

Technical Specifications

Personal OPLC Separation Unit 50 – POSU 50

Principle of Operation	Over Pressured-Layer Chromatography or OPLC
Sorbent Bed Compatibility	OPLC layers compatible with OPLC separation unit include: 0.2 mm thick, 5 cm x 20 cm and 20 cm x 20 cm aluminium backed layers and 0.2 mm, 0.5mm and 1mm thick 20x20 cm glass backed layers.
Pressurization	The OPLC layers are pressurized to 5 MPa (50 bars/725 psi) for via an on-board hydraulic system using a water/glycerol mixture. Time to reach maximum pressure : less than 1min. Max. Elution Pressure: 4 MPa (40 bar or 580psi)
Preparative Scale Operation	Capable of semi-preparative/preparative separation with on-line fraction collection. Maximum loading capacity depends on sample and OPLC layer dimensions. 0.5mm glass backed Si OPLC layers are available.
Mode of Separation	Unidirectional, bi-directional, bi-dimensional can be performed.
Solvent Delivery	Solvent can be delivered by any analytical HPLC pump/systems. Upper back pressure limit on the pump should be set to 4 MPa or 40 bar (580 psi).
Sample Application	Direct Sample Application Mode -samples can be spotted or streaked on the sorbent bed in an off-line mode either manually or automatically using an automatic sample applicator (not included). Multiple samples should be placed on the sorbent bed in a linear arrangement. On-line Sample Application Mode – samples can be injected into the stream of solvent flowing through OPLC using an optional/existing manual injection valve or autosampler.
On-Line Detector	The POSU 50 can be interfaced to all detectors in HPLC systems (e.g. UV, Fluorescence, Radiometric, Evaporative Light Scattering, MS, NMR)..
Off Line Detection	The OPLC layers can be readily removed from the OPLC separation unit and can be examined at any point during a separation (flow must be stopped before removing layer). Observation of bands can be performed either with a hand-held (optional) UV lamp, densitometer or after derivatization with a spray/dip reagent.
Safety	The hydraulic system will not function unless a layer holder (cassette) is properly inserted into the separation chamber. There is an indication that the unit is pressurized and ready for use.



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ECOM ECP2010 PUMP

Flow-rate	0.01-10.0 ml/min.
Pumping System	Two plungers dia. 1/8" connected in series
Maximum operating pressure	40MPa (5800 psi, 400 bar)
Accuracy of flow-rate (1ml/min, 12MPa Water)	+/- 2%
Repeatability of flow-rate, 12MPa Water)	+/-0.5%
Accuracy of pressure measurement	+/- 2%
Adjustable lower pressure limit	0.0 – 39.0 MPa
Adjustable upper pressure limit	1.0 – 40.0 MPa
Number of valves*	4 (A,B,C,D)
Setting of components Concentrations*	0.0-100.0%
Wetted materials	Stainless steel, sapphire, KEL-F, seals**
Communication	RS232, Ethernet(LAN), USB
Display, keypad	VFD 140x32 pixels, 10 pushbuttons
Power supply	100-240V 50/60 Hz 100VA
Dimensions (w x h x d)	280 x 135 x 498mm
Weight	10 kg
Operational environment conditions	Indoor use only. Altitude: up to 2000m. Temperature: 5-40°C Humidity: max. relative humidity 80% fro temperature up to 31°C decreasing linearly to 50% rel.humidity at 40°C. Voltage fluctuations: up to +/-10% of nominal voltage. Overvoltage category II. Pollution degree 2.

* Gradient functions are available only together with Gradient Box with Degasser ECB2004

** seals material: default is GFP (PTFE), optional is UHW-PE.



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ECOM ECD2800/ECD2600 UV-VIS DETECTOR

Wavelength	ECD2800 (190-800nm) ECD2600 (190-600nm)
Spectral half-width	6 nm
Accuracy of adjustment	+/- 1 nm
Reproducibility	+/- 0.5 nm
Light source	Deuterium discharge lamp and Tungsten Lamp*
Noise (Test cell, 254nm, TC 1s, 10Hz)	+/- 3 x10 ⁻⁶ AU
Drift (Test Cell, 254nm)	1 x 10 ⁻⁴ AU/hr.
Time Constant	20 – 10 000ms
Sampling rate	Up to 100 Hz
Digital output	1 V/AU
Analogue output	1 x configurable
Wetted materials	Depend on cell -- fused silica, PTFE, stainless steel, Vespel, PEEK
Communication	RS232, Ethernet (LAN)
Display, keypad	VFD 140x32 pixels, 10 pushbuttons
Power Supply	100-240V 50/60 Hz, 110VA
Dimensions (w x h x d)	280 x 135 x 498 mm
Weight	9 Kg
Operational environment conditions	Indoor use only. Altitude: up to 2000m. Temperature: 5-40°C Humidity: max. relative humidity 80% fro temperature up to 31°C decreasing linearly to 50% rel.humidity at 40°C. Voltage fluctuations: up to +/-10% of nominal voltage. Overvoltage category II. Pollution degree 2.

* Tungsten lamp only available in ECD2800



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DataApex Clarity Chromatography Station

Clarity chromatography Station is a versatile and efficient tool for the acquisition, processing and evaluation of data from Online OPLC Chromatograph with full control of ECOM ECP2010 pump and ECD2800/ ECD2600 UV-VIS detector.

Communication with ECP2010 and ECD2800/ECD2600 is via Ethernet Port and Ethernet cable, or via RS232.

Intuitive graphically interface for user friendly operation.

Integration: The peaks in the chromatogram can be integrated and modified by entering global parameters or interactively, through direct graphic modification of the baseline.

Overlay: Simultaneously displays multiple chromatograms and perform mathematical modification such as mutual deductions.

Calibration: Internal and external standard calculation methods, calibration of groups of peaks and reference peaks method for better identification.

Wide range of supported instruments: Control modules in Clarity allow users to perform automatic operations for a wide range of Chromatographs and Autosamplers.

Post-run: Automatic displays, prints, exports and starts other programs after the completion of a measurement.

Analog Signals from other Detectors: 4 channel or 2 channel A/D converters can be added to perform data acquisition from other detectors with analog signal output on the computer via an USB port.

21 CFR Part 11 compliance: The Clarity meets the requirements of FDA's directive 21 CFR Part 11.



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