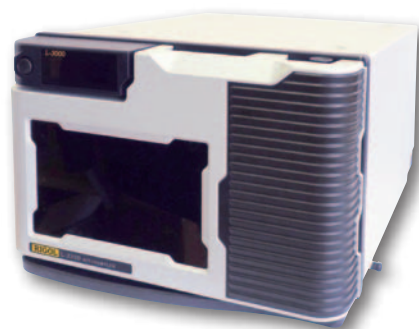


ANALYTICAL SYSTEMS

Modular HPLC system can be configured according to customer needs from components as follows: **PDA Detector** with wavelength range 200-800 nm with scanning possibility or **UV-VIS Detector** with continuously variable wavelength 190-800/600 nm and very low noise level offers high-speed sampling up to 100 Hz. **Autosampler** for 96 vials, **isocratic pump** with flow-rate up to 10ml/min and pressure limit 40 MPa works also as **gradient pump** together with gradient box which is equipped with four way gradient mixing valve and **degasser**. **Column oven** with heating/cooling can accommodate up to 3 columns. Communication is through RS232 or LAN.

Gradient box with degasser ECB2004 or just a container for solvent bottles ECB2006

Column oven ECO2080 with heating and cooling or ECO2099 with heating only



Analytical HPLC pump ECP2010 with flow-rate up to 10 ml/min and pressure up to 40 MPa

ECDA2800 PDA scanning detector or ECD2800 / ECD2600 UV-VIS detector with continuously variable wavelength

L3320 Autosampler with excellent accuracy and linearity

Units controlled by Clarity

System configuration examples

Equipment	ECS01	ECS02	ECS03	ECS04	ECS05
	ASA0100X	ASA0200X	ASA0300X	ASA0400X	ASA0500X
	Gradient	Gradient	Isocratic	Gradient	Gradient
Detector	ECD2800	ECD2600	ECD2600	ECD2800	ECDA2800
Pump	ECP2010	ECP2010	ECP2100	ECP2010	ECP2010
Column Oven	ECO2080	ECO2099	-	ECO2080	ECO2080
Box	ECB2004	ECB2004	ECB2006	ECB2004	ECB2004
Sampling	Manual	Manual	Manual	L3320	L3320

NOTE:

- For more information and technical specifications see pages 4 and 5.
 - This system is controlled by Clarity Chromatography software.
 - Ask us for different configuration.

ANALYTICAL UNITS OVERVIEW

Detectors

ECDA2800 UV-VIS PDA Detector



Analytical Diode Array Detector measures at eight wavelengths simultaneously or full scan with speed up to 100 Hz. 3D support in Clarity SW. Noise level $\pm 5 \times 10^{-6}$ AU. Four analog outputs. Two special mathematical channels are available. Wavelength range 200-800 nm. AD05 analytical cell included.

ECDA2800

P/N ANW0000X

ECD2800/ECD2600 UV-VIS Detector



UV-VIS detector with continuously variable wavelength in range of 190-800 (600) nm and noise level $\pm 3 \times 10^{-6}$ AU controlled by RS232, LAN or keypad. Automatic wavelength calibration using deuterium spectral lines.

AC05 analytical cell included.

ECD2800

P/N ADA0000X

ECD2600

P/N ADB0000X

ECD2800/2600 EX UV-VIS Detector



Modification of basic ECD2800/2600 unit suited for external cell connecting using optical cables with SMA 905 connectors. Noise level $\pm 1.5 \times 10^{-5}$ AU. Wide range of external cells available.

ECD2800 EX

P/N ADAEX00X

ECD2600 EX

P/N ADBEX00X

ECD2800/2600 CE UV-VIS Detector



Modification of basic ECD2800/2600 unit suited for capillary electrophoresis. Easily replaceable capillary in cell compartment. Noise level $\pm 1.5 \times 10^{-5}$ AU.

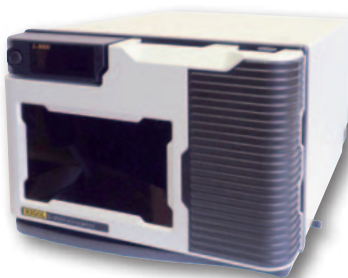
ECD2800 CE

P/N ADACE00X

ECD2600 CE

P/N ADBCE00X

L3320 Autosampler



Autosampler for 96 vials with excellent accuracy and linearity of sample injection. Inovated needle design significantly reduces sample residue contamination. Wide range of sample volumes, even μ l pick-up mode with zero sample loss.

L3320

P/N ARA03320

AC05/AD05 Analytical Cells



Standardly included cells with 5 mm optical path length are AC05 for ECD2800/2600 and AD05 for ECDA2800 PDA detectors. Cells with optical path length 2.4 and 10 mm are available on request.

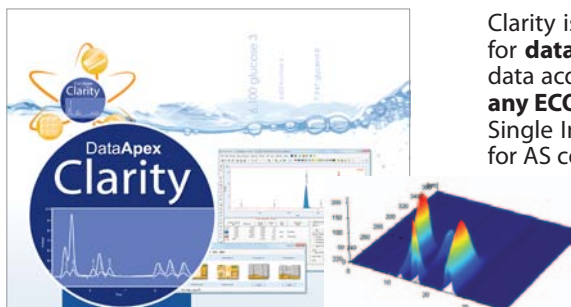
AC05

P/N ADA70000

AD05

P/N ANW70000

CLARITY Chromatography Station



Clarity is advanced Chromatography Data Station with optional software modules for **data acquisition**, **data processing** and **instrument control**. Its wide range of data acquisition interfaces (A/D converters, LAN, USB, RS232) allows **connection to any ECOM unit**.

Single Instrument SW is possible extend by SW Module for LC control, SW module for AS control, SW module for System Suitability Test, SW module for PDA Data processing, Single Instrument Add-on and Offline version for data processing.

All ECOM units drivers are included in Module LC Control. Drivers contain **full control** of instruments as well as **diagnostics tools** and are made by ECOM with DataApex supervision that guarantees the highest quality and full integration into the Clarity station.

ANALYTICAL UNITS OVERVIEW

Pumps

Name	P/N	F [ml/min.]	Max. press. [Mpa / PSI]	Piston diameter	Pumping system	Notes
Series 2000		Analytical HPLC pump, isocratic / quaternary gradient with Gradient Box ECB2004				
ECP2010	ACA0000X	0.01 – 10.00	40 / 5800	1/8"	2x serial	power supply 100 – 240 V AC
Kappa series		Isocratic, single piston, pulsating, 40 MPa up to 2 ml/min., column washing				
Kappa 10	PK00000X	0.01 – 10.00	40(20) / 5800	1/8"	1x pulsating	power supply 100 – 240 V AC
Kappa 10PP	PL00000X	0.01 – 10.00	40(20) / 5800	1/8"	1x pulsating	pressure sensor, power supply 100 – 240 V AC

ECP2010 Analytical HPLC Pump



Works as isocratic pump and together with Gradient Box ECB2004 also as gradient pump. Flow-rate range is 0.01–10 ml/min and pressure up to 40 MPa. Unit software includes new learning algorithm for pulsation suppression and many testing and diagnostic features.

ECP2010

P/N ACA0000X

KAPPA 10 Isocratic One Piston Pump



Single piston pump suited for column washing or other HPLC chromatography processes. Kappa 10PP includes pressure sensor.

Kappa 10

P/N PK00000X

Kappa 10PP

P/N PL00000X

ECB2004 Gradient Box with Degasser ECB2006 Solvent Box



Box is suited for handling liquids in ECOM gradient systems. It accommodates container for solvent bottles, built-in high-efficiency vacuum degasser and four way gradient valve. Up to four solvent lines may be degassed simultaneously.

Four way gradient valve is controlled through the pump ECP2010. Box can be also supplied as a simple container for solvent bottles – ECB2006.

ECB2004

P/N ABA0000X

ECB2006

P/N ABC0000X

ECO2080/ECO2099 Column Oven



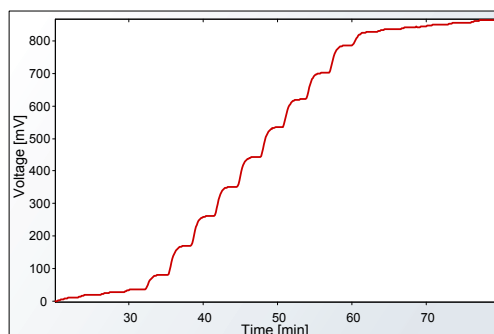
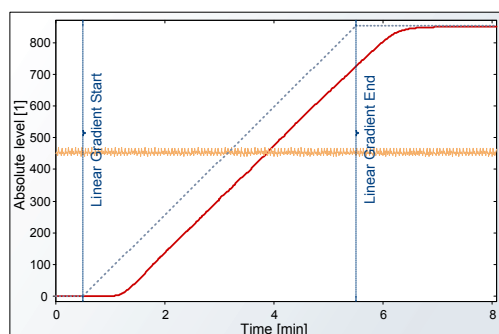
Peltier heating/cooling column oven (0-80°C) with a big compartment room can accommodate up to 3 columns with length up to 25 cm. Unit is controlled via keypad, RS232 or LAN Interface. Column oven can be also supplied with heating only, temperature range up to 99°C as ECO2099.

ECO2080

P/N AOA0000X

ECO2099

P/N AOB0000X



These graphs show linear and stepped gradient (10 % steps and at the beginning and end 1 %) performed on HPLC pump ECP2010 and gradient box ECB2004. This is used for measuring and testing performance criteria such as accuracy and reproducibility of solvent delivery system in production.

ECS03

ISOCRATIC ANALYTICAL SYSTEM

High effective HPLC system containing **UV-VIS detector, analytical pump** and **Box for mobile phase bottles**. Detector with continuously variable wavelength 190-600 nm and very low noise level offers **high-speed sampling up to 100 Hz**.

Communication of all units is through **RS232** or **Ethernet(LAN)**. Additional PC A/D converter card is not required for this system.



System contains manual injector and **Clarity** software. All units are supported in Clarity software from installation.

MAIN PARTS

ECD2600 UV-VIS DETECTOR

Detector with continuously variable wavelength in the range of **190-600 nm** and a noise level $\pm 3 \cdot 10^{-6}$ AU. Unit offers high-speed sampling up to **100 Hz** and wavelength autocalibration. AC 05 analytical cell is included.



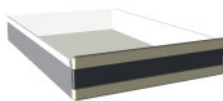
ECP2010 ANALYTICAL HPLC PUMP

This isocratic pump works with Gradient Box ECB2004 as a **quaternary gradient pump**. Flow rate range is **0.01-10 ml/min** and pressure limit at **40 MPa**. Unit software includes new learning algorithm for pulsation suppression and many testing and diagnostic functions.



ECB2006 BOX FOR MOBILE PHASE BOTTLES

Box is suited for secure mobile phase bottles installation onto isocratic systems



CLARITY CHROMATOGRAPHY SOFTWARE

This system is fully controlled by Clarity Chromatography software, which is also a part of delivery. Clarity software complies **CFR21GLP** requirements.



SYSTEM CONTAINS

Pcs	Description	P/N
1	ECD2600 UV-VIS Detector	ADB0000X
1	ECP2010 Analytical HPLC pump	ACA0000X
1	ECB2006 Box for MOBILE Phase Bottles	ABC0000X
1	Clarity – Station for 1 instrument	AP000C50
1	Clarity module for HPLC control	AP000A24
1	Anal. injection valve with 20ul sample loop	S203200X
1	Accessories for analyt. system series 2000	ASA00180

Note: Column and computer are not included. PC system has to be equipped for handling 3 serial RS232 or 1 Ethernet port at least. Check also Clarity software requirements

ECS01

QUATERNARY GRADIENT ANALYTICAL SYSTEM

High effective HPLC system containing **UV-VIS detector**, **column oven**, **analytical pump** and **gradient box**. Detector with continuously variable wavelength 190-800 nm and very low noise level offers **high-speed sampling up to 100 Hz**.

Communication of all units is through **RS232** or **Ethernet(LAN)**. Additional PC A/D converter card is not required for this system.



System contains manual injector and **Clarity** software. All units are supported in Clarity software from installation.

MAIN PARTS

ECD2800 UV-VIS DETECTOR

Detector with continuously variable wavelength in the range of **190-800 nm** and a noise level $\pm 3 \cdot 10^{-6}$ AU. Unit offers high-speed sampling up to **100 Hz** and wavelength autocalibration. AC 05 analytical cell is included.



ECP2010 ANALYTICAL HPLC PUMP

This isocratic pump works with Gradient Box ECB2004 as a **quaternary gradient pump**. Flow rate range is **0.01-10 ml/min** and pressure limit at **40 MPa**. Unit software includes new learning algorithm for pulsation suppression and many testing and diagnostic functions.



ECO2080 COLUMN OVEN WITH HEATING AND COOLING

The peltier heating/cooling column oven with a big compartment room can accommodate up to **3 columns** with length up to **25 cm**. Overheating-Security-Fuse prevents destruction of temperature sensitive columns. Temperature range is **0-80 °C**.



ECB2004 GRADIENT BOX WITH DEGASSER

Box is suited for handling liquids in ECOM gradient systems. It accommodates a container for solvent bottles, built-in high-efficiency **vacuum degasser** and **four-way gradient valve**. Up to four solvent lines may be degassed simultaneously by one unit. Four-way gradient valve is controlled from the pump ECP2010.



CLARITY CHROMATOGRAPHY SOFTWARE

This system is fully controlled by Clarity Chromatography software, which is also a part of delivery. Clarity software complies **CFR21GLP** requirements.



SYSTEM CONTAINS

Pcs	Description	P/N
1	ECD2800 UV-VIS Detector	ADA0000X
1	ECB2004 Gradient box with degasser	ABA0000X
1	ECP2010 Analytical HPLC pump	ACA0000X
1	ECO2080 Column Oven	AOA0000X
1	Clarity – Station for 1 instrument	AP000C50
1	Clarity module for HPLC control	AP000A24
1	Anal. injection valve with 20ul sample loop	S203200X
1	Accessories for analyt. system series 2000	ASA00180

Note: Column and computer are not included. PC system has to be equipped for handling 3 serial RS232 or 1 Ethernet port at least. Check also Clarity software requirements.

ECS02

QUATERNARY GRADIENT ANALYTICAL SYSTEM

High effective HPLC system containing **UV-VIS detector**, **column oven**, **analytical pump** and **gradient box**. Detector with continuously variable wavelength 190-600 nm and very low noise level offers **high-speed sampling up to 100 Hz**.

Communication of all units is through **RS232** or **Ethernet(LAN)**. Additional PC A/D converter card is not required for this system.



System contains manual injector and **Clarity** software. All units are supported in Clarity software from installation.

MAIN PARTS

ECD2600 UV-VIS DETECTOR

Detector with continuously variable wavelength in the range of **190-600 nm** and a noise level $\pm 3 \cdot 10^{-6}$ AU. Unit offers high-speed sampling up to **100 Hz** and wavelength autocalibration. AC 05 analytical cell is included.



ECP2010 ANALYTICAL HPLC PUMP

This isocratic pump works with Gradient Box ECB2004 as a **quaternary gradient pump**. Flow rate range is **0.01-10 ml/min** and pressure limit at **40 MPa**. Unit software includes new learning algorithm for pulsation suppression and many testing and diagnostic functions.



ECO2099 COLUMN OVEN WITH HEATING

This column oven allows temperature stabilization above ambient temperature. A big compartment room can accommodate up to **3 columns** with length up to **25 cm**. Overheating-Security-Fuse prevents destruction of temperature sensitive columns. Temperature range is **ambient temperature +5°-99 °C**.



ECB2004 GRADIENT BOX WITH DEGASSER

Box is suited for handling liquids in ECOM gradient systems. It accommodates a container for solvent bottles, built-in high-efficiency **vacuum degasser** and **four-way gradient valve**. Up to four solvent lines may be degassed simultaneously by one unit. Four-way gradient valve is controlled from the pump ECP2010.



CLARITY CHROMATOGRAPHY SOFTWARE

This system is fully controlled by Clarity Chromatography software, which is also a part of delivery. Clarity software complies **CFR21GLP** requirements.



SYSTEM CONTAINS

Pcs	Description	P/N
1	ECD2600 UV-VIS Detector	ADB0000X
1	ECB2004 Gradient box with degasser	ABA0000X
1	ECP2010 Analytical HPLC pump	ACA0000X
1	ECO2099 Column Oven with heating	AOB0000X
1	Clarity – Station for 1 instrument	AP000C50
1	Clarity module for HPLC control	AP000A24
1	Anal. injection valve with 20ul sample loop	S203200X
1	Accessories for analyt. system series 2000	ASA00180

Note: Column and computer are not included. PC system has to be equipped for handling 3 serial RS232 or Ethernet ports at least. Check also Clarity software requirements.