

Valves

Variable injector
7725i



Column selector valve
7000L



Column oven

JCO-600LA

When using high viscosity solvent or using GPC/SEC and partition/adsorption columns, keeping the column temperature at same level is important for high resolution with good reproducibility. JCO-600LA can accommodate up to 4 columns of 20 mm ID x 600 mm length.



JCO-600LA

JCO-600LA	
Temperature	Room temperature +10°C to 70°C
Columns	(Ex) 20mmID x 600 mm up to 4 columns or 40mmID x 600 mm up to 2 columns can be accommodated.
Leak sensor	Built in
Outer Size	W320×D270×H920mm
Inner Size	W270×D140×H780mm
Option	Manual injector or column selector valve can be installed additionally
Power	AC100-240V(50/60Hz), 500VA
Weight	21Kg

Degasser unit

Gastorr-PG series

Up to the maximum flow rate of 50 mL/min. Completely independent compact vacuum chamber prevents solvent contamination.



PG series

Gastorr-BG series

Up to the maximum flow rate of 10 mL/min. Equipped leak sensor detects solvent leakage and the vacuum pump stops immediately.



BG series

	Gastorr PG-41P	Gastorr PG-42P	Gastorr BG-42-10	Gastorr BG-44-10
Flow Paths	1	2	2	4
Inner Volume	62.0mL		1021 μL	
Maximum Flow Rate	50.0 mL/min		10.0 mL/min	
Controlled Vacuum Value	150hPa		100hPa	
Material	PTFE, ETFE, PEEK		Teflon™ AF, PTFE, ETFE, PPS	
Dimensions	W90×D400×H180mm		W70×D240×H108mm	
Power	AC100-240V(50/60Hz), Max80VA		AC100-240V(50/60Hz), Max80VA	
Weight	Approx. 5.0 Kg	Approx. 6.0 Kg	Approx. 2.1 Kg	

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<https://www.jai.co.jp/english>

■These specifications may be changed without notice. ■Printed in Jun, 2022.
■There could be some differences between catalog and actual merchandise due to print condition.

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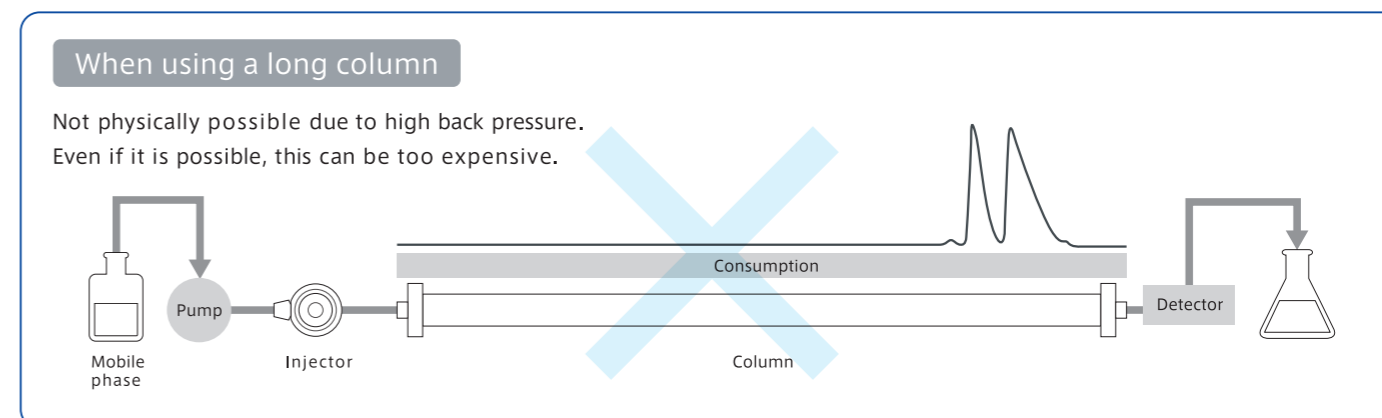
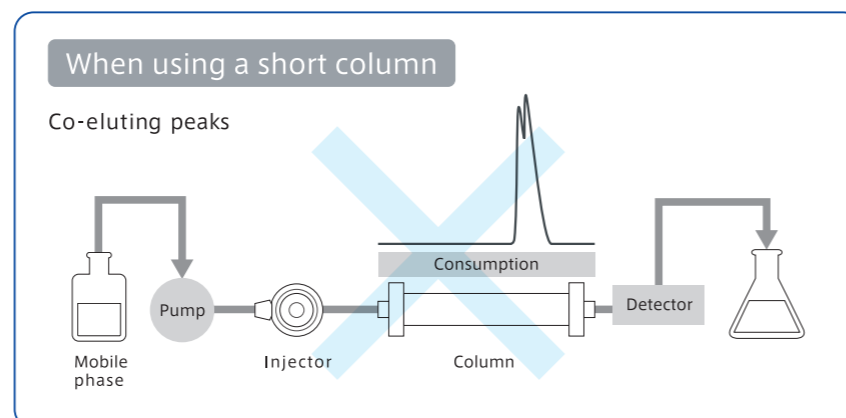
Recycling Preparative HPLC

<PRODUCT CATALOG>

JAI Japan Analytical Industry Co., Ltd.

Recycling Preparative HPLC is...

Recycling preparative HPLC provides a fast and elegant approach to purify mg to gram quantities of starting materials, intermediates and final products. The basic concept is to direct samples post-column back to the beginning of the column forming in a closed loop system. With each cycle, the effective column length and resolution increase accordingly. No additional solvents are used during recycling. When the baseline resolution is achieved, samples are collected.



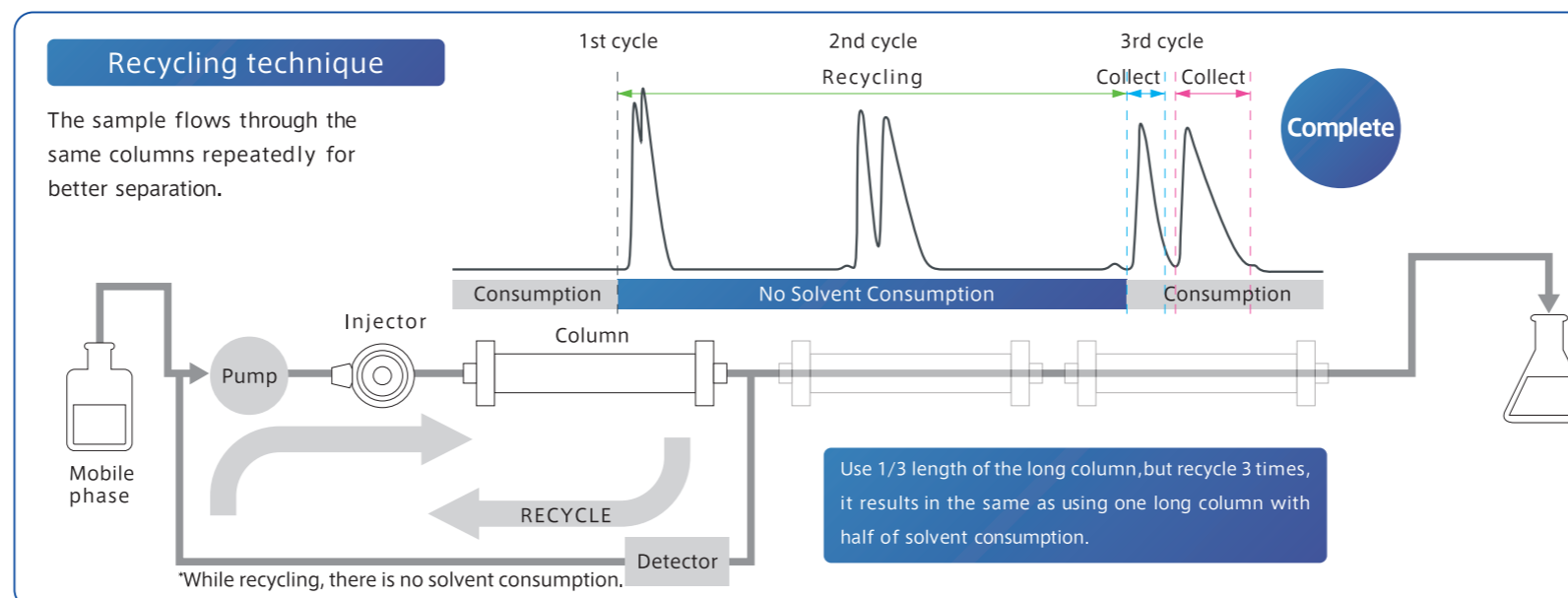
Usage of Recycling Preparative HPLC

Separation and Fraction in organic synthesis

JAI recycling preparative HPLC is widely used in many organic synthesis fields to separate target compound from impurities. It is the most effective method, while saving time to find new approach.

Isolation of biologically active substance

Recycling technique is also very effective for purification and isolation of biologically active substance and to collect large volume of active ingredient in pharmaceutical development.



Advantages

- 1 Achieves the same separation as using a longer column.
- 2 Reduces expense of purchasing columns.
- 3 Stops consuming solvent - high cost performance and good for the environment.

Product features

Recycling function

Installed into all of our models.

Available wide selection

JAI serves wide selection of products from compact manual model to fully automated model, larger scale and even production scale model to meet your needs and target quantity of collection. In addition to JAI standard recycling module, new gradient module has been added to expand the application range in separation and purification of compounds with wide polarity range.

*It can be adapted to scale range from μg to g and even to production scale.

Easy usability with small footprint

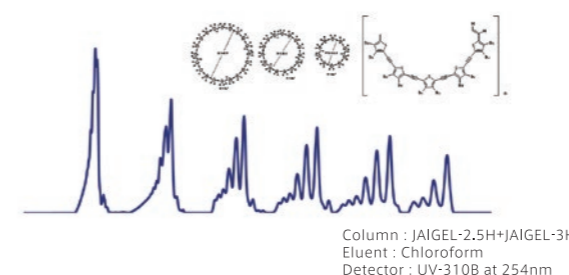
The main bodies are compact for space saving but enough to hold pump and detectors inside. With concepts of preparative dedicated device, usability has been improved a lot from previous models.

Extensive columns line up

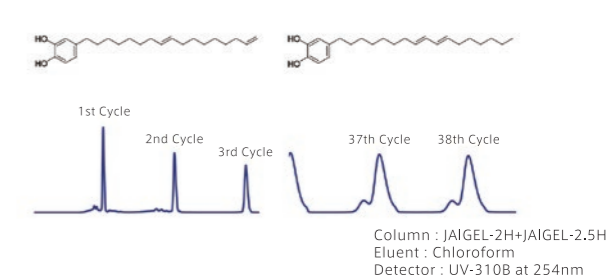
JAI offers extensive column line up. Especially, the JAIGEL GPC/GFC columns work most effectively with recycling technique. There is no need for tedious trial runs to find complicated separation condition and method.



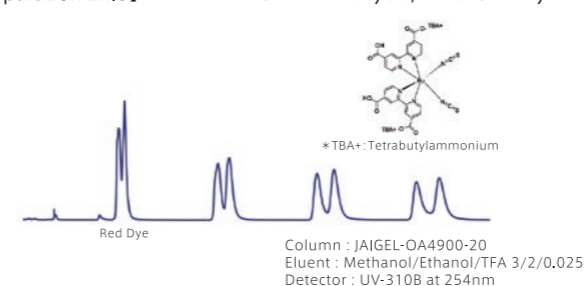
【Separation Ex.1】With GPC + Recycle, Macrocylic Oligothiophenes



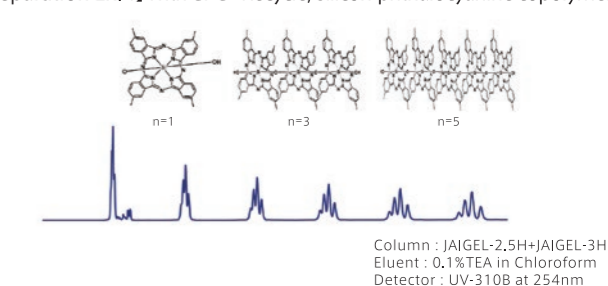
【Separation Ex.2】With GPC + Recycle, Position Isomer



【Separation Ex.3】With Chiral column + Recycle, Functional dye

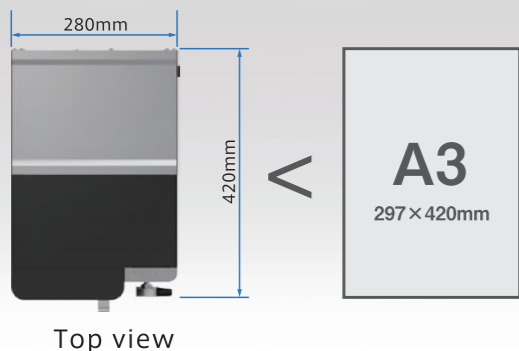


【Separation Ex.4】With GPC+Recycle, Silicon-phthalocyanine copolymer



— Manual model —

As compact as A3 (two letter-size papers) to fit inside a fume hood or on a benchtop



Injector and single port fraction collector are placed in the compact body. Up to two detectors (UV and RI) can also be fitted into the LaboACE body.

Maximize Benefit of LaboACE LC-5060 Plus

Recycling preparative chromatograph

LaboACE has non-diffusion recycling system (patented) that prevents the sample from running back into solvent line, baseline shifting, peak broadening and damaging columns and detectors with back pressure.

Improved purity and yield NEW

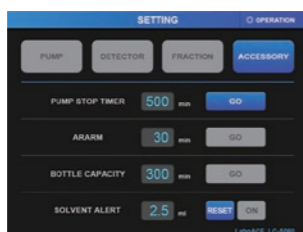
Further optimized recycling flow channel provides even better purity and yield. You can expect highly purified compounds at high yield in a short time, especially running together with JAIGEL-HR series GPC columns.

Simple and Intuitive operation

5.7 inch touch panel screen allows anyone to easily operate LaboACE without a user manual from injection to fraction collection.



Operational Status



Parameter Setup

Auto Cleanup Function

Keeps the flow channels clean automatically. Solvent changeover when changing columns is also done much easily.

Be confident of sample purity

The patented non-diffusion device and auto cleanup function prevent system from residual contamination so that you can obtain ultra pure compounds with confidence.

Minimized Dead Volume

LaboACE has minimized internal dead volume and the newly developed non-diffusion device prevents base line shifting and peak broadening.

Right Fraction Timing

The time from sample detection to actual fraction due to dead volume will be automatically calculated and no longer need to time it not to lose the precious compounds.

Installation example



Specifications

Model	LaboACE LC-5060Plus
Pump	P-60LA2
Solvent Delivery System	Reciprocating serial double plunger
Flow Rate	0.1 - 60.0 mL/min
Maximum Discharge Pressure	20 MPa
Plunger	φ7.0 mm
Stroke	8 mm
Discharge Rate per stroke	300 μL
Gradient module	Optional / Binary Low Pressure Gradient Isocratic mixture solvent recycling supported
Variable Injector (Manual)	Rheodyne 7725i
Sample Loop	10 mL (standard)
Repeat Injector	Optional : 0.1 - 99.9 mL
Loop Injector	N/A
Recycle System	With non-Diffusion function Recycling system (patented)
Recycle Method	Switching Scheme of Solenoid Valve
·Automated Operation ·Auto program mode ·Automated Fraction Collection ·Auto Replay ·Stacked Injection	N/A
Fraction Collector	Built-in single port fraction nozzle
Operation Panel	5.7 inch touch panel screen
Flow Stability	CV less than 0.3
Event Marker	Injection, Recycle and Collect
Auto Cleanup Function	Enables to wash flow channel by program
Pump Stop Timer	Enables to stop pump at 0-999 mins
Bottle Capacity	Enables to prevent from overflow in a collection bottle
Alarm Timer	General Timer
Dimensions	W280×D420×H445mm
Weight	18 Kg
Power Supply	100V,500VA/200 - 240V,500VA
Column Stand	Optional
Solvent Stand	Optional

Detectors

Two different types of detectors fit into LaboACE compact body. They can perform detection simultaneously.

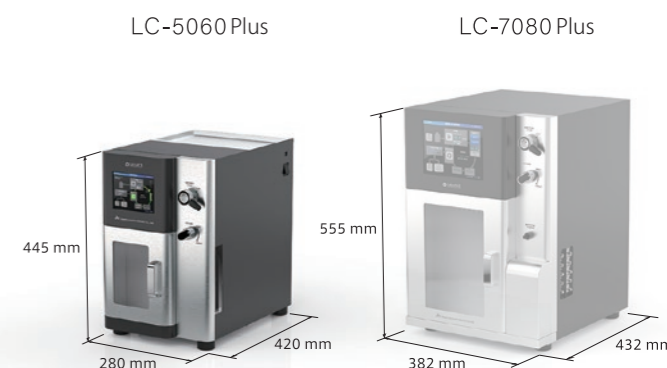
* Detailed information available on Page 8.

Chromatography Software JAI Scan

JAI Scan acquires up to 5 channels chromatographic information simultaneously.

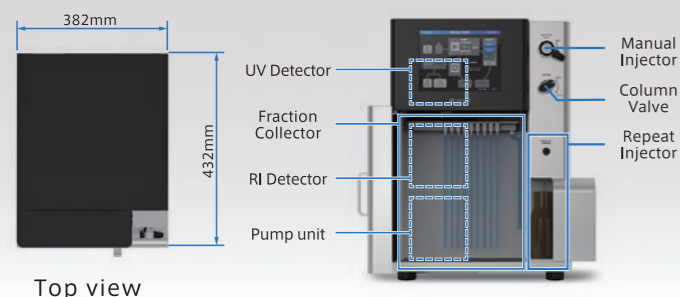
* Detailed information available on Page 8.

LaboACE Size Comparison



—Automated model—

Advanced compact design with automated function



Top view

Manual and Auto injectors and 9 ports auto fraction collector are placed in the compact body. Up to two detectors (UV and RI) can also be fitted into the LaboACE body.



Maximize Benefit of LaboACE LC-7080 Plus

LaboACE LC-7080 Plus offers operators simple and intuitive event programming. Events such as repeating sample injection, discarding junk peaks, recycling and sample collectint can be setup easily. A new feature, "Peak Detection", automatically collects samples when peaks start to show.

Event Programming

Clean and intuitive layout to programming events

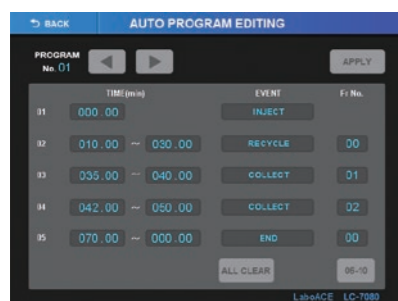
Recycle Separation

Chromatographic resolution increases with each cycle

Fraction Collection

Automated fraction collection based on time, peak height and peak slope

Chromatogram



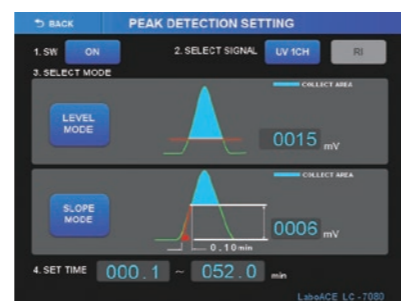
Parameter Setup

"Sample injection", "Recycle", "Collect"...etc.



Status Display

Clear showing of operational status



Collection Parameter

Easy setup of the collection parameter

LaboACE promises you to make Purification steps simple, quick and easy

Automated Operation

- Repeatable sample injection
- Stacked injection for solvent and time saving
- Improving peak resolution by recycling separation
- Discarding unwanted peaks
- Fraction collection triggered by time, peak slope or peak height

Multiple ways of injection

Manual injector and Repeat injector are standard. Optional loop injector for higher reproducibility is available.

Recycling preparative chromatograph

LaboACE has non-diffusion recycling system (patented) that prevents the sample from running back into solvent line, baseline shifting, peak broadening and damaging columns and detectors with back pressure.

Simple and Intuitive operation

8.4 inch touch panel screen allows anyone to easily use LaboACE without a user manual from injection to fraction collection.

Improved purity and yield NEW

Further optimized recycling flow channel provides even better purity and yield. You can expect highly purified compounds at high yield in a short time, especially running together with JAIGEL-HR series GPC columns.

* Detailed information available on Page 7.

Reliable Solvent Delivery

With 50 years of experience, the system has the serial double plunger pump optimized for stable delivery and recycling performance. Flow rate ranges from 0.1 up to 80mL/min.

Auto Cleanup Function

Keeps the flow channels clean automatically. Solvent changeover when changing columns is also done much easily.

Be confident of sample purity

The patented non-diffusion device and auto cleanup function prevent system from residual contamination so that you can obtain ultra pure compounds with confidence.

Minimized Dead Volume

LaboACE has minimized internal dead volume and the newly developed non-diffusion device prevents base line shifting and peak broadening.

Right Fraction Timing

The time from sample detection to actual fraction due to dead volume will be automatically calculated and no longer need to time it not to lose the precious compounds.

Specifications

Model	LaboACE LC-7080Plus
Pump	P-80LA2
Solvent Delivery System	Reciprocating serial double plunger
Flow Rate	0.1 - 80.0 mL/min
Maximum Discharge Pressure	30 MPa
Plunger	φ7.0 mm
Stroke	8 mm
Discharge Rate per stroke	300 μL
Gradient module	Optional / Binary Low Pressure Gradient Isocratic mixture solvent recycling supported
Variable Injector (Manual)	Rheodyne 7725i
Sample Loop	10 mL (standard)
Repeat Injector	Built-in Direct auto sample loading system 0.1 to 99.9 ml, 99 injections
Loop Injector	N/A
Recycle System	With non-Diffusion function Recycling system (patented)
Recycle Method	Switching Scheme of Solenoid Valve
Automated Operation	<ul style="list-style-type: none"> -Auto program mode -Automated Fraction Collection -Auto Replay -Stacked Injection
Fraction Collector	<ul style="list-style-type: none"> Standard : Built-in 9 ports fraction Optional : External fraction collector with 33 ports. 15 ports or 6 ports are also available.
Operation Panel	8.4 inch touch panel screen
Flow Stability	CV less than 0.3
Event Marker	Injection, Recycle and Collect
Auto Cleanup Function	Enables to wash flow channel by program
Pump Stop Timer	Enables to stop pump at 0-999mins
Bottle Capacity	Enables to prevent from overflow in a collection bottle
Alarm Timer	General Timer
Dimensions	W382×D432×H555mm
Weight	40 Kg
Power Supply	100V,500VA/200 - 240V,500VA
Column Stand	Optional
Solvent Stand	Optional

Detectors

Two different types of detectors fit into LaboACE compact body. They can perform detection simultaneously.

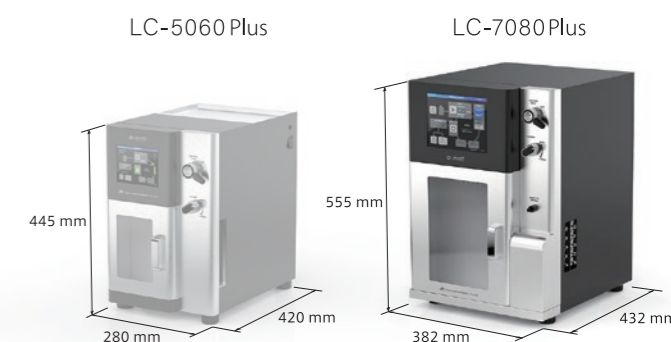
* Detailed information available on Page 8.

Chromatography Software JAI Scan

JAI Scan acquires up to 5 channels chromatographic information simultaneously.

* Detailed information available on Page 8.

LaboACE Size Comparison



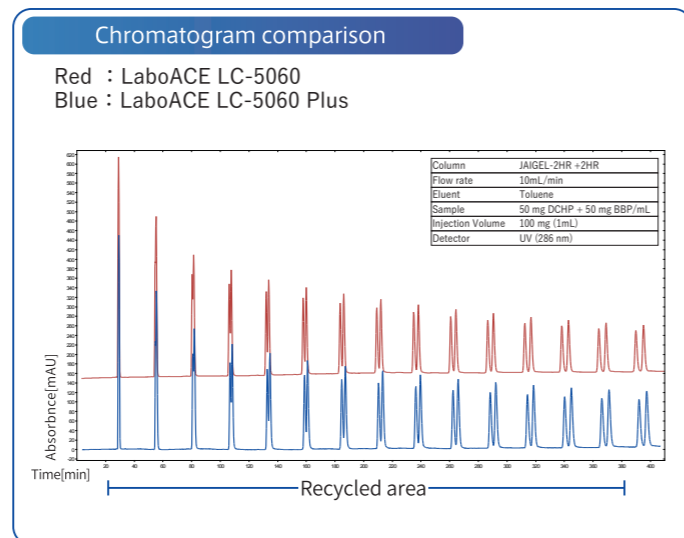
LaboACE series advanced features and options

Improved purity and yield NEW

Further optimized recycling flow channel provides even better purity and yield. You can expect highly purified compounds at high yield in a short time, especially running together with JAIGEL-HR series GPC columns.

LaboACE Plus series provide even higher purity and yield thanks to further optimized and improved recycling flow channel. On the comparison (right), both gave seemingly almost indistinguishable chromatograms. However, LaboACE Plus actually gave better purity and yield at the 15th cycle (below). LaboACE Plus series better controls peak broadening and baseline shifting, so you can obtain ultra pure compounds with confidence.

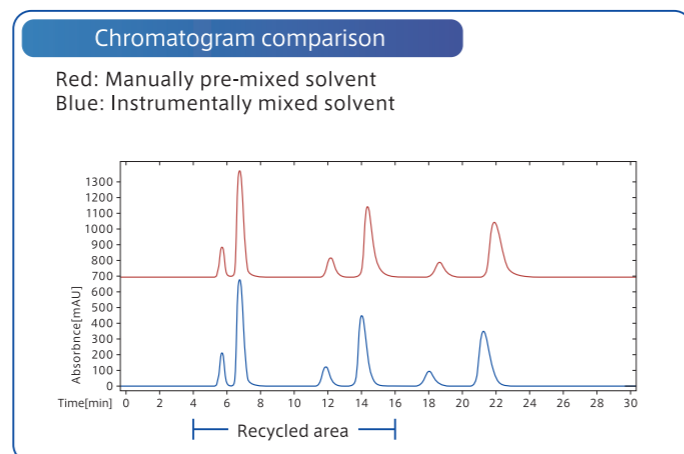
LaboACE	Purity of peaks at 15th cycle	
	1st Peak	2nd Peak
LC-5060	96.6%	95.4%
LC-5060 Plus	99.8%	99.1%



Two solvent inlets

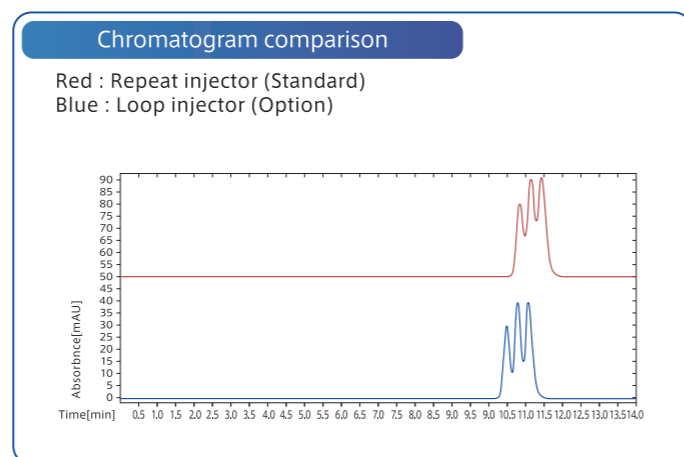
- gradient and 2-solvent mixing (Optional)

This option adds another solvent inlet to the instrument. First advantage of having two solvent inlets is the ability to do gradient programming. No recycling is possible in gradient. This allows the recycling instrument to perform exactly the same way as a regular HPLC system. Another advantage is the ability to mix two solvents in isocratic runs and in recycling. Instead of pre-mixing two solvents manually, the instrument can automatically do the mixing for you. This option saves you time in the solvent preparation and allows you to try various mixing ratios quickly. The chromatogram on the right shows equivalent results between the manual and automated instrumental mixings.



Loop Injector (Optional)

LaboACE LC-7080 Plus has built-in auto repeat injector as a standard function. In addition, loop injector can be installed as an optional injection method. Repeat injector has a solenoid valve and it delivers the sample through the pump. Loop injector, on the other hand, is located right before columns, same as manual injector. The chromatogram on the right shows the comparison data that loop injector gives sharper peaks with better resolution at the first cycle. It can minimize the number of cycles and the total analysis time.



Fraction Collector (Optional)

LaboACE LC-7080 Plus has built-in auto fraction collector with 9 ports. When more fraction ports or more space are required, external fraction collector up to 33 ports is optionally available. Collection with bigger fraction bottles can be supported too (15 ports and 6 ports).



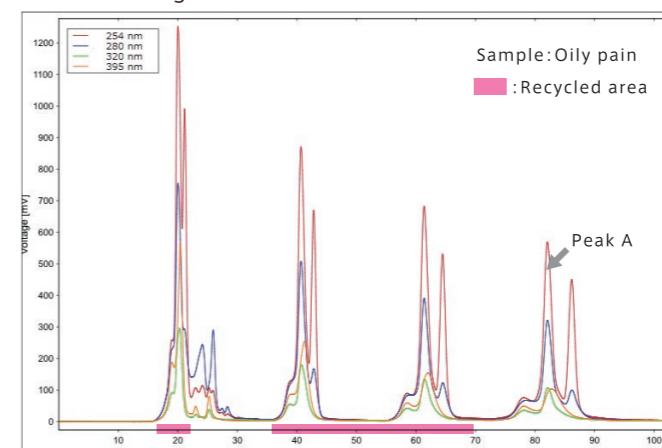
FC-3480 (Max 33 ports)

LaboACE Detectors and Chromatography Software

Detectors

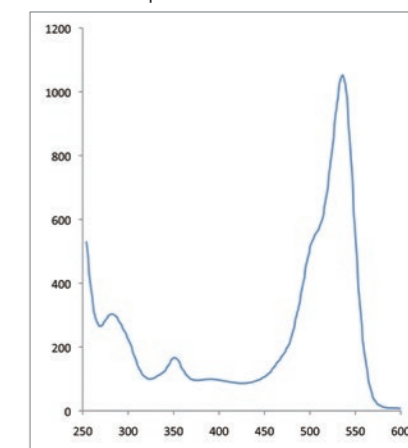
These UV-Vis and Refractive Index detectors are exclusively designed for LaboACE series.

Chromatogram with 4 selective channels detection



Separated by High Speed GPC column JAIGEL-HR

UV Spectrum of Peak A



4 channels UV-Vis Detector

Able to detect at any 4 selected wavelengths in the range from 200 to 400nm (or 800nm) and to monitor full range UV-Vis spectrum of compounds flowing in the sample cell. (Spectrum can not be saved.) Obtaining compound structure information has become easy.

* UV-VIS 4ch 400LA / UV-VIS 4ch 800LA

All the wavelengths including ultraviolet region (190-380nm) and visible light region (380-800nm) are irradiated to the sample cell in the detector. Some samples may be converted and stick inside the cell. For those samples, please turn off the UV-VIS detector and use RI detector.

* UV-254LA irradiates the sample cell all the wavelengths in the ultraviolet region (190-380nm). Same caution as above is required.

Model	UV-254 LA	UV-VIS4ch400LA	UV-VIS4ch800 LA
	Fixed UV detector	4 channel variable UV detector	
Wave range	Fixed 254 nm *	200-400 nm	200-800 nm
Measurement Method	Single beam		
Light Source	Deuterium lamp		Deuterium lamp + Tungsten lamp
Drift	0.003 AU/hr		
Sensitivity	0.00005AU(254 nm)		
Zero Adjustment	Auto zero function (JAI Scan software)		
Flow Cell	Cell length 0.3 mm		
	Optional : 1.0 mm, 2.4 mm		
Saturation	Benzene 15 % (standard 0.3 mm cell)		
Power	Supplied from main body		
Weight	3.0 Kg		

* Able to select from 200 to 600 nm at the factory only

Refractive Index Detector

Less time is required for the base line to stabilize.

Model	RI-700 LA
	Refractive Index Detector
Measurement Method	Deflection
Flow Cell	8 µL
RI Range	1.00 - 1.75
Reference Purge	Solenoid valve
Temp. Control	Fixed at 34c degree (50c degree fuse)
Zero Adjustment	Auto zero function (JAI Scan software)
Power	Supplied from main body
Weight	4.6 Kg

Chromatogram Acquisition Software - JAI Scan -

Able to acquire 5 channels signals (4 channels UV-Vis and RI) as well as all the signals of operational events such as injection, recycle and collect.

[JAI Control] is a new software to work together with JAI Scan to remotely control LaboACE LC-7080. Operators can operate LaboACE LC-7080 placed in a fume hood from outside.

* JAI Control is an available option for LaboACE LC-7080 Plus only.

Model	JAI Scan
Channel	5 channels
PC Interface	USB2.0
Auto Zero	Installed
Event signals	Injection, Recycle, Fraction collection
Start Signal	Injection sync or manually
PC Spec.	Dedicated laptop PC
Data Transfer	CSV, cdf, mat, etc
Absorbance Spectrum Scan	Available with UV-Vis 4ch LA

–High Throughput Recycling–

Large scale yet little solvent consumption



Pump, Detector, Solvent delivery and Recycle unit are all in one body

High throughput with stable flow rate

Three models are available depending on required flow rate. LC-200NEXT has maximuming flow rate 200 mL/min and LC-500NEXT has 500 mL/min and LC-800NEXT has 800 mL/min.

Ease of use with large sized touch panel

8.4' touch panel for user friendly operation.

Reciprocating triple plunger

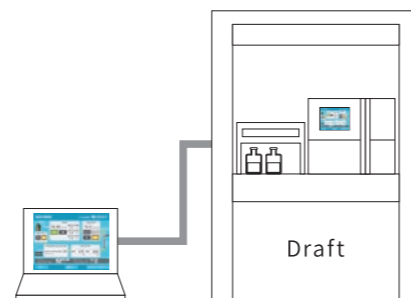
Reciprocating triple plunger guarantees stable and reliable solvent delivery without pulsation.

Recycle with Non-diffusion (Patented)

Our long history of exclusively focusing on "Recycling technique" has been applied to all these models. During recycle mode, it stops solvent consumption achieving both cost-saving and eco-friendliness.

PC control function

With optional PC controlling software Prepure-250, it enables you to save and edit the event log files as well as controlling LC remotely. (More detailed information on P12.)



Auto cleanup function

Automated cleanup function keeps the flow channels always clean and free from contamination. Solvent exchangeover is also much easier than ever.

Specifications

	LC-200 NEXT	LC-500 NEXT	LC-800 NEXT
Pump Type	Reciprocating triple plunger		
Maximum Discharge Pressure	20MPa		
Flow Rate	10 - 200 mL/min	30 - 500 mL/min	40 - 800 mL/min
Operation Panel	8.4inch LCD touch-sensitive screen		
Pressure Display & Limiter	Program and display on LCD touch-sensitive screen		
Repeat Injector	Direct auto sample loading system (100 µL to 99.9 mL)		
Sample Injection Amount	9,999 mL (max)		
Sample Injection No.	99 times (max)		
Event Marker	Injection, Recycle and Collect		
Recycle System	With non-Diffusion function Recycling system (patented)		
Auto Rerun Function	Save previous operation and rerun up to 99 times		
Injection Overlap Function	Built-in time saving auto injector		
Auto Cleanup Function	Flow Channel washing by program		
Column Reject Valve	Built-in		
Leak Sensor	Installed on pump, detectors and recycle valve		
Detector space	Inner body		
Dimensions	W585×D730×H650mm		
Power Supply	AC100/200V, 800VA		
Weight	125 Kg	128 Kg	

Detectors

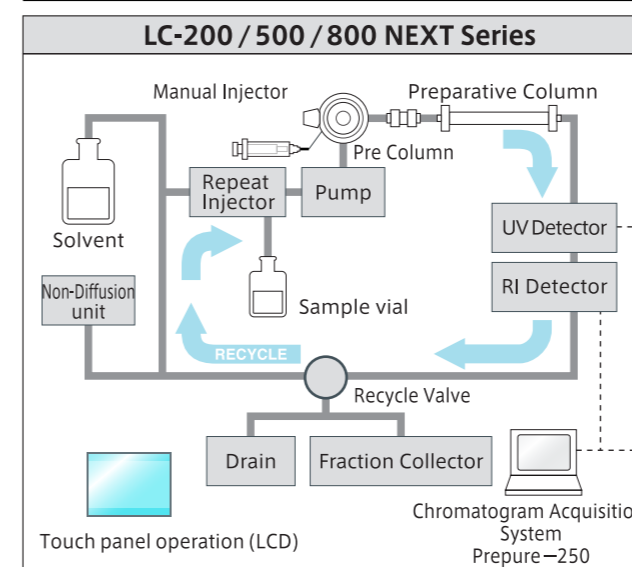
UV Detector

	LC-200 NEXT			LC-500/800V NEXT		
	UV-254T NEXT	UV-370T NEXT	UV-600T NEXT	UV-254F NEXT	UV-370F NEXT	UV-600F NEXT
Wave Length	Fixed at 254 nm	195 - 370 nm	195 - 600 nm	Fixed at 254 nm	195 - 370 nm	195 - 600 nm
Zero Adjustment	Auto zero function					
Light Source	Deuterium lamp					
Sensitivity	0.0005AU					
Drift	0.002 AU/hr (254, 370)/0.00005 AU/hr (600)					
Flow Cell	Cell length : 0.5 mm (option 0.2 mm)					
Saturation	Benzene 4% with 0.5 mm cell					
Dimensions	W150×D335×H155mm					
Power	Supplied from main body					
Weight	5.3 Kg	5.4 Kg	5.5 Kg	5.3 Kg	5.4 Kg	5.5 Kg

RI Detector

	LC-200 NEXT	LC-500/800 NEXT
Measurement Method	RI-700T NEXT	RI-700F NEXT
Flow Cell	20 µL	50 µL
RI Range	1.0 - 1.75	
Temp. controll	✓	N/A
Zero Adjustment	Auto zero function	
Reference Purge	Solenoid valve	
Dimensions	W150×D300×H125mm	
Power	Supplied from main body	
Weight	Approx. 4.9 Kg	

Flow channel



Fraction Collector (Standard Equipment)

	LC-200 NEXT	LC-500 NEXT	LC-800 NEXT
Applied Model	FC-3320	FC-3350	FC-3380
Fraction Method	Direct bottling		
Maximum Fraction	15 bottles	6 bottles (or more with option)	
Bottle Capacity	1,000 mL	5,000 mL (or more with option)	
Peak Detection	Available Prepure-250		
Arm Movement	XY direction		
Fraction Mode	Time program mode and Slice mode		
Dimensions	W700×D530×H350mm	W700×D570×H560mm	
Power Supply	AC100/200V,800VA		
Weight	14 Kg	20 Kg	

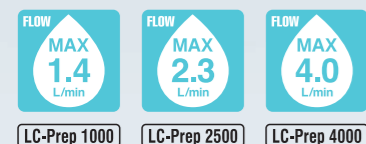
Chromatography Software

Please choose Prepure series or JDS series.

* Detailed information available on Page 12.

Recycling for Production scale collection

Open a way to the future LC-Prep 1000/2500/4000



Production Scale Model

Selectable 3 models with maximum flow rate of 1,400 mL/min, 2,300 mL/min and 4,000 mL/min.

High performance pump

Reciprocating triple plunger enables to deliver stable flow and high recycling efficiency.

Recycle with non-diffusion (patented)

The patented recycling function is originally installed to save large quantity of solvent.

Gradient system

Binary high pressure gradient mode is equipped. Column flush function is also installed to easily wash columns.

Repeat injector

Enables to inject large amount of sample by automated operation.

Chromatography Software

Please select from Prepure-1000 or JDS series.

DAC-Dynamic Axial Compression - Columns

Wide range of sizes are available. Please contact as for more details.



Model	Column Size	Max Bed
DAC100-700	100mm ID x 700mm	400 mm
DAC150-700	100mm ID x 700mm	400 mm
DAC200-700	100mm ID x 700mm	400 mm
DAC250-700	100mm ID x 700mm	400 mm
DAC300-700	100mm ID x 700mm	400 mm

Specification

	LC-Prep1000	LC-Prep2500	LC-Prep4000
Pump Model	P-1000	P-2500	P-4000
Type	Reciprocating triple plunger		
Gradient	High pressure gradient with 2 solvents		
Flow Mode	Constant flow		
Max. Pressure	15MPa	9.4MPa	11.7MPa
Flow Rate	1,400 mL/min	2,300 mL/min	4,000 mL/min
Injection Method	Repeat Injector		
Sample Injection Amount	25 - 1,000 mL	60 - 2,500 mL	80 - 5,000 mL
Collection Mode	Time, Peak and Time program mode		
Nozzel of Fractions	5		
Auto Rerun	Save previous operation and rerun up to 99 times		
Controller Unit Type	PLC touch panel, PC control		
Sample Injection No.	99 (max)		
Sample Injection Interval	99hours(max)		
Recycling Time Control	Start and End time: 1 to 999minutes		
Recycling No.	99 (max)		
Recycling System	Non-diffusion Function(patented)		
Safety Device	Prevent from Electric and Liquid leakage, high pressure, high temperature		
Body Dimensions	W1050×D880×H1400mm	W1050×D1000×H1400mm	
Power Dimensions	W580×D560×H1150mm		
Power	AC 100 - 115V, 200 - 240V, 50/60Hz, 3000VA		
Weight	Approx. 400 Kg		

Detector

Please select UV and/or RI detector.

UV Detector

	UV-3760
Applied Model	LC-Prep series
Range	195 - 600 nm
Mesurement Method	Double beam with filter
Light Source	Deuterium lamp
Sensitivity	0.0001AU (250 nm, Response Slow, Air cell)
Drift	0.001AU/hr (250 nm, Air cell, Ambient)
Flow Cell	Cell length : 0.5 mm Volume 20 μL (Option 0.2 mm, 1.0 mm)
Zero Adjustment	Auto zero function
Dimensions	Controller unit: W300×D450×H120mm, Detector unit: W385×D560×H160mm
Power	AC100/115/220V,50/60Hz
Weight	Approx. 40 Kg (Controller unit + Detector unit)

RI Detector

	RI-4L
Applied Model	LC-Prep series
Mesurement Method	Deflection
Flow Cell	Volume 1.8 mL
RI Range	1.00 - 1.75
Reference purge	Pneumatic valve
Zero Adjustment	Auto zero function
Dimensions	W233×D420×H200mm
Power	DC24V
Weight	Approx. 8 Kg

Chromatography Software

For LC-91×NEXT

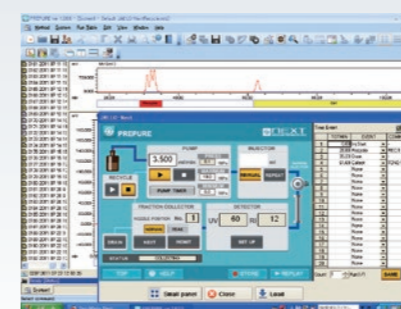
Prepure-100/200/300

For LC-200/500/800 NEXT

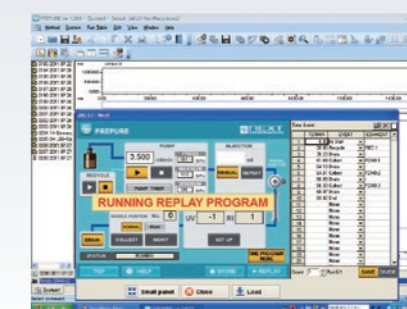
Prepure-250

For LC-Prep

Prepure-1000



PC control window



Auto replay window

Operate NEXT series remotely

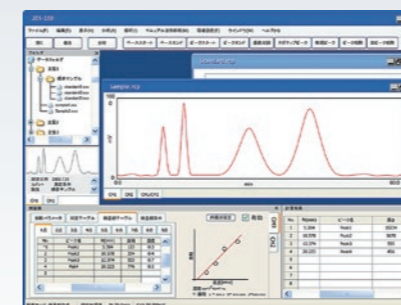
Displays the NEXT touch panel screen on your PC and operate it away from fume hood.

For your efficient automation

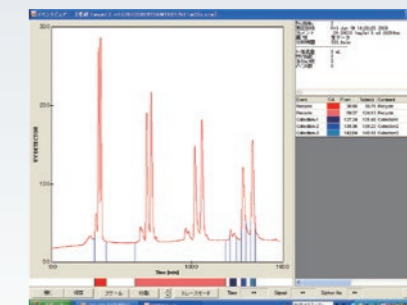
Automated fraction collection can be programmed based on time, peak height and peak slope.

Specifications

	Prepure-100	Prepure-200	Prepure-300	Prepure-250	Prepure-1000
Number of Channel	2				
PC Interface	USB2.0				
Driver	LC-91×NEXT Exclusive		LC-200/500/800 NEXT Exclusive	LC-Prep Exclusive	
Event Signal	N/A	Marker (injection, recycle, and fraction)			
PC Spec.	WindowsXP or later, USB port ×2				
Data Transfer	to MS Excel				
Chromatogram Acquisition	✓	✓	✓	✓	✓
PC Control	N/A	✓	✓	✓	✓
GPC Calculation	N/A	N/A	✓	N/A	N/A



Chromatogram Analysis window



Event viewer

Multi event signal receiver

Receives all event signals such as injection, recycle, siphon and collection from JAI recycling HPLC system.

Multi event viewer

Makes it easy to recognize all operated events at a glance.

Specifications

	JDS-50	JDS-100	JDS-200	JDS-300
Number of Channel	1	2		
PC Interface	USB2.0			
Driver	Exclusive driver			
Power Input	±2.5V			
Event Signal	Marker (injection, siphon, recycle, collect and random)			
Sampling Speed	10Hz Max.			
Data Acquisition	injection valve or manual start			
PC Spec.	WindowsXP or later, USB port ×1			
Data Transfer	to MS Excel			
Functions	Chromatogram signal reading			
	Event signal display / log			
	N/A	N/A	Quantitative calculation	
	N/A	N/A	Peak area calculation	
	N/A	N/A	N/A	GPC calculation

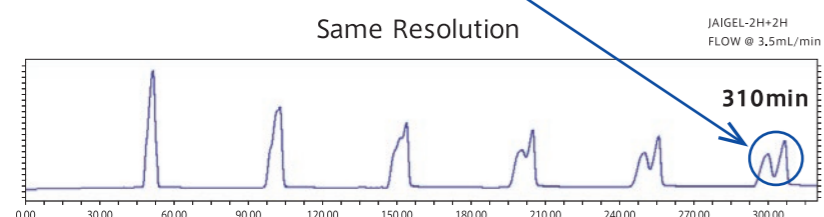
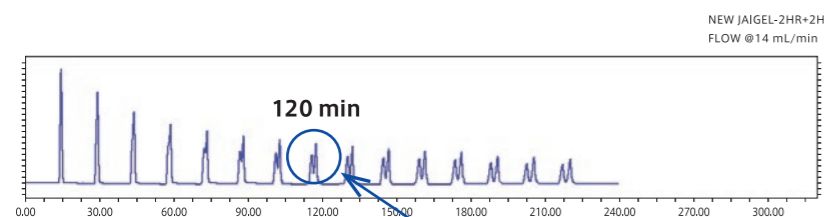
High speed and solvent changeable organic GPC Columns

JAI has launched the new JAIGEL-HR series.

- 4 times higher flow rate at 15 mL/min compared to the original JAIGEL-H at 3.5 mL/min
- Higher throughput and increased sample amount per injection with JAIGEL-HR
- Theoretical plate is now 2 to 3 times greater than the original JAIGEL-H series.
- Possible to use various organic solvents interchangeably.

High Flow Rate

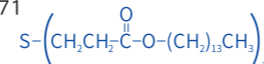
The original JAIGEL-H series has flow rate of 3.5 mL/min and the new JAIGEL-HR series has 4 times faster flow rate of 15 mL/min maximum. With higher resolution of the HR columns and faster recycle performance, you can greatly save time.



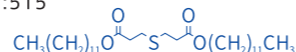
New JAIGEL-HR only takes 120 mins to achieve the same separation while original JAIGEL-H took 310 mins.

Column	JAIGEL-2HR+2HR vs JAIGEL-2H+2H
Flow rate	14 mL/min vs 3.5 mL/min
Eluent	Chloroform
Sample	100 mg/mL DMTDP+DLTDP
Injection Volume	200 mg (2 mL)
Detector	RI-700 II NEXT

DMTDP : Ditetradecyl 3,3'-Thiodipropionate
MW:571

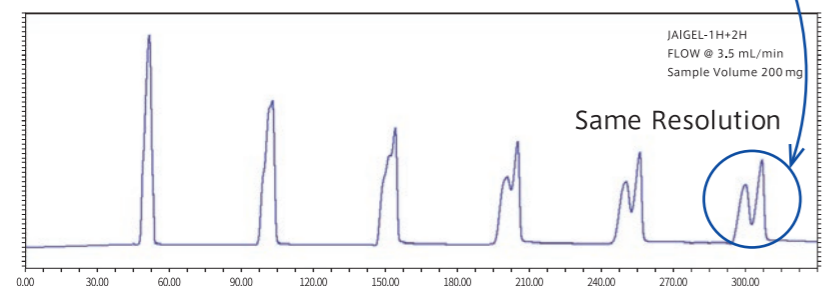
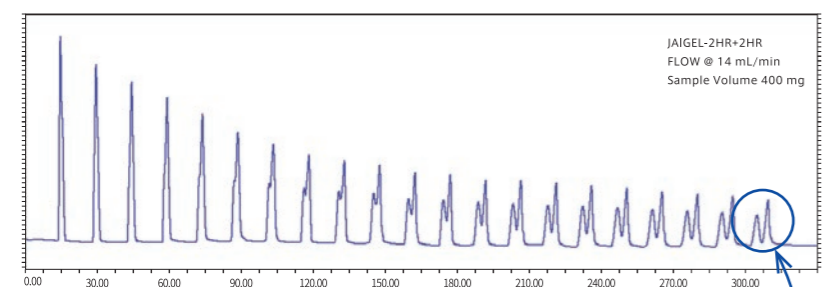


DLTDP : Didodecyl 3,3'-Thiodipropionate
MW:515



High Throughput

The new JAIGEL-HR can separate twice as much sample than the previous column with no additional time.

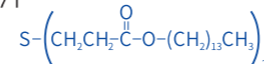


Same Resolution

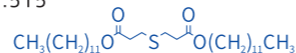
Twice the sample loading capacity

Column	JAIGEL-2HR+2HR vs JAIGEL-1H+2H
Flow rate	14 mL/min vs 3.5 mL/min
Eluent	Chloroform
Sample	100 mg/mL DMTDP+DLTDP
Injection Volume	400 mg (4 mL):JAIGEL-2HR+2HR 200 mg (2 mL):JAIGEL-1H+2H
Detector	RI-700 II NEXT

DMTDP : Ditetradecyl 3,3'-Thiodipropionate
MW:571



DLTDP : Didodecyl 3,3'-Thiodipropionate
MW:515



JAIGEL-2HR and 2.5HR which have been very popular for separation of small Mw. compounds were replaced by "JAIGEL-HR Plus" having even higher maximum flow rate of 20mL/min.

High Resolution

Theoretical plate is now guaranteed to be greater than 30,000(2HR Plus, 2.5HR Plus), twice more powerful and effective in separation, comparing to the original JAIGEL-H at 13,000.

Solvent Change

Wide range of solvents can be used interchangeably with the new JAIGEL-HR, depending on the solubility of your compounds.

HR Plus JAIGEL-HR Plus series

Chloroform, Tetrahydrofuran (THF), Toluene, Dichloroethane, Ethyl acetate, N,N-dimethylformamide (DMF) Acetone, Hexane, Cyclohexane, N-methyl-2-pyrrolidone (NMP), N,N-Dimethylethanamide (DMAc), Pyridine Dichloromethane, Hexafluoro-2-propanol (HFIP), Dimethyl sulfoxide (DMSO), Methyl ethyl ketone (MEK), Xylene Methyl tert-butyl ether (MTBE), o-Dichlorobenzene (o-DCB), CHCl₃ / Methanol : 50 / 50, DMF / Methanol : 80 / 20

HR JAIGEL-HR series

Chloroform, Tetrahydrofuran (THF), Toluene, Dichloroethane, Ethyl acetate, N,N-dimethylformamide (DMF) (DMF is not compatible with 1HR.)

JAIGEL-HR series



High speed and various organic solvents GPC

Series	Item Name	Size (ID × Length)	Exclusion Limit (Polystyrene)	Flow rate (Optimal)	Theoretical plate
HR	JAIGEL-1HR	20 × 600 mm	1,000	10 mL/min ^{※1}	>24,000
HR Plus	JAIGEL-2HR Plus		5,000		>30,000
HR Plus	JAIGEL-2.5HR Plus		20,000		>30,000
HR Plus	JAIGEL-3HR Plus		70,000		>24,000
HR Plus	JAIGEL-4HR Plus		500,000		>24,000
HR Plus	JAIGEL-5HR Plus		5,000,000		>24,000
HR	JAIGEL-2HR-40	40 × 600 mm	5,000	40 mL/min	>24,000
HR	JAIGEL-2.5HR-40		20,000		>24,000
HR	JAIGEL-3HR-40		70,000		Please ask
HR	JAIGEL-4HR-40		500,000		Please ask
HR	JAIGEL-5HR-40		5,000,000		Please ask

※1 Maximum flow rate : 20 mL/min for JAIGEL-2HR Plus and 2.5HR Plus. 15 mL/min for the others.

Pre-column JAIGEL-HR



	Item Name	Size IDxHeight (mm)
φ 20 mm	JAIGEL-HR-P	8 × 40
φ 40 mm	JAIGEL-HR-40P	20 × 50

Line Filter Cartridge



	Item Name	Size IDxHeight (mm)
φ 20 mm	Line Filter cartridge HR-20	18 × 32
φ 40 mm	Line Filter cartridge HR-40	37 × 45

Line Filter



	Item Name	Qty
φ 20 mm	Line Filter HR-20	3pcs
φ 40 mm	Line Filter HR-40	3pcs

Organic GPC Columns

JAIGEL-HH series

High Speed GPC Column (Chloroform · THF)

The standard Organic GPC JAIGEL-H series columns can flow at 7.5 mL/min now. It is twice faster than H series and has the exact same packing material that has been well received for many years. Thanks to the high flow rate, the retention time takes only half the time it used to take.

- Standard packed solvent : Chloroform or THF
- Theoretical plate guarantee for 6 months.
- The JAIGEL-HH series can not change solvents from the packed solvent at factory.

JAIGEL-HH series models

Item Name	Size (ID × Length)	Exclusion Limit (Polystyrene)	Flow rate (Optimal)	Theoretical plate
JAIGEL-1HH	20 × 600 mm	1,000	7.5 mL/min	>13,000
JAIGEL-2HH		5,000		
JAIGEL-2.5HH		20,000		
JAIGEL-3HH		70,000		

Large scale Organic GPC columns

JAI offers as large as 100 mm ID sized organic GPC columns as custom-packed column.

Solvent : Chloroform

Please ask for more details.

JAIGEL-H-100 series models

Item Name	Size (ID × Length)	Exclusion Limit (Polystyrene)	Flow rate (Optimal)	Theoretical plate
JAIGEL-2H-100	100 × 600 mm	5,000	85 mL/min	Please ask
JAIGEL-2.5H-100		20,000		

Pre-column

Suggested to use pre-column to guard the main columns. The packing material is the same as the main columns.

Type	I.D. × Length	Main column series to connect
JAIGEL-H-P	8 × 40mm	Each series of HH

Pre-column

Suggested to use pre-column to guard the main columns. The packing material is the same as the main columns.

Type	I.D. × Length	Main column series to connect
JAIGEL-H-100P	40 × 50mm	H-100 series



Aqueous and polar solvent SEC Columns

JAIGEL-GS series

Polyvinyl Alcohol (PVA) polymer packed SEC Columns

It can be used with wide range of solvents, in particular water and polar solvents but also possible to use non polar solvents as well.

- Analytical column (I.D. 7.5 x Length 300mm)
Flow rate (mL/min) : Regular use 0.4 - 0.6 mL/min, Maximum 1.0 mL/min
- Pre-column (I.D. 7.5 x 50 mm) for both analytical and preparative columns

[ex] Preparative column JAIGEL-GS220 → Pre column JAIGEL-GS-P2 or -P1 (See below chart)
Analytical column JAIGEL-GS220-A → Pre column JAIGEL-GS220-A-P2

GS series models

Model	Exclusion Limit (Pullulan)	Preparative Column (Theoretical plate)		Analytical Column (Theoretical plate)		pH Range	Pre-column	Applications
		20.0 mm I.D.		7.5 mm I.D.				
		Length 500 mm		Length 300 mm				
JAIGEL-GS220	3,000	GS220 (>12,000)		GS220-A (>16,000)		2~9	-P2	Peptides, water soluble oligomers, small saccharides
JAIGEL-GS310	40,000	GS310 (>12,000)		GS310-A (>16,000)		2~9	-P1	Peptides, steroids
JAIGEL-GS320	40,000	GS320 (>12,000)		GS320-A (>16,000)		2~12	-P2	Nucleic acids, peptides, saccharides, hormones
JAIGEL-GS510	300,000	GS510 (>12,000)		GS510-A (>16,000)		2~9	-P1	Hydrophobic polymers, proteins, nucleotide

Flow Rate

Inner Diameter	Flow Rate (mL/min)	
	Regular Use	Maximum
20mm (310,320,510)	5~8	12
20mm (220)	4~6	8

Possible Solvents

Solvent	Concentration	Column	GS310 GS510	GS220	GS320
		○	○	○	○
Aqueous solution	0~0.5M	○	○	○	○
Methanol	0~100%	○	○	Below 30%	○
Ethanol	0~100%	○	○	Below 30%	○
Acetonitrile	0~50%	○	○	○	○
	51~100%	○	○	○	○
THF/DMF/Acetone Chloroform	0~100%	○	○	NA	NA
	0~50%	○	○	NA	NA
DMSO	0~50%	○	○	NA	NA
	51~100%	○	○	NA	NA

JAIGEL-W series

Methacrylate polymer packed SEC Columns

It can apply for wide range of applications, using acidic and alkaline solvent.

- Possible solvent: Water (pH3 to pH10), Methanol, Ethanol, Acetonitrile, THF, CHCl₃, DMF, NMP
- Methanol can be used in W-252, 253, 254, 255 and 256 with no restriction, however with W-251, it can be used up to 30% only.

Flow rate

Inner Diameter	Flow Rate (mL/min)	
	Regular Use	Maximum
20mm	3.5	5.5
40mm	14.0	20.0
10.7mm	1.0	1.5

Pre-column

Model	I.D. × Length	Designed for Use with
JAIGEL-W-P	7.8 × 40mm	Each series of W, W-F, W-A, W-AF
JAIGEL-W-40P	20 × 50mm	W-40 series

W Series column models

Model	Exclusion Limit (Pullulan)	Preparative column (Theoretical plate)		Analytical Column (Theoretical plate)	Applications
		20 mm I.D. Length 500 mm	40 mm I.D. Length 600 mm	10.7 mm I.D. Length 300 mm	
JAIGEL-W251	2,000	W251 (>13,000)	W251-40 (>10,000)	W251-A (>13,000)	Water soluble, low molecular weight compounds and oligomer
JAIGEL-W252	6,000	W252 (>13,000)	W252-40 (>10,000)	W252-A (>13,000)	
JAIGEL-W253	50,000	W253 (>13,000)	W253-40 (>10,000)	W253-A (>13,000)	Peptides, proteins, water soluble polymers
JAIGEL-W254	400,000	W254 (>13,000)	W254-40	W254-A (>13,000)	
JAIGEL-W255	2 × 10 ⁶	W255 (>13,000)	-----	W255-A (>13,000)	
JAIGEL-W256	5 × 10 ⁷	W256	-----	W256-A (>13,000)	

Reverse phase, Normal phase columns



JAIGEL-ODS series

Silica based reverse phase columns

Model	Suf fix	Particle Size(μm)	Pore Size (Å)	Surface Area(m ² /g)	Purity	Carbon Content(%)	End Capping	Note
JAIGEL-ODS-AP	SP-120-15	15	120	300	High	17	Yes	A general reverse phase column, packed with highly pure silica gel bonded ODS and end-capped.
	SP-120-10	10						
	SP-120-05	5						
JAIGEL-ODS-BP	SP-120-15	15	120	300	High	15	Yes	A reverse phase column for hydrophilic compounds such as saccharides, peptides, nucleotides, organic acids and herbal medicines.
	SP-120-10	10						
	SP-120-05	5						

ODS Series column models

Type	ODS Column, JAIGEL		Pre-column	
	-ODS-AP (orBP)	I.D. × Length	I.D. × Length	
Analytical Column	-A	6.0×250mm	-AP(6.0×35)mm	
Preparative Column	-	20.0×250mm	-P(20.0×50)mm	
	-L	20.0×500mm		
Large Scale Preparative Column	-30	30.0×250mm	-30P(30.0×50)mm	
	-50	50.0×250mm	-50P(50.0×50)mm	

JAIGEL-SIL series

Silica based normal phase columns

Model	Suf fix	Particle Size(μm)	Pore Size (Å)	Surface Area(m ² /g)	Purity	Carbon Content(%)	End Capping	Note
JAIGEL-SIL	SH-043-15	10/20	120	300	High	-	No	Standard normal phase column packed with pore size 120Å silica gel. It has silanol as polar group and works as a normal phase column.
	SH-043-10	10						
	SH-043-05	5						

SIL Series column models

Type	Silica Column		Pre-column	
	-SIL	I.D. × Length	I.D. × Length	
Analytical Column	-A	6.0×150mm	-AP(6.0×35)mm	
Preparative Column	-	20.0×250mm	-P(20.0×50)mm	
	-L	20.0×500mm		
Large Scale Preparative Column	-30	30.0×250mm	-30P(30.0×50)mm	
	-50	50.0×250mm	-50P(50.0×50)mm	

Other

Polymer based reverse phase, normal phase columns

Model	Packed Material	Bond, Ligand	Packed Solvent	Applications
JAIGEL-NH2P	PVA	Amino-	Water	The packing material has amino bond. It is suitable for separation of saccharides. The column is also more rugged than the silica based amino column.
JAIGEL-ODP		Octadecyl-		The packing material is ODS. It is widely used for various samples.

Various polymer column models

●Pre-column : Add "-P" after column item model

Type	Preparative Column				Analytical Column
Dimensions: I.D. × Length	28.0×300mm	20.0×300mm	10.0×250mm	4.6×250mm	
Model	JAIGEL-NH2P	-30(>7,500)	-20(>7,500)	-10(>7,500)	-A(>7,500)
	JAIGEL-ODP	-30(>14,000)	-20(>14,000)	-10(>14,000)	-A(>14,000)
Flow Rates(normal, maximum)	10.0(15.0)mL/min	5.0(10.0)mL/min	1.5(3.0)mL/min	1.0(1.5)mL/min	
Dimensions of Pre-column: I.D. × Length	20.0×100mm	20.0×100mm	7.5×50mm	4.6×10mm	

Other selective columns

BUCKYPREP series

Fullerene separation column (NACALAI TESQUE, INC.)

Buckyprep series is specially designed for fullerene separation. This is a most suitable column with its high performance as it takes 10 times larger quantity of sample at a time and complete separation within half of the time GPC columns generally take. For fullerene separation, with our recycling preparative HPLC, Buckyprep column is a world benchmark of HPLC column.

Buckyprep series column models

Item Model	I.D. × Length	Pre-column	I.D. × Length	Applications
COSMOSIL Buckyprep Packed Column	20×250mm	Buckyprep Guard Column	20×50mm	Fullerene, Derivatized fullerene
	28×250mm		28×50mm	
	50×250mm		50×50mm	
COSMOSIL Buckyprep-M Packed Column	20×250mm	Buckyprep-M Guard Column	20×50mm	Endohedral metall of fullerene
	28×250mm		28×50mm	
	50×250mm		50×50mm	

*Please use a guard column to protect your buckyprep column

iCHIRAL Series

Immobilized Polysaccharide chiral columns (Made by Daicel)

This highly solvent-resistant column series was developed with a concept of "Chiral columns that can be used with broad range of organic solvents as eluents". You can use alkanes and alcohols in addition to all the solvents being used for HPLC such as Ethyl Acetate, THF and halogenated solvents. Further, Semiprep columns (20mm ID) are "footless columns", meaning giving very sharp peaks with no tailing, which results in larger injection loadability and higher enantiomeric resolution.

Product Type	ID (mm)	Length (mm)	Particle Size (μm)	Flow Rate (mL/min)	Product Code										
					CHIRALPAK®										
					IA	IB	IB N-5	IC	ID	IE	IF	IG	IH	IJ	IK
Guard cartridge for analytical column	4	10	5		80311	81311	88311	83311	84311	85311	86311	87311	89311	90311	91311
Analytical column	4.6	50	5	0.5mL/min~3.0mL/min	80322	81322	88322	83322	84322	85322	86322	87322	89322	90322	91322
	4.6	100	5	0.5mL/min~3.0mL/min	80323	81323	88323	83323	84323	85323	86323	87323	89323	90323	91323
	4.6	150	5	0.5mL/min~3.0mL/min	80324	81324	88324	83324	84324	85324	86324	87324	89324	90324	91324
	4.6	250	5	0.5mL/min~3.0mL/min	80325	81325	88325	83325	84325	85325	86325	87325	89325	90325	91325
Guard column for semi-prep column	10	20	5		80337	81337	88337	83337	84337	85337	86337	87337	89337	90337	91337
Semi-prep column	10	250	5	2.4mL/min~14mL/min	80335	81335	88335	83335	84335	85335	86335	87335	89335	90335	91335
	20	250	5	9.5mL/min~57mL/min	80345	81345	88345	83345	84345	85345	86345	87345	89345	90345	91345
Guard column for preparative column	50	100	20		80253		88253	83253	84253	85253	86253	87253	89253	90253	
Preparative column	30	250	5	21mL/min~128mL/min	80375	81375	88375	83375	84375	85375	86375	87375	89375	90375	91375
	50	500	20	59mL/min~354mL/min	80256		88256	83256	84256	85256	86256	87256	89256	90256	

*1: The flow rates are for reference only. Actual flow rate must be controlled so that the pressure does not exceed the limit specified in the Operation Manual.

*2: Three pieces per set. To use the cartridge, Cartridge Holder (Item #:00011) is needed.

*3: Analytical columns must be used with analytical HPLC.

For more details of iCHIRAL series, please visit Daicel's website: <https://www.daicelchiral.com/>

JAIGEL-OA series

Optical isomer separation columns (Packed particle size 5μm)

Model	Type	Chiral Component	Mode	Applications	Inverted Type
JAIGEL-OA2000	Amide	(R)-phenylglycine	NP	Aromatics, Carbonyl, Carboxylic, Hydroxy, Alcohols	-OA2000S
JAIGEL-OA2500		(R)-naphthylglycine	RP		-OA2500S
JAIGEL-OA2000-I	Amide	(R)-phenylglycine	NP	Amines, Amino Alcoholic drug and alcohol group, ester	-OA2000S-I
JAIGEL-OA2500-I		(R)-naphthylglycine	NP		-OA2500S-I
JAIGEL-OA3100	Urea	(S)-valine	RP	Carboxylic acid, Amino acid (esp. Acylated-, Urethane-, Dansyl- Amino acid), Alcohol group	-OA3100R
JAIGEL-OA3200		(S)-tert-leucine	RP		-OA3200R
JAIGEL-OA3300		(R)-phenylglycine	RP		-OA3300S
JAIGEL-OA4000		(S)-valine,(S)-1-(a-naphthyl)ethylamine	NP		-OA4000R
JAIGEL-OA4100		(S)-valine,(R)-1-(a-naphthyl)ethylamine	NP		-OA4100R
JAIGEL-OA4400		(S)-proline,(S)-1-(a-naphthyl)ethylamine	NP		-OA4400R
JAIGEL-OA4500		(S)-proline,(R)-1-(a-naphthyl)ethylamine	NP		-OA4500R
JAIGEL-OA4600		(S)-tert-leucine,(S)-1-(a-naphthyl)ethylamine	NP		-OA4600R
JAIGEL-OA4700		(S)-tert-leucine,(R)-1-(a-naphthyl)ethylamine	NP		-OA4700R
JAIGEL-OA4800		(S)-indoline-2-carboxylic acid,(S)-1-(a-naphthyl)ethylamine	NP		-
JAIGEL-OA4900		(S)-indoline-2-carboxylic acid,(R)-1-(a-naphthyl)ethylamine	NP		-

OA Series column models

Model	Preparative Column	I.D. × Length	Analytical Column	I.D. × Length	Pre-Column I.D. × Length
OA2000~OA4900	-20(20.0×250)mm	-10(10.0×250)mm	-8(8.0×250)mm	-4(4.6×250)mm	-P(4.0×10)mm