SERES environnement

TURBISONDE

Water Quality

MEASUREMENT OF STRONG TURBIDITY IN WATER

TURBISONDE, THE SOLUTION FOR A FAST DETECTION IN ALL TYPES OF WATER :

- of medium and high turbidity,
- in situ,

EFFICIENTLY BACKED

- by a continuous automatic ultrasonic cleaning

The excellent performances demonstrated by the TURBISONDE rely on its outstanding and efficient concept that allows measurement of high turbidity in rough environmental conditions.

Benefits of the TURBISONDE :

- ✓ **Immerseable probe**
- ✓ **Sturdy design**
- ✓ **High performance auto-cleaning**
- ✓ **Maintenance-free**

CONCEPT & APPLICATIONS

SERES KNOWHOW in the field of water analysis

Self-cleaning submersible probe for the continuous measurement of strong turbidity :

- Method : IR measurement by nephelometry
- **In-situ immersable probe** (up to 1 bar)
- **Automatic ultrasonic cleaning** of sensor probe (patented process), adjustable frequency
- **Ranges from 0-50 to 0-2000 NTU, user configurable**
- **Flexibility : optional 2nd stream**
  (2 probes for 1 control cabinet)

APPLICATIONS :

- Inlet & outlet of waste water treatment plant,
- Activated or recirculation sludge tanks, clarifiers,
- Sewerage network,
- Raw waste water from industries (papermills, ...),
- Surface water.

KEY FEATURES

Conforms to ISO 7027 / NF EN 27027 standards
Response within few seconds only
Weather proof transmitter housing suitable for outdoor installation
Continuous operation, no attendance
No wearing parts, no maintenance of the sensing probe
No drift of the sensor thanks to automatic ultrasonic cleaning
Attendance limited to calibration control, once every 6 months only

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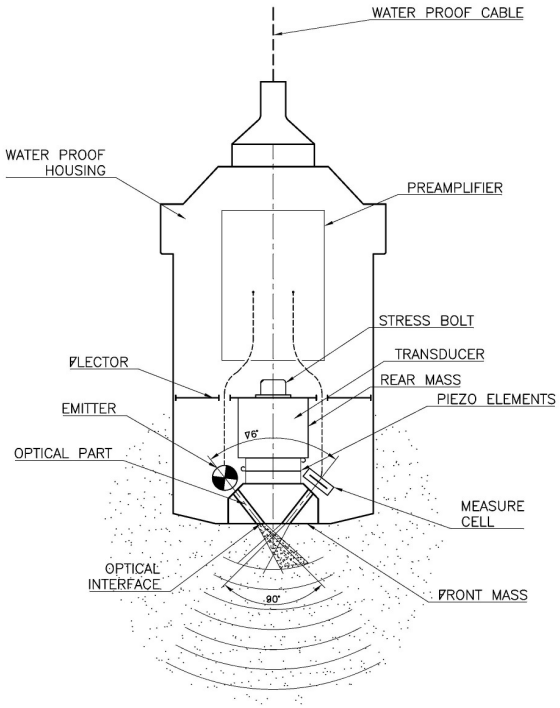
ANALYTICAL METHOD

TURBISONDE operation is based on infra-red (IR) measurement by nephelometry.

- The light dispersed at 90 degrees from incident ray by suspended particles is detected by the measuring cell.
- The signal yielded is strictly proportional to the concentration of diffusing particles and water turbidity.



TURBISONDE benefits :

- ✓ **"True" zero** : no signal is generated if water if turbidity-free.
- ✓ **No drift nor maintenance** thanks to the automatic cleaning system of the submersible sensing probe : maximum ultrasonic efficiency (patented process).

TECHNICAL SPECIFICATIONS

CONSTRUCTION & ENVIRONMENT

Control box Weight & Material	Dimensions : 300 x 400 x 200 mm (W x H x D) 10 kg - IP65 polyester cabinet - EMC compliant
Sensor probe Weight Material Connection	Submersible up to 1 bar, L = 140 mm - Ø = 60 mm 1 kg Moulded Epoxy resin part Standard probe connection lead : 10 m
Environnement	Installation in safe area, away from corrosive atmosphere. Ambiant T° : -20°C / +50°C

POWER SUPPLY

Electrical supply	230 VAC 50 Hz (24 VDC on request)

ANALYSIS

Method	Continuous measurement by nephelometry in IR
Parameter / Units	Water turbidity / NTU or FTU units (others on request)
Ranges	0 - 50 / 100 / 250 / 500 / 1000 / 2000 NTU Ranges are user configurable and selectable (0 to 4000 mg/l on request)
Number of streams	1 stream (1 sensor probe) - max 2 streams / 1 control box on option, for 1 or 2 turbidity ranges
Resolution	1 NTU for range 1000 NTU
Response time	Few seconds
Accuracy	± 1% ful range
Repeatability	± 2% full range

CONNECTIVITEY ALARMS & COMMUNICATION

User interface	1 line alphanumerical display - 8 digits
Input signal	1 input 4 - 20 mA for remote transmission of another parameter (dissolved O2, conductivity, flow, redox, ...) 2 dry contacts
Output signal & Transmission	2 output 4 - 20 mA 1 output RS232 current loop (option)
Alarms	2 programmable dry contacts (2 set points) per stream 1 analyser failure

OPERATION

Cleaning	Continuous on the optical surface of the probe sensor by ultrasounds, at 10 min or user configurable frequency Patented process
Sample T°	+ 4°C to + 40°C
Interférence	Sensor probe insensitive to daylight
Drift	None
Calibration control	Manual using 1 or 2 standard solutions Frequency : once every 6 months

CONFORMITY & OPTIONS

Conformity	Nephelometry : ISO 7027 / NF EN 27027
Options On request	Cranked probe holder (in SS) Extended probe connection : max length 20 m

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