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## ***Switchos II Advanced Microcolumn Switching Unit***

### **Analytical Specifications**

#### **10-Port Switching Valves**

<u>Type</u>	<u>low dispersion 10-port valve, 2x</u>
<u>Max. Pressure</u>	<u>350 bar (5000 psi)</u>
<u>Wetted Surfaces</u>	<u>stator: stainless steel</u> <u>rotor: Valcon H</u>
<u>Flow Passage Diameter</u>	<u>0.15 mm</u>
<u>Switching time</u>	<u>&lt; 100 ms</u>
<u>Operation</u>	<u>local control (push button),</u> <u>remote control (relay, open collector or TTL)</u>
<u>Position Indicator</u>	<u>two LEDs per valve</u>

#### **Solvent Selection Valve**

<u>Wetted Surfaces</u>	<u>stator: PPS (polyphenylene sulphide)</u> <u>rotor: Valcon E2</u>
<u>Switching Time</u>	<u>&lt; 165 ms (channel to channel)</u>
<u>Position Indicator</u>	<u>four LEDs</u>

#### **Loading Pump**

<u>Pump Type</u>	<u>reciprocating double piston pump</u>
<u>Flow Rate Range</u>	<u>10 - 500 <math>\mu</math>L/min</u>
<u>Flow Rate Accuracy</u>	<u>&lt; 0.5%</u>
<u>Pressure Range</u>	<u>0 - 400 bar</u>
<u>Pressure Monitoring</u>	<u>indication of <math>\mu</math>-column pressure</u>
<u>Rapid Purge Valve</u>	<u>yes</u>
<u>Instrument Control</u>	<u>UltiChrom™ software or standalone</u>

#### **Communication**

Switching Valve A and B: by relay, open collector or TTL outputs  
(e.g., from FAMOS or *UltiMate* Micropump)

Solvent Selection valve: by relay, open collector or TTL outputs (e.g., from FAMOS or *UltiMate* Micropump)

Loading Pump: by RS-232 serial communication network

## Features of the Switchos II Advanced Microcolumn Switching Unit

The Switchos II Advanced Microcolumn Switching Unit is an advanced switching system for use with micro-HPLC systems. The system incorporates the following features:

- Two Valco 10-port low-dispersion switching valves which allow for the connection of capillary, micro and nano HPLC columns without any dead volume.
- A high precision loading pump, fully controllable by the *UltiChrom* software.
- Four channel solvent selection valve.
- Automatic control of all valves by the *UltiChrom* software and manual control via push buttons.
- Manual valve switching is possible at any time, even when a program is running.
- LED's which indicate the present status of the switching valves (microfluidic pathways), the position of solvent selection valve and the control mode.

The Switchos II can be used for a broad variety of applications

A broad range of applications can be performed via micro-column switching via the Switchos II including sample pre-concentration, sample cleanup, multidimensional separations (2-D separations), desalting and selective extraction. Typical examples of the use of the unit (which are described in Section 2.5.4 and Appendix C) include immuno-affinity extractions, isolation of phosphorylated peptides from complex protein digest, automated removal of detergents, extraction of drug compounds from biological fluids, high throughput analysis, etc.

Switchos II is configured with an LC Packings *UltiMate* Micropump and is normally used with the LC Packings *UltiMate* Capillary HPLC System. The system is fully compatible with other instrumentation (a minimum of three contact closures, TTL or Open Collector terminals are required).



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