



# VISION<sup>®</sup> G2

Quality | Technology | Science

# Vision® G2 Dissolution Test Instruments

■ Hanson Vision “G2” (second generation) dissolution instruments represent a significant upgrade from the original Vision testers introduced in 2008, as well as a brand new robust autosampling platform. Our new G2 operating platform combines rock-solid mechanics with a full-color touchscreen, intuitive instrument programming, up to 100 operating protocols, 21CFR11-compliant security, a convenient flash drive for instrument uploads and downloads, and 32-bit digital technology.

## QUALITY | TECHNOLOGY | SCIENCE

Vision G2 dissolution test instruments are designed for the 21st century, with state of the art electronics, mechanics and quality throughout. These systems are power-packed for the demands of today’s pharmaceutical scientist, from research, to formulations, to quality control and assurance. We’ve applied 60 years of innovation, expertise and know-how to the design and manufacture of these quality test systems.

## THE ART OF DISSOLUTION

At Hanson, we combine art with science and engineering. We apply elegant design and instrument ergonomics to the rigors and everyday challenges of scientific investigation, research and analysis. Every dissolution test operator requirement is evaluated and simplified for ease of use and fast results. Our test systems are designed for the dissolution laboratory with a tight schedule and a heavy workload.

## OUR MISSION STATEMENT

We design and manufacture analytical test instruments for the quality assurance of medicine, helping to promote better healthcare worldwide.

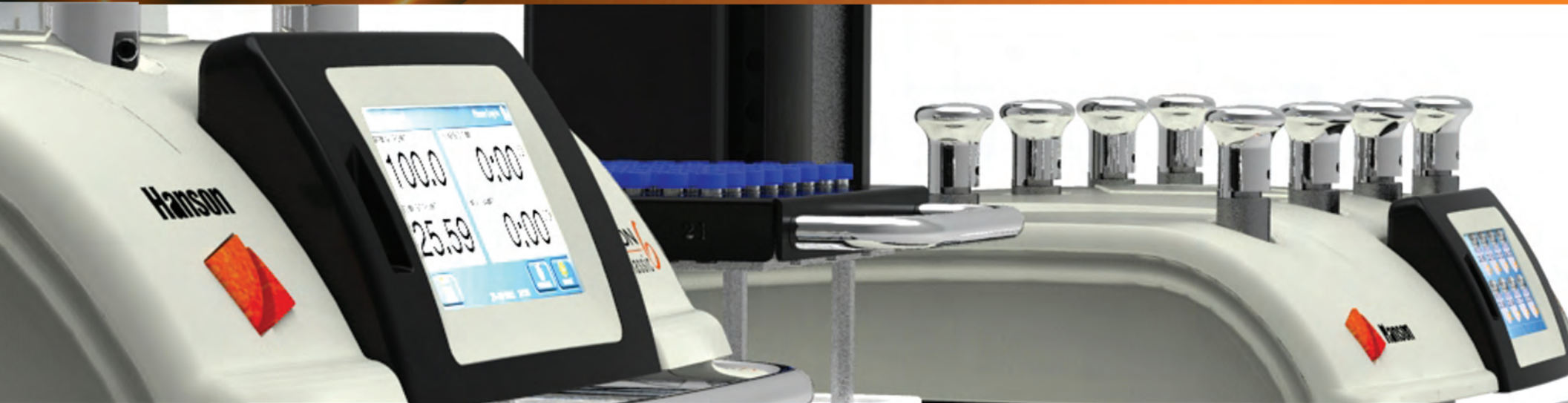
—**Royal Hanson**, *Chairman*



**Royal Hanson**



**William A. Hanson, PhD**  
Hanson Research Founder  
& Dissolution Industry Pioneer



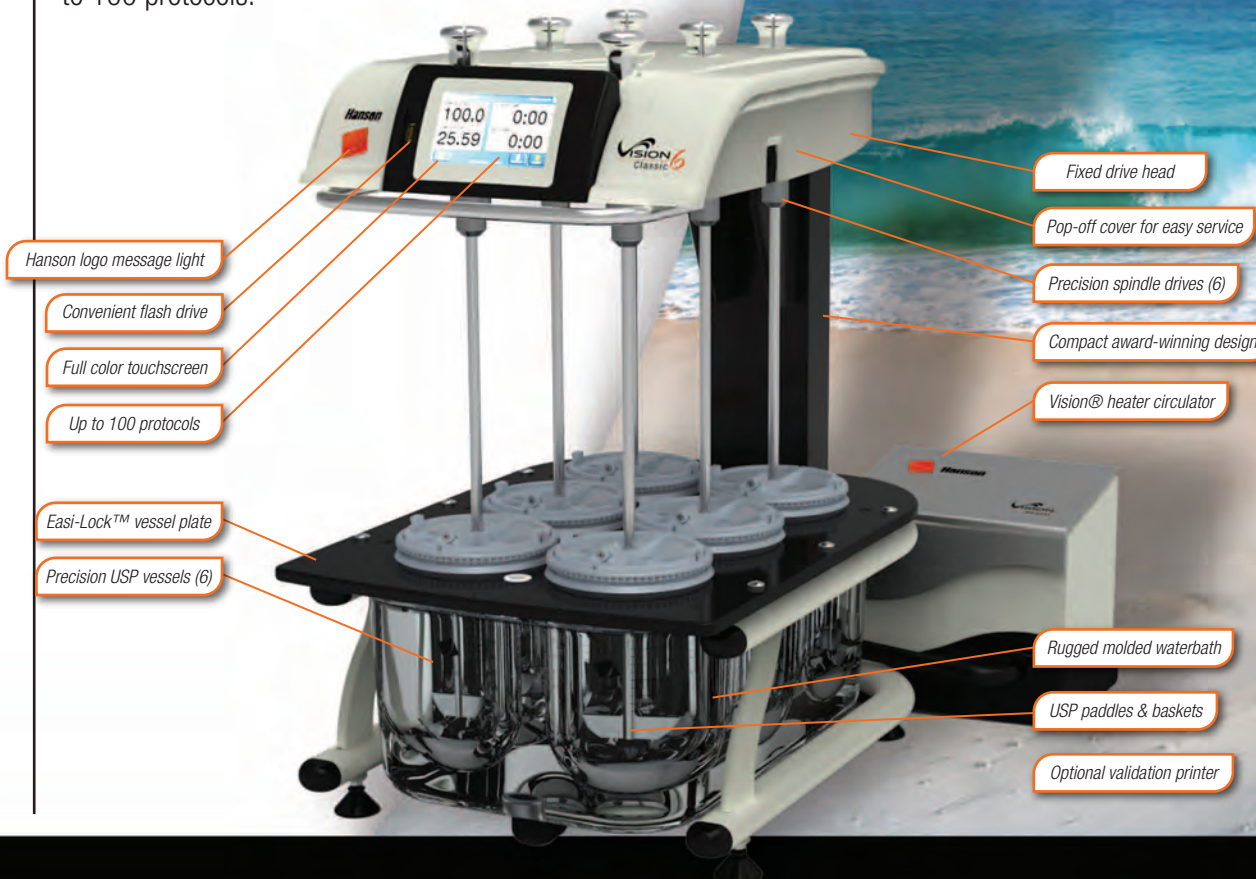
 **VISION<sup>®</sup> G2**

t h e a r t o f d i s s o l u t i o n



# Vision® G2 Classic 6™ Dissolution Tester

The **Vision G2 Classic 6** is a compact, rugged workhorse ideal for manual testing. The Classic 6 is precision engineered for USP <711> Dissolution, and includes a unique award-winning footprint designed for saving space and ease of use. Features include a Vision heater system, molded waterbath, 6-position Easi-Lock vessel plate, fixed head with 6 precision drive spindles, and color touchscreen programming with up to 100 protocols.





# Vision® G2 Elite 8™ Dissolution Tester

The **Vision G2 Elite 8** is a modern successor to the popular Hanson SR8-Plus. The G2 Elite 8 is a versatile performance machine, built for automation and extended applications. Features include a Vision heater system, molded waterbath, 8-position Easi-Lock vessel plate, Easi-Lift head with 8 precision drive spindles, and color touchscreen programming with up to 100 protocols. Options include the AutoMag with sampling probes and digital temperature probes (DTPs).

Hanson logo message light

Convenient flash drive

Full color touchscreen

Up to 100 protocols

Easi-Lock™ vessel plate

Precision USP vessels (8)

Easi-Lift™ with multi-lock

Pop-off cover for easy service

Precision spindle drives (8)

Automatic sampling magazine

Digital temperature probes

Vision® heater circulator

Rugged molded waterbath

USP paddles & baskets

Optional validation printer



# Vision® G2 AutoPlus™ Autosampler & AutoFill™ Collector

The **Vision G2 AutoPlus** is an upgrade of the popular Hanson autosampler. The G2 AutoPlus comes with a choice of 6 or 8 sampling channels, and DissoScan (1-bath) or Maximizer (multi-bath & multi-routine) configurations. Precision syringe pump mechanics, all-inert tubing and valves, and color touchscreen programming with up to 100 protocols are standard on each instrument.

The **Vision AutoFill** is a newly-engineered collector designed for seamless integration with the G2 AutoPlus. AutoFill accessories include choice of collection racks with 16 x 100 mm test tubes for UV-Vis, 12 x 32 mm vials for HPLC, and sample trays with 12 x 32 mm vials for UPLC.



G2 AutoPlus™ autosampler

Hanson logo message light

Convenient flash drive

Full color touchscreen

Up to 100 protocols

Precision syringe pump (6 or 8)

Maximizer™ or DissoScan™

AutoFill™ collector

Easy install collection racks

Collect for UV, HPLC or UPLC

Sample retrieval accessory

Space-saving design

All-inert valves & fluidics

Pop-off panels for easy service

Accessory for in-line filters

Optional validation printer

vision is technology  
merged with environment



# Vision® G2 Dissolution Test Instrument Platform

The **Vision G2** instrument family provides a complete solution for the busy dissolution lab. 6 and 8 vessel testers, precision autosampling and collection, flexible protocols for a wide range of applications, space-saving platforms, and rock-solid mechanics make these systems ideal for both R&D and QC. Color touchscreen programming is easy to learn and operate, and protocols can be transferred on a convenient flash drive or via network. Vision G2 dissolution test instruments are designed for seamless integration, ease of use, maximum productivity, and confidence in years of reliable results.



Vision® G2 Classic 6™ Dissolution Tester



Vision® G2 AutoPlus™  
Autosampler & AutoFill™ Collector



Vision® G2 Elite 8™ Dissolution Tester



# Color Graphic Touchscreen for Easy Programming

**Vision G2 Dissolution Instruments** include a full color graphic touchscreen user interface. The analyst is guided through easy menu steps when writing protocols, and up to 100 protocols per instrument may be saved and shared between instruments.



Vision G2 instrument home page with menus

Labels	<b>Protocol Name</b> My Protocol Name	<b>Media Type</b> Water
Dissolution	<b>Drug Name</b> My Drug Name	<b>Media Volume</b> 900 mL
Sampling	<b>Dosage</b> 500 mg	
Options	<b>Protocol ID</b> 0000-0001	
Events	<b>Apparatus</b> 2	<b>Comments</b> Hanson VISION Autoplus

Save up to 100 protocols, basic to advanced



Real-time display of critical operating parameters



Individual vessel temperature readings with DTPs



Illustrated syringe pump operations and timing

Instrument Logs		
Event	22Aug2011 17:09	HANSON logged on
	22Aug2011 17:09	Security was enabled
	22Aug2011 17:08	Comm-switch serial # was changed
Test	22Aug2011 17:08	Printer serial # was changed
	22Aug2011 17:08	Collector serial # was changed
	22Aug2011 17:08	Instrument serial # was changed
Error	22Aug2011 17:06	Added a new protocol
	22Aug2011 17:05	System date was changed
	22Aug2011 17:05	System time was changed
	08Feb2010 13:51	Unit was powered on

Automatic instrument logs for archive and 21CFR11

## Programming features Include:

- Precision speed and temperature with the Classic 6 & Elite 8
- Precision sampling and collection with the AutoPlus & AutoFill
- Dramatic color graphic icons and screen illustrations
- Basic protocols for test operation, sampling and event times
- Advanced routines for both R&D and QC
- Universal protocols used on the Classic 6, Elite 8 & AutoPlus
- Upload and download programs with flash drive
- Alarms for sampling, maintenance and calibration
- Test operations print to both serial and network printers
- 21 CFR Part 11 security compliant



Convenient G2 flash drive for uploading & downloading programs



Full alphanumeric keyboard for text programming

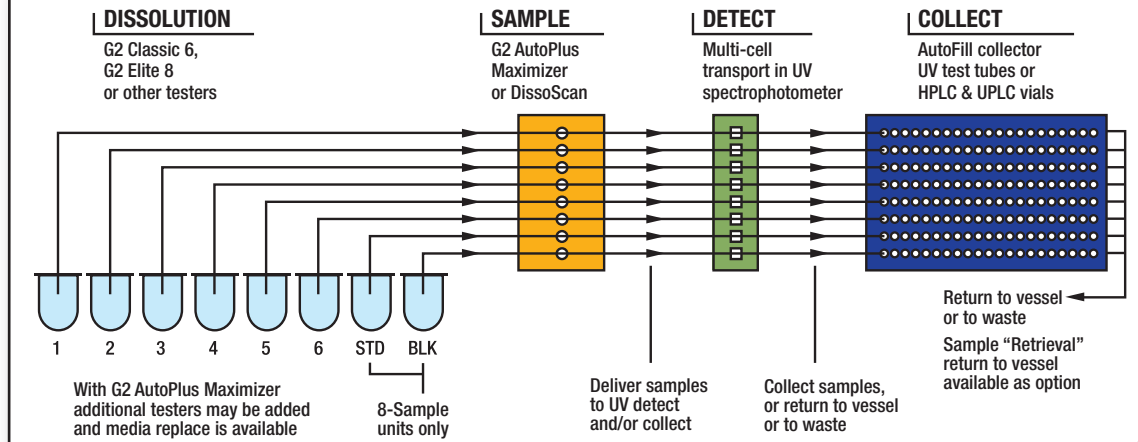


# Seamless Integration & Maximum Productivity

## Vision G2 Dissolution Test Instruments

are designed for seamless integration, intuitive programming and operation, flexibility to handle a wide range of applications, with maximum throughput and productivity. Design your lab system to handle everything from basic 1-bath routines to extensive multi-bath testing. Collect samples for off-line analysis in UV-Vis, HPLC or UPLC detectors. Connect to a spectrophotometer multi-cell transport for on-line UV analysis.

## How the Vision® G2 AutoPlus™ System Works



## Vision® G2 DissoScan™ & Maximizer™ Configurations

**1** **1-Bath Basic System**  
DissoScan & Maximizer



**2** **1-Bath with Media Replace**  
Maximizer



**3** **2-Bath with Media Replace**  
Maximizer



**4** **3-Bath System**  
Maximizer





# Vision® G2 Classic 6™ & Elite 8™ Features

**VISION**  
Classic 6



**VISION**  
Elite 8



CLASSIC 6™ (6-Vessel)	ELITE 8™ (8-Vessel)	Standard Features
--------------------------	------------------------	-------------------

- |   |   |   |
|---|---|---|
| ✓ |   | Fixed drive head  |
| ✓ |   | 6 Precision drive spindles with spindle shafts                  |
| ✓ |   | 6-Position Easi-Lock™ vessel plate                              |
| ✓ |   | Compact footprint (2 across & 3 deep)                           |
|   | ✓ | Easi-Lift™ moveable drive head with multi-lock positions        |
| ✓ | ✓ | 8 Precision drive spindles with spindle shafts (use 6, 7, or 8) |
| ✓ | ✓ | 8-Position Easi-Lock™ vessel plate (use 6, 7, or 8 vessels)     |
| ✓ | ✓ | Standard footprint (4 across & 2 deep)                          |
|   | ✓ | Automation-ready (with optional AutoMag™ & SuperMag™)           |
| ✓ | ✓ | Precision control for speed 25-250 rpm, temperature 25-55 °C    |
| ✓ | ✓ | Elegant, ergonomic design with workhorse performance            |
| ✓ | ✓ | Highest quality components & engineering                        |
| ✓ | ✓ | Minimal user adjustments for easy set up & go                   |
| ✓ | ✓ | Independent Vision® heater circulator system                    |
| ✓ | ✓ | Rugged molded waterbath with fast heat-up & low level drain     |
| ✓ | ✓ | Digital temperature probe (1) for use in bath & vessels         |
| ✓ | ✓ | Full color touchscreen with intuitive menus & programming       |
| ✓ | ✓ | Up to 100 protocols (create, manage and save routines)          |
| ✓ | ✓ | Upload & download programs with flash drive                     |
| ✓ | ✓ | Electronics & firmware include 32-bit digital technology        |
| ✓ | ✓ | Print to both serial & network printers                         |
| ✓ | ✓ | Alarms for sampling, maintenance & calibration                  |
| ✓ | ✓ | ISO 9001 quality certified                                      |
| ✓ | ✓ | USP / FDA / ASTM / EP / JP compliant                            |
| ✓ | ✓ | CE / CSA / RoHS compliant, includes earth-friendly packing      |

CLASSIC 6™ (6-Vessel)	ELITE 8™ (8-Vessel)	Accessory Options
--------------------------	------------------------	-------------------

- |   |   |  |
|---|---|--|
| ✓ | ✓ | Easi-Lock™ USP 1 L precision vessels                         |
| ✓ | ✓ | Detachable USP paddles and baskets with spin-shafts          |
| ✓ | ✓ | ASTM Certificate of Conformity included with USP accessories |
| ✓ | ✓ | Easi-Lock™ vessel covers                                     |
| ✓ | ✓ | ADD™ (Auto-Dosage Delivery) vessel covers                    |
| ✓ | ✓ | Fixed vessel-mount sample probes with cartridge filters      |
| ✓ | ✓ | Wide choice of sample filters (tip, cartridge and in-line)   |
| ✓ | ✓ | In-line filter block kit (for manual & automated sampling)   |
| ✓ | ✓ | Serial printer with non-thermal paper                        |
| ✓ | ✓ | USP apparatus 5 paddle over disk                             |
| ✓ | ✓ | USP apparatus 6 rotating cylinder                            |
| ✓ | ✓ | Small volume vessels using "mini-paddle"                     |
| ✓ | ✓ | Immersion cell for semisolids (small volume)                 |
| ✓ | ✓ | Wide array of sinkers, holders for accessories, & more       |
| ✓ | ✓ | Precision calibration tools                                  |
| ✓ | ✓ | Hanson Q-Pak™ functional validation guideline (USP & ASTM)   |
| ✓ | ✓ | HRCare™ IQ/OQ/PQ validation and support program              |
| ✓ | ✓ | Media prep and deaeration with Hanson Media-Mate Plus™       |
| ✓ | ✓ | Dissolution media concentrates                               |
|   | ✓ | 2 Liter "high stand" for large volume testing                |
|   | ✓ | Easi-Lock™ USP 2 L precision vessels                         |
|   | ✓ | AutoMag™ (for 1 L and 2 L autosampling)                      |
|   | ✓ | SuperMag™ (switchable for 1 L & small volume autosampling)   |
|   | ✓ | Inert easy-change sample probes for AutoMag™ & SuperMag™     |
|   | ✓ | Digital Temperature Probes (DTPs) for each vessel*           |

\*DTPs are ordered with AutoMag™ & SuperMag™



## G2 AutoPlus™

G2 AutoPlus™

### Features & Options

- ✓ Precision syringe pump autosampling system
- ✓ All-inert 5 mL syringes, valves, tubing & fluidics
- ✓ Choice of DissoScan™ (1-bath) or Maximizer™ (multi-bath)
- ✓ Choice of 6 or 8 sampling syringes (for 6 or 8 vessels)
- ✓ Volume accuracy and repeatability ± 1%
- ✓ Seamless integration with G2 Classic 6™ & Elite 8™
- ✓ Automatic media replace standard with Maximizer™
- ✓ Convenient "auto start" feature
- ✓ Sample dilutions with AutoFill™ collector
- ✓ In-line filter block kit (easy tubing & filter connections)
- ✓ Handles problem drugs, surfactants & buffers
- ✓ Trouble-free maintenance, no peri-pumps or check valves
- ✓ Full color touchscreen with intuitive menus & programming
- ✓ Up to 100 protocols (create, manage & save routines)
- ✓ Upload & download programs with flash drive
- ✓ Electronics & firmware include 32-bit digital technology
- ✓ Print to both serial & network printers
- ✓ Alarms for sampling, maintenance & calibration
- ✓ ISO 9001 quality certified
- ✓ 21 CFR Part 11 security compliant
- ✓ USP / FDA / ASTM / EP / JP compliant
- ✓ CE / CSA / RoHS compliant, includes earth-friendly packing



## AutoFill™

AutoFill™

### Features & Options

- ✓ Precision X-Y dissolution test sample collector
- ✓ Seamless integration with G2 AutoPlus™
- ✓ Choice of easy install collection racks with rack detection
- ✓ Collect in test tubes for UV or vials for HPLC & UPLC
- ✓ New wash port with end of test wash routine
- ✓ Sample retrieval return to vessel accessory
- ✓ Designed & manufactured with CETAC Technologies USA
- ✓ CE / CSA / RoHS compliant, includes earth-friendly packing



## Philosophy



*Hanson Research is headquartered in Southern California, USA, home of a growing technology, research, and biotech sector. Our outdoor California lifestyle is epitomized by "sun and surf" and reflected in our user-friendly, elegant, and ergonomic industrial designs, as well as our cutting-edge technology and digital communications. In keeping with our commitment to community, we take extra pride in producing our products in the USA.*

**technology** for *Humanity*

*Hanson Vision products are not only designed and manufactured with the highest standards of quality and technology, but they are also earth-friendly. All Vision equipment is RoHS (Reduction of Hazardous Substances) and WEEE (Waste Electrical and Electronic Equipment) compliant. We have diligently designed out heavy metals that are harmful to the environment and are introducing new biodegradable and recyclable packaging. At our design and manufacturing site in California, we have converted over 50% of our waste to recycle programs and continuously improve this effort. Whenever possible, we use paper with recycled content and soy-based ink for our printed materials and are moving toward a paperless office. We at Hanson consider ourselves citizens of the planet and are committed to creating clean Technology for Humanity.*







# VISION<sup>®</sup> G2

Hanson Vision<sup>®</sup> G2 Instruments include US patents and patents pending.  
Hanson trademarks include: Vision<sup>®</sup>, Classic 6<sup>™</sup>, Elite 8<sup>™</sup>, Easi-Lift<sup>™</sup>, Easi-Lock<sup>™</sup>, ADD<sup>™</sup>, AutoMag<sup>™</sup>, SuperMag<sup>™</sup>, AutoPlus<sup>™</sup>, Maximizer<sup>™</sup>, DissoScan<sup>™</sup>, AutoFill<sup>™</sup>, HRCare<sup>™</sup>, SR8-Plus<sup>™</sup>, Media-Mate Plus<sup>™</sup> and Quality I Technology I Science.  
The Hanson AutoFill<sup>™</sup> is designed and manufactured in OEM cooperation with CETAC Technologies, USA.



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