

Unique Instruments and Services that Help Scientists Make Informed Decisions about Food and Drug Formulation from R&D to Manufacturing



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Rainbow fiber optic UV concentration monitor with remote sensing probes

An *in situ*, fiber optic UV-Vis spectrometer for formulation dissolution profiling, flux assays, solubility studies and other applications requiring accuracy and repeatability in concentration measurement. May be integrated with various dissolution test stations (shown with MicroDISS Profiler, 8-position, stir controlled minibath above.)

Up to 8 independent fiber optic channels with data acquisition of the entire UV spectra (200-720nm) to provide concentration measurements as fast as every 2 seconds.



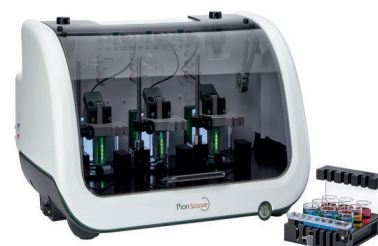
Sirius T3 PhysChem compound screening instrument for lead optimization

Sirius T3 measures pKa, log P and solubility of ionizable drugs and small molecules using sub-milligram quantities of sample. Used in early stage compound screening, PhysChem characterization and pre-formulation studies. Run complicated assays with automated reagent delivery, stirring, spectra collection, pH measurement and temperature control.

Optional autoloader for improved convenience and high throughput. Helps in selecting the best structures for development to reduce the risk of costly late-stage failures.

Investigate release performance of subcutaneous formulations with SubCutaneous Injection Site SimulatOR (SCISSOR)

Assess the risk and performance of subcutaneously administered drugs including biologics, peptides and small molecules. Generate release profiles, simulate stress conditions and environmental transitions that can lead to precipitation/aggregation events, monitor drug stability upon injection and determine a rank order of different formulations. Our custom-designed extracellular matrix (ECM) options provide accurate mimic of the human extracellular matrix. The only commercially-available instrument that bridges the gap between standard dissolution and solubility results and *in vivo* Pharmacokinetic (PK) studies.



BEE Brand Homogenizers

From small scale R&D to large scale manufacturing equipment, BEE homogenizers provide unparalleled fluid processing capabilities for particle size reduction, cell disruption, creating stable nanoemulsions & dispersions as well as many more applications. The modular design of our advanced homogenization technology allows for additional formulation manipulation to shorten development time and achieve superior end product results. Engineered with scalability in mind, we make transitioning from lab scale to commercial production easy. Serving pharmaceutical, biotech, cannabis, chemical, food and beverage industries worldwide.

Sirius SDi2, Surface Dissolution Imaging

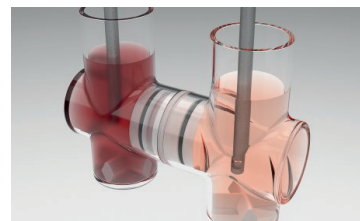
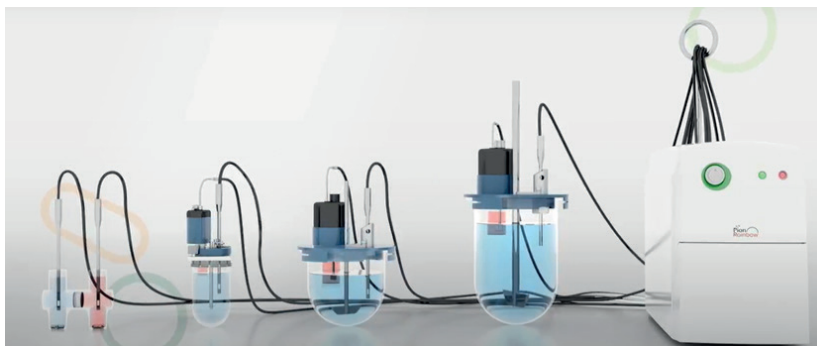
Next generation of real-time surface dissolution imaging of API's. The UV and visible light spectrum allows you to see and investigate the physical processes occurring at the solid-liquid interface during dissolution. Measure intrinsic dissolution, release rates, swelling, erosion and disintegration kinetics of a range of solid dosage forms.

The SDi2 uses a powerful 4.2 megapixel ActiPix™ detector to generate a high-resolution video of a solid dose during dissolution while simultaneously measuring the concentration. Built-in flushing avoids cross-contamination between samples.



LabEye Remote Monitoring Systems

The LabEye system is a scalable multi-camera system that uses high-resolution cameras to record video for remote monitoring applications. LabEye has one Command Center built into each camera base. Video data is generated in each Command Center and transferred to the PC. The LabEye system is typically configured with up to 8 cameras but is scalable. Stream video and capture images that are razor sharp with LabEye's best-in-class image quality.



Membrane FLUX: Assess the *in vitro* absorption potential (transmembrane flux) of prototype formulations using small-scale experiments.

A range of configurations are available for our Rainbow optical dissolution monitoring system. Our microDISS, miniDISS, BioFlux, MicroFlux and MacroFlux systems allow you to conduct dissolution and flux experiments using a variety of biorelevant volumes. The temperature-controlled, auto-stirring dissolution test stations are integrated with our Rainbow, fiber optic UV system. With sample volumes ranging from 2mL–250mL ...we've got you covered.

ACCELERATE YOUR CONTENT UNIFORMITY SAMPLE PREPARATION

Prep Engine

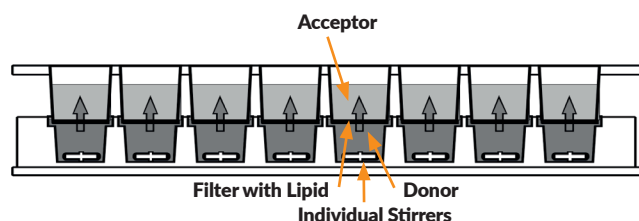
A compact benchtop design that incorporates 1, 2, or 10 individually-powered, high-output stirring stations which can prepare uniformly blended samples up to 90% faster than conventional methods for solid dosage forms, botanicals, and food products.



Individually activated, high-power stirring stations maximize productivity and significantly increase sample prep throughput. The speed is adjustable from 500 to 6000rpm with user-defined time cycles.

Ultra-fast preparation of biotech, cannabis and pharmaceutical samples including; impurity assays and blend uniformity applications.

Parallel Artificial Membrane Permeability Assay (PAMPA) Kits



Gastro Intestinal Tract • Blood Brain Barrier • Transdermal Penetration

Pion's PAMPA technology uses a range of membranes to mimic physiologic conditions. It allows you to evaluate the passive permeability of APIs as well as the absorption potential of simple or complex formulations very precisely using robust models and protocols in a 96-well plate format.

Pion's PAMPA can be used for discovery, preformulation excipient screening and comparative flux assays. Measuring concentration on both sides of a bio-mimetic membrane improves the assessment of the absorption potential and provides more realistic IVIVC predictions.