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 1 min.

Max. Elution Pressure: 4 MPa (40 bar or 580 psi)

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.
## Technical Specifications

### ECOM ECP2010 PUMP

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flow-rate</td>
<td>0.01-10.0 ml/min.</td>
</tr>
<tr>
<td>Pumping System</td>
<td>Two plungers dia. 1/8” connected in series</td>
</tr>
<tr>
<td>Maximum operating pressure</td>
<td>40MPa (5800 psi, 400 bar)</td>
</tr>
<tr>
<td>Accuracy of flow-rate (1m/min, 12MPa Water)</td>
<td>+/- 2%</td>
</tr>
<tr>
<td>Repeatability of flow-rate, 12MPa Water</td>
<td>+/-0.5%</td>
</tr>
<tr>
<td>Accuracy of pressure measurement</td>
<td>+/- 2%</td>
</tr>
<tr>
<td>Adjustable lower pressure limit</td>
<td>0.0 – 39.0 MPa</td>
</tr>
<tr>
<td>Adjustable upper pressure limit</td>
<td>1.0 – 40.0 MPa</td>
</tr>
<tr>
<td>Number of valves*</td>
<td>4 (A,B,C,D)</td>
</tr>
<tr>
<td>Setting of components</td>
<td>0.0-100.0%</td>
</tr>
<tr>
<td>Concentrations*</td>
<td></td>
</tr>
<tr>
<td>Wetted materials</td>
<td>Stainless steel, sapphire, KEL-F, seals**</td>
</tr>
<tr>
<td>Communication</td>
<td>RS232, Ethernet(LAN), USB</td>
</tr>
<tr>
<td>Display, keypad</td>
<td>VFD 140x32 pixels, 10 pushbuttons</td>
</tr>
<tr>
<td>Power supply</td>
<td>100-240V 50/60 Hz 100VA</td>
</tr>
<tr>
<td>Dimensions (w x h x d)</td>
<td>280 x 135 x 498mm</td>
</tr>
<tr>
<td>Weight</td>
<td>10 kg</td>
</tr>
<tr>
<td>Operational environment conditions</td>
<td>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.</td>
</tr>
</tbody>
</table>

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

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

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 x 10^{-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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Technical Specifications

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.