

2018

EQUIPMENT FOR ANALYTICAL, PREPARATIVE AND FLASH LIQUID CHROMATOGRAPHY

HPLC SERIES 2000
includes:

• Gradient Box
ECB2004

• Analytical Pump
ECP2010

• Column Oven
ECO2080

• UV-VIS Detector
ECD2600



ECOM
HPLC FROM PRAGUE

Check out
our brand
new TOYDAD
and BABYDAD
detectors



PREPARATIVE SYSTEMS

High effective HPLC preparative system containing UV-VIS photodiode array detector, preparative pump and gradient box. The system is variable and allows different configurations of components. **Detector** allows measuring absorbance on four wavelengths simultaneously in one cell just as measuring of whole spectrum (scan). **Preparative isocratic pump** with flow rates up to 50, 100 or 300 ml/min works together with gradient box as a **gradient pump**, achieving a precise four way low-pressure gradient. Fraction collector for 9, 21 and 40 ml tubes. Communication of all units is through RS232 or LAN. New addition to these units is **ECB2005PC box which has built-in PC**.

Preparative pump with flow-rate up to 50, 100 or 300 ml/min

Box ECB2005/2007 with gradient valve or ECB2005PC with built in PC

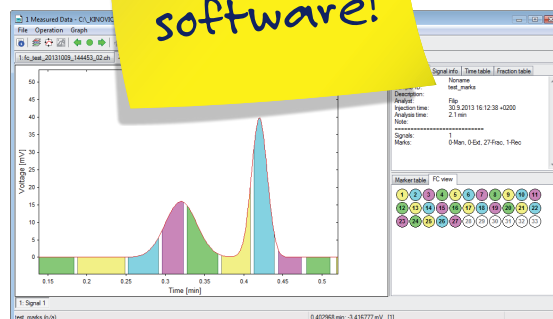


TOY14DAD detector in versions up to 400, 600 and 800 nm



ECF2096 Fraction collector for 9, 21 and 40 ml tubes

Try ECOMAC software!



System configuration examples

Equipment	ECS10	ECS11	ECS12
P/N	ASP1000X	ASP1100X	ASP1200X
	Gradient	Isocratic	Gradient
Detector	TOY14DAD 600	TOY14DAD 400	TOY14DAD 600
Pump	ECP2100	ECP2100	ECP2300
Box	ECB2007	ECB2006	ECB2005
Fraction collector	-	-	ECF2096

NOTE:

- For more information and technical specifications see pages 6 and 7.
- This system is controlled by ECOMAC or Clarity chromatography software.
 - Ask us for different configuration.

ANALYTICAL SYSTEMS

Modular Analytical HPLC system includes **PDA Detector** or **UV-VIS Detector**, **autosampler** for 96 vials, **isocratic pump** with flow rate up to 10ml/min works together with **gradient box** with degasser as **gradient pump** and **column oven** with heating/cooling. Communication is through RS232 or LAN. New addition to these units is **ECB2004PC box** which has **built-in PC**.

Gradient box with degasser ECB2004 or ECB2004PC box with built-in PC



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

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

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 SW

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	ECP2010	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.

Wide range of external cells available.

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.

Wide range of external cells available.

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

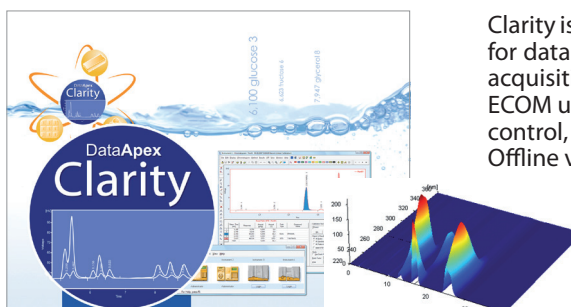


Standardly included cells with 5 mm optical path length. Cells with optical path length 2 and 10 mm are available on request. Cells are designed with a temperature exchanger which suppresses the temperature changes.

AC05 (for ECD2800 / 2600) P/N ADA7000X

AD05 (ECDA 2800) P/N ANW7000X

CLARITY Chromatography Station



Clarity is an 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 can be extended by SW modules for LC control, AS control, System Suitability Test, 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

ECP2010 / ECP2010H Analytical HPLC Pump



Works as isocratic pump, together with Gradient Box also as gradient pump. It has two pump heads connected in series with a piston diameter of 1/8". Unit software includes new learning algorithm for pulsation suppression and many testing and diagnostic features.

Flow rate 0.02–10 ml/min
ECP2010 40 MPa (5800 PSI)
ECP2010H 60 MPa (8700 PSI)

ECP2010

P/N ACA0000X

ECP2010H

P/N ACF0000X

KAPPA10 / KAPPA10PP Isocratic One Piston Pump



Single piston pump suited for column washing and columns regeneration process. Kappa 10PP includes pressure sensor. It is designed with piston diameter of 1/8". Completely new concept of electronic control and drive of pump allows it to be used as a standalone unit.

Flow rate 0.01–10 ml/min
40 MPa (5800 PSI) up to 2 ml/min
20 MPa (2900 PSI) 2.01 to 10 ml/min

KAPPA10

P/N PK00000X

KAPPA10PP

P/N PL00000X

ECB2004 / ECB2004PC Gradient Box with Degasser



Box is suited for handling liquids in ECOM gradient systems. It accommodates container for solvent bottles, built-in high-efficiency vacuum de-gasser and four way gradient valve. Four way gradient

valve is controlled via ECP2010 pump. Up to four solvent lines may be degassed simultaneously. ECB2004PC has a built-in PC included inside.

ECB2004

P/N ABA0000X

ECB2004PC

P/N ABAPC00X

ECB2006 Box for solvent bottles

ECB2006 is a simple container for solvent bottles.



ECB2006

P/N ABC000X

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.

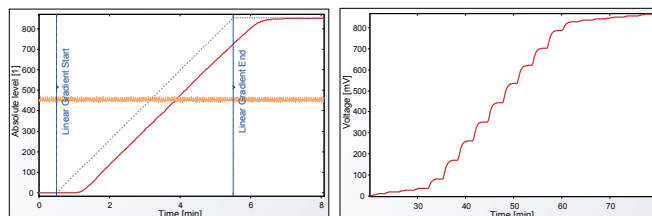
ECO2080

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.



PREPARATIVE UNITS OVERVIEW

STAND ALONE DETECTORS

Flash10 DAD



Flash10 detector is designed for preparative and flash applications, with four continuously variable wavelength in the range 200-400nm, 200-600nm and 190-840nm for each instrument. Noise level at 254 nm are $\pm 5 \times 10^{-5}$ AU with an empty cell. Detector has analog output.

TOY14DAD / TOY18DAD*



Standalone UV detector suited for preparative and flash chromatography with diode array (DAD) in range 200-400nm, 200-600nm, 200-800nm, in 2channel, 4channel and scanning versions. Noise level at 254 nm

are $\pm 5 \times 10^{-5}$ AU with an empty cell. Detector controlled via LAN. Preparative cell supplied with the detector.

Flash10 DAD 400 P/N 2053A00X

Flash10 DAD 600 P/N 2053B00X

Flash10 DAD 800 P/N 2053E00X

Ask for version of Flash 10 DAD detector with SMA optical connectors for external flow cells.

See Built-in detectors table for version P/N TOY18XXXX



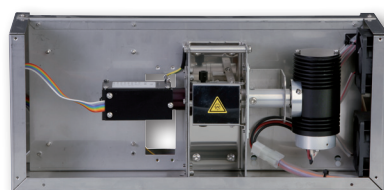
BUILT-IN DETECTORS (All powered by 24-36 VDC)

TOYDAD detectors are very small but powerful DAD units produced in many mechanical and optical versions. Each version is available with 2 or 4 variable wavelengths or as 4 variable wavelengths + continuously scanning. Noise level $\pm 5 \times 10^{-5}$ AU. Drift 1×10^{-3} AU/hr. Detectors can use **different types of cells** - optical path length **0.1 – 2.4 mm**, for flow rates up to **500 or 3 000 ml/min**. Also available cells with **pressure limit 30 MPa (4351 PSI)**. Each cell type can be delivered in **EX version for connection with optical cables** – available upon request.

Version	Range nm	Features	Scan
400	200 -400	2xVariable	info
		4xVariable	info
		Scanning + 4xWL	full
600	200 -600	2xVariable	info
		4xVariable	info
		Scanning + 4xWL	full
800	200 -800	2xVariable	info
		4xVariable	info
		Scanning + 4xWL	full
FIX	200-600	1 x FIX	No
		2 x FIX	No

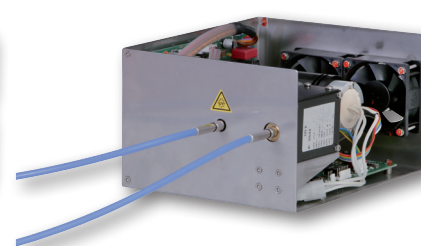
TOYDAD / TOY18DAD*

In the same chassis as Flash unit



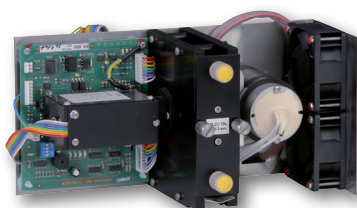
TOYDAD EX / TOY18DAD EX*

Designed for external cell connected by optical cables



TOYDAD-L / TOY18DAD-L*

unit with cell and lamp accessible from front panel



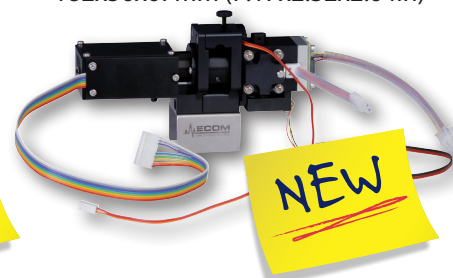
TOYDAD-I / TOY18DAD-I*

Unit with small cell housing



BABY18DAD*

Smallest unit with dimensions 182x56x67mm (7.17x2.32x2.64in)



* Detector uses one new control board which replaces two boards used in previous detector types

NOTE:

- 3D evaluation for Flash DAD , BABYDAD and all TOYDAD detectors is supported by Clarity SW

PREPARATIVE UNITS OVERVIEW

PUMPS

ECP2050, 2100, 2300



Preparative pumps with pulsation compensation controlled by RS232 and LAN. Pumps work as isocratic pump, together with Gradient Box also as gradient pump.

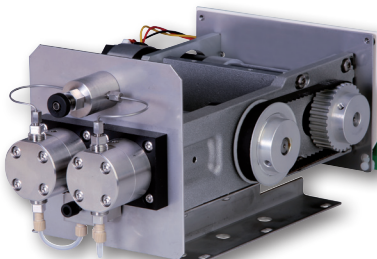
ECP2050 50 ml/min, 30 MPa (4351 PSI)
 ECP2100 100 ml/min, 30 MPa (4351 PSI)
 ECP2300 300 ml/min, 15 MPa (2176 PSI)

ECP2050 P/N ACC0000X

ECP2100 P/N ACD0000X

ECP2300 P/N ACE0000X

THETA 50, 100, 300



OEM pumps suited for preparative and flash applications. Controlled by RS232. **Without** pressure sensor.

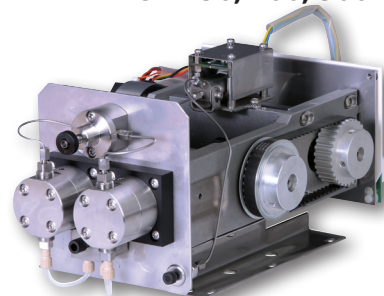
THETA50 50 ml/min, 30 MPa (4351 PSI)
 THETA100 100 ml/min, 15 MPa (2176 PSI)
 THETA300 300 ml/min, 7.5MPa (1015 PSI)

THETA50 P/N PT00000X

THETA100 P/N PTC0000X

THETA300 P/N PTD0000X

IOTA 50, 100, 300



OEM preparative pumps suited for preparative and flash applications. Controlled by RS232. **With** pressure sensor.

IOTA50 50 ml/min, 30 MPa (4351 PSI)
 IOTA100 100 ml/min, 15 MPa (2176 PSI)
 IOTA300 300 ml/min, 7.5MPa (1015 PSI)

ECP2050 P/N ACC0000X

ECP2100 P/N ACD0000X

ECP2300 P/N ACE0000X

WE ARE DEVELOPING ECP2200 PUMP, FLOW RATE 200 ml/min, MAX. PRESSURE 40 MPa (5800 PSI)

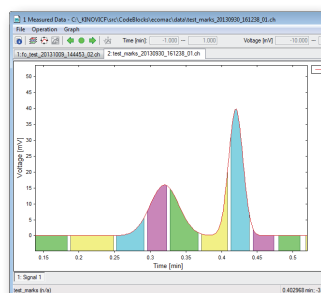
ECF2096 Fraction Collector



Fractions collected according to chosen method which can be created manually by keyboard, just as using **ECOMAC** software. Analog input allows collecting based on detector signal. Racks for 9, 21, 40 ml tubes.

ECF2096

P/N AFA0000X



ECOMAC SW Controls all ECOM units and collects data. It is suited for preparative applications with many possibilities of fraction collecting and events programming.

ECOMAC

P/N AF00000X

ECB2007 / 2005 / 2005PC Gradient Box



Suited for liquid handling in ECOM gradient preparative system. It accommodates container for solvent bottles and four way gradient valve.

ECB2005PC box contains built in computer.

ECB2005

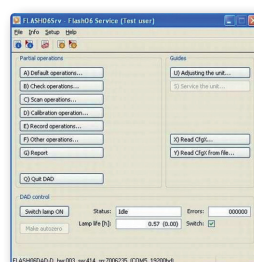
P/N ABB0000X

ECB2005PC

P/N ABBPC00X

ECB2007

P/N ABD0000X



Service SW allows comfortable testing and servicing of all **FLASH, TOY and BABY** detectors. Test report created by this SW contain detailed information for units diagnostic.

Flash06Srv

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