

AccuSizer[®] SPOS System and Nicomp[®] DLS System

Installation Requirements

This technical note is intended to prepare customers for the installation of a new AccuSizer[®] SPOS or Nicomp[®] DLS lab instrument. The models covered in this document include AccuSizer SIS, AccuSizer AD, AccuSizer APS, and Nicomp systems. The customer typically provides the computer and printer to run these instruments. Full administrative rights are required to properly install the software. All instruments require filtered DI water for installation and operation. The water cleanliness is critical and may delay a successful installation if background particle counts are too high.

Computer Requirements

The customer typically provides the computer and printer to run these instruments so please have these available for the installation.

Please provide a computer that has an operating system Windows 7 or better, 80 gigabyte hard drive or better, 2 gigabytes of RAM, and two or more USB ports.

Full administrator rights are required to install the software properly. It is suggested that an IT representative be available during the install to aid with any troubleshooting within the company's internal network.

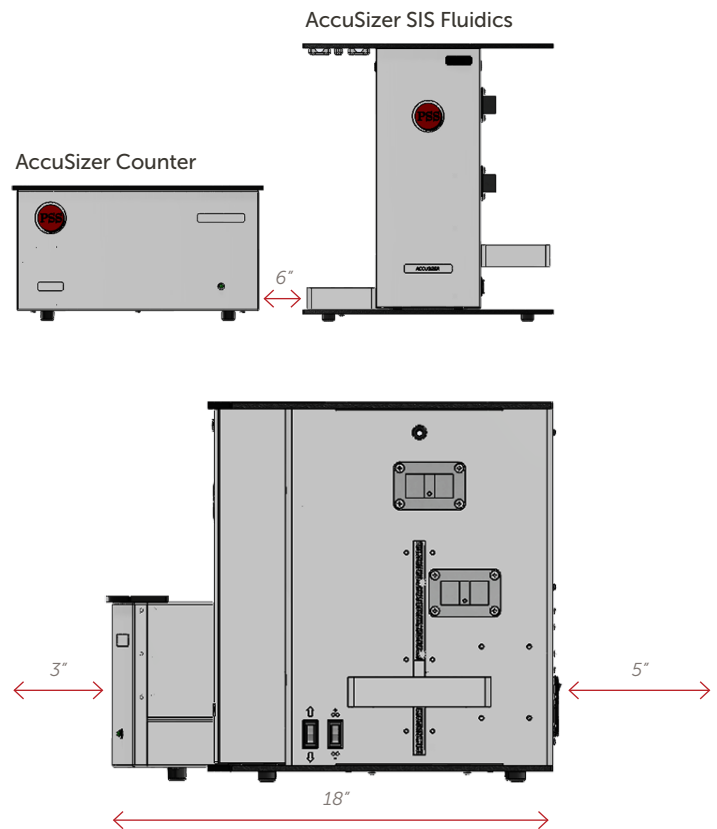


Figure 1. AccuSizer SIS system

ACCUSIZER SPOS SYSTEM INSTALLATION

Physical Installation Requirements

All AccuSizer systems are composed of a sensor, counter, and sampler. The sensor mounts internally within the sampler. The counter and the sampler require bench space, typically ~ 90 cm (3 ft). This does not include the space needed for the computer, monitor, and keyboard.

The counter dimensions are 30 cm w x 46 cm d x 18 cm h (12" w x 18" d x 7" h).

The samplers have similar dimensions of about 25 cm w x 46 cm d x 56 cm h (10" w x 18" d x 22" h).

Figures 1 and 2 help visualize the space requirements.

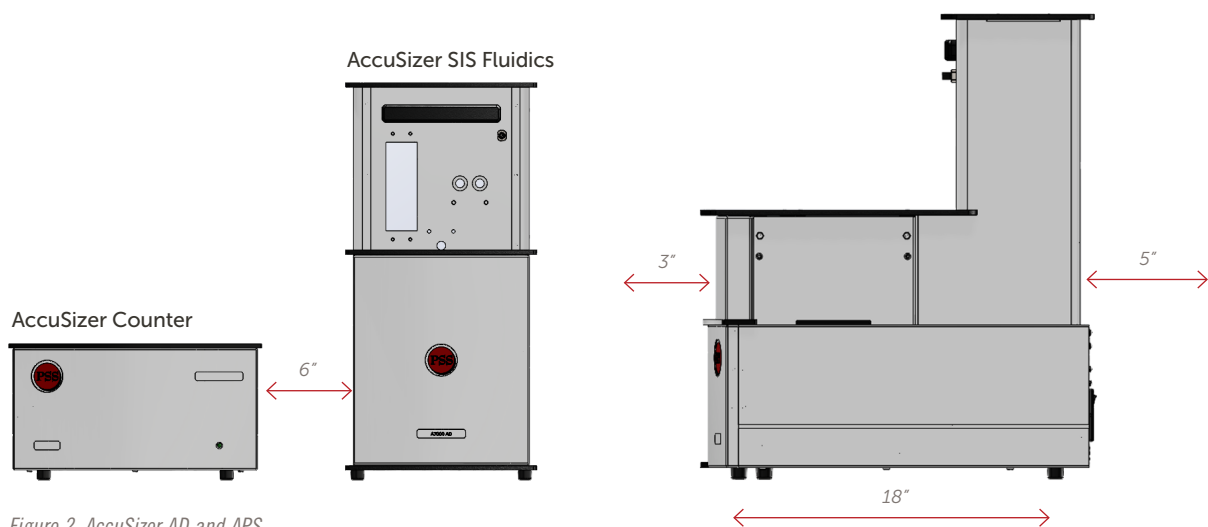


Figure 2. AccuSizer AD and APS

Place the AccuSizer counter to either the right or left side of the sampler fluidics. The space between the AccuSizer counter and sampler fluidics should be no less than 15 cm (6") apart.

The weight is approximately 10 kg (20 lb).

Electrical Requirements and Standards

All AccuSizer systems can be switched from 120V 60 Hz to 220V 50 Hz. The metal parts of the instrument are earthed via a protective earth connection. Never run the equipment without a protective earth connection.

EMC Performance

A system comprising of the AccuSizer SIS, AD, and APS systems with AccuSizer LE sensor, AccuSizer counter, and computer was tested against and found to be compliant with the EMC standard:

BS EN 61326:1998, IEC 61326:1997 – “Electrical equipment for measurement, control and laboratory use – EMC requirements”.

Statement of LVD Compliance

The CE-badge on these products signifies conformance to European Commission Directive 73/23/EEC the Low Voltage Directive as amended by Directive 93/68/EEC, the CE Marking Directive. This directive has been satisfied for Entegris equipment by applying:

BS EN 61010-1 :1993. – “Safety requirements for electrical equipment for measurement, control, and laboratory use Part 1 – General requirements” with the incorporation of amendment A2:1995.

Note: It is highly recommended to have a surge protector and UPS battery backup, especially if the facility is in an area that may experience power surges or outages.

Water Requirements

All AccuSizer systems require filtered DI water for operation. Filtering the water through a 0.2 µm filter is highly recommended. Standard lab DI water may not meet the requirements for the AccuSizer system, and poor water quality can lead to an unsuccessful installation due to high background counts.

The AccuSizer SIS instrument is a syringe sampler that pulls the sample from a beaker up through the sensor and then pushes the sample to a waste beaker. Typical sample volumes range from 1 – 10 mL but can vary according to application. Please have at least 1 liter of 0.2 µm filtered DI water for the installation. A clean 250 mL beaker is helpful for flushing the system with DI water during the installation.

The AccuSizer AD and APS systems use more DI water than the SIS system because they perform autodilution on concentrated samples. The APS and AD systems can be connected to pressurized filtered DI water lines or pull DI water from containers (more common). Please have two containers (approximately 10 liters [3 gal]) available for the installation; one for a DI water source and one for a drain. The water source container should be extremely clean and filled with 0.2 µm filtered DI water.

These containers often reside on the floor below the instrument. The end of the drain line must be placed at least 2 feet below the dilution chamber to provide enough gravity potential to drain the system. Also it is important to make sure that the drain line does not become submerged below the water level in the drain tank. This can cause significant back pressure and not allow the system to drain.

Autosampler Requirements

The AccuSizer autosampler is an optional accessory to automate high throughput measurement requirements. The space requirements for the SIS autosampler are only slightly greater than the standard system; 36 cm (14") wide. When an autosampler is paired to the AD or APS system an additional 36 cm (14") width of bench space is required to accommodate the separate unit.



Figure 3. AccuSizer autosampler physical space requirements

NICOMP DLS SYSTEM INSTALLATION

Physical Installation Requirements

All Nicomp systems are enclosed in a single case. A single USB cable connects the instrument to the computer. Typical bench space required for the Nicomp system is approximately 50 cm (20"). This does not include the space needed for the computer, monitor, and keyboard. Additional sample preparation space adjacent to the instrument is highly recommended.

The Nicomp system dimensions are 43 cm w x 60 cm d x 25 cm h (17" w x 24" d x 10" h). The weight is approximately 25 kg (55 lb).



Figure 4. Nicomp system

Samples cells are manually loaded into the top of the Nicomp instrument.

If the autodilution option was purchased, please have a source for 0.2 μm filtered DI water for dilution.

CONCLUSIONS

Please contact your local Entegris support engineer or representative if you require additional information prior to installation. Your help in planning for the installation is appreciated and will help expedite the process.

FOR MORE INFORMATION

Please call your Regional Customer Service Center today to learn what Entegris can do for you. Visit entegris.com and select the [Contact Us](#) link to find the customer service center nearest you.

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