novomatics
labtech solutions

high accurate turbidity measurements

easy operation


stand alone or PC operation

programmable temperature profiles

*new automatic turbidity analyzer*

# TURBITRONIC II

**automatic cloud point determination made simple**

# Introduction

The TURBITRONIC II turbidity analyzer provides high-grade accuracy and efficiency by combining fibre optic transmission, turbidity detection, temperature control and stirring rate control in one compact microprocessor based test system. The TURBITRONIC turbidity analyzer determines cloud points and clear points fully automatically over a wide temperature range of -5 up to +95°C by thermoelectric Peltier technology.

The TURBITRONIC test system allows determination of turbidity, cloud points and clear points with a high degree of accuracy and reproducibility. By exact programmable test conditions this methodology offers great advantages over the usual manual test methods. The TURBITRONIC is a problem-solving approach to test compatibility and stability of pure liquids and solutions and offers a practical solution to commonly encountered problems.

# Typical applications

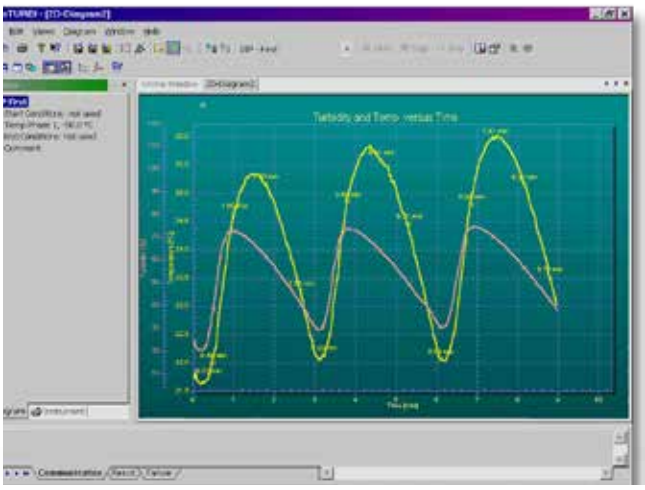
- cloud/ clear/pour point testing
- dissolution testing
- non-ionic surfactants testing acc. to ISO 862/EN 1890
- polymers
- ethoxylated alcohols
- mineral and vegetable oils
- oleochemicals
- concentrated liquid detergents

## Features

- ◇ high accuracy in cloud point determination plus automatic record of test parameters and results by an optional external printer.
- ◇ microprocessor controlled test system for production and quality control applications in industrial processes and R & D
- ◇ time saving, fully automatic test method, independent on the operator or circumstances
- ◇ simple test procedure by the use of standard borosilicate glass test tubes
- ◇ various user-defined temperature profiles to adapt the test system to specific applications and norms
- ◇ fast calibration procedure to define the turbidity detection range with turbidity standards or own references

## Turbidity analysis

Advanced turbidity analysis is possible by use of **WinTURBI** application software. By this software, all functions of the TURBITRONIC instrument can be controlled from any PC. Automatic data collection and graphical data display facilitates precise analysis of test samples. The data collected and previous data may be viewed and analyzed. Turbidity can be plotted versus time or temperature and can printed providing a permanent record of each test.



## Test procedure

The glass test tube must be filled with only 20 grams of liquid and must be inserted into the hole on top of the instrument. After that, the precision Pt100 thermometer assembly is placed on top of the test tube. Then the test program for the test is selected and the actual test can be started by pushing the start button. The temperature will follow the temperature slopes and end points of the selected test program. The temperature at which the resin precipitates in the solution is called the cloud point. This point is detected accurately and a record of the test is printed out automatically at the end of the test.

## Calibration

It is becoming increasingly important that instruments can be calibrated by the user. NOVOMATICS can supply reference fluids with a defined turbidity for calibration of the turbidity over the total measuring range. It must be noted that these turbidity standards fluids should be replaced annually. Alternatively, turbidity calibration can be taken from a sample with known or desired turbidity as reference and measurements can be compared to this reference (Ratio-method). These kinds of measurements are very difficult to do by visual comparison.

# Technical data

| | |
|---|---|
| Overall turbidity range | 40....4000 NTU (4....4000 NTU optionally) |
| Turbidity calibration | min/max levels by turbidity standards (Formazin) or by automatic calibration |
| Ratio-method | stores turbidity of reference liquid automatically |
| Reproducibility | ± 0.1°C |
| Temperature range | -5....+95°C (-10....+95°C on request) |
| Temperature accuracy | ± 0.3°C (± 0.1°C on request) |
| Temperature calibration | auto calibration |
| Stirring speed | 60.....600 rpm |
| Volume of test sample | 20 ml |
| Mains voltage | 110 V or 220 V / 50-60 Hz |
| Dimensions | 270 x 295 x 400 mm (W x H x D) |
| Weight | 13,0 kgs |

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