T10 Turbidity Meter Technical Specifications

This document outlines the technical specification for the T10 turbidity meter. Please note that these specifications apply to manual turbidity analysis with the T10 meter only.

For details about automated turbidity analysis with the T10 and MT Environmental Titrators, please contact MANTECH at 519-763-4245 or at info@mantech-inc.com.

Measurement method	Ratio determination using a primary nephelometric light scatter signal (90°) to the transmitted light scatter signal.
Reading units	NTU/ EBC
Lamp Source	Tungsten Lamp (White Light); LED Lamp at 850nm (IR Light)
Method Conformity	EPA 180.1, ASTM D1889, SM 2130B (White Light); ISO 7027 and EN27027 (IR Light)
Detectors	Silicon Photocell Detectors at 90 and 180 degrees around the sample ensure all scattered light is measured.
Measuring Range	0 to 1000 NTU / 0 to 250 EBC
Resolution	0.01 on lowest range
Accuracy	± 2% of reading: 0 to 1000 NTU
Repeatability	± 1% of reading or 0.01 NTU
Automatic Reading	With user-defined intervals 0 to 250 seconds
Maximum uncertainty	± 2% of full scale
Display	LCD 2 lines / 16 characters
Response Time	Programmable 6 to 41 sec
Data Logger	Up to 1000 data
Auto ShutOff	Programmable from 1 to 60 min
Fast Cal function	Quick Calibration for single point
Software Functions	Signal averaging, "Fast Settling", results freezing, analyst and sample identification, calibration status, verification and calibration reminder, calibration history, password
Sample Required	15 ml vial with lid
Sample vials	Round borosilicate glass vial with screw and caps (Φ = 24,5 mm)
Power Supply	4 AA batteries or USB power supply cable
Indicator	Low battery indicator / battery exchange
Serial Output	USB
Storage Conditions	0 to 40°C (instrument only)
Dimensions	114 x 198 x 83 mm

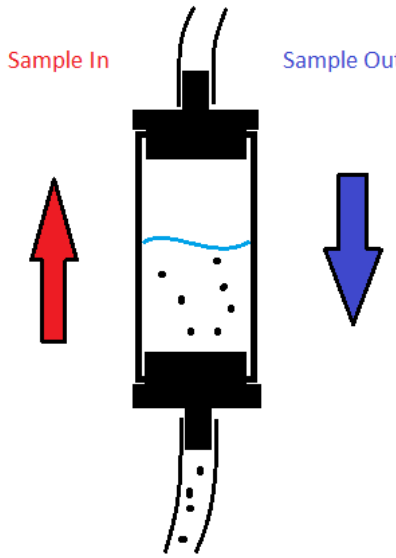
TECHNICAL BULLETIN

NUMBER 2019 - 019

Date: **December 16, 2019**
Author: **Justin Dickerman**
Subject: **Advantages of the MANTECH Flow-Through Turbidity Cell**

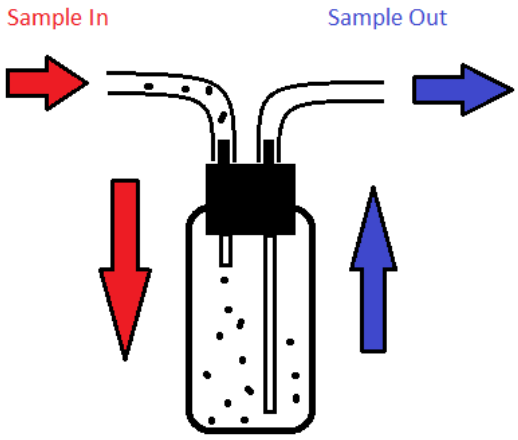
MANTECH's automated turbidity solution features numerous unique advantages to promote rapid, accurate, and reliable turbidity analysis from only 40mL of sample volume. This document highlights these advantages and provides a comparison to other flow cell solutions on the market.

Proprietary Flow-Through Turbidity Cell



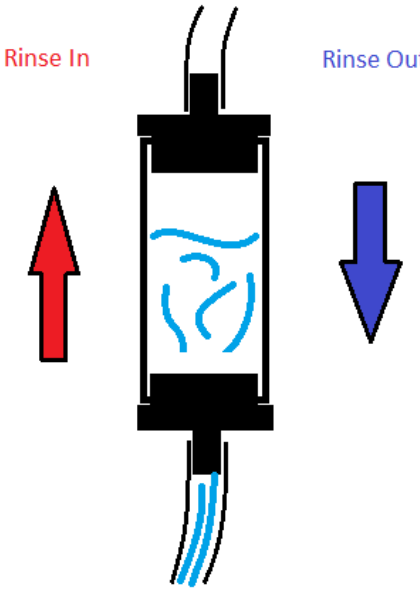
- Bi-directional pumping achieved with x1 reversible pump
- Sample is introduced from the bottom, fills cell and eliminates bubbles
- Sample is reverse pumped out through the bottom, emptying before rinsing
- All particles and liquid flush completely from cell every time

Standard Flow-Through Turbidity Cells



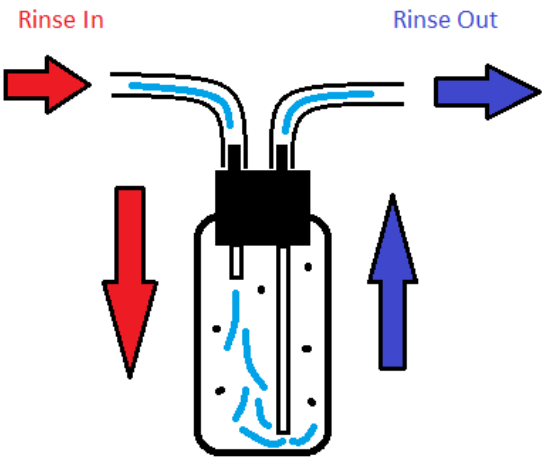
- Pumping in only one direction
- Sample is introduced through the top of the cell, sucked out through a fixed straw
- Cell never empties, therefore potential for dilution effects, carryover from previous samples
- Particles and solids can become trapped in the cell, nothing forcing them out

Proprietary Flow-Through Turbidity Cell



- Rinse water is introduced through the bottom
- Bi-directional pump performs rapid reverse and forward pumping to improve cleaning performance
- Active monitoring of turbidity value in rinse water confirms cell cleanliness
- Cell fully empties so NO particles, solids, or residue can remain from previous samples

Standard Flow-Through Turbidity Cells



- Rinse water introduced through the top, sucked out through fixed straw
- Particles can remain in suspension within the cell
- In some cases, extra pumps are required for rinsing.
- Requires significant volume and time
- More potential for requiring user intervention

For further details, please contact the MANTECH technical team at support@mantech-inc.com.