S20 Series Autosamplers
Robust, Agile, Advanced

Introduction

The S20 series is the next generation of high-performance, robust, and agile autosamplers designed specifically for PerkinElmer's spectroscopy platforms - atomic and molecular. The series is comprised of two autosamplers: the S23 with three racks and the S25 with five racks. They are designed to meet the needs of all types of laboratories requiring:
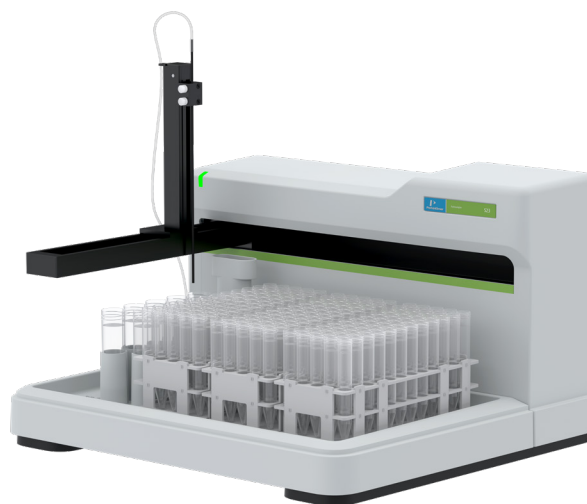
- **Capacity** - up to 270 samples for the S23 and up to 450 samples for the S25 allowing long, unattended runs
- **Speed** - intelligent acceleration and deceleration speed in three axes
- **Ease of use** - full control through various software platforms – Syngistix for (AA, ICP-OES and ICP-MS), UVWinLab and SpectrumFL

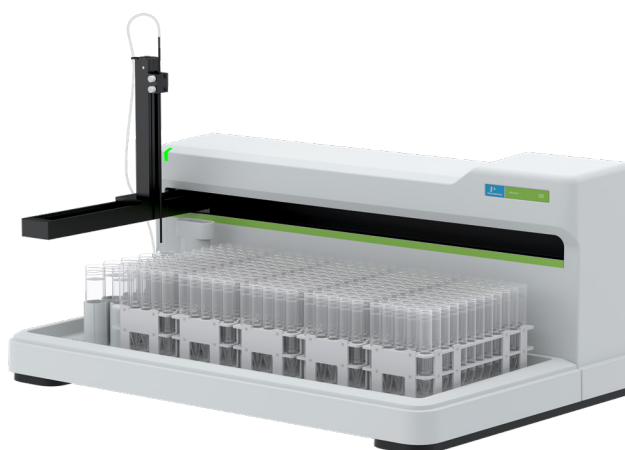The S20 series is offered with various startup kits:

- **Aqueous kit** for most applications
- **Organic kit** for solvents, oils and lubricants
- **Ultra-Clean kit** for semiconductors and fine chemicals

The S23/S25 autosamplers are engineered with robustness and versatility in mind, offering a mechanical Z arm that is intended to accommodate various accessories. They are equipped with proprietary crash detection, ensuring a damage-free probe. They are also designed for speed with simultaneous X-Y movement and integration with PerkinElmer's High Throughput System (HTS) for the NexION® series of ICP-MS and the Avio® series of ICP-OES, offering unmatched sampling speed for laboratories requiring fast turnaround. The S20 series is equipped with an LED status light and dual-rinse channel individually fed by dedicated wash lines and pumped waste channel. This series is also designed with removable sample trays for easy switching between aqueous and organic matrices.

S23 Autosampler

S25 Autosampler

PerkinElmer®

For the Better

S20 Series Autosamplers Design

- Heavy-duty, powder-coated anodized aluminum frame for lightweight, maximum rigidity, and corrosion resistance

- Mechanical Z drive for unmatched precision and robustness, equipped with proprietary crash detection algorithm and accommodates various probe styles

- Programmable intelligent acceleration and deceleration speed in three axes for the ultimate performance for all sample types

- Removable trays for easy switching between aqueous and organic matrices

- Dual-rinse channel individually equipped with dedicated wash lines and pumped waste channel

- LED status light for real-time operating status

- All electronic and mechanical components are located on the side, away from liquid spills for extended life and easy maintenance

- Integrated enclosure (optional) designed to fit the autosampler body, minimizing needed laboratory space

S20 Series Autosamplers Features

- User-defined rack configuration per tray and user-defined probe depth per rack for sedimentary or separated layer samples

- USB plug-and-play connectivity allows for fast and easy user setup

- Compatible with PerkinElmer's full range of spectroscopy instruments (atomic and molecular)

- S20 Series controller software offers custom tray builder, step-by-step guided alignment, and quality operation testing
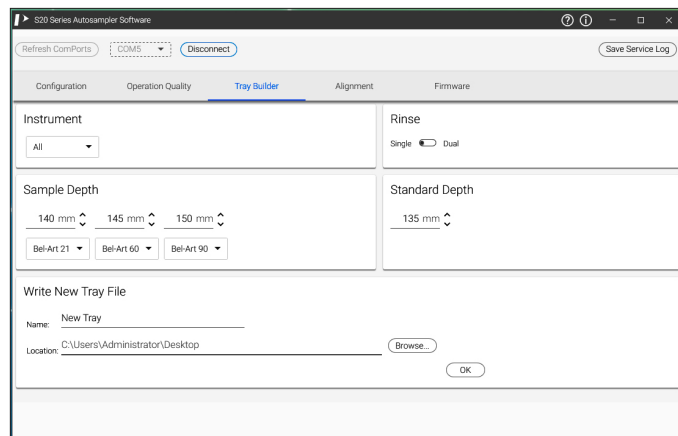

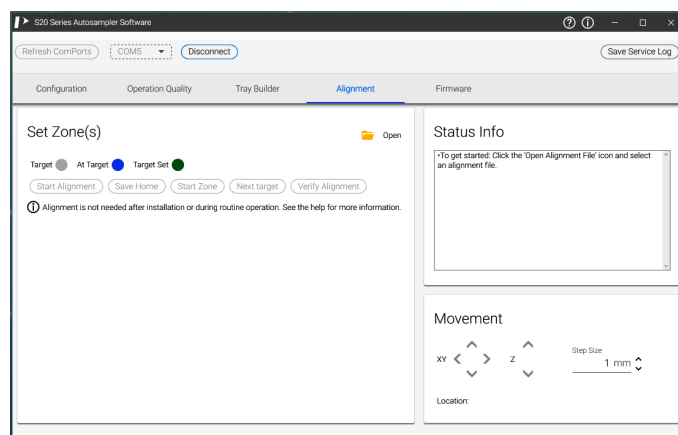*Figure 1.* User-defined tray builder feature within the S20 series autosampler software.

Figure 2. Step-by-step guided alignment feature within the S20 series autosampler software.

Table 1. Specifications of the S20 Series Autosamplers.

Dimensions	Width (cm)	Depth (cm)	Height (cm)	Weight (kg)
S23	57	53	45	9.5
S25	79	53	45	13.6
Enclosure S23	55.6	49.8	50.5	5.0
Enclosure S25	76.8	49.8	50.5	5.5
Probe Arm Speed	User-adjustable up to 330 mm/sec			
Pump Flow Rate	User-adjustable up to 80 mL/min			
Communication	USB, serial RS-232			
Power Requirement	100-240 VAC, 47-63 Hz, 1.07 Amps			
Built-in Diagnostics	Yes			

Accessories for the S20 Series Autosamplers

Three Startup Kits Available:

- Standard aqueous kit, ideal for most applications
- Organic kit, ideal for solvents
- Ultra-Clean kit, ideal for semiconductors and fine chemicals

A Wide Range of Racks Available:

- Metal-free sample racks
- Metal sample racks (organic solvent)

Table . Available Rack Types for the S20 Series Autosamplers.

Rack Type	Rack Capacity	Tube Outer Diameter (mm)	Tube Height (mm)
3 by 7	21-Position	28	115
5 by 12	60-Position	17	100
6 by 15	90-Position	13	100

S20 Series Enclosures

The S20 series autosamplers are offered with heavy-duty plexiglass integrated enclosures (optional) engineered to fit the autosampler body, minimizing valuable laboratory space.

- Designed with proper connection to the laboratory's ventilation systems and accommodate HEPA filters (optional)

- Maintain maximum sample integrity by protecting samples from the lab environment

- Protect operators and laboratory instrumentation from corrosive sample vapors

- Fully integrated enclosure does not take up additional valuable bench space

- When the environmental enclosure is fitted, sample visibility remains unrestricted, as well as sample access from the front when the door is in the raised position

- Vertically sliding front-access door can be fixed open for easy access to samples

- Plumbing connections remain outside the environmental enclosure for easy access with the cover in place

- Environmental Enclosure Kit includes a 50 mm (2 in.) extraction air duct fitting that fits on the back top of the enclosure
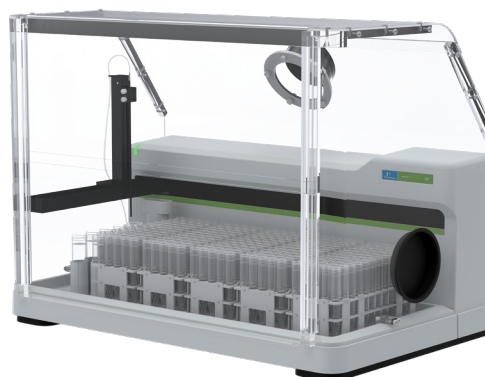
S25 Autosampler with Enclosure

Table 3. Instrument Platforms and Associated Software Versions Compatible with the S20 Series Autosamplers.

Technology	Platform Model	Software
AA	PinAAcle™ 500 and 900 Series	Syngistix for AA 5.0 or above Syngistix for AA Express 2.0 or above
ICP-OES	Avio® 200 and 500	Syngistix for ICP 5.0 or above
ICP-MS	NexION® 1000, 2000, and 5000	Syngistix for ICP-MS 2.5 or above
UV/Vis	LAMBDA 365, 850+, and 1050+	UVWinlab 7.2 or above
FL	FL 6500 and FL 8500	Spectrum FL 1.3 or above

*The S20 Series Autosamplers are backward compatible with prior-generation products but require software upgrades to the versions indicated

S23

S25

PinAAcle 500

PinAAcle 900

Avio 200

Avio 500

NexION 1000/2000

NexION 5000

LAMDBA 365

LAMDBA 850+ /1050+

FL 6500/ FL 8500

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