

SeqStudio™ Genetic Analyzer

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This guide contains the information needed to prepare your site for installation of the SeqStudio™ Genetic Analyzer (Cat. No. A33770).

Site preparation workflow

A Thermo Fisher Scientific representative will contact you to schedule the installation. When the installation is scheduled:

1. Complete the site preparation checklist (page 2).
2. Complete the *SeqStudio™ Genetic Analyzer IT Checklist* (page 7).
3. Receive and inspect the system (page 10).
4. Move the crated instrument to the installation site (page 11).

Installation timeline and training

After the SeqStudio™ Genetic Analyzer (Cat. No. A33770) is uncrated, installation and testing of the instrument takes about 4 hours.

During and/or after installation, the Thermo Fisher Scientific service representative reviews data and provides some basic operator training. For additional training and reference information, see the user documents provided with the instrument.

Site preparation checklist


IMPORTANT! Complete, date, and initial all items in the following checklist before the scheduled installation date. If the site preparation checklist is not complete when the Thermo Fisher Scientific service representative arrives, the scheduled installation may be postponed.

✓	Date	Initials	Site preparation requirement	See page
<input type="checkbox"/>			Customer responsibilities have been reviewed and personnel have been assigned.	3
			The installation site is identified and meets requirements:	
			<input type="checkbox"/> Space and clearance	5
			<input type="checkbox"/> Environmental	6
			<input type="checkbox"/> Electrical	7
			<input type="checkbox"/> Network	7
			<input type="checkbox"/> Safety	8
<input type="checkbox"/>			All materials needed for installation and operation are available.	9
<input type="checkbox"/>			The instrument was received and inspected:	10
			<input type="checkbox"/> All items on the shipping list are the same items ordered at the time of purchase.	
			<input type="checkbox"/> Any damage to shipping containers was reported to the shipping company that delivered the instrument.	
			<input type="checkbox"/> Any damage or mishandling was recorded on the shipping documents.	
			<input type="checkbox"/> The reagents box was unpacked and stored as specified.	
<input type="checkbox"/>			The installation site is cleared and ready for instrument installation	11
<input type="checkbox"/>			The crated instrument and other shipping containers are moved to the installation site.	

Customer responsibilities

Personnel	Responsibilities
Site preparation/ installation coordinator	<ul style="list-style-type: none"> • Reviews the site preparation guide for safety information and instrument requirements. • Coordinates personnel and tasks. • Chooses the site. • Reviews checklists with applicable personnel, then with the service representative to verify that the site is properly prepared. • Receives and inspects the instrument. • Stores the reagents box according to the specifications indicated in the product inserts. • Schedules the installation and informs personnel of the installation day. • Ensures that the site is clear of unnecessary material on the installation day. • Is available to assist the service representative throughout installation.
Laboratory safety representative	<ul style="list-style-type: none"> • Reviews the site preparation guide for safety information. • Ensures that the required safety practices and equipment are in place. • Is in the vicinity and available to the service representative at all times while the service representative is at the customer's facility.
Laboratory personnel/ primary users	<ul style="list-style-type: none"> • Review safety information. • Ensures that all customer-provided materials for installation are present at the site. • Ensures that primary users (responsible for training other users) are available during the installation, so that they can be trained on the instrument.
Facilities personnel	<ul style="list-style-type: none"> • Ensures that the installation requirements are met for: <ul style="list-style-type: none"> – Space at the installation site – Building clearances – Temperature and humidity – Waste collection – Electrical supply – Computer – Safety and installation materials • If possible, moves the crated instrument to the site before the installation date. • Is available to assist service representative and laboratory personnel throughout installation. • If applicable, ensures that at least two people are available to help the service representative move and position the instrument.

(continued)

Personnel	Responsibilities
Network or IT specialist (if the instrument will be connected to a network)	<ul style="list-style-type: none"> • Ensures that active, tested local area network (LAN) connections are in place before the scheduled installation date. • Ensures that network hardware is compatible with an RJ45-type connector. • If necessary, supplies additional cables. • Is available during installation to connect the instrument to the network. • If applicable, provides and installs a network or dedicated printer. <p> CAUTION! Do not attempt to connect the instrument components to the network before the service representative arrives.</p>

Site requirements

Dimensions and weights

To prepare for installation, provide space for receipt and configuration of the components listed in this section. This section provides dimensions and weights for the crates and packages you will receive, and it describes the dimensions of the instrument after it has been installed and configured.

IMPORTANT! We do not install, service, or repair instruments in areas designated BioSafety Level 3 (BSL-3) or BioSafety Level 4 (BSL-4).

Crate dimensions



WARNING! PHYSICAL INJURY HAZARD. Do not attempt to lift or move the crated instrument without professional assistance. The crated instrument is heavy. Any incorrect lifting or moving of the crated instrument can cause serious injury.

Ensure the building clearances allow for the passage of the instrument crates and packages.

Height	Length (depth)	Width	Weight
76.2 cm (30.0 in.)	83.8 cm (33.0 in.)	66.0 cm (26.0 in.)	66.7 kg (147 lbs)

Instrument dimensions

Ensure that the installation site bench space can accommodate the dimensions and support the weight.

Configuration	Height	Length (depth)	Width	Weight
(Door Closed)	44.2 cm (17.4 in.)	64.8 cm (25.5 in.)	49.5 cm (19.5 in.)	45.4 kg (100 lbs)
(Door Open)	56.9 cm (22.4 in.)			



WARNING! PHYSICAL INJURY HAZARD. Do not attempt to lift or move the instrument without professional assistance. The crated instrument is heavy. Any incorrect lifting or moving of the crated instrument can cause serious injury.

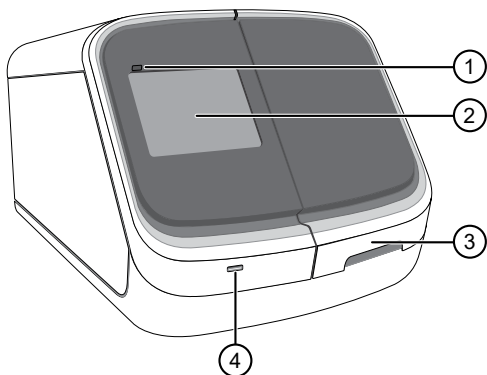
Instrument clearances

During instrument setup and maintenance, it is necessary to access the back and sides of the instrument. If the back of the instrument faces a wall, it will be necessary to have enough space to rotate the instrument on the bench for access.

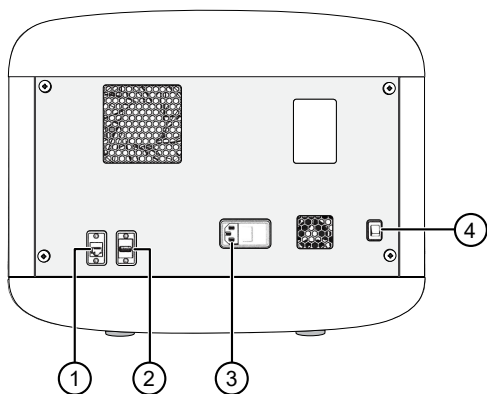
IMPORTANT! For safety, the power outlet used for powering the instrument must be accessible at all times.

Component	Top	Front	Left	Right	Back
SeqStudio™ Genetic Analyzer	30.5 cm (12.0 in)	30.5 cm (12.0 in)	10.0 cm (4.0 in)	20.0 cm (8.0 in)	10.0 cm (4.0 in)

Instrument configuration



- ① Touchscreen—user interface
- ② Instrument door
- ③ USB port



- ① RJ45 ethernet port
- ② USB port for use with Wifi Dongle (dongle not shown)
- ③ Power receptacle
- ④ On/Off switch

Environmental requirements

Ensure that the installation room is maintained under correct environmental conditions.

Condition	Acceptable range
Installation site	Indoor use only
Electromagnetic interference	<p>Do not use this device in close proximity to sources of strong electromagnetic radiation (for example, unshielded intentional RF sources). Strong electromagnetic radiation may interfere with the proper operation of the device.</p> <p>This equipment has been designed and tested to CISPR 11 Class A. In a domestic environment it may cause radio interference. You may need to take measures to mitigate the interference.</p>
Altitude	Located between sea level and 2,000 m (6,500 ft.) above sea level
Humidity (instrument and computer)	<ul style="list-style-type: none"> • Operation: 20%–80% (noncondensing) • Transport and storage: 15%–80% (noncondensing)
Temperature (instrument and computer)	<ul style="list-style-type: none"> • Operation: 15°C to 30°C (60°F to 85°F) <p>Note: The room temperature must not fluctuate more than 2°C over a 2-hour period.</p> <ul style="list-style-type: none"> • Transport and storage: –20°C to 60°C (–4°F to 140°F)
Transient category	Installation categories II
Overvoltage category	Installation categories II
Vibration	Ensure that the instrument is not adjacent to strong vibration sources, such as a centrifuge, pump, or compressor. Excessive vibration will affect instrument performance.

(continued)

Condition	Acceptable range
Pollution degree	<p>II</p> <p>Install the instrument in an environment designated pollution degree II (only non-conductive pollution (e.g., dust) occurs except that occasionally a temporary conductivity caused by condensation is to be expected). Typical pollution degree II environments are laboratories and office spaces.</p>
Other conditions	<p>Ensure the installation site is away from any vents that could expel particulate material on the system components.</p> <p>Avoid placing the instrument and computer adjacent to heaters, cooling ducts, or in direct sunlight.</p>

Electrical requirements



CAUTION! Do not unpack or plug in any components until the Field Service Engineers (FSEs) have configured the system for the proper operating voltage.



WARNING! For safety, the power outlet used for powering the instrument must be accessible at all times. See “Instrument clearances” on page 5 for information about the space needed between the wall and the instrument. In case of emergency, you must be able to immediately disconnect the main power supply to all the equipment. Allow adequate space between the wall and the equipment so that the power cords can be disconnected in case of emergency.

- Electric receptacle required: 2-prong with ground pin
- Maximum power dissipation: 380 W (approximately, not including computer and monitor)
- Mains AC line voltage tolerances must be up to ± 10 percent of nominal voltage

Rated voltage	Circuit required	Rated frequency	Rated power
100–240 $\pm 10\%$ VAC ^[1]	10 A	50–60 Hz	400 W

^[1] If the supplied power fluctuates beyond the rated voltage, a power line regulator may be required. High or low voltages can adversely affect the electronic components of the instrument.

Network requirements

The instrument is factory-configured for IPv4 TCP/IP communication and includes a fast Ethernet adapter (10/100 Mbps) with a RJ45-type connector for integrating the device into a local area network (LAN). If the instrument will be connected to a LAN, an active, tested network jack must be in place before the scheduled installation date. Also, a representative from your information technologies department must complete and return the *SeqStudio™ Genetic Analyzer IT Checklist* (Pub. No. MAN0016055) before installation, and be available during the installation to help connect the instrument to your network.

A wireless adapter (also referred to as a Wifi Dongle) is provided with the instrument. The wireless connection conforms to 802.11 b/g/n wireless standards.

Safety requirements

Safety practices

A safety representative from your facility must ensure that:

- Personnel establish and follow all applicable safety practices and policies to protect laboratory personnel from potential hazards.
- All applicable safety devices and equipment are available at all times.

Required safety equipment

Your laboratory has specific safety practices and policies designed to protect laboratory personnel from potential hazards that are present. Follow all applicable safety-related procedures at all times.

The following safety equipment and protection from hazards must be available at the installation site:

- Protection from any sources of hazardous chemicals, radiation (for example, lasers, radioisotopes, radioactive wastes, and contaminated equipment), and potentially infectious biological material that may be present in the area where the service representative will work.
- Appropriate fire extinguisher:
 - You are responsible for providing an appropriate fire extinguisher for use on or near the equipment.
 - The types and sizes of fire extinguishers shall be suitable for use on electrical and chemical fires as specified in current codes, regulations, and/or standards, and with approval of the Fire Marshall or other authority having jurisdiction.
 - The installation of appropriate fire extinguishers shall be in addition to other fire-protection systems and not as a substitute or alternative to them.
- Eyewash
- Safety shower
- Eye and hand protection
- Adequate ventilation, including vent line/fume hood, if applicable
- Biohazard waste container, if applicable
- First-aid equipment
- Spill cleanup equipment
- Applicable Safety Data Sheets (SDSs)

Antivirus requirements

No antivirus software is provided because customer preferences and network requirements vary. You are responsible for installing antivirus software of your choice to protect the computer against viruses.

Materials for installation and operation

Installation materials

Have the following materials on hand before installation and operation of the instrument.

- Safety glasses, lab coats, and chemical-resistant, disposable gloves (powder-free)
- Glassware washing solution
- Lint-free tissues
- Mobile bench to allow access to the instrument for maintenance and service
- Easily accessible specified power outlet
- External network connection
- Mini vortexer, centrifuge, mini plate centrifuge, and sample tubes
- Freezer (-20°C)
- *(Optional)* Electrical protective devices (universal power supply unit, surge protector, and/or power line regulator)
- Refrigerator or cold-room (4°C)
- Methanol or isopropanol, HPLC-grade or better
- Water (deionized)
- Caps for tubes
- Films for plates
- Thermal cycler or heat block
- *(Optional)* Ice or cold block
- Three sizes of micropipettors and tips:
 - 1- to 10- μL
 - 10- to 100- μL
 - 100- to 1000- μL

Operation

Additional supplies and consumables are necessary for routine operation of the instrument. Contact a sales representative to order these additional supplies. Use only supplies as specified by Thermo Fisher Scientific.

- Caps for tubes
- Films for plates
- Thermal cycler or heat block
- *(Optional)* Ice or cold block

Starter kit materials

Table 1 Starter kit contents

Component	Amount	Source
SeqStudio™ Cartridge v2	1 cartridge	A41331
SeqStudio™ Integrated Capillary Protector (ICP)	1 ICP	A31923
SeqStudio™ Genetic Analyzer Cathode Buffer Container	4 containers	A33401
3500/3500xL Sequencing Standards, BigDye™ Terminator v3.1	4 tubes	4404312
DS-33 GeneScan™ Installation Standards with GeneScan™ 600 LIZ™ Size Standard v2.0	1 kit	4376911
Hi-Di™ Formamide	5 mL	4401457
Septa for SeqStudio™ Genetic Analyzer, 96 well	1 box	A35641
MicroAmp™ Optical 8-Tube Strip, 0.2 mL	1 box	4316567
Septa for SeqStudio™ Genetic Analyzer, 8 strip	1 box	A35643
Nuclease-free water	500 mL	AM9930
Reservoir Septa	1 box	A35640
MicroAmp™ Optical 96-Well Reaction Plate with Barcode	20 plates	4306737
MicroAmp™ 96-Well Tray/Retainer Set	10 sets	403081

Receive and inspect the shipment

1. Verify that the items shown on the shipping list are the same items that you ordered at the time of purchase.
2. Carefully inspect the shipping containers and report any damage to the shipping company and your service representative. Record any damage or mishandling on the shipping documents.
3. Immediately unpack the reagents or installation kit box (boxed separately from the instrument components) and store as specified.

IMPORTANT! Do not unpack shipping containers, except for the reagents or installation kit box, to protect yourself from liability if any damage occurred during shipping.

Move the crated instrument to the installation site

1. Clear the installation site of all unnecessary materials.
2. If possible, move the crated instrument and other shipping containers to the installation site. Do not uncrate.



CAUTION! PHYSICAL INJURY HAZARD. Do not attempt to lift or move the instrument without the assistance of others, the use of appropriate moving equipment, and proper lifting techniques. Improper lifting can cause painful and permanent back injury. Depending on the weight, moving or lifting an instrument may require two or more people.



CAUTION! Do not tip the crated instrument on end. Tipping may damage the instrument hardware and electronics.

Note: After installation, retain the crate and instrument packaging in case you need to relocate the instrument.

Related documentation and support

Customer and technical support

Visit [thermofisher.com/support](https://www.thermofisher.com/support) for the latest in services and support, including:

- Worldwide contact telephone numbers
- Product support, including:
 - Product FAQs
 - Software, patches, and updates
 - Training for many applications and instruments
- Order and web support
- Product documentation, including:
 - User guides, manuals, and protocols
 - Certificates of Analysis
 - Safety Data Sheets (SDSs; also known as MSDSs)

Note: For SDSs for reagents and chemicals from other manufacturers, contact the manufacturer.

Limited product warranty

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For descriptions of symbols on product labels or product documents, go to [thermofisher.com/symbols-definition](https://www.thermofisher.com/symbols-definition).

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Revision history: Pub. No. MAN0016143

Revision	Date	Description
B.0	20 June 2022	<ul style="list-style-type: none">The materials for installation and operation were updated.Network requirements for the Wifi Dongle were added.
A.0	1 March 2017	Information provided to prepare your site for SeqStudio™ Genetic Analyzer installation.

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