

**Turbidity sensor CELL TURB**

Cell TURB is a turbidity sensor to be used in conjunction of FWT turbidity meter PW96 TURB.

#### **WHAT IS TURBIDITY ?**

**Turbidity** refers to **how clear the water is**. The greater the amount of total suspended solids (TSS) in the water, the more "turbid" it appears and higher the measured turbidity. All the necessary steps involved in drinking water or swimming pool treatment can be monitored and controlled by turbidity measurement. Turbidity is a measure of the degree to which the light is scattered by suspended particles material and soluble compound in the water. It provides an estimate of the muddiness or cloudiness of the water due to clay, silt, finely divided organic matter, soluble colored organic compounds and microscopic organisms. The major effect turbidity has on humans might be simply aesthetic - people don't like the look of dirty water. However, turbidity also adds real costs to the treatment of surface water supplies used for drinking water since the turbidity must be virtually eliminated for effective disinfection (usually by chlorine in a variety of forms) to occur.

#### **HOW IS TURBIDITY MEASURES ?**

Turbidity is a measure of how much of the light traveling through water is scattered by suspended particles. The scattering of light increases with increasing suspended solids content.

#### **WHAT ARE NTU's (Nephelometric Turbidity Units) ?**

They are the units we use when we measure Turbidity. The term Nephelometric refers to the way the instrument estimates how light is scattered by suspended particulate material in the water. CELL TURB is formed by a body and an internal dark room in which there are light emitting photodiodes set at 90 degrees to the direction of the light beam going through a glass prism to estimate scattered rather than absorbed light. This measurement generally provides a very good correlation with the concentration of particles in the water that affect clarity.

CELL TURB is an IN-LINE cell: the incoming water goes through a glass cylinder prism which reflects the light beam generated by the photocell.

#### **CALIBRATION**

Calibration of CELL TORB is not needed: the equipment is calibrated at factory, using a special solution and according to 40,0 NTU. Recalibration is required when the values shown are incorrect. It is not necessary to clean the sensor box interior, upon the receipt of the instrument. It can be installed and used, immediately. When necessary to recalibrate, you must advice the company and require the tools and solution.

#### **TROUBLE-SHOOTING**

If measures value fluctuates constantly, try to reduce in-coming water flow to turbidity sensor. Install the flow regulating valve away from sensor box.

Parameters	Value
Measuring range:	0÷40,0 or 0÷20,0 NTU (to specify at the order)
Functioning mode:	Optical transmission
90° setting sensors:	Light Emitter photodiode – Receiver photodiode
Cleaning mode:	Manual cleaning of glass cylinder prism into dark room
Measuring adjustment range	Programmable by operator
Maximum sample water pressure allowed into sensor box:	1 bar
Recommended flow rate through sampling tube must range between	1÷15 liters per hour (install flow regulating valve away from sensor bow)
Connections	BSP female 1/2" / nipple for hose 10x14 mm
Material:	PVC
Weight:	1630 gr.

