

Refractive Index Detector for high performance liquid chromatography

Shodex RI-500series



For the detection of samples that are not UV absorption!
Amazing stabilization!
Available in 4 different configurations!

【 Line up for RI-500 series 】

NEW

- | | |
|------------------------------|--------------------------------------|
| ① RI-501 (Analysis) | ② RI-501EX (High sensitivity) |
| ③ RI-504 (Semi-micro) | ④ RI-502 (Semi-Preparative) |

【 Features 】

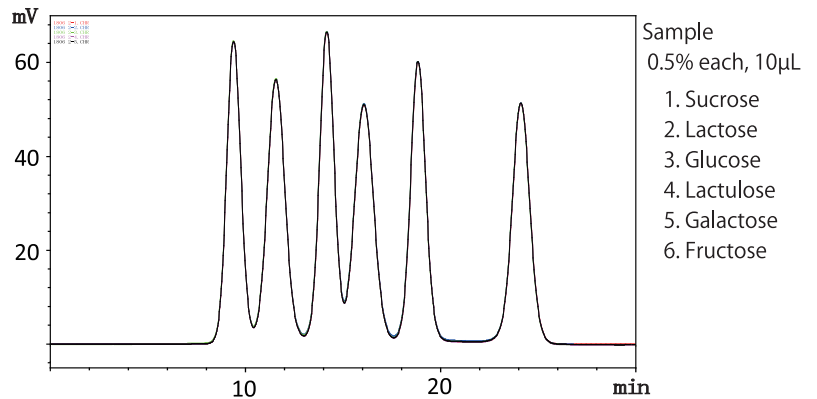
- Improved double temperature control system shortens the required warm-up time and provides stable background.
- A relief valve is installed in order to protect the solenoid valve.
- The leak sensor automatically stops the pump in case of solvent leakage.
- Connectable to each company's HPLC system.

① RI-501 (Analysis type)

◇RI-501 can be used with conventional HPLC

- **Baseline stabilization is improved compared with existing products!**
- **High reproducibility is observed on repeated measurements!**

□ Consecutive analysis of Monosaccharides and Disaccharides using Shodex SUGAR SP0810 □



• Column: Shodex SUGAR SP0810 • Eluent: H₂O
• Flow rate: 0.5mL/min. • Column temp.: 80°C

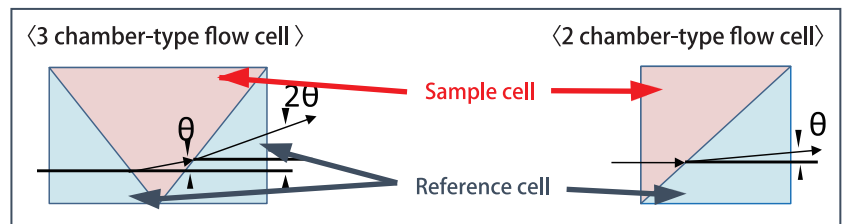
NEW

② RI-501EX (High sensitivity type)

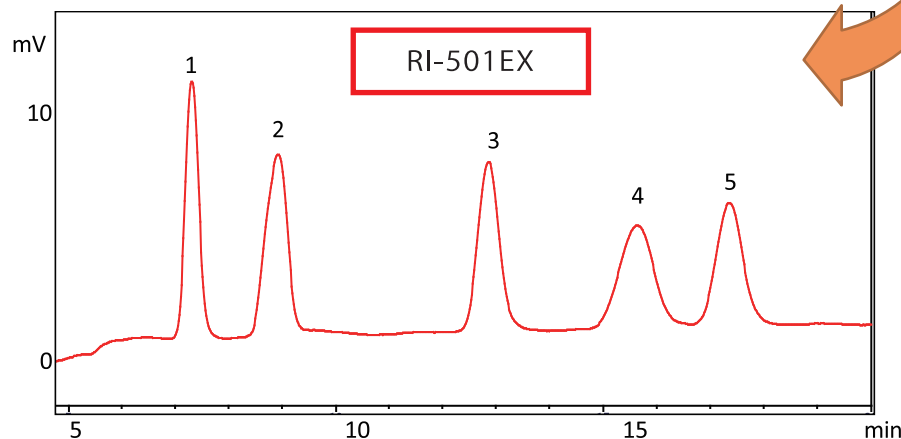
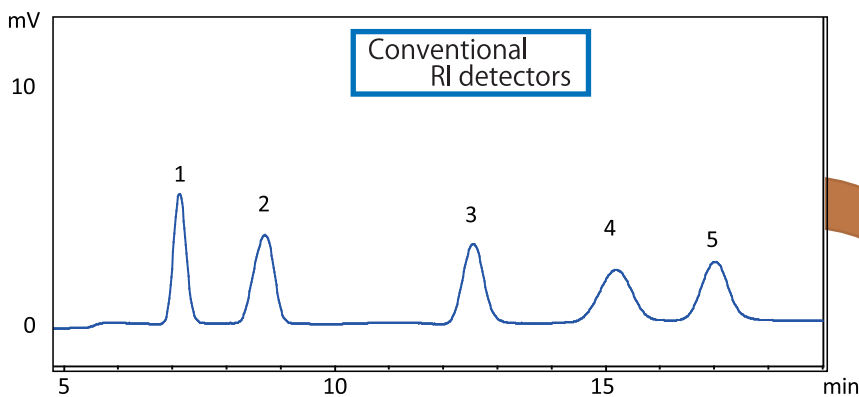
◇RI-501EX has a three-chamber flow cell, therefore you can get twice sensitivity of standard RI detectors.

【Principle of new optical system measurement】

In our previous optical system, the measurement light through the flow cell was refracted only once. The new three-chamber flow cell allows the light to be refracted twice, thereby increasing sensitivity at least two-times at the same optical path length.



□ Analysis of saccharides using shodex HILICpak VG-50 4E □



High sensitivity!

Sample 0.05% each, 10 μ L

1. Fructose
2. Glucose
3. Sucrose
4. Lactose
5. Trehalose

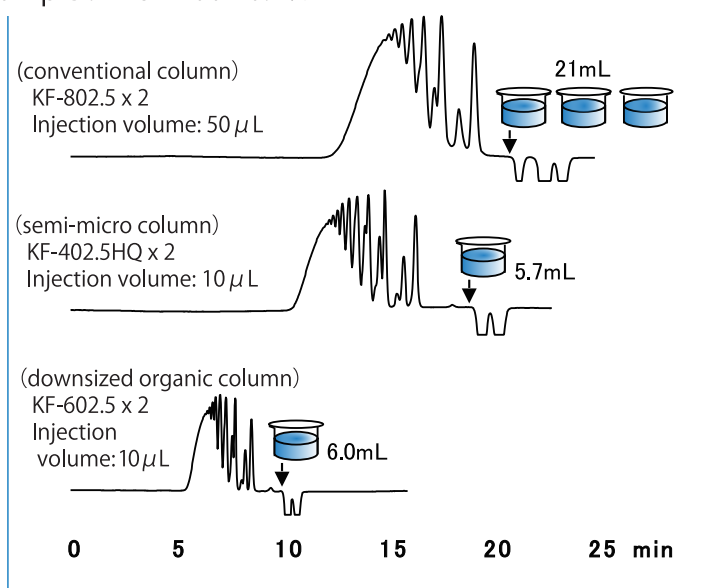
• Column: Shodex HILICpak VG-50 4E
• Eluent: H₂O/CH₃CN=20/80
• Flow rate: 1.0mL/min.
• Column temp.: room temp

③ RI-504 (Semi-micro type)

- ◇ RI-504 has small cell and internal volume, creating higher resolution and higher efficiency.
- ◇ The eluent consumption is decreased to less than 50% versus the conventional type.

□ Comparison of conventional type and semi-micro type □

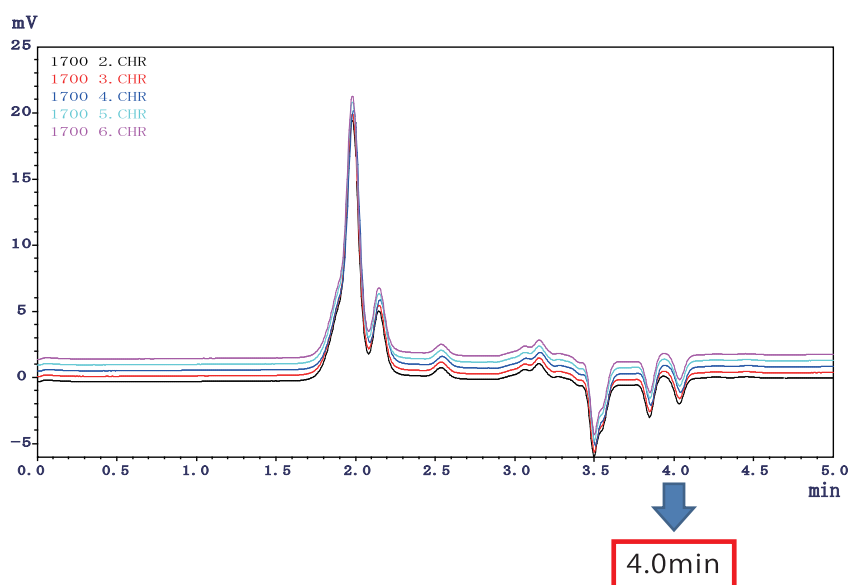
Sample : EPON1001 0.2%



- **Rapid and high performance analysis!!**
- **Solvent usage drastically reduced!!**

- Column : Shodex GPC KF-802.5 x 2
Shodex GPC KF-402.5HQ x 2
Shodex GPC KF-602.5 x 2
- Eluent : THF
- Flow rate : 1.0mL/min (KF-802.5)
0.3mL/min (KF-402.5HQ)
0.6mL/min (KF-602.5)
- Detector : RI (conventional type) (KF-802.5)
RI (small cell volume) (KF-402.5HQ, KF-602.5)
- Column Temp : 40°C

□ Consecutive analyses of styrene-butadiene rubber using HK-404L columns for ultra-rapid analysis □



- **Usable in ultra rapid SEC columns!!**
- **High reproducibility!!**

- Column : Shodex GPC HK-404L x 2
- Eluent : THF
- Flow rate : 1.0mL/min
- Column Temp : 40°C

④ RI-502 (Semi-Preparative type)

- ◇ RI-502 is best used for preparative work for µg-g scale.
- ◇ Flow rate max: 50ml/min.

【 Specifications 】

NEW

Type	Analytical	Semi-Preparative	Semi-micro	High sensitivity
Model	RI-501	RI-502	RI-504	RI-501EX
Measurement method	Deflection type			
Flow cell	2chamber type			3chamber type
Refractive Index range	1.00~1.75			
Linearity range	600 μ RIU	6000 μ RIU	600 μ RIU	300 μ RIU
Recorder output range selection	0.25~512 μ RIU	2.5~5120 μ RIU	0.25~512 μ RIU	0.125~256 μ RIU
Integrator output range selection	128/512 μ RIU	1280/5120 μ RIU	128/512 μ RIU	64/256 μ RIU
Noise	2.5 nRIU <small>(Water_0mL/min, response;1.5Sec)</small>	25 nRIU <small>(Water_0mL/min, response;1.5Sec)</small>	5 nRIU <small>(Water_0mL/min, response;1.5Sec)</small>	1.0 nRIU <small>(Water_0mL/min, response;1.5Sec)</small>
Drift	0.2 μ RIU/H	2 μ RIU/H	0.2 μ RIU/H	0.1 μ RIU/H
Response	0.1, 0.25, 0.5, 1, 1.5, 2, 3, 6 sec			
Auto zero	Full auto zero			
Auto zero range	All Refractive Index Range			
Integrator output	0~1 V			
Recorder output	0~10 mV			
External Signal Input	Zero/Purge			
External Signal Output	READY/LEAK/ERROR			
Flow cell volume	8 μ L	8 μ L	2.5 μ L	8 μ L
Temperature control system	OFF, 30~55°C (Double Temperature control)			
Usable flowrate	0.2~3mL/min	1~50mL/min	0.2~1mL/min	0.2~3mL/min
Maximum back pressure	50 kPa			
Dead volume	IN→Cell; 60 μ L	IN→Cell; 120 μ L	IN→Cell; 10 μ L	IN→Cell; 80 μ L
	Cell→OUT; 630 μ L	Cell→OUT; 540 μ L	Cell→OUT; 385 μ L	Cell→OUT; 630 μ L
Communication port	LAN			
Power source	AC100~240V \pm 10%,50/60Hz 150VA			
Dimensions and Weight	260W \times 420D \times 165H(mm) 12.5kg			
CE Marking conformity	○	○	○	○
RoHS conformity	○	○	○	○

- Carefully read the attached operation manual before use.
- The specifications are subject to change without notice.
- These products are not intended for clinical use.

Manufacture



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