

## SE 07

### ISOCRATIC PREPARATIVE SYSTEM WITH AUTOMATICALLY SAMPLING AND FRACTIONS COLLECTING

This system is suited for **preparative and flash chromatography** by constant flow rate of mobile phase (0.1-100 ml/min). Sample injecting is provided automatically using three-way valve on the input of system. The fractions are collected by means of six-way valve on the system output. Chromatographic software **ECOMAC** controls the system and collects data.

Whichever ECOM UV detector can be used in the system (**Sapphire, Opal or Flash 06**).



#### MAIN PARTS

##### ALPHA 100 PLUS ISOCRATIC PUMP

Flow rate **0.1–100 ml/min** and limit of pressure **15 MPa** is this pump suited for **preparative** applications in liquid chromatography. It is designed with two pump heads connected in parallel with piston diameter of 3/8".



There are new improvements in piston suspension which has new plastic slide bearing and exchange is now easier. Bypass valve has been improved also and is now easier to operate it.

Intuitive operating using simple keypad allows easy chose functions as follow:

- **flow rate**
- **maximal flow rate- PURGE** ( for priming and washing)
- **low pressure limit**
- **high pressure limit**
- **pulsation compensation on-off**
- **pressure unit** (PSI, MPa or bar)
- **control mode** ( by keypad, RS232 or using voltage)
- **display brightness**

Two **LED displays** allows to watch (also from a distance) adjusted flow rate and operating pressure. By pump function choosing, give you this displays enough of information for adjusting.

By work with buffered solvents is possible to use pistons **back washing**.

##### FLASH 06S DAD 600 DETECTOR

is an UV diode array detector, which allows measuring absorbance of **four wavelengths simultaneously in one cell** just as measuring of whole spectrum (scan). This unit is used in liquid chromatography to **verify analyzed samples** by means of four

wavelengths or in situations when some **peaks absorb on different wavelengths**. It is possible to use the detector in **flash and preparative** applications. By using analytical cell can be detector used also for analytical purpose.

Noise level at 254 nm is  $\pm 5 \cdot 10^{-5}$  AU with a test cell.

The unit's DAD (diode array detector) design offers many advantages:

- absorbance measuring **on four wavelengths simultaneously**
- wavelength setting **from 200 up to 600 nm** in increments of 1nm
- **scan of whole spectrum is possible in each time**
- lamp work hours are counted **using the built-in counter**
- **the cell is easy to replace** from the side of the detector
- **powering by 90-264 V**
- **unit is controlled by RS232 interface**

**SPIDER C06**

SPIDER allows automation of flash and preparative applications. It can be controlled using PC program, just as manually using PC keyboard.

SPIDER is connected to chromatographic system, which is controlled by program ECOMAC.



An input three-way solenoid valve is connected before pump. Solvent goes to the pump through valve B. For sample injection the valve A is switched on for a programmed time. The valve C is used for column washing.

An output six-way solenoid valve is connected to the detector output. Wanted fractions are collected by switching on of the various positions of the output six-way valve.

At the back panel connector are pins that can be switched on by the program ECOMAC. They can be used for control of next units, for example, for external valve switch on when column is washed.

Fraction selection is done by means of ECOMAC functions:

- control by means of time table
- control based on peak detection at chosen signal

**SPIDER main features:**

- Unit simplicity
- Easy programming of fraction collection
- Possibility to connect electronically controlled valve for a flow reversion when column is washed
- Valve position display
- Manual valves control from PC keyboard by developed method

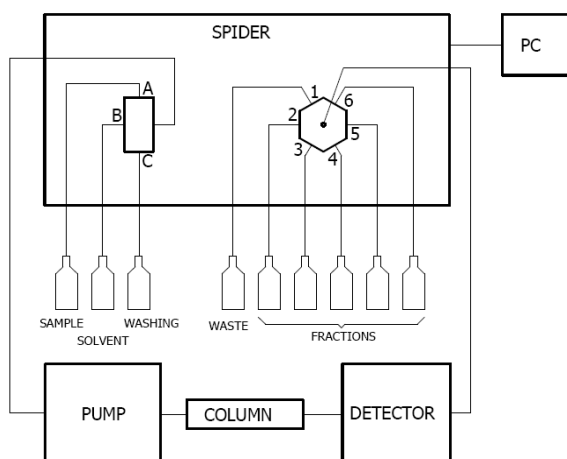
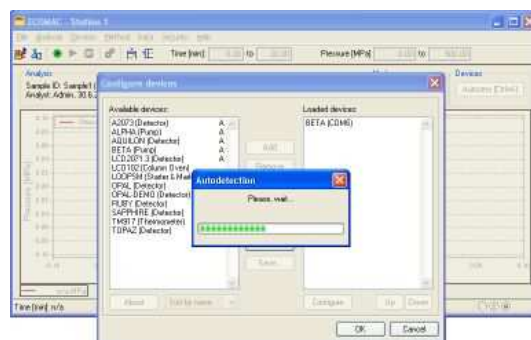


Diagram of SPIDER connected into a system.

**ECOMAC CHROMATOGRAPHIC SOFTWARE**

is designed with maximal effort to do easy operation of



chromatographic systems ECOM. It is suited for units controlling and data collecting. Equipments are connected to the PC using RS232, or USB (by means of RS232/USB converter). Software detects automatically almost of all units, so there is no need complicated communication installation.

**Program most important features:**

- Easy installation
- Connecting using USB or RS232
- No need A/D converter
- Possibility to start up to 8 stations at the same time
- Possibility of external start and external mark
- Secured access
- Units controlling and data collecting from one place
- Data export in five various formats

**Note:** Software ECOMAC allows displaying, storage and export of data, but does not allow peaks shape calculation, calibration etc. If is need to use such functions, is it necessary add a SW to the system which allow it (for example Clarity). It is possible simple export data to any SW so there is not necessary buy A/D converter.

**SYSTEM CONTAINS:**

Pcs	Description	P/N
1	ALPHA 100 Plus Isocratic Pump	PH000003
1	Flash 06S DAD 600 Detektor	2050S00000
1	SPIDER C06 Fraction collector and injector	VS000000
1	Box for Bottles MF1	ZA000000
2	Mobil phase reservoir LCT 02, 1L	56940000
3	SS Mobile Phase Filter 20um, 1/8"	JR367008-20
1	ECOMAC Chromatographic software	AF000000
2	Crossed serial cable 9pin RS 232	EKAB-024
1	MultiCOM 1x USB to 6x RS232 Converter	MC01
1	Panda 30HID Input unit	SA040000
1	Accessories for preparative system	SE020101