

# TD-700 Laboratory Fluorometer

Turner Designs...  
Over 25 Years of  
Fluorescence  
Technology

The  
Turner Designs  
TD-700  
Laboratory  
Fluorometer



## An Overview

The TD-700 Laboratory Fluorometer is a compact, versatile, sensitive, and low-cost benchtop fluorometer that features a unique multi-assay filter cylinder, wide wavelength range, menu-driven software, RS-232 serial interface, and multi-point calibration. A variety of compounds can be easily measured using application-specific optical kits available from Turner Designs.

## Features of the TD-700

- ❖ *Multi-assay filter cylinder houses eight easily-changeable filters for four different applications.*
- ❖ *Wide wavelength range: measures fluorescence from UV to red range.*
- ❖ *PMT detector provides superior sensitivity and range.*
- ❖ *Flexible sample compartment accommodates 25 x 150 mm round, 13 x 100 mm round, 10 x 10 mm square cuvettes, 75 µl minicell, or 9 µl microcell for wide range of sample volumes.*
- ❖ *Automatic Range Optimization: range, gain, and resolution are set automatically - eliminates operator error from working in the wrong range.*
- ❖ *Multi-point calibration: stores 1-to-5 point calibration curves for quantitative determinations.*
- ❖ *Optional solid, secondary standards allow easy calibration verification.*
- ❖ *Kinetics software: Outputs data to a computer or printer at selectable intervals.*

## Accessories

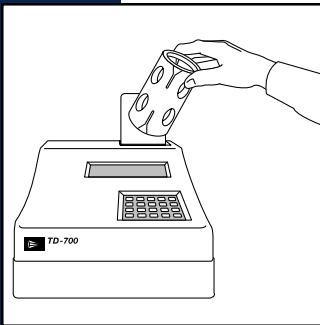
Simple, stable **Solid Secondary Standards** allow verification of calibration settings. No special storage conditions are required.

Our **Minicell Adaptor Kit** and the TD-700 combine to form a convenient, versatile, and reproducible measurement system using 75-250µl.

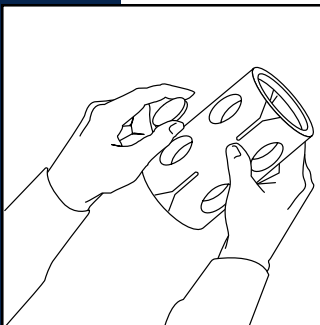
The **Helix Microcell** is used for applications where small volumes are a concern, allowing 3 to 9 µl of assay solution.

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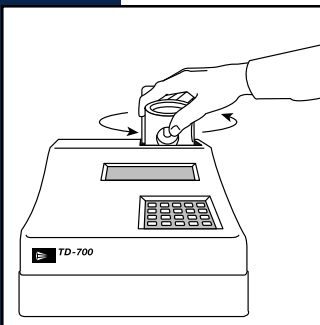
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Lift the TD-700's sample chamber door and the unique filter cylinder slips out easily; it is ported to allow four different filter combinations.



Up to eight one-inch round filters (four excitation and four emission) are easily inserted.



Seat the filter cylinder back in its chamber. With eight filters installed, the user can now switch between four different fluorescence analyses in seconds, just by rotating the cylinder.

## Numerous applications exist in...

- ❖ **Molecular Biology**
- ❖ **Chlorophyll Measurement**
- ❖ **Water Monitoring**
- ❖ **Fluorescent Tracer Studies**
- ❖ **Food Processing**

## About Fluorescence

Certain compounds absorb light at one wavelength and re-emit, or fluoresce, light at another wavelength. Using the proper optical filter and lamp combination, a filter fluorometer can measure this light and quantify the compound present. Filter fluorometry is often chosen over other analytical techniques because of its superior sensitivity, high selectivity, and low cost.

## Product Specifications

### Sensitivity:

Chlorophyll *a*: 20ppt (ng/L) using 13 x 100 mm test tube and Red PMT.

PicoGreen: 25 pg/mL dsDNA in 2 mL assay volume.

Hoechst: 5ng/mL DNA in 2 mL assay volume.

FITC: 20 pg/mL using 25 x 150 mm test tube; 50 pg/mL using 10 x 10 mm square cuvette.

**Filter Cylinder:** Accommodates eight, 1-inch round filters, (four excitation and four emission).

**Detector:** Factory-installed photomultiplier tube.

Standard: 300 - 650 nm.

Red Sensitive: 185 - 870 nm.

**Lamp:** Quartz Halogen Lamp (20 watts; Lamp life = 2000 hours) or Low Pressure Mercury Vapor Lamp (4 watts; Lamp life = 8000 hours).

**Sample Adaptors:** Accommodates 25 x 150 mm test tubes, 13 x 100 mm test tubes, and 10 x 10 mm square cuvettes.

Optional 75-250 µl minicell or 9 µl microcell adaptors.

**Readout:** Direct Concentration or Raw Fluorescence.

**Calibration:** Multi-point Calibration for Direct Concentration Measurement or Single-Point Raw Fluorescence Calibration.

### Optional Solid Secondary

**Standards:** Simple, stable standards allow verification of calibration settings. No special storage conditions are required.

**Blank:** Reads and subtracts Blank.

### Discrete Sample Averaging:

Sample readings can be averaged to improve accuracy (7-second delay; 12-second signal averaging; 5-second display readout).

**Kinetics Software:** Outputs every 1, 2, 5, 10, 30, or 60 seconds. User selectable.

**Data Output:** 100% ASCII format through a 9-pin RS-232 serial cable at 9600 baud.

**Printer:** Optional Serial Printer.

### Operating Temperature:

60 - 95°F; 15 - 36°C.

**Weight:** 5.9 kg (13 lbs).

**Dimensions:** 23.5 cm W x 28 cm D x 21 cm H, (9.25" W x 11" D x 8.25" H).

**Power:** External power supply, 100-240 VAC, max. 30 watts.

**Warranty:** One-year warranty.

**Approvals:** CE, TUV, UL, and CUL.



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