

welch

Preparation LC System

— Sail 1000



Welch Materials, Inc.

Sail 1000 HPLC System



Sail 1000 contains Constant Flow Pump, UV-Vis Detector and Fraction Collector etc., using front panel or EasyChrom Workstation to operate.

It has features like linear amplification, high sample loading, short preparation time and solvent saving, ensuring stable results.

It applies to the separation of natural products, purification and separation of organic compounds, screening of new drug compounds and analysis of fine chemicals. Easy, fast and customization available.

Main Features :

❖ 1. High flow accuracy and precision

Micro-controller, single-drive dual-piston pump, solvent compression compensation, multi-point flow curve calibration, brings high-accuracy fluid transfer from low pressure to high pressure and low flow rate to high flow rate.

❖ 2. Gradient design

Dual high-pressure pump, combining gradient and isocratic with linear steps, produces gradient curves with different linear velocities, enriches method development, shortens analysis time and saves solvents.

❖ 3. Small pressure pulse

Cam curve compensation and flow pulse monitoring system, brings effective control of fluid pressure pulse, reduces baseline volatility of gradient mixing pulse and baseline noise.

❖ 4. Anti-control system

All parts controllable using workstation, or operating panel to adjust flow rate, pressure and wavelength etc. COM and USB ports, bring higher stability with PC.

❖ 5. High sensitivity detect

Dual-wavelength high-sensitivity detecting, brings shorter intervals, adjustable sampling frequency and better peaks, especially for drug-related substance.

Configuration:

Sail 1000 HPLC System



High-Pressure Pump:



Constant Flow Pump

- ❖ Electrical Dump Control, with low pulse
- ❖ Automatic compensation and Manual compensation, bring higher flow accuracy and precision
- ❖ Floating Piston, with self-cleaning function, ensures longer lifetime
- ❖ Real-time Pressure Monitoring System, with adjustable pressure warning limits, increases safety
- ❖ Optional Pump Head Volume: 50 mL, 100 mL, 200 mL, 300 mL, 600 mL and 1000 mL.
(increment: 0.01 mL/min)

Specification:

Model	Sail 1000		
Flow Range	0.01-50.00 mL/min	0.01-100.00 mL/min	0.01-200.00 mL/min
		0.01-600.00 mL/min	0.01-1000.00 mL/min
Flow Accuracy	±0.5%		
Flow Reproducibility	≤0.3%		
Pressure Range	≤30 Mpa	≤20 Mpa	≤15 Mpa
Pressure Pulse	≤0.3 Mpa		
Path Material	316 L Stainless Steel, PTFE, PEEK		
Control	Front Panel; Workstation		
Power	100-240 VAC, 75 W		

III. UV-Vis Detector ▶



- ❖ Single holographic grating, easily setting time and wavelength
- ❖ High-precision Photo-Diode, brings larger linear range
- ❖ Intensity Gain Coefficient Self-Calibration
- ❖ Unique optical structure, full-wavelength spectrum scan, high-accuracy wavelength calibration
- ❖ Universal sample cell, easy switch between micro and constant cells
- ❖ Deuterium lamp, easy to change and no calibration required

• Detection Mode	Single/Dual wavelength
• Wavelength Range	190-700 nm, 1 nm increment, Deuterium or Tungsten lamp optional
• Wavelength Accuracy	1 nm
• Precision	±0.1 nm(0.2 nm)
• Noise	±0.5×10 ⁻⁵ AU(1×10 ⁻⁵ AU)
• Shift	2×10 ⁻⁴ AU(1.5×10 ⁻⁴ AU)
• Flow Cell Volume	(6.6-18 μL)
• Detection Range	0-3 Aμ
• Tube Connecting	1/16' Standard Tube
• Display Mode	OLED graphic display
• Control	Front panel; workstation
• Power	100-240 VAC, 80 W

Please contact us for further details.

IV. EasyChrom Workstation

1. Man-machine interface design, easy to operate
2. Including real-time monitoring, system control, data collection and processing
3. Settable wavelength and time, changing periodically to ensure best wave length for multicomponent
4. Custom Report Module, providing complete reports
5. Compliance with GMP/GLP, FDA requirements, ensuring data safety
6. Audit Trail for method, sample, sequence, chromatogram and data output.



EasyChrom

ProjectManager
NewProject
Config
Samples
Method

Config Samples Analyze **Sampling**

Start Stop Pause Continue Baseline Connect Disconnect Setting

DeviceConfig: 方法1
AnalyzeMethod: Default
0:03:13

Influsion Pump 11.780Pa
A B C D
0.00 42.00

DWUV Detector
01 0.006 mku 254 nm
02 ----- mku --- nm

PumpDetail

No	Time (min)	Flow (ml/min)	AK	DK	CK	DK
0	2	100				
2	10	2	100			

Flow (ml/min) Ratio
A 2.000 100.0
B 0.000 0.0
C 0.000 0.0
D 0.000 0.0

TotalFlow 2.000ml/min

Ready V2.2.2.25

NewDeviceConfig

DeviceList
Pump COM: 1043 Analysis pump
Detector COM: DWUV Detector

Pump
FlowUnit ml/min PressureUnit MPa Use solvent valve

PumpSetting

PumpModel	COM	Serial	WorkMode	PumpName	MaxPress(MPa)	MinPress(MPa)	MinSolvent(ml)
1043 Analysis pump	COM4	101203	IPC	A	42	0	0

Use gradient

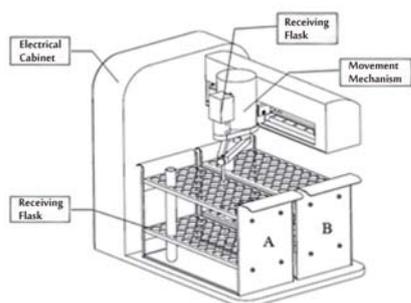
PumpDetail

No	Time (min)	Flow (ml/min)	AK	DK	CK	DK
1	0	2	100			
2	10	2	100			

Detector
DWUV Detector (COM4)
COM: COM4 SignalUnit: mku No. Time Clear Channel Clear when start
Serial: 021104 TimeConst: 2
Channel: 1 Wavelength: 254 nm
LightType: Ultraviolet

方法1 Save Cancel

V. Fraction Collector



- 1、 Automatic or manual collecting optional
- 2、 Custom collection modes
- 3、 Accurate setting of Delay Volume, ensures high accuracy and purity
- 4、 High-precision T-valve

Automatic Parts

- △ Simple Operation Process Diagram, easy operating
- △ Square in shape and suspended X-Y movement, accurate locating when changing tubes
- △ Solution Collection separated with circuit, ensures safety
- △ Corrosion Resistance
- △ Multiple Collection Volumes, with waste tank

Specification:

Capacity	△ 120×15 mL Glass Tube
	△ 120×15 mL Plastic Centrifuge Tube
	△ 42×50 mL Plastic Centrifuge Tube
Switching Speed	Max: 0.1s
Flow Range	0-100 mL/min, configurable
Dimension	350×240×320 mm
Weight	8 kg
Power	85-264VAC, 50 W
Operating Environment	0-40°C, relative humidity<80%

VI. Order Information

Sail 1000-ZBXY2050

#	P/N	Description	
1	P-2050	Semi-Prep high-pressure pump	50 mL pump head, 316 L SST pump head, 30 Mpa
2	UV-2001	Preparative UV-Vis Detector (0-100 mL)	
3	7725i	7725i manual injector	
4	Easy1000	Workstation	
5	1010-1140	5 mL sample loop	
6	1010-112	Static mixer	
7	1010-111	Solvent tray	
8	1010-113	Installation tool kit	
9	FC-1000	Fraction collector	

Sail 1000-ZBXY2200

#	P/N	Description	
1	P-2200	Prep high-pressure pump	200 mL pump head, 316 L SST pump head, 15 Mpa
2	UV-2002	Preparative UV-Vis Detector (100-300 mL)	
3	KA1359	KNAUER A1359 Injection valve (1/8)	
4	Easy1000	Workstation	
5	1010-1141	10 mL sample loop	
6	1010-112	Static mixer	
7	1010-111	Solvent tray	
8	1010-113	Installation tool kit	
9	FC-1000	Fraction collector	

Sail 1000-ZBXY1000

#	P/N	Description	
1	P-1000	Prep high-pressure pump	1000 mL pump head, 316 L SST pump head, 10 Mpa
2	UV-2004	Preparative UV-Vis Detector (600-1000 mL)	
3	P-2100	Fluid sampling pump	100 mL pump head, 316 L SST pump head, 20 Mpa
4	Easy1000	Workstation	
5	1010-112	Static mixer	
6	1010-113	Installation tool kit	

Sail 1000-ZBXY2100

#	P/N	Description	
1	P-2100	Prep high-pressure pump	100 mL pump head, 316 L SST pump head, 20 Mpa
2	UV-2002	Preparative UV-Vis Detector (100-300 mL)	
3	KA1359	KNAUER A1359 Injection valve (1/8)	
4	Easy1000	Workstation	
5	1010-1141	10 mL sample loop	
6	1010-112	Static mixer	
7	1010-111	Solvent tray	
8	1010-113	Installation tool kit	
9	FC-1000	Fraction Collector	

Sail 1000-ZBXY2600

#	P/N	Description	
1	P-2200	Prep high-pressure pump	600 ml pump head, 316 L SST pump head, 15 Mpa
2	UV-2003	Preparative UV-Vis Detector (100-300 mL)	
3	KA1359	KNAUER A1359 Injection valve (1/8)	
4	Easy1000	Workstation	
5	1010-1142	20 mL sample loop	
6	1010-112	Static mixer	
7	1010-111	Solvent tray	
8	1010-113	Installation tool kit	
9	FC-1000	Fraction collector	

Sail 1000-ZBXY3000

#	P/N	Description	
1	P-3000	Prep high-pressure pump	3000 mL pump head, 316 L SST pump head, 10 Mpa
2	UV-2005	Preparative UV-Vis Detector (1000-3000 mL)	
3	P-1000	Prep high-pressure pump	1000 mL pump head, 316 L SST pump head, 10 Mpa
4	Easy1000	Workstation	
5	1010-112	Static mixer	
6	1010-113	Installation tool kit	