Autosampler

Minimization of sample diffusion - Optimum for semi-microcolumn analysis!

Optimized for Biological Samples

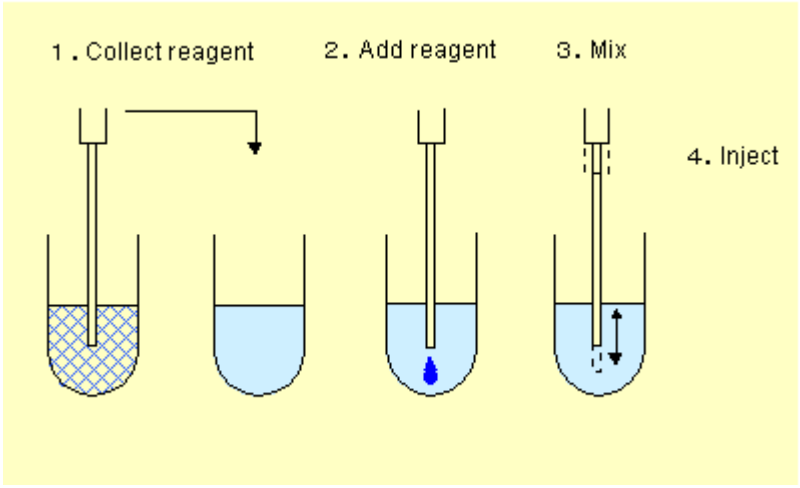
Sample Cooling Function

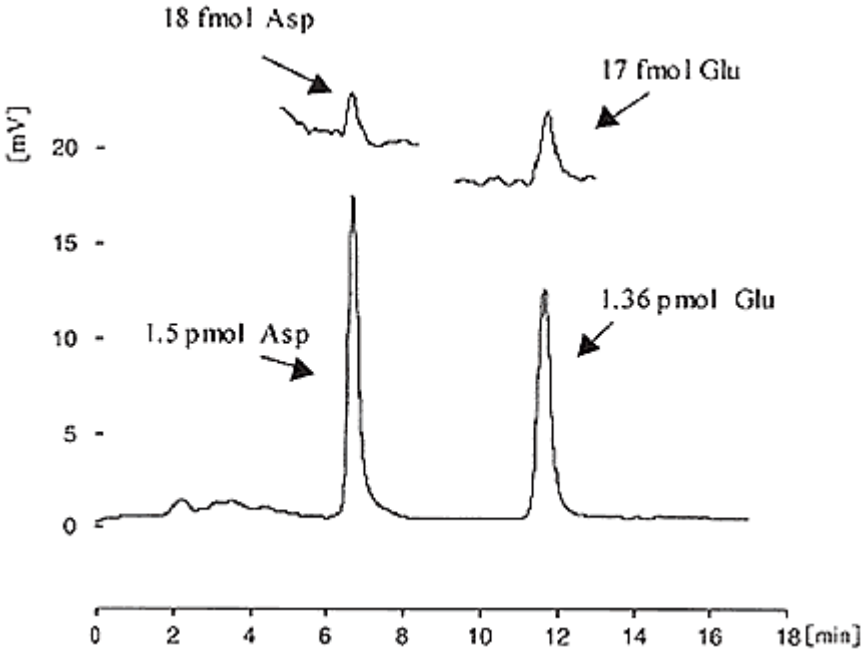
The autosampler features a sample cooling function, useful for analysis of biological samples.

Metal-free Structure

The flow channels are made of polyetheretherketone (PEEK) resin, allowing analysis of samples of strong adsorptive nature, such as proteins or other physiologically active samples.

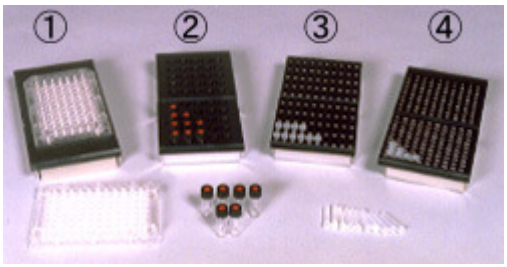
Pre-column Labeling Function





Pre-labeling function (OPA labeling of amino acids)

Selection of Sample Vials



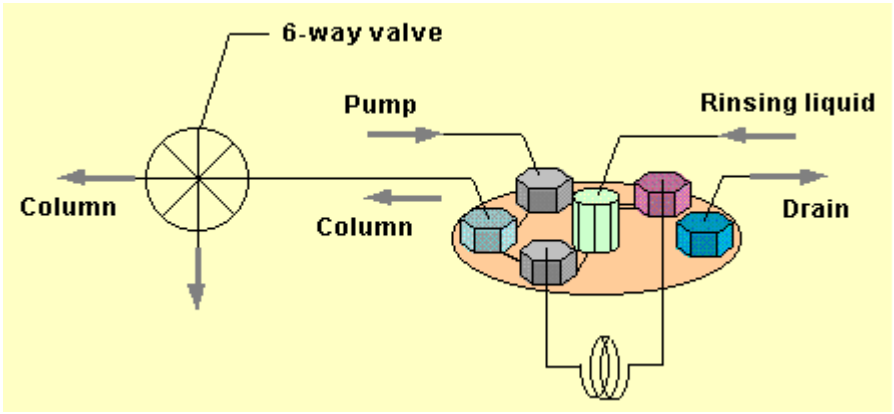
Vial Holder

(1) 96-Well Microplate
(2) Conventional Vial
(3) Osaka Soda Vial (100 Samples)
(4) Osaka Soda Vial (200 Samples)

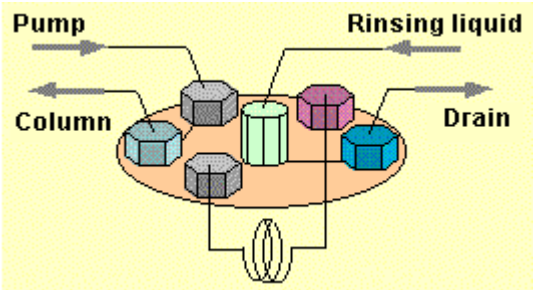
*Osaka Soda vials are available in 50 µL and 250 µL types.

Complete Rinsing System

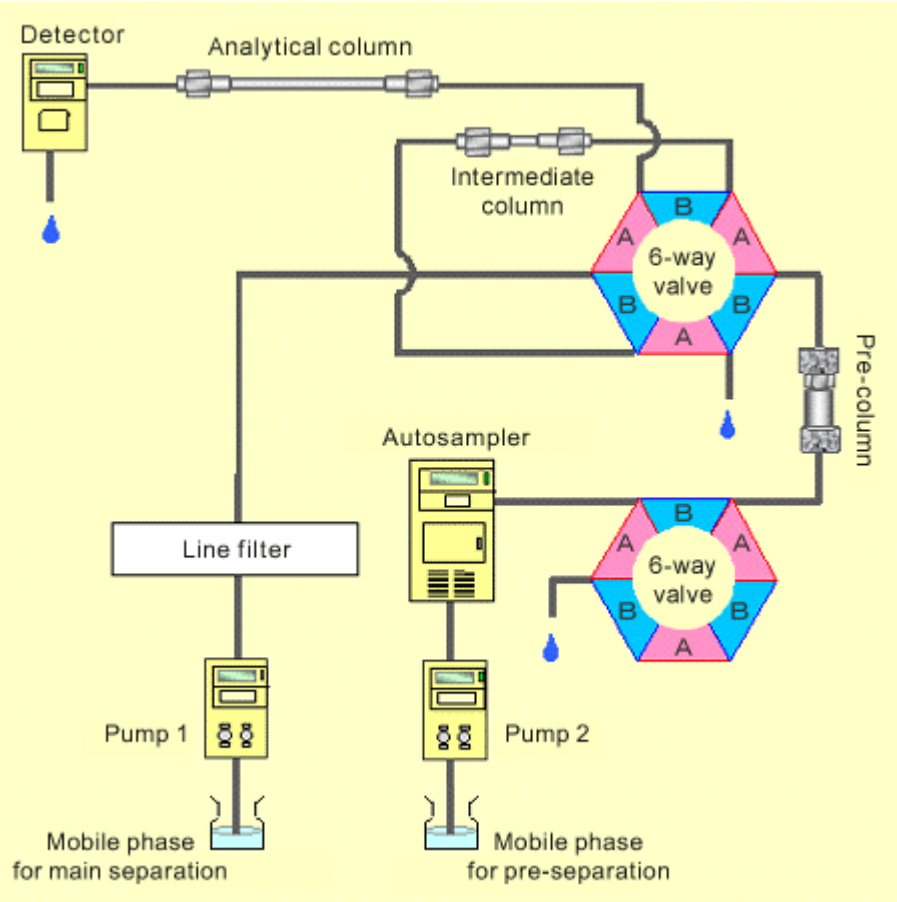
A complete rinsing system is adopted for the sampling mechanism to eliminate contamination and carryover.
Double injection rinsing function
The sample loop and tubing are rinsed.



Post-injection rinsing function
Rinsing liquid can be chosen from any positions.
Syringe, needle, injection port, and injection valve are rinsed.



System configuration with double-injection rinsing function



High-precision Analysis at High Sensitivity

Small Dead Volume Structure

The capacity of the injection valve has been reduced to 1.9 µL, virtually eliminating diffusion of the sample. Semi-microcolumns of 1.0-mm I.D. are also available.

Influence of dead volume on semi-microcolumn HPLC
Comparison of Peak Efficiency of Standard Compound (naphthalene) between Nanospace and Conventional Instrument (Retention time: 12 min)

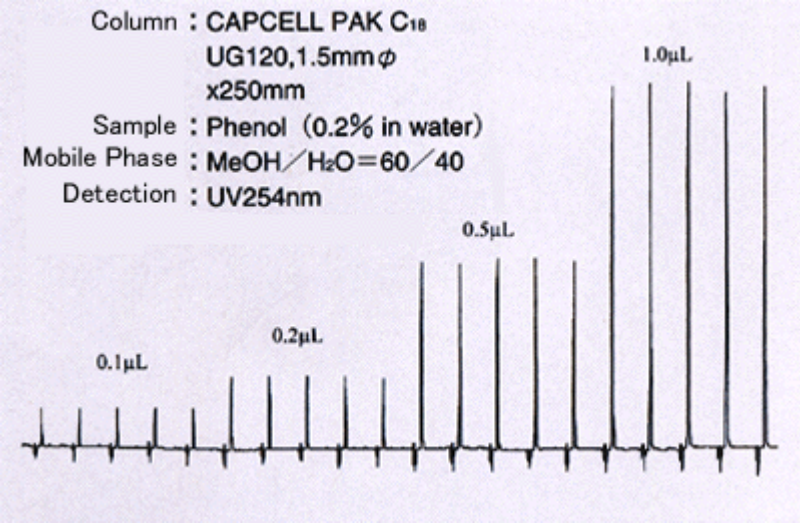
	Theoretical plate number
NANOSPACE SI-2 system with 0.065mm ø system with 0.13mm ø	 20600 17500
Semi - microcolumn compatible HPLC (Supplier A)	

Column	: CAPCELL PAK C_{18} UG120 S5 1.0mm ø x 250mm
Sample	: Naphthalene
Mobile phase	: Acetonitrile/Water = 55/45
Flow rate	: 50 µL/min
Detection	: UV 254 nm
Injection volume	: 2 µL

High Precision and Endurance

High precision is maintained even at small injection volumes (RSD less than 1% at 1 µL injection). A minute injection of 100 nL is also possible. The standard sampling volume ranges from 0.1 to 80.0 µL.

*Up to 400 µL injection can be made by using multiple collection injection.



Efficient Sampling System

Polypropylene (PP) sample vials (50 µL & 250 µL) are suitable for biological samples. Valuable samples will not be wasted.

50 µL vial: Minimum required sample volume = Injection volume + 2 µL

Easy Operation with Key Pad

Programming is set by using the numerical key pad.

Networked System Control

Remote operation from a WindowsTM PC is possible.

Specifications

Product No.	3023
Product Name	Autosampler
System	Total injection system of variable sampling volume
Sample Vial	250 µL PP Optional: 2 mL glass, 96-well microplate, and 50 µL PP
Sampling Microsyringe	Gas-tight Type 100 µL
Sample Injection Volume	100 µL syringe: 0.1 to 400 µL in 0.1 µL increments
Injection Precision	RSD less than 1% at 1 µL injection
Repeated Injection	1 - 10 times for each vial

Max. Sample Number	100 (100-sample vial holder with 250 or 50 µL PP vials), 200 (200-sample vial holder with 250 or 50 µL PP vials), 50 (50-sample vial holder with 2 mL glass vials), or 96 (96-sample vial holder with 96-well microplate)
Sample Cooling	Electronic refrigeration: 4 to 20°C (variable setting)
Operational Pressure	35 MPa (max.)
Interruptible Analysis	Included in Standard Model
Rinsing Solution Port	Included in Standard Model
Error Self-diagnosis	Included in Standard Model
Input/Output Signals	Integrator start, auto-zero, start, end, stop, error signal, SYSCON
Power	AC 100 V ±10%, 50/60 Hz, 350 W
Dimensions	258(W) x 460(H) x 487(D) mm
Weight	About 31 kg