



Hanson AutoPlus™ On-Line UV Dissolution Systems

WITH COLLECTION AND AUTO-ARCHIVE™



Hanson AutoPlus™ On-Line UV Dissolution Systems

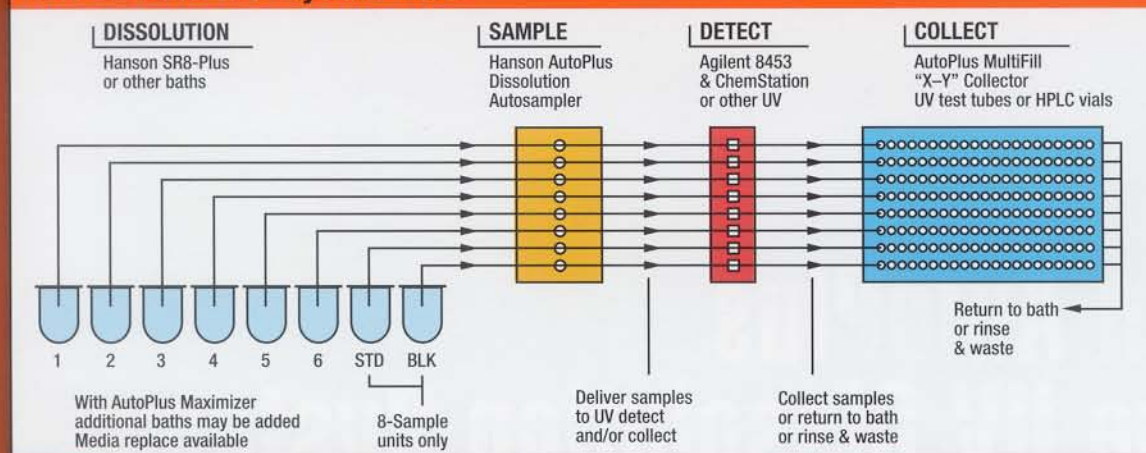
The Hanson **AutoPlus™** is a new precision syringe-pump sampling system for dissolution testing and analysis. The **AutoPlus** represents thirty years of dissolution test know-how at Hanson Research. We were the first in the business with a dissolution bath in 1969 and a fully automated dissolution test system in 1975. Our precision syringe-pump sampling systems began with the **Microette™** in 1991, and were enhanced with the **Waters™** Transfer Module in 1998. These new **AutoPlus** systems bring autosampling power, performance and throughput to the modern pharmaceutical lab that is unequalled in the dissolution industry.

The basic **AutoPlus** platform consists of a choice of 6 or 8 precision glass sampling syringes, with internal valve interfacing, driven by a stepper motor control, in one compact ergonomic instrument package. Teflon tubing harnesses connect up to 3 dissolution baths, along with multi-cell changers for on-line UV/VIS sample analysis, as well as collection trays for sample archive.

Easy-Icon™ programming with graphical display provides a wide range of dissolution test applications, including detect and collect, multi-bath sampling, and routines for set-up, cleaning, validation, 21CFR11, and diagnostics.

The **AutoPlus** is designed to interface with the Agilent 8453 ChemStation and other modern spectrophotometers with multi-cell capability, and includes communications protocols via contact closure, TTL, and RS232. Similar to the Hanson SR8-Plus "virtual instrument" programming, the **AutoPlus** is a smart device that anticipates user requirements for set-up, test run, sample throughput and validation. User-friendly features include protocol memory with password protection, continuous display of test conditions and status, user prompts and help screens (ideal for training). The **AutoPlus** maximizes laboratory efficiency by handling extensive methods, problem drugs, surfactants and other media.

How the AutoPlus™ System Works



Why "No Peri-Pumps"?

The Hanson AutoPlus precision syringe-pump sampling system provides inert Teflon¹ sampling tubing and valves that peri-pumps cannot. Peri-pumps, by their design, require plastic-type tubing which deforms with simple normal use. This requires continuous recalibration (often once a month!), tubing "tweaks" and maintenance hassles, and frequent system qualification. Additionally, plastic tubing often distorts drug analysis because of plasticizers and/or drug absorption problems. The Hanson AutoPlus avoids these peri-pump deficiencies

by employing a precision syringe-pump with both life and volume accuracy ten times better² than a peri-pump. Not only is the AutoPlus system inert for use in your dissolution lab, but a simple calibration is recommended only once a year... and its tubing lasts for years. Lastly, the AutoPlus delivers performance capabilities that peri-pumps cannot, including multi-bath routines with media replace, dilution and pH change, multiple standards, precision accuracy, and advanced user-friendly protocols.

1 Teflon and/or inert equivalent (e.g. PEEK, EPDM)

2 AutoPlus typically requires calibration 1/year; peri-pumps 1/month (1:12)

AutoPlus tubing typically lasts 5 years; peri-pumps 6 months (1:10)

AutoPlus volume accuracy & repeatability after one year +/- 1%; peri-pumps +/- 10% (estimate, 1:10)

Hanson AutoPlus™ Features and Benefits

One of the beauties of the Hanson **AutoPlus Maximizer** is its ability to accommodate your growing dissolution program. As your workload and applications expand, your power-packed Maximizer can expand right with you. Every Maximizer has the power built right in to handle multi-bath routines, UV/VIS auto-detect, sample collection, media replace, plus routines for dilution, "2-drug" analysis (with the Agilent ChemStation), and advanced "scripting" for those problem protocols that other sampling systems cannot deliver.

Another key benefit of the AutoPlus is that it's easy to use. Simple Easy-Icon™ buttons set sampling volumes and times, and you're off and running. Input up to 25 in-house protocols and they call up every time you want. The exclusive Hanson graphical display includes user prompts for programming choices, which is ideal for staff training, as well as continuous display of all operating parameters and test status. Both bath and sampling information is provided for extensive 21CFR11 compliant validation.

Hanson SR8-Plus™ dissolution bath

The SR8-Plus delivers proven reliability plus full system integration, communications, and bath status validation.

AutoPlus™ Maximizer™ AutoSampler

Autosampling precision, performance and power for extensive methods.

Agilent 8453 ChemStation

Complete on-line UV analysis available through Hanson Research "Channel Partnership" with Agilent.

Hanson AutoPlus™ MultiFill™

Removable collection racks allow for easy sample handling, Auto-Archive™, and further assay.

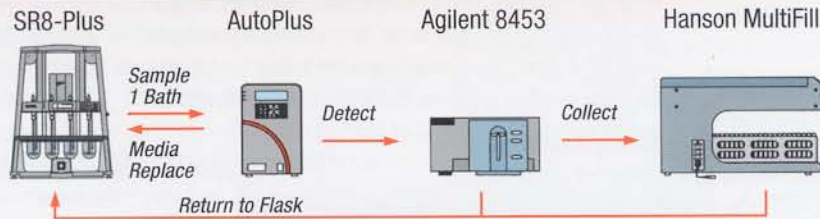
- Choice of 6 or 8-Sample models
- Choice of UV Detect, Collect, or both
- Maximum versatility for wide range of dissolution test requirements
- Ideal for QC/QA, formulations and R&D
- Ability to expand with one cost-effective instrument package
- Multi-bath routines (1, 2 or 3 baths)
- Connect with Agilent 8453 ChemStation and other modern spectrophotometers
- AutoPlus MultiFill collector for UV and HPLC
- Media replace and system rinse
- Dilute collected samples in MultiFill
- On-line bath status reports with Hanson SR8-Plus
- Ability to sample from other commercial dissolution baths
- Easy-Icon programming with graphical display
- Protocol memory, prompts and help screens (ideal for training)
- Precision syringe-pump sample delivery (no peri-pump problems)
- Inert Teflon tubing sample harnesses
- Teflon valves with multi-channel programming
- Handles problem drugs and protocols
- Handles surfactants, buffers and other media
- Complete test status reports (printer or PC)
- 21CFR11 compliant software
- USP/FDA validation protocols and Hanson Q-Paks (IQ-OQ-PQ) available
- ISO 9001 Quality
- "One Maximizer does it all!"

Hanson Research Corporation

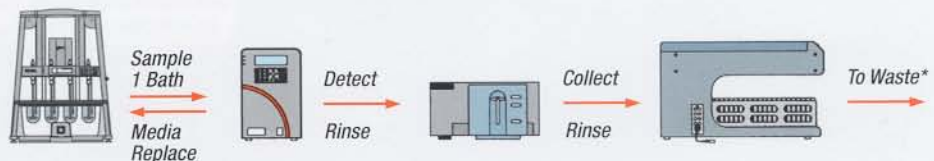
9810 Variel Avenue • Chatsworth CA 91311 USA
 (800) 821-8165 • (818) 882-7266 • FAX (818) 882-9470
 www.hansonresearch.com
SALES & SERVICE WORLDWIDE

AutoPlus™ Maximizer™ Set-Ups | Easy connect to detect, collect, or both

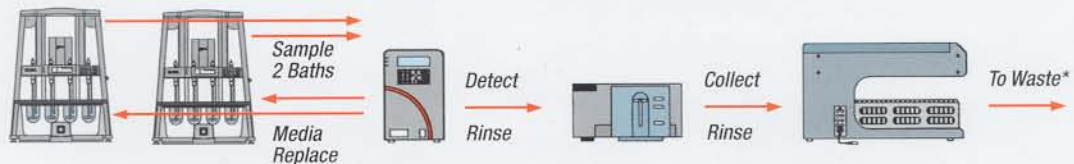
1) 1-Bath Recycle & Return



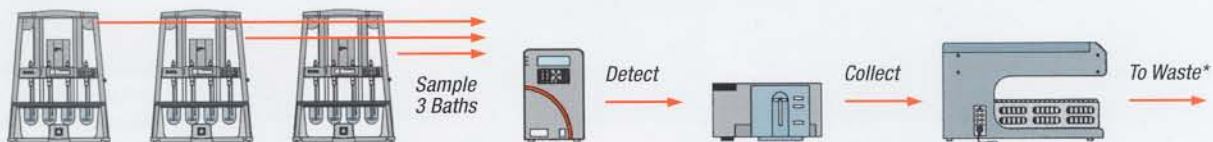
2) 1-Bath Replace & Rinse



3) 2-Bath Replace & Rinse



4) 3-Bath System



*Sample "retrieval" return to flask accessory also available

Ordering Information

The complete Hanson AutoPlus™ system provides everything required for on-line UV sample analysis and archiving. A wide range of accessories are also available from Hanson Research.

- AutoPlus™ Maximizer™ autosampling system
- AutoPlus™ MultiFill™ collector (UV & HPLC racks available)
- Hanson validation printer (use for both SR8-Plus and AutoPlus)

- Fully equipped Hanson SR8-Plus™ dissolution test station (two SR8's per Maximizer are recommended for maximum throughput)
- Hanson E-Probe™ actuator kit and sample probes
- Complete validation, IQ/OQ/PQ, and training services available
- Agilent 8453 ChemStation, UV flow cells & accessories (please consult Hanson for Agilent training and support)