

**Fiber Optics Dissolution System**[\[Hanson/C Tech\]](#)[\[How System Works\]](#)[\[Data Acquisition/ Sample Analysis\]](#)[\[Method Validation\]](#)**Fiber Optics Dissolution System**

from Hanson Research &amp; C Technologies, Inc.

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Now there's an easy way to bring the power, accuracy and sheer speed of fiber optic technology to your dissolution research. The new Fiber Optics Dissolution System is a complete package that provides immediate data points from all specimens for dissolution rate analysis. Ideal for formulations labs and method development teams investigating immediate release

products, this system includes the **Hanson SR8-Plus™ Dissolution Test Station**, **C Technologies IO™ Fiber Optic Analysis System** (featuring a **Varian Cary™ 50 UV/VIS Spectrophotometer**), and a **complete System Validation Package**. Available worldwide from Hanson Research, the leader in dissolution test technology.

**Advantages of the Hanson System**

- Complete fiber optic dissolution system providing everything you need for research, method development and quality control programs.
- Fiber optic technology eliminates the need to remove samples. The concentration of dissolved constituent is measured in situ,
- Hanson E-Probes™ automatically drop fiber optic probes to specified sampling position in vessels, then return back to media level after sample analysis.
- A single scanning UV/VIS spectrophotometer eliminates stray light problems as well as the need for cross-calibration and corrections

directly in the vessel.

- Immediate data points are provided from all specimens for comprehensive dissolution rate analysis.
- Ideal research tool for formulations teams investigating drug release characteristics and variances caused by formula modifications.
- System components include industry-proven Hanson SR8-Plus™ dissolution tester, C Technologies fiber optic system, and Varian Cary™ 50 detector.

common with other fiber optic systems.

- An extensive data acquisition and analysis software package is included with the fully-loaded PC workstation.
- A complete system validation package is available. Hanson and C Tech/Varian software is USP/FDA compliant, including 21CFR11.
- Qualified sales and service support worldwide.

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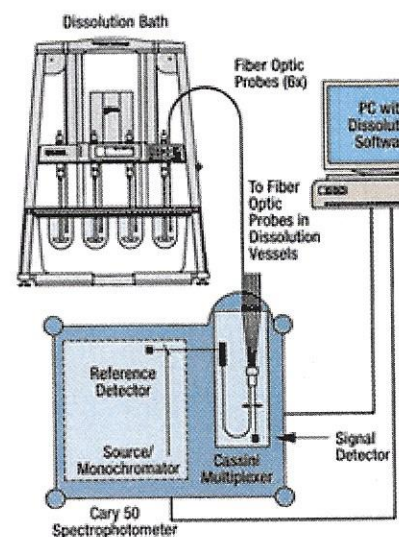
## Fiber Optics Dissolution System

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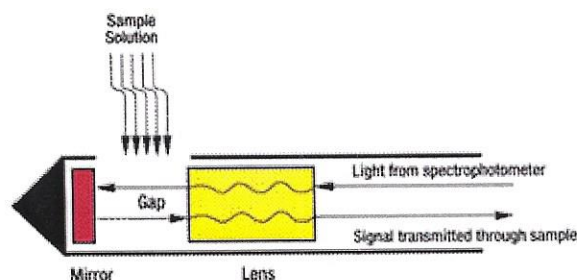
## How the System Works

With a fiber optic dissolution system, the concentration of dissolved constituent of each specimen is measured in situ, directly in the vessel. The light from the UV source (Cary™ 50 spectrophotometer) is coupled to optical fibers with the multiplexer (C Technologies Cassini™). The fibers transfer the light from the source to the probes, which are immersed in the bath vessels (Hanson SR8-Plus™). The fibers used are made with a silica core and silica cladding specifically selected for transmission in the UV range. The probes are specifically designed for dissolution measurements. They consist of the illumination fiber from the source, the signal fiber to the detection system, a quartz focusing lens, and a back-surface mirror, housed in a slim stainless steel body.

Schematic of fiber optic dissolution system



Schematic of fiber optic probe



The light from the source is focused by the lens through the volume of liquid that occupies the gap and then reflects back from the mirror at the other end. The light again traverses through the liquid in the gap and is then refocused by the lens into a signal fiber in the probe. The signal channel carries the light transmitted through the sample back to the detection system for analysis. In a fiber optic dissolution system, the sample volume is simply the liquid present in the probe gap at the time of measurement. The "pathlength" of the cell is determined by this gap, which can be changed by choosing a replaceable tip with appropriate spacing.

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### **Corporate Headquarters:**

9810 Variel Avenue, Chatsworth, CA 91311 USA

### **Map and Directions**

**Telephone:** 800-821-8165, 818-882-7266

**FAX:** 818-882-9470

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