

AMI Turbiwell

EPA approved non-contact white LED method for automatic and continuous measurement of turbidity in potable water, surface water and wastewater.

- Measurement range
0.000 – 100.0 NTU
- Accuracy +/- 0.003 NTU
- Four year warranty
- Non-contact measurement
- Optional degasser
- Complete system mounted on panel
- Auto-Drain available
- Stable white LED
- Lifetime calibration

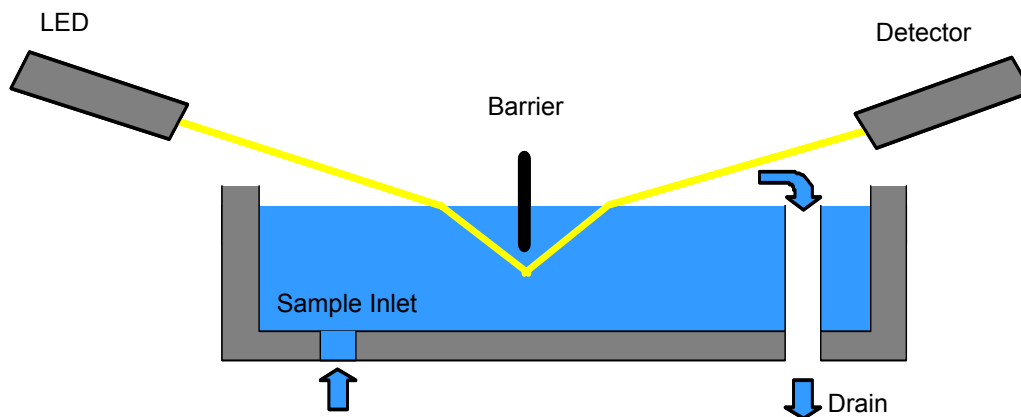


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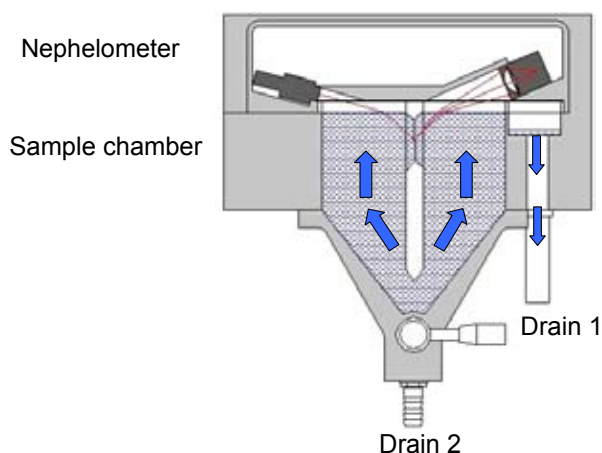
Summary of method

The turbidimeter is nephelometric and the method is based upon a comparison of the intensity of light scattered by the sample under defined conditions with the intensity of light scattered by a standard reference suspension; the higher the intensity of scattered light, the higher the turbidity.

How it works



The LED white light source transmits light through the water sample to a photo-electric detector. The source and the detector are at a 90 degree angle, with a barrier in place to prevent any surface light refractory. The detector measures the incoming scattered light. A second detector is located at the LED source to measure intensity. An algorithm is used to calculate turbidity based on the intensity of both signals.



The sample enters at the sample inlet. A constant head guarantees a constant sample flow into the sample chamber. Excess sample overflows directly into drain 1. The sample flows into the sample chamber, fills it, and overflows into drain 1. The LED beam impinges continuously on the sample surface.

Specifications

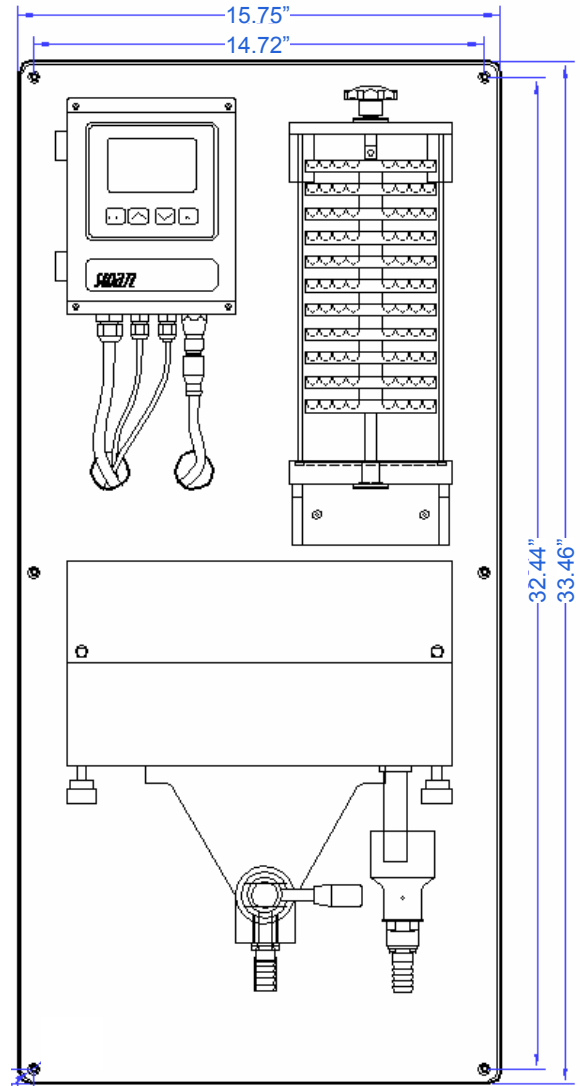
Measurement range: 0.000 to 100.0 NTU

Automatic range switching

Accuracy: +/- 0.003 NTU or 1% of reading

Electronics case:	Aluminum
Environmental rating:	IP 66/NEMA 4X
Display:	LCD backlit
Electrical connectors:	Screw clamps
Temperature rating:	-13 to 149°F
Humidity:	10 to 90% relative, non condensing
Power supply:	85-265 VAC, 47-63 Hz or 24 VDC, +/- 15%
Power consumption:	Max. 20VA
Inputs:	1 dry contact
Outputs:	2 relay outputs 1A/250 VAC 2 0/4-20mA outputs (510) ohms
Communications:	(optional) RS232 HyperTerminal, RS485-Fieldbus, Profibus DP, Modbus RTU or third 0/4-20mA output
Flow rate:	5-16 gallons per hour
Sample temp.:	Up to 104°F, max 9°F over ambient temperature
Outlet pressure:	Pressure free, atmospheric drain

Real-time clock with calendar for action time stamp and preprogrammed actions.



Sample connections

Inlet: 1/4" thread

Drain: 1/2" thread

Panel

Dimensions: 33.5" x 15.75" x 7.87"

Material: white PVC

Weight: 22lbs.

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Suggested Engineering Specifications

1. The turbidity of the influent/effluent shall be measured by a SWAN Analytical Bulletin A2541 Model Turbiwell w/LED turbidimeter. The turbidimeter shall operate on 85-265 VAC or 24 VDC incoming power and shall provide two 0 to 20/4 to 20mA signal outputs proportional to the measured turbidity range of zero to 100.0 NTU.
2. The nephelometer shall incorporate a non-contact method of measurement and shall utilize a white LED source.
3. The instrument shall incorporate the SWAN AMI Turbiwell Method of measurement as approved by the EPA.
4. The turbidimeter shall be factory calibrated with Formazine and shall not require future calibrations for the lifetime of the instrument.
5. The turbidimeter shall include 1 alarm relay, 2 programmable relay outputs and the optional communication interface for Modbus or Profibus DP.
6. The instrument shall include a real-time clock with a calendar for time stamp and preprogrammed actions.
7. The turbidimeter manufacturer shall include a full four year warranty.

Order Information	Monitor AMI Turbiwell	A – 2 5 . 4 1	X.	7	X	X.	X
			↑		↑	↑	↑
Power supply.....	85-265 VAC, 47-63 Hz.....	1					
	24 VDC, direct current.....	2					
Signal output option.....	None.....				0		
	Profibus DP interface.....				2		
	Hyper Terminal interface (for logger download).....				3		
	Modbus interface (for Webserver connection).....				4		
Sample degasser option.....	None.....					0	
	Sample degasser.....					1	
Drain valve.....	Manual drain valve.....						1
	Automatic drain valve: ("Auto-Drain" with electrical motor).....						2