

# MiSeq FGx Sequencing System Safety and Compliance Guide



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

## Introduction

The Verogen MiSeq FGx® Sequencing System uses sequencing-by-synthesis (SBS) to sequence libraries and perform base calling. The system integrates cluster generation, sequencing, and data analysis into one desktop instrument.

This guide provides important safety information pertaining to the installation, servicing, and operation of the MiSeq FGx System with product compliance and regulatory statements. Read this information before performing any procedures on the system.

The MiSeq FGx System country of origin and date of manufacture are printed on the instrument label.

## General Symbols

Symbol	Name
	Manufactured By
	Date of Manufacture
	Model Number
	Serial Number
	Off
	On

## Uncrating, Installing, and Moving

Only Verogen-authorized personnel can uncrate, install, or move the MiSeq FGx System. If you must relocate the instrument, contact Verogen Customer Support to arrange a service visit. For contact information, see [Technical Support on page 4](#).

## Safety Considerations and Markings

This section clearly identifies the potential hazards associated with installing, servicing, and operating the MiSeq FGx System. Do not operate or interact with the instrument in a manner that exposes you to any of these dangers.

Hazards indicated by labels on the instrument are pictured in this section. All the hazards described herein can be avoided by following the standard operating procedures described in the *MiSeq FGx Sequencing System Reference Guide* (document # VD2018006).

### General Safety Warnings

Before operating the MiSeq FGx System, all personnel must be trained by Verogen in the correct operation of the instrument and any potential safety considerations.

Follow all operating instructions as documented when working in areas marked with this label to minimize personal or instrument risk.

### Electrical Safety Warnings

Do not remove the outer panels from the instrument. There are no user-serviceable components inside. Operating the instrument with any of the panels removed creates potential exposure to line voltage and DC voltages.



The instrument is powered by 100-240 volts AC operating at either 50 or 60 Hz. Most of the voltage sources are located behind the right-side panel, but they may also be accessible if other panels are removed. Some voltage is present on the instrument even when the instrument is powered down. Operate the instrument with all panels intact to avoid electrical shock.

### Electrical Connections

Plug the MiSeq FGx System into a grounded circuit capable of delivering at least the following power:

- 10 Amps for a 100-110 V power source
- 6 Amps for a 220-240 V power source

For more information, see the *MiSeq FGx Sequencing System Site Prep Guide (document # VD2018012)*.

## Power Specifications

Type	Specification
Line voltage	100-240 volts AC @ 50/60 Hz
Power consumption	400 Watts

## Protective Earth



The MiSeq FGx System has a connection to protective earth through the enclosure. The safety ground on the power cord returns protective earth to a safe reference. The protective earth connection on the power cord must be in good working condition when using this device.

## Fuses

The MiSeq FGx System does not contain any user-replaceable fuses.

## Hot Surface Safety Warning



Do not operate the MiSeq FGx System with any of the panels removed.

Do not touch the flow cell stage in the flow cell compartment. The Peltier-effect heater used in the stage area is normally controlled between ambient room temperature (22°C) and 95°C. Exposure to temperatures at the upper end of this range could result in burns.

## Heavy Object Safety Warning



The instrument weighs approximately 126 lb. and can cause serious injury if dropped or mishandled.

## Environmental Constraints




Element	Specification
Temperature	-10°C to 40°C (14°F to 104°F) for transportation and storage 19°C to 25°C (66°F to 77°F) for operating conditions

Element	Specification
Humidity	Non-condensing humidity for transportation and storage 30-75% relative humidity (non-condensing) for operating conditions
Elevation	Below 2000 m (6500 ft)
Air Quality	Pollution Degree II environment or better*
Ventilation	Consult your facilities department for ventilation requirements suiting the expected level of heat output.

\* A Pollution Degree II environment normally includes only non-conductive pollutants.

## Compliance and Regulatory Markings

The MiSeq FGx System is labeled with the following compliance and regulatory markings.

Label	Description
	This label assures that the product is tested and certified by TUV Rheinland, a Nationally Recognized Testing Laboratory (NRTL).
	This label assures that the product meets the essential requirements of all relevant European Union (EU) directives.
	This label assures that the product complies with the Environmental Protection User Period - 10 years.

## Environment



This label indicates that the instrument cannot be disposed of with common municipal waste.

Return the instrument to Verogen for disposal.

## Product Compliance

### Product Certifications and Compliance

The MiSeq FGx System is certified to the following standards:

- UL STD 61010-1
- CSA STD C22.2 No 61010-1

- IEC/EN 61010-1
- IEC/EN 61326-1
- IEC/EN 61326-2-6

The MiSeq FGx System complies with the following directives:

- Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC
- R&TTE Directive 1999/5/EC

### Human Exposure to Radio Frequency

This equipment complies with maximum permissible exposure (MPE) limits for the general population per Title 47 CFR § 1.1310 Table 1.

This equipment complies with the limitations of human exposure to electromagnetic fields (EMFs) for devices operating within the frequency range 0 Hz to 10 GHz, used in radio frequency identification (RFID) within an occupational or professional environment per EN 50364:2001 sections 4.0.

### FCC Compliance

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instrumentation manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful

interference in which case users will be required to correct the interference at their own expense.

### Shielded Cables

Shielded cables must be used with this unit to ensure compliance with the Class A FCC limits.

### Conformidade para o Brasil

Conformidade ANATEL:

Este equipamento foi testado e está em conformidade com as resoluções da ANATEL 442 e 506.

Este equipamento opera em caráter secundário, isto é, não tem direito a proteção contra interferência prejudicial, mesmo de estações do mesmo tipo, e não pode causar interferência a sistemas que operam em caráter primário.

### Cumplimiento para México

Advertencia en español: México

El funcionamiento de este equipo está sujeto a las siguientes dos condiciones: (1) es posible que este equipo o dispositivo no cause interferencia perjudicial y (2) este equipo o dispositivo debe aceptar cualquier interferencia, incluida la que pueda causar un funcionamiento no deseado.

### 台湾合规性

### Conformité IC

Le dispositif numérique Classe A répond à toutes les exigences des Règlements canadiens sur le matériel brouilleur.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

1. L'appareil ne doit pas produire de brouillage.
2. L'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peut fonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada.

Dans le but de réduire les risques de brouillage radioélectrique à l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante.

Le présent émetteur radio (IC ID: 9859A-MISEQ) a été approuvé par Industrie Canada pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal et l'impédance requise pour chaque type d'antenne. Les types d'antenne non inclus dans cette liste, ou dont le gain est supérieur au gain maximal indiqué, sont strictement interdits pour l'exploitation de l'émetteur.

## Revision History

Document #	Date	Description of Change
VD2018011 Rev. B	February 2021	Updated the format of the guide, including moving and renaming some sections. Updated the instrument name to MiSeq FGx Sequencing System and the trademark to a registered trademark (®). Updated the guide name to <i>MiSeq FGx Sequencing System Safety and Compliance Guide</i> .
VD2018011 Rev. A	June 2018	Initial release

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## Technical Support

For technical assistance, contact Verogen Technical Support (techsupport@verogen.com). Visit [www.verogen.com](http://www.verogen.com) for more information.