/l, ppm, kg/m³, g/cm³
- Maximum 400 days data logging and monitoring
- In-situ measurement and calibration
- Automatic sensor sensitivity control

Applications

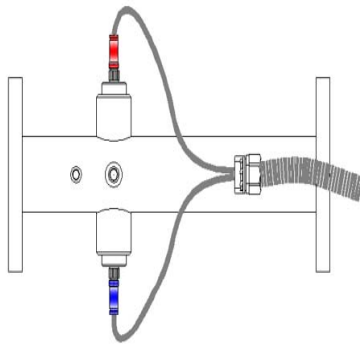
- Water / Wastewater Treatment
- Pulp and Paper
- Food and Beverage
- Power Plant
- Chemical
- Mining

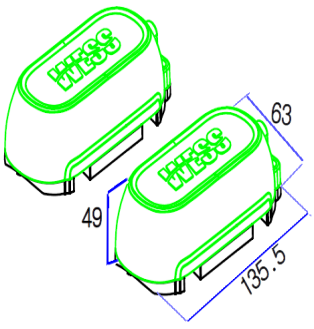
Product Dimensions (mm)

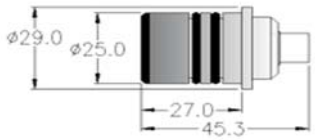
Controller– *C2S*

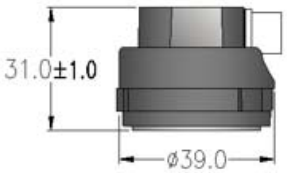


Sensor









Spool-piece

(S2S2)

Clamp-on

(S2C)

Controller *C2S*

Measuring Principle	: Ultrasonic Attenuation and EEAM(Envelope Energy Average Method)
Measuring Range	: 0 ~ 90% (0~900,000 ppm) 0 ~ 9999kg/m^3 (0 ~ 9.999 g/cm3)
Resolution	: 0.1% or 0.01% (Selectable), 1 kg/m^3 or 0.001 g/cm^3
Display	: Graphic LCD (Density, Time, Echo profile, mA, Etc.)
Accuracy	: ±1%
Operating Temp.	: -20 ~ +70°C (-4 to 158°F)
Outputs	Current output : 4 to 20mA, nom. Load 250Ω (Load range: 100 to 750Ω) Relay output : 1 SPDT (5A, 250VAC) Digital output : RS232(STD.), RS485(Option)
Power Supply	Standard : 100V ~ 240V AC, 50~60Hz, < 14W Option : 24V DC
Enclosure Material	: Body/Cover - ABS
Dimension	: 252(W) x 238(H) x 125(D)mm
Mounting	: Center Hole 205(W) x 246(H) mm (M6 x 4ea)
Weight	: 2 kg
IP Rating	: IP67
Data Saving	: Max. 400 days data logging and trend
Screen	: Numeric, Data trend, Echo profile, parameter
Certificate	: CE

Sensor

Spool-piece Type – S2S

Pipe Size	: DN50 ~ DN600
Operating Temp.	: -10 ~ +60°C (14 to 140°F)
Frequency	: 1.4 MHz
Cable Length	: 10m(STD.)
IP Rating	: IP68
Material	: Body: SUS304 (Opt. SUS316), Acoustic window: Epoxy
Dimension	: Total outline dim._ depending on requested pipe size Sensor_ Φ 25mm x L 45.3mm * 2pcs
Weight	: Sensor_ 85g x 2pcs

Clamp-on Type – S2C

Pipe Size	: DN50 ~ DN300
Operating Temp.	: -10 ~ +70°C (14 to 158°F)
Frequency	: 0.699~2.041 MHz
Cable Length	: 10m(STD.)
IP Rating	: IP68
Material	: Body: Polycarbonate, Acoustic window: MC Nylon
Dimension	: Incl. clamp parts_L 63 x W 135.5 x H 49(mm)* 2pcs Sensor _ Φ 39mm x H 31mm * 2pcs
Weight	: Incl. Clamp parts_ 144 g x 2pcs / Sensor _36g x 2pcs

Ordering Code

ENV200	CODE	Description
Controller	C2S	ENV200 Controller AC100~240V Unit : g/l, mg/l, % , ppm or kg/m^3, g/ m^3 (select)
Sensor	S2S2	Spool-piece type 2 sensor
	S2C	Clamp-on type sensor
Pipe	D_XXX	DIN Standard, XXX = Pipe diameter in mm
	J_XXX	JIS Standard, XXX = Pipe diameter in mm
	F_XXX	Flange to Flange distance (Unit: mm)
Option	DC	DC 24V
	RS4	RS485 (STD. RS232)
	MOD	Modbus communication
	C_XX	Total sensor cable length (Unit: m), (STD. 10m)
	SMK	Sensor mounting kit
Note	Ex.) C2S-S2S2-D_100-F_450-C_10 controller and Spool-piece sensor, Pipe size DN100, Pipe length 450mm, Total sensor cable length 10m	