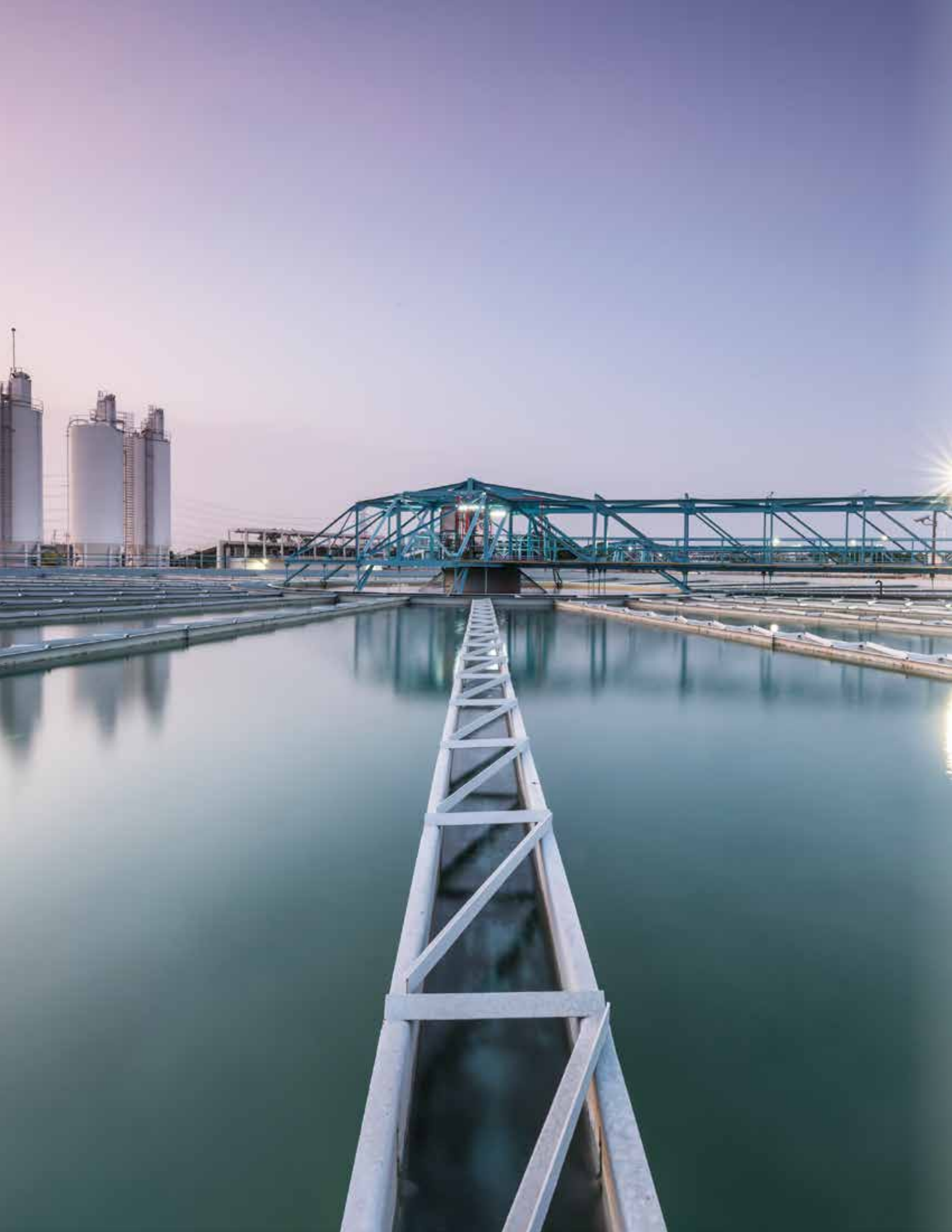


SimPrep+

Automated Liquid Handling Station



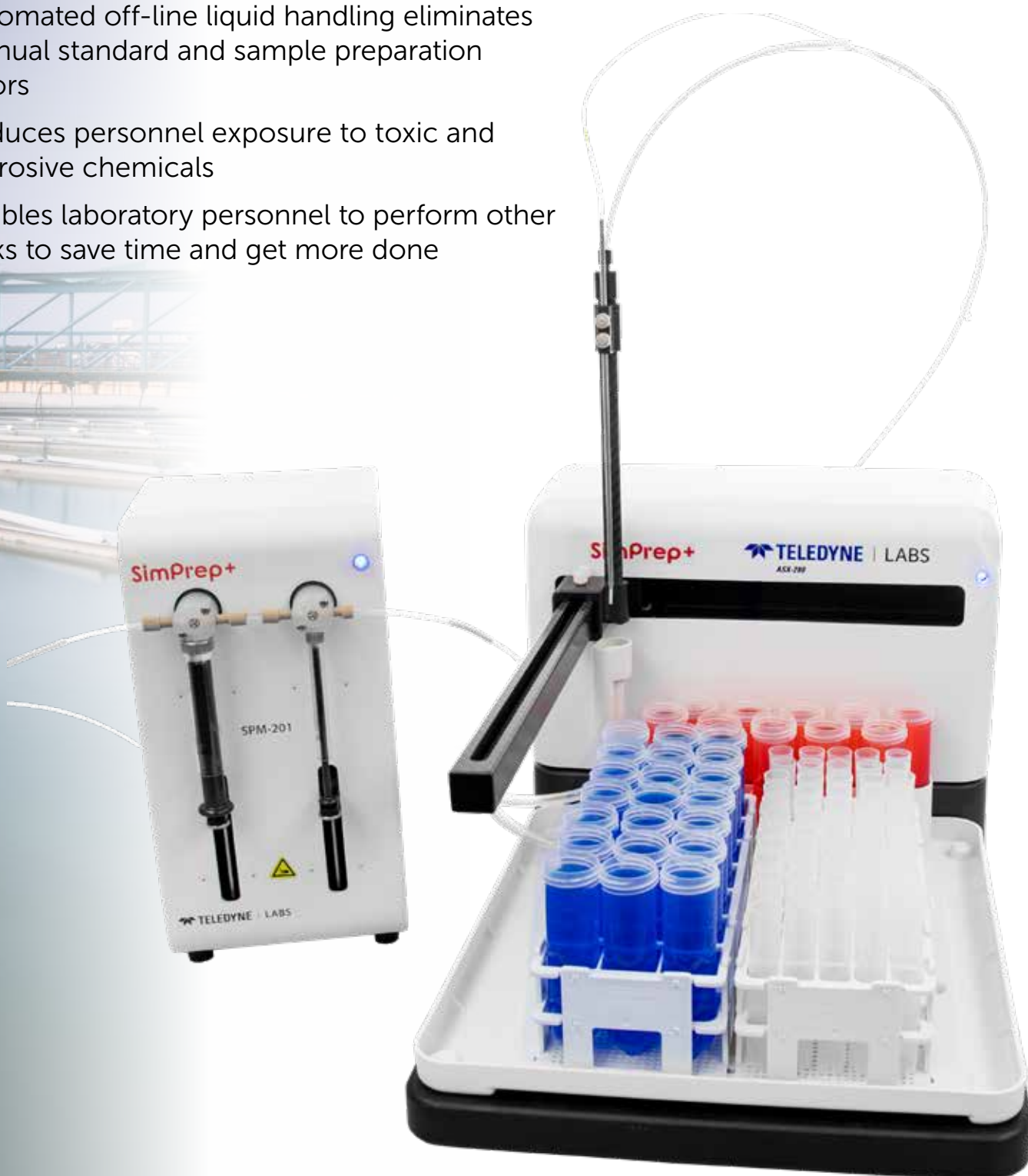
AUTOMATION



More Than Just Diluting and Dispensing

The SimPrep+ combines a reliable, corrosion-resistant CETAC brand autosampler, our proprietary SPM-201 syringe pump module and enhanced AQ-Prep software to deliver essential benefits for your laboratory:

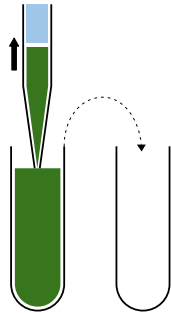
- Automated off-line liquid handling eliminates manual standard and sample preparation errors
- Reduces personnel exposure to toxic and corrosive chemicals
- Enables laboratory personnel to perform other tasks to save time and get more done



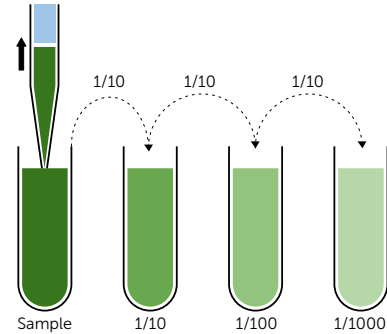
Capabilities

Data quality in automated pipetting systems is typically evaluated using three key metrics: accuracy, precision, and carryover.

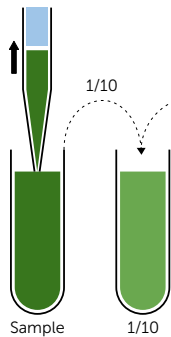
Dispensing – Use the SimPrep+ to dispense a diluent to a series of vials or transfer a sample from one vial to another vial.



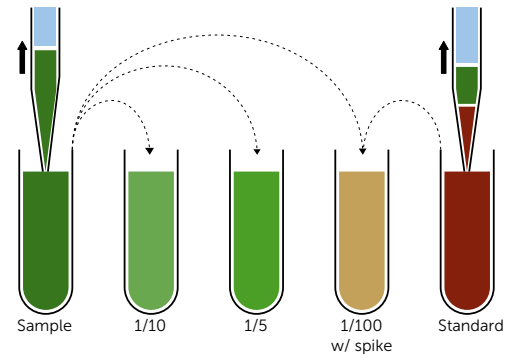
Serial Dilution – Samples can be serially diluted, using the SimPrep+ programmable rinsing and mixing functions. This capability can be useful for high matrix-concentration samples such as soil digests.



Dilution – Use the SimPrep+ to perform prescribed single dilutions (i.e. 1/5, 1/10, 1/20) for a sequence of samples.



Splitting – Samples can be prepared in several different ways to suit different analysis techniques, such as inductively coupled plasma optical emission spectroscopy (ICP-OES) or ion chromatography (IC). An additional solution aliquot can be added to the diluted sample, such as an internal standard or a matrix modifier.



Applications

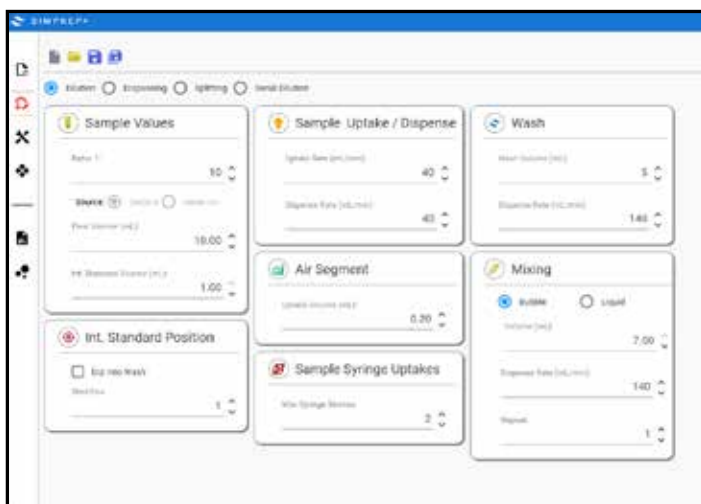
The SimPrep+ suits a wide range of aqueous standard and sample preparation methods for techniques and markets, including:

- ICP-OES, ICP-MS, AAS, IC, and FIA
- Environmental (e.g., groundwater, wastewater)
- Agriculture (e.g., soil digests)
- Mining (e.g., ore digests)
- In-service coolants
- Clinical samples



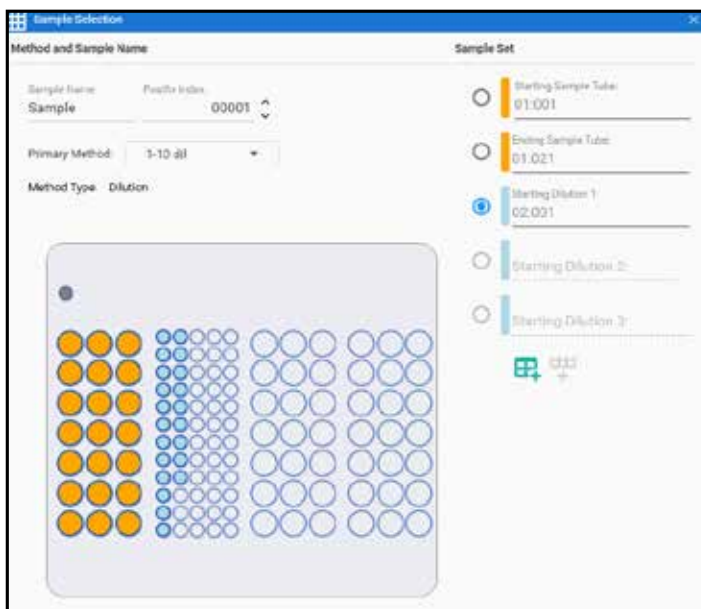
AQ-Prep Software

SimPrep+ sample preparation tasks are performed by Teledyne LABS' AQ-Prep software. AQ-Prep offers comprehensive control of SimPrep+ operation, flexible method development, and choice of sample mixing technique.



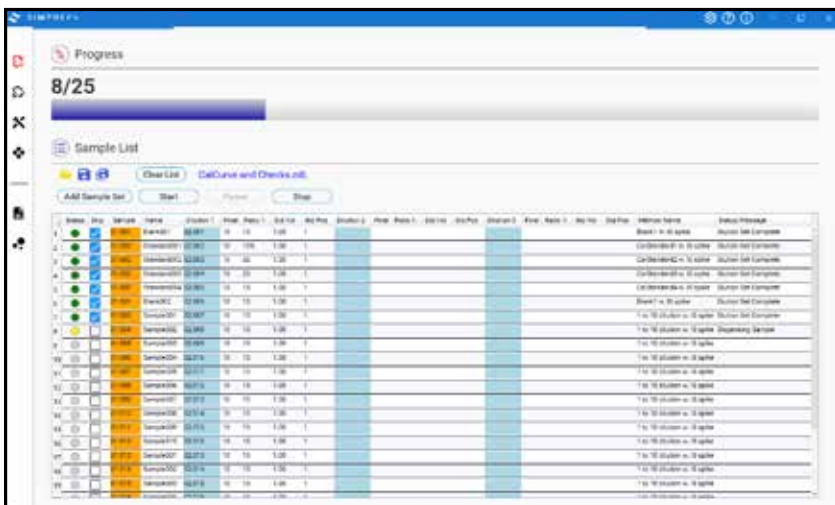
Method Editor

The Method Editor screen includes settings for dilution ratio(s), internal standard addition, syringe pump speeds, air segment volume, and mixing technique (bubbling or liquid pull-up/dispense).



Sample Selection

The Sample Selection screen enables setup of a sample preparation sequence. For the example above, a sequence of 21 sample dilutions using a 1:10 dilution ratio is selected from 50-mL sample vials (rack 1, 21 position) into corresponding 10-mL vials (rack 2, 60 position).



Sample List

The Sample List screen depicts the complete standard/sample preparation sequence (blank, calibration standards, sample dilutions) and provides run status.

Configurations

The SimPrep+ can be ordered with (1) the 4-rack ASX-560 autosampler (2) the 2-rack ASX-280 autosampler or (3) with only the SPM-201 syringe pump module. The third option upgrades an existing ASX-560 or ASX-280 autosampler. All three options include a 0.9 mm ID sample probe, connection tubing, power/communication cables, and the AQ-Prep software.

1. SimPrep+ ASX-560

2. SimPrep+ ASX-280

3. SPM-201 Syringe Pump Module

Component Specifications

Autosampler Dimensions

	ASX-560	ASX-280
Width	58 cm (22.8")	36 cm (14")
Depth ¹	56 cm (23.5")	55 cm (23.2")
Height ²	62 cm (24")	62 cm (24")
Weight	11.7 kg (26 lbs)	8.1 kg (17.8 lbs)
Tray Capacity	4-Rack	2-Rack

¹ Allow additional room for cables.

² With sample probe installed.

Sample Racks and Vials

Vials are round-bottom polypropylene.

21-position for 50 mL vials

24-position for 30 mL vials

40-position for 20 mL vials

60-position for 14 mL vials

90-position for 7 mL vials

SPM-201 Syringe Pump Module

Width	15.9 cm (6.25")
Depth	18.1 cm (7.12")
Height	30.9 cm (12.18")
Weight	5.2 kg (11.5 lbs)

Syringe Volumes (Contact Teledyne LABS for details.)

Standard: 10.0 mL and 1.0 mL

Available: 0.25 mL, 0.50 mL, 2.5 mL, 5.0 mL, 25.0 mL

Contact Teledyne LABS for details.

Power Requirements

ASX-560 Autosampler: 100-240 VAC, 50-60 Hz, 1.8 A

ASX-280 Autosampler: 100-240 VAC, 50-60 Hz, 1.8 A

SPM-201 Syringe Pump Module: 100-240 VAC, 50-60 Hz, 1.8 A

Computer Requirements

Microsoft Windows® 10 or higher

Communication Interfaces

ASX-560 Autosampler

- 2 Serial (RS-232) ports
- 1 USB port

ASX-280 Autosampler

- 2 Serial (RS-232) ports
- 1 USB port

SPM-201 Syringe Pump Module

- 1 Serial (RS-232) port
- 1 USB port

Optional Accessories

(Contact Teledyne LABS for details.)

ENC DC Series Autosampler Enclosures:

Protect laboratory personnel from hazardous solutions and reduce the risk of sample contamination.

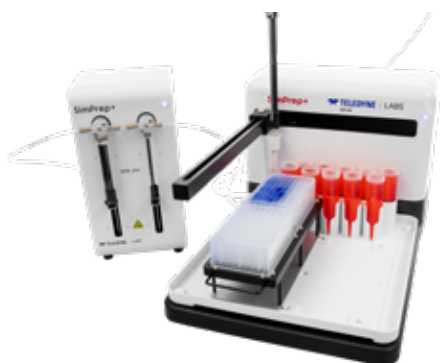


ENC-560DC for ASX-560



ENC-280DC for ASX-280

Well-Plate Adapters: Optional well-plate adapters (96, 48, 24 format) are available for the ASX-560 and ASX-280 autosamplers. The SimPrep+ standard 0.9 mm ID sample probe is ideal for well-plate sampling.



ASX-280 Autosampler
with Well Plates



Close-up view of 0.9 mm ID sample probe
with 96 well plates



Easily Switch Between Prep and Analysis

The SimPrep+ (with two-rack ASX-280 or four-rack ASX-560) can be readily changed from sample preparation mode to sample introduction mode (i.e., with an ICP-OES) using the optional switching hub (USB) and an easy exchange of sample probes.

Teledyne LABS enhances the visibility for our brands, products, and services, aiding customers in finding solutions that meet their current and future needs. The existing Teledyne brands will remain, providing ongoing value to customers.

