

Column Chromatography System

ATTO Column Chromatography Equipment

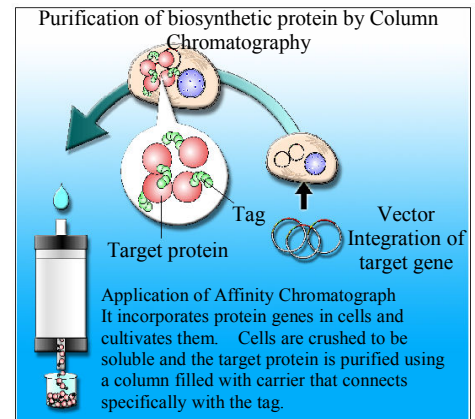
Purpose

Purification of biosynthetic protein (Affinity chromatography, Ion exchange chromatography, etc.)
Separation/purification of crude protein solution.
Chromatography separation of nucleic acid (DNA/RNA) and Carbohydrate
Rough protein purification of extracted solution as a sample processing method for electrophoresis, etc.

Principle (liquid chromatography)

Liquid chromatography is a separation/purification method for protein nucleic acid or Carbohydrate dissolved in solvent according to the different nature of each component. This method uses a glass cylindrical container called a column and sample solution (substance to be separated or purified is contained) is poured onto the column and the target substance is purified selectively (Affinity chromatography) or sorted (gel filtering) according to molecular weight.

The main feature of chromatography is that various types of separation and purification method can be carried out according to the nature of the filler in the column. It is also possible to apply a relatively large amount of samples.



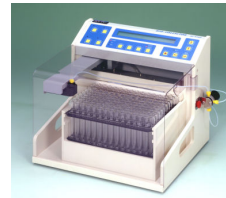
Related Products for ATTO Chromatograph

Chromatography Control System



AC-5300
BioChromatograph II

Fraction Collector



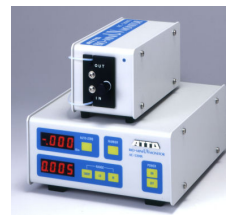
AC-5750
BioCollector

Perista Pump



AC-2120
Perista Pump

UV Monitor



AC-5200
Mini UV Monitor

BioChromatograph II

BioChromatograph II System



Code No.	Type	Name
1211150	AC-5300	BioChromatograph II, 100V
1211152	AC-5300	BioChromatograph II, 200-240V

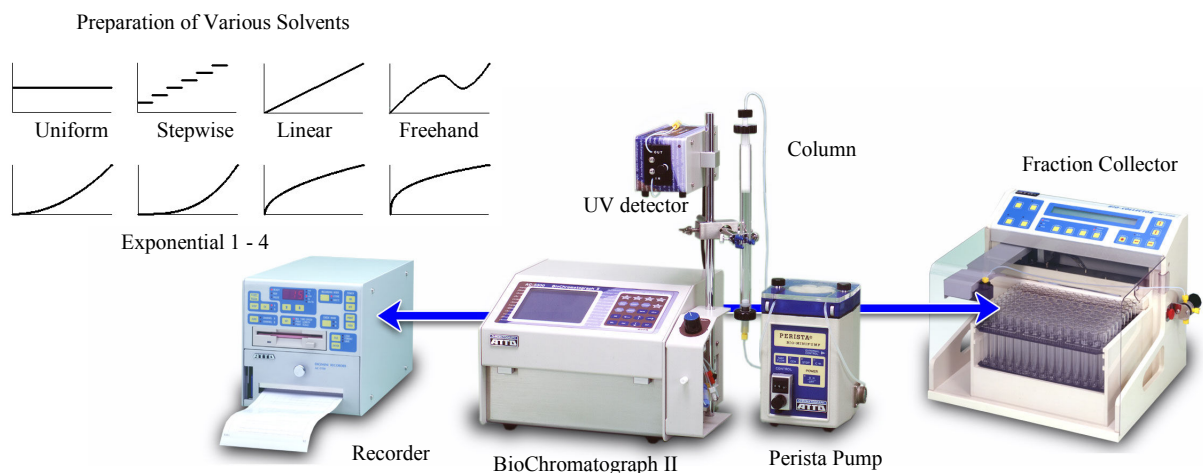
* Columns are not supplied from Atto.

Principles

Six magnetic valves as set beforehand are opened and closed and various solvents are automatically constituted and sent to a column by the Perista® Pump. Eluate passing through a column reaches the ultraviolet detector and a chromatogram is drawn on LCD. If optional equipment is used, the chromatogram can be recorded and the outgoing solvent collected.

Features

- Pump, magnetic valves, UV detector, and controller in one
- Steps/gradients possible for six types of elution buffer
- Selection of two types of elution buffer from six and preparation of various gradient composition buffer possible
- It can feed eluents organized with many kinds at a fixed rate for a fixed time (ex: Affinity chromatography)
- Condition setting while looking at a LCD display
- Display of eluent composition status and chromatograms on LCD

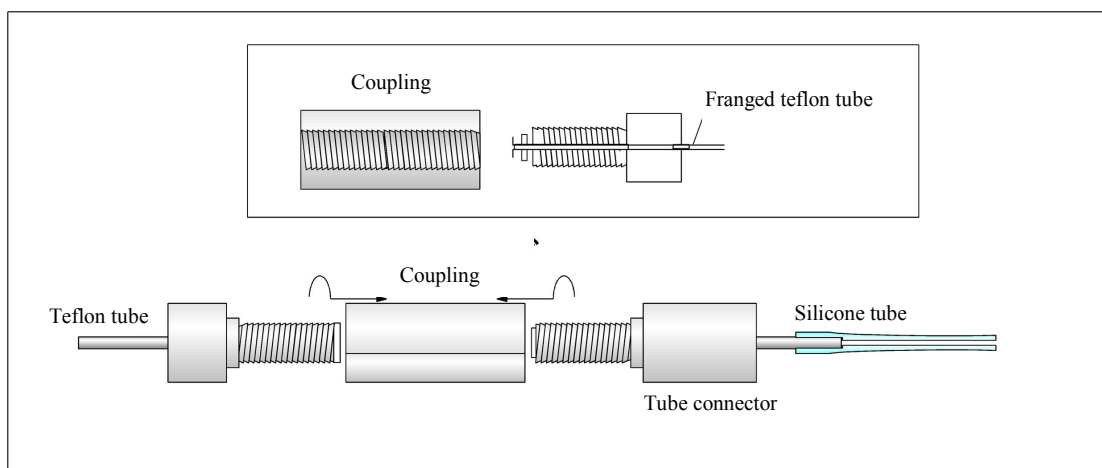


BioChromatograph II

BioChromatograph II System

Specifications

Name		AC-5300 BioChromatograph II
Control Unit	Operation	Program mode/manual mode
	Elution Device	6 magnetic valves and 1 pump
	Elution Method	Uniform, stepwise, linear, freehand, exponential
	Program file	Up to 20 files, 19 steps max. each, with up to 6 solvents. 1 - 900 minutes/step
	UV detector control	Auto/Manual mode selection, UV range selection, UV range switching, Auto-Zero, Short
	Display	Real-time and last time chromatogram and parameters set. Selectable text or graphics mode.
	Parameter for program mode	Alarm, Inject, End, Cycle, Recorder Start, Recorder Stop, Fraction Start, Fraction Stop, Auto Zero, Mark
Dimensions		310 (W) x 200 (H) x 255 (D) mm, 7.7 kg
UV Detector	Light source	Low-pressure mercury vapor lamp
	Wavelength	Sensor: Silicon photodiode 254 nm and 280 nm (selected by filter change, 2 filters included as standard accessory)
	Detection range	0.005 - 2.0 Abs (9 steps)
	Flow cell	Quartz cell with 5 mm in light path length and 60 microL in volume (Standard accessory. Options available)
	Dimensions	69 (W) x 74 (H) x 144 (D) mm (main body), 0.8kg
Pump	Flow rate	0.1 mL - 13.3 mL/minute, 1 channel
	Tube	1 mm ID (up to 2.3 mL/min.), 2 mm ID (up to 6.5 mL/min.), or 3 mm ID (up to 13mL/min.)
	Discharge pressure	205.9 kPa (2.1 kg/cm ²) Suction pressure: 9.8 kPa (0.1 kg/cm ²)
	Dimensions	120 (W) x 183 (H) x 160 (D) mm, 2.2 kg
Power requirement		90 - 110V, 50/60 Hz, 30 W in total 200 - 240V version is available with an external power transformer



Code No.	Type	Name
1296120	AC-5900-7	Tubing Set

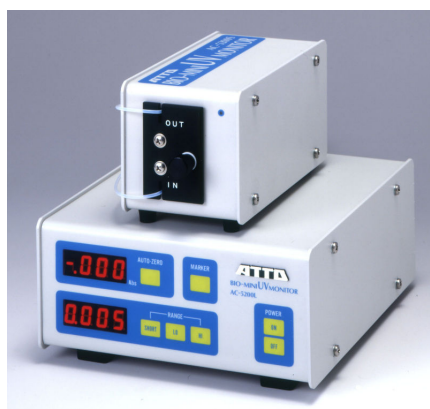
AC-5900-7 Tubing Set connects the Teflon tube with other. This set is used for connection of tubing or channels.

UV Detector

Mini UV Monitor



AC-5100



AC-5200

Code No.	Type	Name
1211121	AC-5100	Mini UM Monitor, 110V
1211121	AC-5100	Mini UM Monitor, 230V

Factory-set with a 5 mm, 60 microL flow cell and a 280 nm filter, and adjusted for 280 & 254 nm. Ready to operate at 280 nm. A 254 nm filter supplied to replace the 280 nm filter at field. 0.9-1.7 mm Teflon sample inlet & outlet tubes, a recorder output cable, and a power cord included.

Code No.	Type	Name
1211131	AC-5200	Mini UV Monitor, 110V
1211132	AC-5200	Mini UV Monitor, 230V

Factory-set with a 5 mm, 60 microL flow cell and a 280 nm filter, and adjusted for 280 & 254 nm. Ready to operate at 280 nm. A 254 nm filter supplied to replace the 280 nm filter at field. 0.9-1.7 mm Teflon sample inlet & outlet tubes, a recorder output cable, and a power cord included.

Features

This model measures the absorbance of an eluate via liquid chromatography and provides chromatograms. The optics system is small and lightweight and maintenance is easy.

Specifications

Name	AC-5100 Mini UV Monitor	AC-5200 Mini UV Monitor
Light source	Low pressure mercury lamp	
Detector	Dual silicon photodiode	
Wavelength	254 nm & 254 nm (standard) 313, 365, 405, 436, or 546 nm (optional)	
Full scale range	0.1/0.2/0.5/1.0/2.0 Abs	0.005/0.01/0.02/0.05/0.1/0.2/0.5/ 1.0/2.0 Abs
Display	None	Absorbance: 0.001 to 1.999 Abs, digital
Marker output	- 1.5 mV, approx.	
Zero adjustment	Potentiometric	Automatic
Flow cell	5 mm pathlength, 60 microL volume (standard) 1 mm pathlength, 15 microL volume (optional) 5 mm pathlength, 15 microL volume (optional)	
Measurement output	0 - 10 mV for recorder	0 - 10 mV for recorder 1 V/Abs for PC
Operating temperature	2 - 35 degC, 90% or less in humidity	
Power requirement	AC 90 - 110 V, 50/60Hz, 8VA	AC 90 - 110 V, 50/60Hz, 8VA
Dimensions		
Optical unit:	69 (W) x 144 (D) x 74 (H) mm, 0.8 kg	69 (W) x 144 (D) x 74 (H) mm, 0.8 kg
Control unit:	114 (W) x 184 (D) x 74 (H) mm, 1.4 kg	164 (W) x 184 (D) x 74 (H) mm, 1.8 kg

Fraction Collector

MicroCollector



- 96 1mL tubes/case as standard
- Supporting micro plate (96/48/23/12 holes)
- Most suitable for PrepPhoresis S (AC-5700S)
- Manual peak collection is possible (AC-5700P)
- Attached with 3 way electromagnetic valve (AC-5700P)

Code No.	Type	Name
1281506	AC-5700S	MicroCollector, 110V
1281507	AC-5700S	MicroCollector, 230V
1281501	AC-5700P	MicroCollector, 110V
1281502	AC-5700P	MicroCollector, 230V

Features

This is a fraction collector for separated sample collection with chromatography or preparation of electrophoresis (AE-6750S PrepPhoresis S). It is a compact fraction collector suitable for collection volume less than 1mL. It supports micro titer plate (96/48/24/12 holes), so it is most suitable to use as a fraction collector for AE-6750S PrepPhoresis S in particular if a 48 hole micro plate is used.

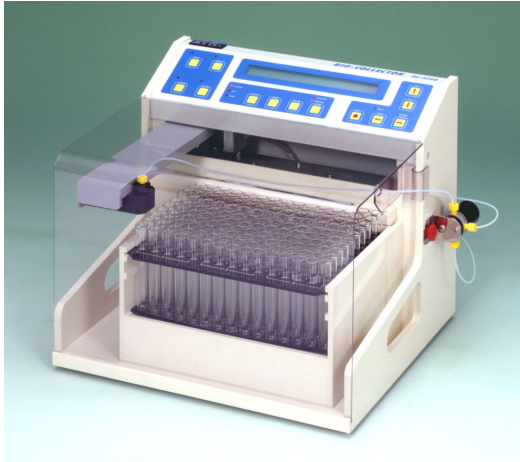
1. Only plate type (container) / collection time / No. of collection drops (DROP) are to be set ... AC-5700S
2. Above mentioned functions + Delay time setting / Manual peak collection are furnished as additional functions ... AC-5700P

Specifications

Name	AC-5700P MicroCollector	AC-5700S MicroCollector (Without internal injection pump)
Delivery head movement	In X & Y axes and 4 selectable routes Delivery head speed: 0.4 sec./cm or less	
LCD Display	40 characters x 2 lines, EL backlighted	
Collection vessel	1 mL polypropylene tube x 96 96, 48, 24 or 12-well microplate x 1 Option: 3.5 mL glass tube (10 mm ID x 75 mm) x 48 9 mL glass tube (15 mm ID x 75 mm) x 24	
Maximum fractions	96, 48, 24, or 12	
Time settings	Standby time: 0 - 999 minutes, Delay time: 0 - 99 seconds, Automatic repeat: 1 - 10 cycles	
Method	Timed flow or drop count collection (1 - 999 seconds/1 - 999 drops, max. drop rate: 2 drops/sec.) Manual peak collection Automatic fractionation (with optional accessory)	Timed flow or drop count collection (1 - 999 seconds/1 - 999 drops, max. drop rate: 2 drops/sec.)
Delivery head after collection	End position or start position	
Signal input	START, RESET, STEP	
Signal output	Start and end of collection (30 mA contact closure)	
Operating temp.	4 - 40 deg C	
Material of delivery head	PVC, Teflon, polypropylene, Delrin and silicone rubber (liquid contact part: Teflon)	
Power	AC85 - 115V or AC200 - 240V, 50/60 Hz, 20VA	
Dimensions	240 (W) x 220 (D) x 185 (H) mm, 3.6kg	

Fraction Collector

BioCollector



Code No.	Type	Name
1281141	AC-5750	BioCollector, 110V
1281142	AC-5750	BioCollector, 230V

This is a fraction collector for separated sample collection with chromatography or preparation of electrophoresis(AE-6750S PrepPhoresis S). This fraction collector provides broad support from collection volume less than 1mL to test tubes of 50mL. Collection of a large number of fractions using AE-6750S PrepPhoresis S can be realized by using 2 X 48 hole micro titer plates.

Specifications

Name	AC-5750 BioCollector
Delivery head movement	In X & Y axes and 4 selectable routes Delivery head speed: 10 mm/0.115 second, max.
LCD Display	40 characters x 2 lines, EL backlighted
Collection vessel	96, 48, 24 or 12-well microplate, upto 2 plates 1 mL polypropylene tube x 96/case, upto 2 cases Option: 6 mL glass tube (12 mm ID x 90 mm) x 150 20 mL glass tube (17.5 mm ID x 130 mm) x 70 50 mL glass tube (25 mm ID x 130mm) x 35
Maximum fractions	35 to 192, depending on vessel
Time settings	Standby time: 0 - 999 minutes, Delay time: 0 - 99 seconds, Automatic repeat: 1 - 10 cycles
Method	Timed flow or drop count collection (1 - 999 seconds/1 - 999 drops, max. drop rate: 2 drops/sec.) Automatic fractionation, by peak level and/or peak slope Manual peak collection
Delivery head after collection	End position or start position
Peak level	3 - 100% of 10 mV, 100 mV, or 1 V full scale
Slope sampling time	10, 20, 30, 40, 60, 90, or 120 seconds
Input range	UV monitor input range: 10 mV, 100 mV, or 1V
Input	START, RESET, STOP signals
Output	AC power for pumps, DC power, Event Marker (contact closure), Start, End
Operating temp.	4 - 40 degC
Material of delivery head	PVC, Teflon, polypropylene, Delrin and silicone rubber (liquid contact part: Teflon)
Power	AC85 - 115V or AC200 - 240V, 50/60 Hz, 20VA
Dimensions	320 (W) x 280 (D) x 260 (H) mm, 7.6kg