VWR Hitachi
Chromaster plus
Chromsword® Auto software

**YOUR HPLC METHOD
DEVELOPMENT SOLUTION**

vwr™
part of avantor

ChromSword

Chromsword® Auto CDS and Scout with
VWR Hitachi Chromaster HPLC/UHPLC

Fast, reliable and robust method development is vital to a chromatographer.

- Improve your method development with one of our new packages
- Each package combines the outstanding performance of our Chromaster HPLC or ChromasterUltra RS UHPLC system with the power of Chromsword Auto CDS and Scout method development software
- There are four packages available, so you can choose the one that perfectly fits your needs

Bundles	Models	Cat. No
Economic	Chromaster 600 & Chromsword Auto CDS and Scout	903-0370
Standard	Chromaster 600 & Chromsword Auto CDS & Scout & 3-column valve	903-0371
Professional	Chromaster 600 & Chromsword Auto CDS & Scout & 6-column valve	903-0372
Ultra Professional	ChromasterUltra & Chromsword Auto CDS & Scout & 6-column valve	903-0373

Includes software:	
ChromSword Auto® DataSystem (CDS)	Full working data system. Fast creating of methods & sequences. Intuitive integration from data. PDA-Data included
	Driver for Hitachi Chromaster & ChromasterUltra Rs and ELSD included
ReportViewer	Independent report viewer for HPLC data
	Openlab, Empower and many other file formats available
ChromSword Auto® Scout (screening)	Quick screening of different samples columns, solvents, gradients, pH...

*Together with HPLCs by Hitachi.

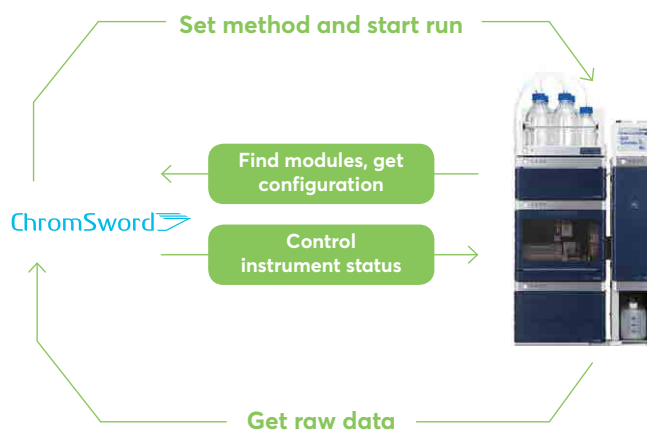| Easy to add professional method development tools to your package	
ChromSword Auto® 5 Hitachi Edition Update	ChromSwordAuto® Developer is an innovative intelligent chromatography method development system. It enables you to develop and optimise HPLC and UHPLC methods automatically in record time.
AutoRobust 5 Hitachi Edition Update	AutoRobust is a software for automatic evaluation of robustness of HPLC methods. According to the ICH guidelines robustness should be considered at an appropriate stage in the development of an analytical procedure.

Ask for a quote!

How does it work?

ChromSword Auto<<Hitachi Edition>> is based on the theory of liquid chromatography's newest computing technologies and more than 20 years practical experience in HPLC method development.

In ChromSword Auto CDS we have a combined automated instrument control and data exchange with the basic CDS functionality for your daily analytical work.

ChromSword Auto Scout improves your first steps in method development with easy screening of gradient profiles, temperature and other variables. This way you can generate a complex test matrix in seconds.

Set method and start run

Find modules, get configuration

ChromSword

Control instrument status

Get raw data

OUTSTANDING PERFORMANCE AND EASY TO USE

HPLC/UHPLC for today and tomorrow

The critical components in HPLC are performance, functionality and reliability. For each of these components we implement one improvement after another, giving birth to a new standard in HPLC; VWR Hitachi Chromaster

- Visualise the future
- A new UHPLC system designed for a new era
- Excellent technical support

We set out to create a UHPLC system for the future, anticipating forthcoming changes in analysis needs. A system with high resolution and high sensitivity has been achieved through application of our market-leading technologies.

THE FUTURE OF HPLC STARTS HERE AND NOW

Chromsword Auto Datasystem

What is the ChromSword Auto® DataSystem?

The ChromSword® DataSystem is a low cost chromatography system for easy to run samples. DataSystem enables you to create sequences for many samples and methods in a few mouse clicks. It includes automated external and internal standard methods for analysis of samples. The powerful ReportViewer module analyses results and generates reports automatically.

- Sample analysis of runs
- Calibration runs - internal and external standard methods
- System suitability tests
- Data analysis and creation of reports
- Spectra tools included

It is possible to create sequences in seconds. The ChromSword® DataSystem provides a platform for analysis to create even the most complicated sequences in just a few seconds by applying changes to columns, solvents, buffers, etc.

Chromsword Auto® Scout

Chromsword Scout is an Easy tool to screen samples, solvents, gradients, buffers with different pH values, different columns etc. Using one or several user defined methods created in seconds. It allows automatic generation of scouting methods with different parameters, the first step to finding the best columns, solvents etc. for your application.

Changeable parameters:

- Solvent
- pH buffer
- Gradient
- Column
- Flow rate
- Temperature
- And much more

A convenient way to develop a scouting plan for all variables.

ReportViewer

Use ReportViewer to make your work easier and faster and to see more.

- Universal reporting for all data systems
- Unique features for spectral analysis
- Supports QbD process
- Advanced data export and report preparation
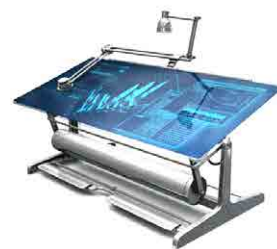
ChromSword® Auto ReportViewer 5 makes it easier to navigate through different data files. You can compare chromatograms and spectra, integrate and re-integrate chromatograms, estimate peak spectral purity, build 1-D, 2-D and 3-D plots plus generate Microsoft office reports.

ChromSword® Auto ReportViewer is now a data analysis platform for not only for ChromSword® products, including ChromSwordAuto® and AutoRobust, but is also able to view results from multiple data systems, including ChemStation, OpenLab, Chromeleon and Empower CDS.

Your method development solutions

ECONOMIC CONFIGURATION 903-0370

– Basic HPLC bundle
– Modular, highly stable, robust system
– 600 bar low pressure gradient pump
– Integrated degasser and washing pump
– Sample rack for 120×1,5 ml vials
– Column oven up to 85 °C
– Highly sensitive UV detector, 190 to 600 nm

Chromaster 600 bar UV system (w/o switching valve)	
ChromSword® Auto CDS & Scout <<Hitachi Edition>>	908-0090
CM5160 pump (manual purge)	892-0124
CM5260 autosampler (uncooled)	892-0224
CM5310 column oven	892-0304
CM5410 UV detector	892-0404
Chromaster HPLC organiser	892-0804

Includes: Interface, LPG and degasser.

STANDARD CONFIGURATION 903-0371

– Standard HPLC bundle
– Modular, highly stable, robust system
– 600 bar low pressure gradient pump
– UI Pad for direct control
– Integrated degasser and washing pump
– Sample rack for 120×1,5 ml vials
– Column oven up to 85 °C
– Column-switching valve for three columns
– Wide ranging DAD detector, 190 to 900 nm

Chromaster 600 bar DAD system (with 3 column-switching valve)	
ChromSword® Auto CDS & Scout <<Hitachi Edition>>	908-0090
CM5160 pump (manual purge)	892-0124
CM5260 autosampler (cooled)	892-0284
CM5310 column oven	892-0304
3 column-selector valve	892-0320
CM5430 DAD detector	892-0454
Organiser	892-0804

Includes: Interface, LPG and degasser.

PROFESSIONAL CONFIGURATION 903-0372

– Professional HPLC bundle
– Modular, highly stable, robust system
– 600 bar low pressure gradient pump
– With UI Pad for direct control and Auto purge valve
– Integrated degasser and washing pump
– Sample rack for 120×1,5 ml vials
– Cooled autosampler 1 to 45 °C
– Column oven up to 90 °C
– Column-switching valve for six columns
– Wide ranging DAD detector, 190 to 900 nm

Chromaster 600 bar DAD system (with 6 column-switching valve)	
ChromSword® Auto CDS & Scout <<Hitachi Edition>>	908-0090
CM5160 pump (automatic Purge)	892-0134
CM5260 autosampler (cooled)	892-0284
CM6310 column oven with 6 colum selector valve	889-0134
6 column-selector valve	903-0351
CM5430 DAD detector	892-0454
Organiser	892-0804

Includes: Interface, LPG and degasser.

ULTRA-PROFESSIONAL CONFIGURATION 903-0373

– Professional UHPLC bundle
– Modular, highly stable, robust system
– 1400 bar high pressure gradient
– pump (2x2 solvents)
– Plunger washing pump and auto purge valve
– Integrated degasser and washing pump
– Sample rack for 120×1,5 ml vials
– Cooled autosampler 1 to 45 °C
– Column oven up to 90 °C
– Column-switching valve for six columns
– High Sensitivity DAD detector, 190 to 650 nm

| Chromaster 1400 bar DAD system (with 6 column-switching valve)	
ChromSword® Auto CDS & Scout <<Hitachi Edition>>	908-0090
CM6170 binary pump (HPG)	889-0014
CM6270 autosampler (cooled)	
CM6310 column oven with 6 column-selector valve	
6 column-selector valves	
CM6430 DAD detector	

Includes: Interface and degasser.

PLEASE ASK FOR:
Safety caps | HPLC/UHPLC columns | High quality solvents | Vials | filters...

Upgrade to a fully automated method development
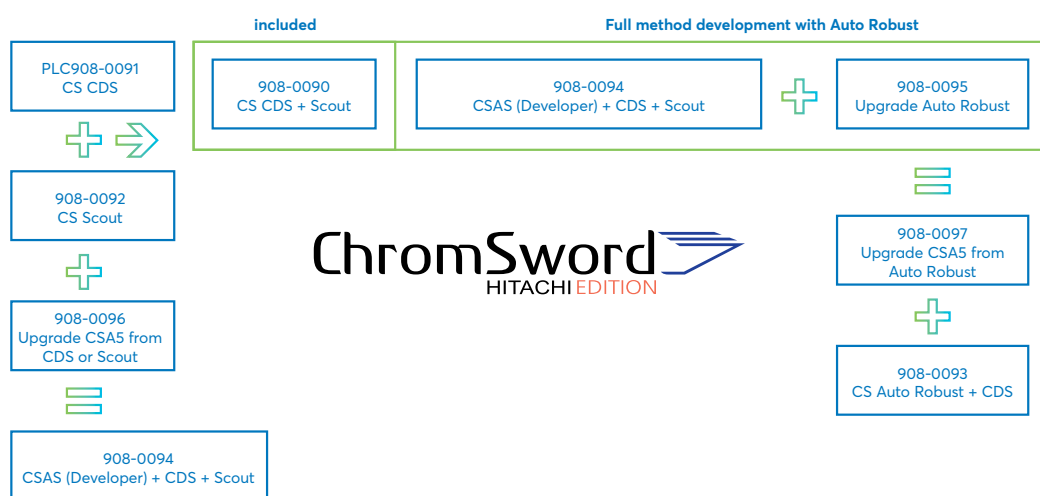
ChromSword Auto® Developer <<Hitachi Edition>>

- Unique, fully automated HPLC method development software for even the most demanding mixtures
- Works directly with your VWR Hitachi Chromaster/ChromasterUltra Rs
- System controls your instrument and analyses results automatically
- Based on the theory and practice of HPLC and supports all types of liquid chromatography
- Applies numerical methods and artificial intelligence techniques to process control, data processing and analysis
- Evaluates all possibilities in a multi-dimensional space
- Possible to choose different tasks depending on a goal, and a sample to deliver most effective results
- No previous method necessary to start: Software will study your sample
- Each run is used to make decision for conditions of the next run in order to find a good method
- Preliminary practically applicable methods are created in a very short time
- Detailed analysis of a sample and full profiling of all compounds supply finally optimised methods
- Special procedures for large molecules and biopharmaceuticals

ChromSword Auto® is your assistant for all project stages

- From initial scouting runs to final quality control methods with best performance
- For significant time and money savings in HPLC method development laboratories

ChromSword Auto®
AutoRobust

- Easy and fast way to plan your robustness test experiments
- All tests are performed according to QBD principles
- One or multiple parameter changes according to design of experiments (DOE)
- Full report with export options

After finishing method development with ChromSword® Auto, you can start AutoRobust with all method parameters specified automatically. Specify variation of method parameters to be tested, set a range and a procedure to test the variation of one parameter at a time or several simultaneously and choose a design of experiments method.

With AutoRobust you can choose the variation of following parameters to be tested:

TEMPERATURE
e.g. ±1 °C

FLOW RATE
e.g. ±0,1 ml/min

CONCENTRATION
e.g. ±1% org. modifier

GRADIENT PROFILE VARIATIONS
e.g. steps ±0,1 min

BUFFER CONCENTRATION / PH
e.g. ±0,1 pH values

INJECTION VOLUME
e.g. ±1 µl

EQUILIBRATION TIME
e.g. ±1 min

WAVELENGTH
e.g. ±1 nm

COLUMN BATCH
e.g. Three different batches
using a column-switching valve

After runs, AutoRobust prepares a report that includes all chromatograms and data including resolution, retention time, area, area %, and standard deviations of these values. All tables can be exported into Microsoft Word, WordPad and Excel to prepare charts, tables and graphs.

ACE® Method Development Kits

Intelligent solutions for method development

– Highly cost effective - ACE® Method Development Kits are available for the same price as a single column!

– Five different ACE® Method Development Kits available from microbore (0,5 mm ID) through to analytical (4,6 mm ID) dimensions for rapid, systematic method development

– Each kit contains carefully selected ACE® phases which enable the power of selectivity to be fully exploited

– Each ACE® phase provides different selectivity due to differing interactions
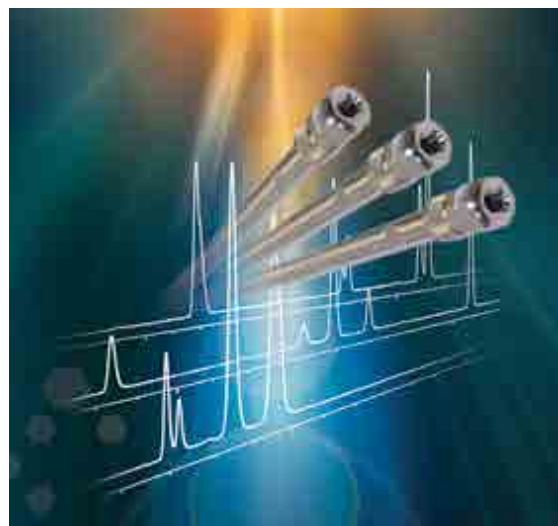
	Bonded phase	Separation Mechanism and Relative Strength[1]				
		Hydrophobic Binding	**π-π Interaction**	**Dipole-Dipole**	**Hydrogen Bonding**	**Shape Selectivity**
ACE Advanced Method Development Kit	ACE C18	• • • •	–	–	•	• •
	ACE C18-AR	• • • •	• • • (donor)	•	• •	• • •
	ACE C18-PFP	• • • •	• • (acceptor)	• • • •	• • •	• • • •
ACE Extended Method Development Kit	ACE SuperC18	• • • •	–	–	–	• •
	ACE C18-Amide	• • • •	–	• •	• • • •	• • / • • •
	ACECN-ES	• • •	•	• • •	• •	•
ACE UltraCore Method Development Kit	ACE UltraCore Super C18	• • •	–	–	–	• •
	ACE UltraCore SuperPhenylHexyl	• •	• • • (donor)	•	• •	• • •
ACE Bioanalytical 300Å Method Development Kit	ACE C18-300	• •	–	–	•	•
	ACE C4-300	•	–	–	–	–
	ACE Phenyl-300	•	• • (donor)	•	• •	• •

[1]Approximate value – determined by semi-quantitative mechanism weightings and/or by reference to other ACE phases using >100 characterising analytes.

	Bonded phase	Separation Mechanism and Relative Strength[2]				
		Partitioning	**Anionic Analyte Interactions**		**Cationic Analyte Interactions**		**Hydrogen Bonding**
			Attraction	**Repulsion**	**Attraction**	**Repulsion**	
ACE HILIC Method Development Kit	ACE HILIC-A	• •	–	• • •	• • • •	–	•
	ACE HILIC-B	• • •	• • • •	–	–	• • •	•
	ACE HILIC-N	• • • •	–	–	–	–	• • • •

[2]Approximate value – determined by semi-quantitative mechanism weightings and/or by reference to other ACE phases using >50 characterising analytes.

Setting science in motion
to create a better world

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