

Intelligent Autosampler **AS-2059**



The JASCO Model AS-2059 autosampler is a fully automatic sample injection system enabling greater productivity and the highest possible level of precision. Sampling flexibility is unparalleled with up to 768 well positions (two 384-wells microplates) as an option for laboratory automation and combinatorial chemistry. Also available is the micro-vial rack (224 vials) for a micro vial or the standard rack (120 vials) for 2 mL vials. The sample rack type is automatically recognized. The AS-2059 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-2059.

- **Excellent injection reproducibility**

The AS-2059 provides excellent injection reproducibility due to its high-precision metering pump for sample metering. The reproducibility achieved in 5.1 to 100 μ L injection is less than 0.2% RSD. The contamination achieved in 10 μ L injection is less than 0.002%.

- **Complete flexibility**

Random sample access is provided as well as random number of injections and random injection volume for each vial. Urgent samples can be accepted and injected skipping the current method.

- **Non-adsorbent tubing**

The AS-2059 uses stainless steel tubing as a sample transfer line, eliminating the adsorption problem that often occurs when PTFE tubing is used.

- **Flexible USER PROGRAM mode**

Injection sequence can be programmable by using USER PROGRAM mode. Pre-column derivatization, dilution and internal standard addition can be achieved automatically in the AS-2059 to use this function. The fixed reagent vial rack allows maximum 6 reagent vials to be placed. Also custom injection sequence can be programmable.

- **Temperature control**

The AS-2059 offers a Peltier cooling and heating unit (TC-2059) as option to expand the versatility of the instrument and maintain the integrity of all samples.

- **Semi-micro HPLC**

The semi-micro injection kit that minimizes peak broadening is available optionally.

- **Interfacing with the JASCO HPLC system**

The AS-2059 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-2059 offers 10 user friendly programs with 64 steps per program. The AS-2059 can freely interact with other JASCO HPLC modules via the built-in LC-Net interface. Full PC control is also provided when incorporated in a JASCO HPLC system with the JASCO chromatography data systems.



SPECIFICATIONS

Sample injection method:	Variable sample volume injection method (Sample Loss Zero)
Number of samples:	120 (2.0 µL vials, standard rack) 224 (0.3 µL vials, micro-volume rack) 96 x 2 (96-wells microplate X 2, microplate rack) 384 x 2 (384-wells microplate X 2, microplate rack)
Injection volume:	0.1 to 200 µL (0.1 µL increments) (Standard, volumes over 100 µL require loop replacement.) 1 to 2000 mL (1.0 µL increments) (Optional, large volume injection kit is required.)
Metering pump:	0.1 to 25.0 µL/sec (standard metering pump) variable setting 1.0 to 250 µL/sec (Optional, large volume metering pump)
Flushing speed:	0.1 to 50.0 µL/sec (standard metering pump) 1.0 to 500 µL/sec (optional, large volume metering pump)
Reproducibility:	0.2 % or less (for 5.1 to 100 µL injection) (Using designated parameters under specified conditions)
Contamination:	0.002% or less (for 10 µL injection, Using designated parameters under specified conditions)
Max. usable pressure:	30 MPa
Min. sample volume:	1 µL from 5 µL in 200 µL microvial
Flushing:	4 Flushing Types Flushing injection port and outer needle by mobile phase, Flushing by sample dissolved solvent (Using optional flushing pump)
Injections per vial:	1 to 99
Analysis time setting:	0.1 to 999.9 min (0.1 min increments), can be set for each step.
Min. repeat time:	70 sec or less (for 10 µL, no flush mode)
User program:	Programming of injection procedure, each file having 64 steps Programmable reagent addition, dilution, and so on. can be set 6 reagent vials to reagent vial rack.
Sample cooling/heating:	Electronic cooling and heating method (Optional) Temperature setting ranges: 4 to 60 °C (Precision : ±1 °C)

Validation information:	Number of injection, activity of working parts such number of valve rotations, syringe strokes etc. Total power on time. Information of time to maintenance, etc.
GLP/GMP supports	Record of Log (audit trial): Operation, injection, maintenance, error and temperature, serial number, version, etc.
Safety mechanism:	Hold of injection procedure for door open, stop of sample injection when sample vial not set, solvent leak. Auto detection of sample rack type
Other functions:	10 files with 64 steps/file
Program-controlled functions:	Range of sample numbers for injection, injection volume, number of injections, and analysis time. Can also execute temporary stops, high priority sample processing, and addition, insertion, and deletion of steps.
Programmable parameters:	Stainless steel (SUS316), fluorine-containing resin, hardened glass, and ceramics
Wetted materials:	INJ. MARKER: 3 circuits STOP OUT: 1 circuit STOP IN: 1 circuit REMOTE INJ: 1 circuit Waste level, External signal
Input/Output terminals:	Can be controlled externally using LC-Net 20 character, 2 line LCD multi-display; settings entered using number and function keys Checks memory (ROM, RAM), DC power, and operation of each part
External control:	10 to 35 °C
Display and settings:	Usable temp. range: 300 (W) X 500 (D) X 385.5 (H) mm without temperature unit: Approx. 22 kg with temperature unit: Approx. 25 kg
Self-diagnostics:	Power requirements: AC 100 to 240V ±10V, 50/60 Hz
Usable temp. range:	power consumption: without temperature unit: 230 VA with temperature unit: 250 VA
Dimensions:	

STANDARD ACCESSORIES

Standard sample rack	1 pc
1.5 mL vial	3 pcs
Drain tube	1 pc
Flushing inlet tube assy	1 pc
Drain bottle	1 pc
Drain tube assy.	1 set
Reodyne fittings	1 set
Hex key	1 pc
Spare use	2 pcs
AC power cable	1 pc

OPTIONAL ACCESSORIES

Cooling Module	
6828-J011A	TC-2059 Cooling module
Sample rack for AS-2059	
6760-H109A	Standard vial rack, 120 vials, vial size: 12 x 32 mm
6760-H110A	Tapered vial rack, 120 vials, vial size: 12 x 32 mm
6760-H112A	Micro vial rack, 224 vials, vial size: 6 x 32 mm
6760-H113A	Micro vial rack, 224 vials, vial size: 7 x 32 mm
6760-H114A	4 mL vial rack, 54 vials, vial size: 15 x 46 mm
6760-H111A	Eppendorf tube rack, 120 vials, Tube type: 3810
6760-H115A	Microplate rack for 96-wells or 384-wells
6760-H116A	Deepwell plate rack for 96-wells
Sample rack for AS-2059 with TC-2059	
6760-H117A	Cooling standard vial rack, 120 vials, vial size: 12 x 32 mm
6760-H118A	Cooling tapered vial rack, 120 vials, vial size: 12 x 32 mm
6760-H120A	Cooling micro vial rack, 224 vials, vial size: 6 x 32 mm
6760-H121A	Cooling micro vial rack, 224 vials, vial size: 7 x 32 mm
6760-H122A	Cooling 4 mL vial rack, 54 vials, vial size: 15 x 46 mm
6760-H119A	Cooling eppendorf tube rack, 120 vials, Tube type: 3810
6760-H123A	Cooling microplate rack for 96-wells or 384-wells
6760-H124A	Cooling deepwell plate rack for 96-wells

ORDERING INFORMATION

6828-J008B	Model AS-2059	Autosampler
6827-J005B	Model AS-2055	Autosampler
6827-J006B	Model AS-2057	Autosampler
6827-J007B	Model AS-2055i	Bio-inert Autosampler
6827-J008B	Model AS-2057i	Bio-inert Autosampler
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 (~ 600 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

● Specifications are subject to change without notice.



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