

## *i* - Series



### Single block liquid chromatographs *i-series*

The LC-2050/2060 liquid chromatographs are the third generation of the *i-series* monoblock liquid chromatographs and differ from their predecessors in the maximum operating pressure and the ability to control using software with built-in artificial intelligence functions, which is the quintessence of innovative technologies in liquid chromatography in terms of operating efficiency, intelligent control of instrument functions and design.

All chromatographs are equipped with a built-in detector (except LC-2050C LT), gradient pump, degasser, autosampler with sample cooling capability (except LC-2050) and low sample carryover (within 0.0025%), column thermostat and automatic validation system. With the help of an optional analog-to-digital converter, they can be additionally equipped with a second detector.

In addition to thermostatically controlled flow detector cells in the models *i-series* technology is used temperature control of optical systems of the detector

(TC-optics technology), which ensures excellent reproducibility of results and high sensitivity of analysis, which makes it possible to determine trace amounts of analytes even with significant fluctuations in ambient temperature.



LC-2050C

## Artificial Intelligence (AI) Features

- Real-time control of the amount of mobile phase by using a load cell (MPM).
- Track consumable usage by part number and alert the operator via email when replacement is needed (M2M).
- Extend column life with Smart Flow Pilot, which gradually increases mobile phase flow to a preset value.

## Special features of LabSolutions LC

- Peak integration algorithm *i-PeakFinder* For Processing large volumes of data allows for faster interpretation of data obtained from the analysis of multicomponent analytes.
- Function *i-PDeA II* for processing diode signals The matrix detector allows for the separation of overlapping peaks. The I-PDeA II can also be used to check the purity of target peaks.

## Ease of use

- The unified graphical interface of the system and software allows for easy control of the liquid chromatograph and processing of analysis results.
- Create a sequence of loaded samples with the ability to analyze up to 1536 samples (sample injection time 14 s).

## Features of the LC-2060C 3D MT model

- Dual flow system with automatic switching between HPLC and UHPLC.
- Easy adaptation of chromatographic analysis methods developed both for Shimadzu chromatographs and for devices from other companies.

Single block liquid chromatographs *i-series* can be used both for daily routine analyses and for conducting series of analyses in automatic mode, freeing the operator from the need for personal presence.

## Technical specifications

Model	LC-2050	LC-2050C	LC-2050C 3D	LC-2050C LT	LC-2060C	LC-2060C 3D	LC-2060C 3DMT
<b>Solvent supply system</b>							
Pump type	Parallel Double Plunger						
Eluent flow rate range	50MPa(0.0001~5ml/min) 22MPa(5.0001~10ml/min)				70MPa(0.0001~3ml/min) 44MPa(3.0001~5ml/min) 22MPa(5.0001~10ml/min)		
Mixing quantity solvents	4 (with low pressure gradient system installed)						
<b>Autodispenser</b>							
Sample volume	Input of the entire sample volume: 0.1–100 µl (optional 0.1–2.000 µl)				Total sample volume input: 0.1–50 µl (optional 0.1–2.000 µl)		
Crossover level pollution	0.0025%						
Automatic dispenser capacity	336 vials of 1 ml; 216 vials of 1.5 ml; 112 vials of 4 ml; 1536 samples (4 microtiter plates with 384 wells)						
Cooling of samples	No	From 4 °C to 45 °C					
Sample handling	Dilution, mixing, addition of reagents/internal standards						
<b>Column thermostat</b>							
The range of installation temperature being set	From 4 °C to 90 °C in 1 °C increments						
Capacity	Up to 6 10 cm long speakers, up to 3 30 cm long speakers, speaker switching tap						Up to 2
<b>Detectors*</b>	Spectrophotometric	Diode matrix	No	Spectrophotometric	Diode matrix		
Wavelength range	190–700 nm	190–800 nm		190–700 nm	190–800 nm		
<b>Software security</b>	LabSolutions, LabSolutions DB, LabSolutions CS						

\* Chromatographs *i-series* can be additionally equipped with: a refractometric detector RID-20A, fluorimetric detector RF-20Axs, light scattering detector ELSD-LTIII, mass detector LCMS-2020.



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