



## SDi2 Dissolution Imager

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The SDi2 uses ultra-violet and visible imaging to provide unique insights into the breakdown and dissolution of drug products and/or API compacts, in real-time. The resulting data support rapid, informed decision-making in formulation and dosage form selection, and the optimization of whole dosage form composition.

Using a powerful 4.2 megapixel ActiPix™ detector, the SDi2 captures dynamic processes at the solid-liquid interface, generating high-resolution 2D videos that help scientists to build a complete understanding of sample dissolution behavior. The system enables simultaneous measurement of sample dimensions and drug release. In combination these capabilities enable the measurement of erosion, swelling and disintegration kinetics, drug release rates and intrinsic dissolution, with a single experiment.

- Switch easily between two different flow cells to characterize different samples - a compact design for testing powders, using minimal amounts of sample, and a whole dosage design for complete drug products based on the USP 4.
- Assess disintegration behavior in different dissolution media to advance formulation development and optimize dose design.

- Troubleshoot formulations by providing information that is not accessible with conventional dissolution testing methods.
- Automatically change dissolution media at a pre-defined time to simulate the *in vivo* environment, notably gastric to intestinal transitions.
- Minimize the risk of cross-contamination and streamline use with a fully integrated and automated fluidics systems with built-in flushing and cleaning procedures.

### FLOW CELLS

**Compact Flow Cell** - For use in research and early development where compound availability is limited. With a small volume flow-through cell design, intrinsic dissolution rates of poorly soluble drugs can be measured in minutes, rather than hours or days. Used to study powder compacts to investigate dissolution behavior.

**Whole Dose Flow Cell** - For use in formulation and development of final dosage form. Design is based on USP Apparatus 4 (flow-through cell), using equivalent linear velocities with the added benefit of real-time visualization. Study tablets, powder/gel capsules, and extended-release formulations

### ACCESSORIES

Tablet press and compaction kit

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## TECHNICAL SPECIFICATIONS

- Compact Flow Cell
  - 3 mm diameter
  - Requires 3 – 10 mg sample amount
  - 1.54 ml total volume
  - 4 mm x 26 mm (H x W) viewing area
  - 9 mm pathlength
- Whole Dosage Flow Cell
  - contains a wire-frame tablet holder
  - 20 mm maximum tablet length
  - 60.3 mL total volume
  - 28 mm x 24 mm (H x W) viewing area
  - 28 mm pathlength
- Camera frame rate, 1 frame per second per wavelength
- Camera pixel size (resolution) 13.75  $\mu$ m
- Ultraviolet wavelengths: 255, 280, 300, and 320 nm  $\pm$  5 nm
- Visible wavelengths: 520 nm  $\pm$  5 nm
- Dual-wavelength capability
- pH 1.0 - 10.0
- Media volume defined by user up to 2 different media used per experiment
- Operating temperature 5 - 40°C

## DIMENSIONS AND WEIGHT

Height	Width	Depth	Weight
375 mm	750 mm	345 mm	22 kg



**Pion stands behind the science**

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