

# Intelligent Autosampler **AS-2050/2051**



The JASCO Model AS-2050 and AS-2051 autosamplers are fully automatic sample injection systems enabling greater productivity and the highest possible level of precision. Sampling flexibility is unparalleled with up to 192 or 768 well positions (two 96-well or 384-well microplates) as an option for laboratory automation and combinatorial chemistry. Also available is a rack for 182 micro-vials or the standard rack for 100 samples with 2 mL vials. The AS-2050/2051 offer 5 operating modes; normal, two methods of pre-column derivatization, dilution, and zero-sample loss injection in stand-alone mode. In the zero-sample loss mode, the sample is sandwiched between two zones of mobile phase solvent, and the entire sample volume is drawn into the loop and injected without loss.

The AS-2050/2051 can easily be interfaced with the JASCO HPLC system using the JASCO chromatography data systems. These packages offer full automation of all JASCO HPLC components including the AS-2050/2051.

- **Excellent injection reproducibility**

The AS-2050/2051 offer operation in both fixed loop or variable volume injection modes. The reproducibility achieved in fixed loop 20  $\mu$ L injection is less than 0.2% RSD with less than 0.01% sample contamination. In variable 10  $\mu$ L injections RSD was less than 0.3%.

- **Complete flexibility**

The AS-2051 offers a built-in Peltier cooling and heating unit to expand the versatility of the instrument and maintain the integrity of all samples.

- **Non-adsorbent tubing**

The AS-2050/2051 both use an innovative stainless steel tubing, eliminating the adsorption problem that occurs when analyzing natural samples using Teflon tubing.

- **Sample pretreatment capability**

Air segmented sampling enables the AS-2050/2051 to automatically mix up to two different solvents or derivatizing reagents with the sample in a stand-alone mode. By automating the processes of derivatizations, the sample pretreatment capability saves time.

- **Interfacing with the JASCO HPLC system**

The AS-2050/2051 can be used as a stand-alone module through the built-in keypad and LCD display, or integrated into a complete HPLC system with computer control. In stand alone mode, the advanced microprocessor of the AS-2050/2051 offer 10 user friendly programs with 64 steps per program. The AS-2050/2051 can freely interact with other HPLC modules via the built-in LC-Net interface and can also easily be triggered from an external event generated by a computer or other LC modules. Full PC control is also provided when incorporated in a JASCO HPLC system with the JASCO chromatography data systems.



## SPECIFICATIONS

|                                    |                                                                                                                                                                                    |
|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sampling mode:                     | Partial (variable volume) or full (fixed) loop loading selectable                                                                                                                  |
| Number of sample:                  | 100 for standard 2 mL vials<br>182 for 0.6 and 0.3 mL vials<br>192 for two 96-well microplates<br>768 for two 384-well microplates                                                 |
| Sample loop:                       | 100 µL standard                                                                                                                                                                    |
| Injection volume:                  | Variable mode: 0.1 ~ 200 µL (standard, optional loop larger than 100 µL will be required for injection larger than 50 µL.)<br>1 ~ 2000 µL (optional)                               |
| Other loops:                       | Fixed mode: 100 µL (standard)<br>5, 10, 20, 50, 200, 500, 1000, 2000 and 5000 µL are available as optional accessory.                                                              |
| Reproducibility:                   | RSD 0.3% (variable injection of 10 µL)<br>RSD 0.2% (fixed injection of 20 µL)                                                                                                      |
| Cross contamination:               | 0.01% (20 µL injection)                                                                                                                                                            |
| Sample loss:                       | 10 µL (Variable from 0~100 µL)                                                                                                                                                     |
| Sample rack:                       | 100 sample position (Standard)<br>182 sample position as option<br>192 well position (two 96-well microplates) as option<br>768 well position (two 384-well microplates) as option |
| Temperature control (AS-2051 Only) | Cooling: Ambient - 10°C or less<br>Setting range: 4 to 10°C<br>Heating: Ambient + 10°C or larger<br>Setting range: 30 to 60°C                                                      |
| Maximum operating pressure:        | 35 MPa                                                                                                                                                                             |
| Liquid wetted materials:           | SUS-316, fluoropolymer and glass                                                                                                                                                   |
| Operation:                         | Through interactive key operation with keypad                                                                                                                                      |
| Operating mode:                    | Normal mode<br>Pre-column derivatization mode 1<br>Pre-column derivatization mode 2<br>Dilution mode<br>Zero-sample loss injection mode                                            |
| Program function:                  | Sample nos., range, Injection volume, No. of injections can be programed in max. 64 steps. 10 such program files are available and stored.                                         |
| Self-diagnostics:                  | Memory (ROM, RAM), DC power supply and mechanical parts                                                                                                                            |
| Infection markers:                 | 3 contact closures signals<br>STOP OUT:1 STOP IN:1 REMOTE INJ:1                                                                                                                    |
| Dimensions                         | AS-2050:300 (W) x 470 (D) x 307 (H) mm, Approx. 18 kg<br>AS-2051:300 (W) x 470 (D) x 387 (H) mm, Approx. 23 kg                                                                     |
| Power requirements:                | AC 100 ~ 240V ±10%                                                                                                                                                                 |
| Power consumption                  | AS-2050:70 VA<br>AS-2051:180 VA                                                                                                                                                    |

## OPTIONAL ACCESSORIES

|                                        |       |
|----------------------------------------|-------|
| Sample vial                            | 3 pcs |
| Drain tubing                           | 1 pc  |
| Drain attachment                       | 1 pc  |
| Flushing inlet tubing assembly         | 1 pc  |
| Power cable                            | 1 pc  |
| Fuses                                  | 2 pcs |
| Standard sample rack                   | 1 pc  |
| Guard cover                            | 1 pc  |
| Side cover                             | 1 pc  |
| Sample rack adaptor (Only for AS-2051) | 1 pc  |

## ORDERING INFORMATION

|            |                |                                                          |
|------------|----------------|----------------------------------------------------------|
| 6893-J002B | Model AS-2050  | Autosampler (100 x 2 mL vial capacity)                   |
| 6894-J003B | Model AS-2051  | Autosampler, cooled (100 x 2 mL vial capacity)           |
| 6827-J005B | Model AS-2055  | Autosampler (50 x 2 mL vial capacity)                    |
| 6827-J006B | Model AS-2057  | Autosampler, cooled (50 x 2 mL vial capacity)            |
| 6828-J008B | Model AS-2059  | Autosampler (120 x 2 mL vial capacity)                   |
| 6827-J007B | Model AS-2055i | Bio-inert Autosampler (50 x 2 mL vial capacity)          |
| 6827-J008B | Model AS-2057i | Bio-inert Autosampler, cooled (100 x 2 mL vial capacity) |
| 6818-J002B | Model PU-2080  | HPLC Pump                                                |
| 6819-J002B | Model PU-2080i | Bio-inert HPLC Pump                                      |
| 6823-J003B | Model PU-2089  | Quaternary HPLC Pump                                     |
| 6823-J004B | Model PU-2089i | Bio-inert Quaternary HPLC Pump                           |
| 6820-J002B | Model PU-2085  | Semi-micro HPLC Pump                                     |
| 6821-J002B | Model PU-2086  | Semi-preparative HPLC Pump                               |
| 6822-J002B | Model PU-2087  | Preparative HPLC Pump                                    |
| 6824-J002B | Model UV-2070  | UV/VIS Detector (~ 900 nm)                               |
| 6825-J002B | Model UV-2075  | UV/VIS Detector (~ 600 nm)                               |
| 6826-J002B | Model UV-2077  | Multi-wavelength UV/VIS Detector                         |
| 6832-J002B | Model MD-2015  | Diode Array Detector (~ 900 nm)                          |
| 6831-J002B | Model MD-2010  | Diode Array Detector (~ 650 nm)                          |
| 6829-J003B | Model FP-2020  | Fluorescence Detector                                    |
| 6833-J002B | Model RI-2031  | Refractive Index detector                                |
| 6838-J002B | Model CD-2095  | Circular Dichroism Detector                              |
| 6837-J002B | Model OR-2090  | Chiral Detector                                          |
| 6836-J002B | Model CL-2027  | Chemiluminescence Detector                               |
| 6834-J002B | Model CO-2060  | Column Oven                                              |
| 6835-J002B | Model CO-2065  | Column Oven                                              |

## SAMPLE RACK AND ADAPTOR

|                 | Typical sample vial          | Number of samples | Normal      |               | Cooling      |                      |               |
|-----------------|------------------------------|-------------------|-------------|---------------|--------------|----------------------|---------------|
|                 |                              |                   | Normal Rack | Holding plate | Cooling rack | Cooling rack adaptor | Holding plate |
| Standard vial   | Chromacol 2-SV               | 100               | 6771-H112A  | -             | 6771-H118A   | 6771-H134A           | -             |
|                 | Chromacol 1.1-STVG           |                   |             |               |              |                      |               |
| Eppendorf tube  | -                            | 100               | 6771-H123A  | -             | 6771-H124A   | 6771-H134A           | -             |
| Chromacol vial  | Chromacol 06-CTV(A)          | 182               | 6771-H121A  | -             | 6771-H122A   | 6771-H137A           | -             |
| Chromacol vial  | Chromacol 03-CVG             | 182               | 6771-H125A  | -             | 6771-H126A   | 6771-H137A           | -             |
| Microplate      | 2pcs. of 96-well microplate  | 192               | 6771-H119A  | -             | 6771-H120A   | 6771-H135A           | -             |
| Microplate      | 2pcs. of 384-well microplate | 768               | 6771-H119A  | 6771-1907A    | 6771-H120A   | 6771-H135A           | 6771-1907A    |
| Deep well plate | 2pcs. of 96 deep well plate  | 192               | 6771-H140A  | -             | 6771-H141A   | Not necessary        | -             |
| Deep well plate | 2pcs. of 384 deep well plate | 768               | 6771-H140A  | -             | 6771-H141A   | Not necessary        | -             |

\* When 384-well microplate or 384 DEEP WELL plate is used, use the 96-well microplate rack or 96-well DEEP WELL plate rack.

\* When 6771-H119A or 6771-H120A is used for the 384-well plate, the holding plate, 6771-1907A is necessary.



● Specifications are subject to change without notice.

## JASCO INTERNATIONAL CO., LTD.

4-21, Sennin-cho 2-chome, Hachioji, Tokyo 193-0835, Japan  
Tel: +81-42-666-1322 Fax: +81-42-665-6512 Internet: <http://www.jascoint.co.jp/english/index.html>  
Australia, China, Hong Kong, India, Indonesia, Iran, Korea, Malaysia, New Zealand,  
Pakistan, Philippines, Russia, Singapore, South Africa, Taiwan, Thailand

## JASCO INCORPORATED

8649 Commerce Drive, Easton, Maryland 21601-9903, U.S.A.  
Tel: +1-800-333-5272 Tel: +1-410-822-1220 Fax: +1-410-822-7526 Internet: <http://www.jascoinc.com>  
Canada, Costa Rica, Mexico, Puerto Rico, Argentina, Brazil, Chile, Colombia, Paraguay, Peru, Uruguay

## JASCO EUROPE s.r.l.

Via Confalonieri 25, 23894 Cremella (Lc), Italy  
Tel: +39-039-956439 Fax: +39-039-958642 [www.jasco-europe.com](http://www.jasco-europe.com)

**JASCO Deutschland** [www.jasco.de](http://www.jasco.de), **JASCO UK** [www.jasco.co.uk](http://www.jasco.co.uk), **JASCO France** [www.jascofrance.fr](http://www.jascofrance.fr),  
**JASCO Benelux** [www.jasco.nl](http://www.jasco.nl), **JASCO Spain** [www.jasco-spain.com](http://www.jasco-spain.com), **JASCO Scandinavia** [www.jascoscandinavia.se](http://www.jascoscandinavia.se)  
Austria, Finland, Greece, Hungary, Poland, Portugal, Romania, Switzerland, Algeria, Cyprus,  
Egypt, Israel, Jordan, Kuwait, Lebanon, Morocco, Saudi Arabia, Syria, Tunisia, Turkey, U.A.E.



Serving the global marketplace  
with Analytical Instrumentation

**JASCO Corporation**

2967-5, Ishikawa-cho, Hachioji, Tokyo 192-8537, Japan  
<http://www.jasco.co.jp>

LLC13-0607 Printed in Japan