
Simulated Moving Bed (SMB) Systems

Overview

Standard Simulated Moving Bed Systems

We offer several basic system packages for either pilot production or production plants. These systems can be supplemented according to local needs with additional detectors, valves etc. for special applications. The system cost includes installation and direct support on your premises in starting the application and getting the system up and running.

SMB Pilot Facility CSEP C9116

This system can produce up to 100 kg of pure compound per year. The SMB System CSEP C9116 is used for extracting pure substances on a semi-preparative scale. Like the larger system, CSEP C9812, this pilot facility is designed for continuous operation and high efficiency. The system operates with a thermostat and can hold up to 16 SMB columns of equal type. The patented Multi-Port Valve with 64 ports guarantees a compact design and maintains an incredibly small total dead volume.

The system is supplied on a mobile rack for pressures up to 100 bar and contains the following items:

- Four Smartline 1000 HPLC Pumps with 10 ml or 50 ml pump head
- 64 Port Multi-Function Valve
- Column Thermostat for up to 16 equal SMB columns with max. length of 300 mm and max. 20 kg in weight
- Two flowmeters for system monitoring
- Control PC including pre-configured software and interfacing hardware
- Switching valves
- All fittings etc. necessary for the system



SMB Pilot System CSEP® 9116S

This system can produce up to 100 kg of pure compound per year. The Pilot SMB System CSEP® C9116S, a modified version of the CSEP® C9116 system, is designed for the extraction of pure substances out of a three component mixture in the semi-preparative range.

The system operates thermostatically and can be used with up to 16 SMB separation columns of the same type. The patented multifunctional valve drastically reduces the dead volume and provides for the compact design. The system is very efficient due to the continuously fed product being distributed over the entire stationary phase.

CSEP® C9116S is equipped additionally with 8 electrically driven valve drives with 6-port/3-channel valves. This enable samples to be withdrawn in each zone before and after the separation column for offline analysis.

SMB Production Facility CSEP C9812

This system can produce up to 1000 kg of pure compound per year. The SMB System CSEP C9812 is used for extracting pure substances on a small production scale. This production facility is designed for continuous operation at high efficiency and operates with a thermostat and can hold up to 12 SMB columns of equal type. The patented Multi-Port Valve with 64 ports guarantees a compact design and maintains an incredibly small total dead volume.

The system is supplied on a mobile rack for pressures up to 80 bar and contains the following items:

- Four 1800 HPLC Pumps (heads up to 1000 ml/min. available)
- 48 Port Multi-Function Valve
- Column Thermostat for up to 16 equal SMB columns with max. length of 1000 mm and max. 120 kg in weight
- Control PC including pre-configured software and interfacing hardware
- Switching valves
- All fittings etc. necessary for the system



Specifications

Given the nature of these systems the actual performance specification of the system depends on the application itself.

Flowspek AG offers a validation service for the system which checks all individual specifications for the component modules and ensures that these are functioning correctly within specification.

Ordering Information

A28701	SMB - Pilot system CSEP 9116 for max. 16 columns up to 100 bar
A28706	SMB - Production system C9812 for max. 12 columns up to 50 bar
A28707	Pilot SMB System CSEP® 9116S with 8 K-6 electrical valve drives, with a 6-Port/3-Channel Switching Valve (A1484), maximum 16 columns, up to 100 bar, 1/16"
A2865	SMB Guide for Windows, software for simulation and optimization of SMB separations
A2866	ChromSim Software for simulation of peak recycling and fraction collection
A2867	IsothermFit Evaluation Software for determining non-linear adsorption isotherms when working at high concentrations