ECOM
HPLC FROM PRAGUE

P/N ACA0000X

ECP2010

ANALYTICAL HPLC PUMP

This pump works as **isocratic** pump and together with **Gradient Box with Degasser ECB2004** also as **gradient** pump.

Gradient Box with Degasser ECB2004 *is equipped with* ***four way gradient mixing valve*** *and* ***degasser*** *and is ordered separately.*

With a flow-rate of **0.01-10.00 ml/min.** and a pressure limit at **40 MPa** is this pump suited for **analytical** applications in liquid chromatography. It is designed with main and auxiliary pump heads connected in series with a piston diameter of 1/8".

New sophisticated unit allows achieving a precise **low-pressure gradient**, i.e. gradual changes of solvent composition by mixing **up to four liquids** at the pump's entry. It is also possible to predefine percentage of composition when using the pump in isocratic mode. The gradient profile can be defined from a computer.

There are many improvements which make pump more reliable, safe and precise. Also maintenance is now easier. E.g. pistons exchange is easier because of new construction; new learning algorithm for **pulsation suppression**; leakage sensor etc.

When necessary, it is possible to use **back washing of pistons** (e.g. when using buffered mobile phase).

Pump is supported by **ECOMAC** and **Clarity** software.

SPECIFICATION

TECHNICAL PARAMETERS

Flow-rate	0.01 – 10.00 ml/min.
Pumping system	two plungers dia. 1/8" connected in series
Maximum operating pressure	40 MPa (5800 PSI, 400 bar)
Accuracy of flow-rate (1ml/min. 12MPa H_2O)	± 2%
Repeatability of flow-rate (1ml/min. 12MPa H_2O)	± 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 50/60Hz 100VA
Dimensions (w x h x d)	280 x 135 x 498 mm
Weight	10 kg

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

** seals material: default is GFP (PTFE), optional is UHMW-PE, more information on request

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ECOM
HPLC FROM PRAGUE

P/N ACC0000X

ECP2050

PREPARATIVE HPLC PUMP

This pump works as **isocratic** pump and together with **Gradient Box ECB2005** also as **gradient** pump.

Gradient Box ECB2005 *is equipped with* ***four-way gradient mixing valve*** *and is ordered separately.*

With a flow-rate of **0.1-50.0 ml/min.** and a pressure limit at **30 MPa** is this pump suited for **preparative** applications in liquid chromatography. It is designed with main and auxiliary pump heads connected in parallel with a piston diameter of 3/8".

New sophisticated unit allows achieving a precise **low-pressure gradient**, i.e. gradual changes of solvent composition by mixing **up to four liquids** at the pump's entry. It is also possible to predefine percentage of composition when using the pump in isocratic mode. The gradient profile can be defined from a computer.

There are many improvements which make pump more reliable, safe and precise. Also maintenance is now easier. E.g. pistons exchange is easier because of new construction; new learning algorithm for **pulsation suppression**; leakage sensor etc.

When necessary, it is possible to use **back washing of pistons** (e.g. when using buffered mobile phase).

Pump is supported by **ECOMAC** and **Clarity** software.

SPECIFICATION

TECHNICAL PARAMETERS

Flow-rate	0.1 – 50.0 ml/min.
Pumping system	two plungers dia. 3/8" connected in parallel
Maximum operating pressure	30 MPa (4350 PSI, 300 bar)
Accuracy of flow-rate (10 ml/min. 12MPa H_2O)	± 2%
Repeatability of flow-rate (10 ml/min. 12MPa H_2O)	± 0.5%
Accuracy of pressure measurement	± 2%
Adjustable lower pressure limit	0.0 – 29.0 MPa
Adjustable upper pressure limit	1.0 – 30.0 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 50/60Hz 100VA
Dimensions (w x h x d)	280 x 135 x 498 mm (11.02 x 5.12 x 18.23 in)
Weight	12 kg (26,5 lb)
Output capillary outer diameter	1/16"

* gradient functions are available only together with **Gradient Box ECB2005**

** seals material: default is GFP (PTFE), optional is UHMW-PE, more information on request

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ECOM
HPLC FROM PRAGUE

P/N ACD0000X

ECP2100

PREPARATIVE HPLC PUMP

This pump works as **isocratic** pump and together with **Gradient Box ECB2005** also as **gradient** pump.

Gradient Box ECB2005 *is equipped with* ***four-way gradient mixing valve*** *and is ordered separately.*

With a flow-rate of **0.1-100.0 ml/min.** and a pressure limit at **15 MPa** is this pump suited for **preparative** applications in liquid chromatography. It is designed with main and auxiliary pump heads connected in parallel with a piston diameter of 3/8".

New sophisticated unit allows achieving a precise **low-pressure gradient**, i.e. gradual changes of solvent composition by mixing **up to four liquids** at the pump's entry. It is also possible to predefine percentage of composition when using the pump in isocratic mode. The gradient profile can be defined from a computer.

There are many improvements which make pump more reliable, safe and precise. Also maintenance is now easier. E.g. pistons exchange is easier because of new construction; new learning algorithm for **pulsation suppression**; leakage sensor etc.

When necessary, it is possible to use **back washing of pistons** (e.g. when using buffered mobile phase).

Pump is supported by **ECOMAC** and **Clarity** software.

SPECIFICATION

TECHNICAL PARAMETERS

Flow-rate	0.1 – 100.0 ml/min.
Pumping system	two plungers dia. 3/8" connected in parallel
Maximum operating pressure	15 MPa (2176 PSI, 150 bar)
Accuracy of flow-rate (10 ml/min. 12MPa H_2O)	± 2%
Repeatability of flow-rate (10 ml/min. 12MPa H_2O)	± 0.5%
Accuracy of pressure measurement	± 2%
Adjustable lower pressure limit	0.0 – 14.0 MPa
Adjustable upper pressure limit	1.0 – 15.0 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 50/60Hz 100VA
Dimensions (w x h x d)	280 x 135 x 498 mm (11.02 x 5.12 x 18.23 in)
Weight	12 kg (26,5 lb)
Output capillary outer diameter	1/16"

* gradient functions are available only together with **Gradient Box ECB2005**

** seals material: default is GFP (PTFE), optional is UHMW-PE, more information on request

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ECOM
HPLC FROM PRAGUE

P/N ACE0000X

ECP2300

PREPARATIVE HPLC PUMP

This pump works as **isocratic** pump and together with **Gradient Box ECB2005** also as **gradient** pump.

Gradient Box ECB2005 *is equipped with* ***four-way gradient mixing valve*** *and is ordered separately.*

With a flow-rate of **1-300 ml/min.** and a pressure limit at **7.5 MPa** is this pump suited for **preparative** applications in liquid chromatography. It is designed with main and auxiliary pump heads connected in parallel with a piston diameter of 3/8".

New sophisticated unit allows achieving a precise **low-pressure gradient**, i.e. gradual changes of solvent composition by mixing **up to four liquids** at the pump's entry. It is also possible to predefine percentage of composition when using the pump in isocratic mode. The gradient profile can be defined from a computer.

There are many improvements which make pump more reliable, safe and precise. Also maintenance is now easier. E.g. pistons exchange is easier because of new construction; new learning algorithm for **pulsation suppression**; leakage sensor etc.

When necessary, it is possible to use **back washing of pistons** (e.g. when using buffered mobile phase).

Pump is supported by **ECOMAC** and **Clarity** software.

SPECIFICATION

TECHNICAL PARAMETERS

Flow-rate	1 – 300 ml/min.
Pumping system	two plungers dia. 3/8" connected in parallel
Maximum operating pressure	7.5 MPa (1015 PSI, 75 bar)
Accuracy of flow-rate (150 ml/min. 3MPa H_2O)	± 2%
Repeatability of flow-rate (50 ml/min. 3MPa H_2O)	± 0.5%
Accuracy of pressure measurement	± 2%
Adjustable lower pressure limit	0.0 – 7.0 MPa
Adjustable upper pressure limit	1.0 – 7.5 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 50/60Hz 200VA
Dimensions (w x h x d)	280 x 135 x 498 mm (11.02 x 5.12 x 18.23 in)
Weight	12,5 kg (27.5 lb)
Output capillary outer diameter	1/8"

* gradient functions are available only together with **Gradient Box ECB2005**

** seals material: default is GFP (PTFE), optional is UHMW-PE, more information on request

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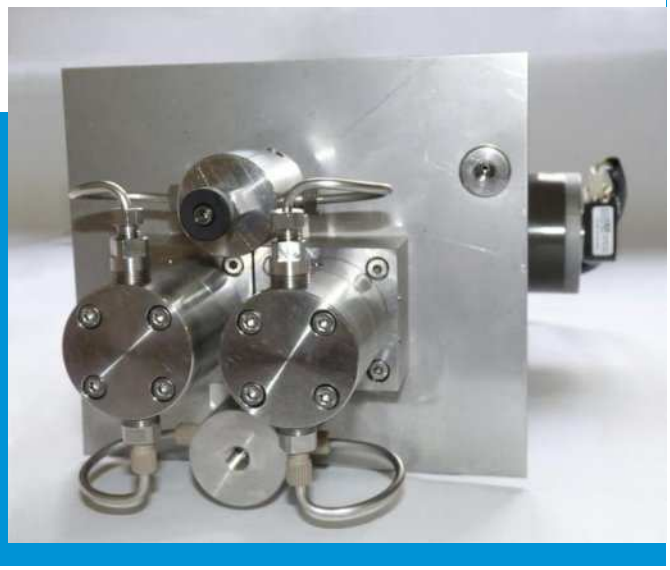

IOTA 50,100,300

PREPARATIVE PUMPS

Is a series of three pumps with a flow-rate range up to **50, 100 and 300 ml/min**. They have two pistons connected in parallel, with diameter of 3/8". They are suited for preparative and flash applications in liquid chromatography but also for solvent pressurizing by samples extractions, etc. Beneficiary is also a **very stable run even at low flow rates.**

These pumps are designed as **OEM / built-in units**.

There is a possibility to use these pumps even at **high pressure gradient mode**, where are two, three or four units controlled from PC using RS232.

Control board is mounted at the unit back side therefore the installation is very easy. Only connect power voltage and RS232 and pump is ready to work.

When working with buffered solvents, it is possible to use pistons **back washing**.

Pumps are supported with software **ECOMAC** and **Clarity**.

IOTA PUMPS are equipped with pressure sensor.

SPECIFICATION

TECHNICAL PARAMETERS:

	IOTA 50	IOTA 100	IOTA 300
Part number	PYF0000X	PYE0000X	PY00000X
Flow rate	0.1 – 50 ml/min	1 – 100 ml/min	1 – 300 ml/min
Maximum operating pressure	30 MPa (5800 PSI)	15 MPa (2176 PSI)	7.5MPa (1015 PSI)
Precision of pressure measurement	± 1%		
Flow rate setting	0,1 ml/min steps		
Repeatability of flow rate adjusting	± 1 %		
Accuracy of flow rate setting	± 2 %		
Upper pressure limit (MPa)	0.1 – 30 (5800PSI)	0.1 – 15 (2176PSI)	0.1 – 7.5(1015PSI)
Wetted materials	stainless steel, PEEK, ceramic, seals*		
Control	RS232		
Power supply	24 – 36 V DC		
Power input	100 W	100 W	150 W
Dimensions (W x H x D)	212 x 153 x 338 mm		
Weight	7 kg	7 kg	8 kg
Output capillary outer diameter	1/16"	1/16"	1/8"
Input tubing outer diameter	1/8"	1/8"	3/16"

* all pumps are delivered with GFP (PTFE) seals a default, optional is UHMW-PE seals, ask for more information

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ECOM
HPLC FROM PRAGUE

P/N PK00000X

KAPPA 10

SINGLE PISTON ISOCRATIC PUMP

Single piston pump with flow rate of **0.01-10 ml/min** and limit of pressure at **40(20) MPa** is suited for **columns washing and columns regeneration process** in liquid chromatography. It is designed with piston diameter of 1/8".

Completely new concept of electronic control and drive of pump **allows using it as standalone unit, just as in PC controlled systems.**

New piston suspensions and its easy replacement **prolong working life and simplify maintenance**.

Intuitive operating using simple keypad allows easy selection of functions as follows:

- **flow rate**
- **maximal flow rate - PURGE** (for priming and washing)
- **display brightness**

LED display allows to watch (also from a distance) adjusted flow rate.

When working with buffered solvents, it is possible to use pistons **back washing**.

SPECIFICATION

TECHNICAL PARAMETERS:

Flow rate	0.01–10 ml/min
Method of setting	in steps of 0.01 ml/min
Accuracy of chosen flow rate(1 ml/min, 20 MPa, H_2O)	±1 %
Accuracy of flow rate settings	±5 %
Maximum operating pressure	**40 MPa** (up to 2 ml/min), **20 MPa** (2.01-10 ml/min)
Wetted materials	Stainless steel, PEEK, PTFE, ceramic
Control	By keypad,RS232
Power supply	100, 115, 230 V ±10% , 50, 60 Hz
Power input	35 VA
Dimensions (W x H x D)	185 x 150 x 200 mm
Weight	5.0 kg

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ECOM
HPLC FROM PRAGUE

P/N PL00000X

KAPPA 10PP

SINGLE PISTON ISOCRATIC PUMP

Single piston pump with flow rate of **0.01-9.99 ml/min** and limit of pressure at **40(20) MPa** is suited for **columns washing and columns regeneration process** in liquid chromatography. It is designed with piston diameter of 1/8".

This pump may be used in classical analytical applications where pulsation does not matter (not possible to use with RI detectors). Pulsation can be eliminated by pulse dampers. More than one pump controlled by ECOMAC can produce high-pressure gradient.

Completely new concept of electronic control and drive of pump **allows using it as standalone unit, as well as in PC controlled systems.**

New piston suspensions and its easy replacement **prolong working life and simplify maintenance**.

Intuitive operating using simple keypad allows easy selection of functions:

- **flow rate**
- **maximal flow rate - PURGE** (for priming and washing)
- **high pressure limit**
- **low pressure limit**
- **settings of pressure sensor zero**
- **pressure unit change** (MPa, PSI, bar)
- **display brightness**

LED display allows to watch (also from a distance) actual pressure or flow-rate settings.

When working with buffered solvents, it is possible to use pistons **back washing**.

SPECIFICATION

TECHNICAL PARAMETERS:

Flow rate	0.01–9.99 ml/min
Method of setting	in steps of 0.01 ml/min
Flow-rate accuracy	±2 %
Maximum operating pressure	**40 MPa** (up to 2 ml/min), **20 MPa** (2.01-9.99 ml/min)
Precision of pressure measurement	±2 %
Upper pressure limit	0.1–40.0 MPa (up to 2 ml/min); 0.1–20.0 MPa (2.01–9.99 ml/min)
Lower pressure limit	0.0–39.9 MPa (up to 2 ml/min); 0.0–19.9 MPa (2.01–9.99 ml/min)
Selectable pressure units	MPa, PSI, bar
Wetted materials	Stainless steel, PEEK, PTFE, ceramic
Control	By keypad,RS232
Power supply	100-240V 50/60Hz 100VA
Power input	35 VA
Dimensions (W x H x D)	185 x 150 x 200 mm
Weight	5.0 kg

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