



Micro / nano HPLC by SunChrom

Description

The miniaturization made great steps and terrific development in the last past 10 years. The reduction of the column diameter not only has positive aspects regarding the instruments, but also make great demands on performance and precision.

SunChrom has been committed since 1995 to this area. In the last past 10 years a range of flow cells for **nano/micro HPLC** has been developed and few years ago a **micro fraction collector** and **MALDI spotter "SunCollect"**. For the off-line sample preparation we introduced newly the solid phase extraction tips NuTip® and TopTip®.

The micro HPLC pump **MicroPro®** is the heart of the **nano/micro HPLC systems** of SunChrom. The autosampler Endurance, exactly optimized for this purpose, the column oven Mistral, the UV detector Spectra Flow 501 and the control software, especially developed for this purpose, round it off to a complete system.

System solution

Everything from one source

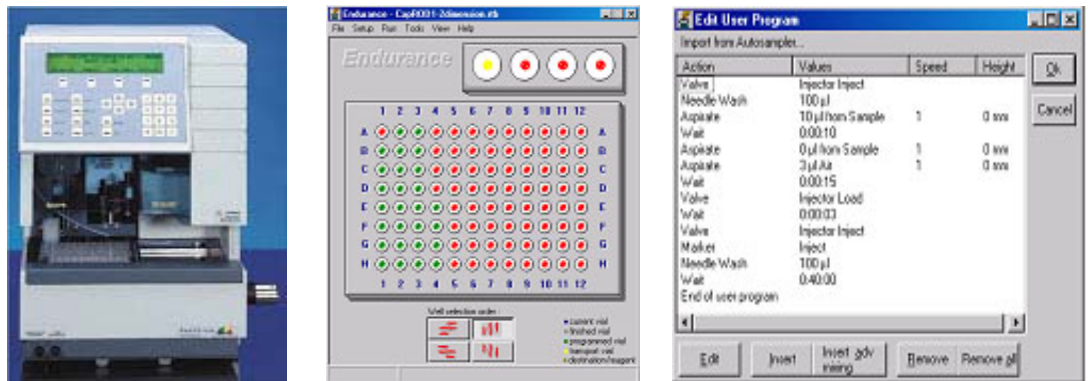


The **micro HPLC pump MicroPro®** has been developed as the third generation of syringe pumps and includes the experience and the know-how of the last 20 years in this field. The pump is one of the few of this type that works without flow splitter. The flow range is 10 nL/min in the isocratic mode and 1 µL/min in the gradient mode. These specifications are sufficient to use columns down to 180 µm ID directly without flow splitting. A simple and reliable flow splitter of approx. 1:10 ratio is used only for columns less than 180 µm ID.

The outstanding features of **MicroPro®** are briefly:

- constant and reliable flow
- absolutely pulse free
- long live and low maintenance
- easy operation with built-in keyboard or control software

MicroPro® is delivered as binary high pressure gradient system. It can be upgraded optionally to ternary gradient.

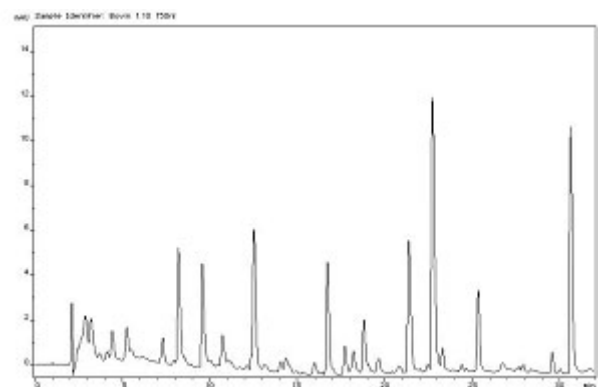


The autosampler **Endurance micro** is especially optimized by SunChrom for nano/micro sample injections. Handling of very small sample volumes, sample enrichment, column switching, etc. require completely new concepts and hardware. Through integration of new valves with extremely small bores, a sample needle made of fused silica and other improvements this autosampler is prepared optimally for this special application.

A system control software especially developed for the nano/micro HPLC allows a direct injection of as low as 3 nL sample depending on the flow rate. The user can create and save own injection/sample preparation programs that are exactly optimized for his problems. Besides a direct injection you can make fully automatic dramatization, which can improve the detection sensibility significantly by several orders of magnitude.



autosampler Endurance micro



separation of Cytochrom C digest on a monolithic nano column 0,1 x 150 mm

The temperature and its stability during the analysis are here even more important than in the analytical HPLC. Due to very small mass of the column, every even very short or insignificant temperature fluctuation of the environment will have a great influence on the retention time. That is the reason why temperature control of the micro or nano columns is essential. The autosampler Endurance micro and the column heater Mistral build an optimum unit by keeping the ways from the injection valve to the column and from the column to the detector very short. That enables to avoid a peak broadening caused by the capillary length.



The UV detector SpectraFlow 501 of SunChrom is equipped with extremely low dead volume special flow cells for the micro/nano systems. They have only 5 and 45 nL illuminated volume by ten millimeters of path way for an optimum separation and detection for very low analyte concentrations.

The nano/micro cells patented and developed by SunChrom are, contrary to other flow cells, exactly adjustable to maximum light transmission and ensures a minimum base line noise. Therefore the signal / noise ratio is significantly improved.



The **Micro Fraction Collector / MALDI Spotter "SunCollect"** rounds off the nano/micro HPLC system by SunChrom. Here you can collect the fractions on micro well plates in order to switch to another orthogonal separation technique in the second dimension e.g. reversed phase chromatography. The eluate from nano columns can be spotted directly on any **MALDI target**. This MALDI matrix can be spotted before or simultaneously with the eluate and mixed and deposited on the target.

The control software is extremely flexible and the user can use besides standard targets, also special sizes or even his own targets or films.

More information about these modules can be found under **SunCollect, MicroPro, Endurance, SpectraFlow 501**.

Ordering information

Art.-No.	Description
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Micro HPLC pump MicroPro™

715-250.070	MicroPro HPLC 10g
715-250.080	MicroPro HPLC 2g
715-1426	1 set piston seals 2 ml
715-1428	1 set piston seals 10 ml
715-1431.10	Upgrade kit from 2 ml to 10 ml
715-1431.R	Rotor seal
715-5226	Syringe cylinder 10 ml
715-5237	Syringe cylinder 2 ml
715-5576	Piston assy 2 ml
715-5578	Piston assy 10 ml
715-DRX	Xcalibur driver for MicroPro
715-SWMP	Control software for MicroPro

Micro autosampler Endurance micro

458-920.000-MI	Endurance micro
458-920.001-MI	Endurance micro cool
458-920.010-MI	Endurance micro + ISS
458-920.011-MI	Endurance micro cool + ISS
708-900.325	Quartz glass sample needle
708-900.326	Quartz glass sample needle (extra long)
708-900.718	Air needle
708-4400.030	Syringe 100 µl

UV detector SpectraFlow 501

458-200.201	UV/Vis detector SpectraFlow 501
458-200.522	Tungsten lamp
969-200.513	Deuterium lamp
458-200.624	SC nano flow cell, 10 mm, 5 nl
458-200.625	SC cap flow cell, 10 mm, 35 nl
458-200.626	SC micro flow cell, 10 mm, 80 nl
458-200.627	SC micro flow cell, 10 mm, 254 nl

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