# IN Cell Analyzer 2200/6000

## **Operating Instructions**

## Original instructions





IN Cell Analyzer 2200/6000 Operating Instructions

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IN Cell Analyzer 2200/6000 Operating Instructions

## 1 Introduction

#### About this chapter

This chapter contains important user information, safety notices, regulatory information, and a general description of the intended use of the IN Cell Analyzer.

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### 1.1 About this manual

## Purpose of the Operating Instructions

The *Operating Instructions* provide you with the instructions needed to install, operate, and maintain the IN Cell Analyzer in a safe way.

#### **Typographical conventions**

Software items are identified in the text by **bold** text. A colon separates menu levels (for example, **File:Open** refers to the **Open** command in the **File** menu).

Hardware controls, indicators, and connections are also identified in the text by **bold** text (for example, **Power** switch).

### 1.2 Important user information

## Read this before operating the system



All users must read the entire IN Cell Analyzer 2200/6000 *Operating Instructions* before operating or maintaining the instrument.

Do not operate the IN Cell Analyzer in any way other than described in either these *Operating Instructions* or other user documentation from GE. Otherwise, you may be exposed to hazards that can lead to personal injury and/or you may cause damage to the equipment.

#### Intended use

The IN Cell Analyzer is intended for research purposes only. It is intended to be used by trained laboratory staff members in research laboratories at departments within academia and industry.

The IN Cell Analyzer is not approved for diagnosis of disease in humans or animals and shall not be used in any clinical procedures or for diagnostic purposes.

#### **Prerequisites**

In order to operate the system safely and according to the intended purpose, the following prerequisites must be met:

- You should be acquainted with the use of general laboratory equipment and with the handling of biological materials.
- You should be familiar with the basics of fluorescence microscopy.
- You should have an understanding of image processing basics to use the system to its full potential.
- You should have a general understanding of the use of a personal computer running Microsoft<sup>™</sup> Windows<sup>™</sup> in the version provided with your product.
- You must read "Chapter 2: Safety Instructions" of these Operating Instructions.
- The system must be installed by a qualified GE Healthcare representative.

#### **Safety notices**

These *Operating Instructions* contain WARNINGS, CAUTIONS, and NOTICES concerning safe use of the product, with meanings as defined below.

#### Warnings



#### WARNING

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious personal injury. It is important not to proceed until all stated conditions are met and clearly understood.

#### **Laser Warnings**



#### WARNING: LASER RADIATION:

WARNING: LASER RADIATION indicates a hazardous situation which, if not avoided, could result in serious injury due to hazardous radiation. It is important not to proceed until all stated conditions are met and clearly understood.

#### Cautions



#### CAUTION

NOTICE

CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury or damage to the equipment or software. It is important not to proceed until all stated conditions are met and clearly understood.

#### Notices



NOTICE indicates instructions that must be followed to avoid damage to the product or other equipment.

#### Notes and tips

- **Note:** A Note is used to indicate information that is important for trouble-free and optimal use of the product.
- *Tip:* A Tip contains useful information that can improve or optimize your procedures.

### 1.3 Regulatory information

This section lists the directives and standards that are fulfilled by the IN Cell Analyzer.

#### **Manufacturing information**

The table below summarizes the required manufacturing information. For further information, see the CE Declaration of Conformity document.

Requirement	Content
Name and address of manufacturer	GE Healthcare 1040 12th Avenue Northwest Issaquah, WA 98027 USA
Identity and ID of notified body	See CE Declaration of Conformity

#### **CE conformity**

Directive	Title
2006/42/EC	Machinery Directive (MD)
2014/35/EU	Low Voltage Directive (LVD)
2014/30/EU	ElectroMagnetic Compatibility (EMC) Directive

#### **CE marking**

# CE

The CE marking and the corresponding Declaration of Conformity is valid for the instrument when it is:

- used as a stand-alone unit, or
- connected to other CE-marked instruments, or
- connected to other products recommended or described in the user documentation, and
- used in the same state as it was delivered from GE, except for alterations described in the user documentation or explicitly authorized by GE.

#### Laser requirements

This instrument meets the laser radiation safety requirements specified in CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50 dated July 24, 2007.

#### **RCM certification**



This symbol indicates that the system complies with the requirements for electromagnetic compliance (EMC) in Australia and New Zealand.

#### **Canadian certification**

Industry Canada has Mutual Recognition Agreements/Arrangements (MRA) with USA, Europe, and few other countries. This MRA allows the products manufactured and tested in Europe and in USA to be sold in Canada. However, the testing shall meet all the criteria outlined in ICES-001 (i.e., radiation and emission limits per CISPR 11 and IEC 61326) and tested at nominal voltage and frequency (i.e., 120V/60Hz). As such, products tested at 230V/50Hz per EN 61326 for EU market will require additional testing to meet the ICES-001 criteria. For products tested at 120V/60Hz for FCC part 15B for US market with test measurements under the limits set by ICES-001 standard, no additional testing is required.

#### Korean certification (IN Cell 2200 Only)

Korean Radio Research Agency Notification



This symbol indicates that the product complies with the Korean standard Radio Research Agency Notification 2014-16, Nov. 17, 2014 to meet with the Korean Radio Waves Act 2010 regulation.

Applicant name: GE Healthcare Basic model name: IN Cell Analyzer 2200 and IN Cell Analyzer 6000

#### **Eurasion Customs Union**

# EHC

#### Introduction

This section contains additional regulatory information to comply with the Eurasian Customs Union technical regulations.

#### Manufacturer and importer information

Requirement	Information
Name and address of manufacturer	See Section 1.3, Regulatory information, on page 9
Telephone number of manufacturer	Telephone: +46 771 400 600
Importer and/or company for obtaining information about importer	GE Healthcare LLC GE Healthcare Life Sciences Presnenskaya nab, 10C, 12th floor RU-123 317 Moscow, Russian Federation Telephone 1: +7 495 411 9714 Fax nr: +7 495 739 6932 Email: LSrus@ge.com

#### Shelf life and manufacturing date

For information regarding shelf life, contact your local GE representative. For information regarding manufacturing date, see year and month of manufacture on the product.

## Regulatory compliance of connected equipment

Any equipment connected to the IN Cell Analyzer must meet the safety requirements of EN 61010-1/IEC61010-1 or other relevant harmonized standards. Within the European Union, connected equipment must be CE-marked.

#### International standards

This product fulfills the requirements of the following standards:

Standard	Description	Notes
EN 61010-1, IEC 61010-1, UL61010-1, CAN/CSA-C22.2 no. 61010-1	Safety requirements for electrical equipment for measurement, control, and laboratory use	EN harmonized with EU directive 2014/35/EU
EN 61326-1 (Emission according to CISPR 11, Group 1, Class A)	EMC emissions and immunity requirements for measurement, control, and laboratory use	EN harmonized with EU directive 2014/30/EU
EN ISO 12100	Safety of machinery. General principles for design. Risk assessment and risk reduction.	EN ISO standard is harmonized with EU directive 2006/ 42/EC
EN60825-1 IEC60825-1	Safety of Laser Products - Base standard for safety of laser products	EN harmonized with EU directive 2014/35/EU

#### **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, and (2) this device must accept any interference received, including interference that may cause undesired operation.

**Note:** The user is cautioned that any changes or modifications not expressly approved by GE 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 instruction 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 the user will be required to correct the interference at his own expense.

#### **Environmental conformity**

Regu	llation	Title
2011	/65/EU	Restriction of Hazardous Substances (RoHS) Directive
2012	/19/EU	Waste Electrical and Electronic Equipment (WEEE) Directive
Regu No. 1	lation (EC) 907/2006	Registration, Evaluation, Authorization, and Restriction of Chemicals (REACH)
ACPE	ΊΡ	Administration on the Control of Pollution Caused by Electronic Information Products, China Restriction of Hazardous Substances (RoHS)

## 1.4 Instrument hardware and software

The IN Cell Analyzer consists of two main components:

- Imager
- Workstation

#### Imager

The Imager houses the following parts of the IN Cell Analyzer. These parts are not accessible to the user.

- Multispectral illumination
- Objective turret
- Laser AutoFocus module
- Stage
- Emission filters
- Camera
- Control electronics

The imager is enclosed with cover pieces to keep out light and dust. The emission optics are in a positive pressure environment to keep them clean. A filter on the intake ensures only clean air is allowed in this area.

The following parts are components of optional equipment available for the system.

- CO<sub>2</sub> flow controller
- CO<sub>2</sub> humidifier bottle
- Liquid Handler Wash bottle
- Liquid Handler Reagent bottle

NOTICE

- Liquid Handler Waste jar and associated tubing
- Liquid Handler Overflow jar and associated tubing

#### Workstation

The workstation is a computer and monitor from which the operator controls the IN Cell Analyzer system. The workstation computer uses a 64-bit Windows 7 or Windows 10 operating system.

The workstation runs the software used to define and set up imaging experiments, conduct experiments, and analyze images.



Any computer used with the equipment shall comply with IEC 60950 and be installed and used according to the manufacturer's instructions.

## 2 Safety Instructions

#### About this chapter

This chapter describes the hazard and safety information necessary for operation of the IN Cell Analyzer, including emergency shutdown procedures and recycling instructions. The precautions detailed in this chapter must be carefully observed to prevent possible personal danger.



#### WARNING

Before installing, operating, or maintaining the product, all users must read and understand the entire contents of this chapter.

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## 2.1 General precautions

Before operating or maintaining the system, you must be aware of the hazards described in the user documentation. Follow these instructions carefully to avoid personal injury or damage to the equipment..



#### WARNING

The system operator is assumed to be trained in the correct operation of the instrument and the safety issues associated with using it.



#### WARNING

Using controls, making adjustments, or performing procedures other than those specified in the IN Cell Analyzer's documentation can result in hazardous exposure to high voltage, laser radiation, or moving parts. Exposure to these hazards can cause severe personal injury. Do not operate the IN Cell Analyzer except as described in the documentation.



#### WARNING

The IN Cell Analyzer is used for a wide variety of experiments that may utilize potentially hazardous materials. Use of these materials may cause exposure to biological or chemical hazards. Educate yourself about your samples to avoid hazards.



#### WARNING

The IN Cell Analyzer contains AC power. Ensure that all power has been turned off prior to removing any side panels.



#### WARNING

Always use protective glasses and appropriate personal protective equipment during system operation and service.



#### WARNING

Do not use the IN Cell Analyzer if it is not working properly or if it has suffered any damage (for example, damage to the power cord or plug).



#### WARNING

Use of controls or adjustments or performance of procedures other than those specified in this manual may result in hazardous radiation exposure.



**WARNING** Do not block the ventilation inlets or outlets on the system.

## 2.2 Laser Autofocus Module

The Laser Autofocus Module contains a 100 mW, 785nm, continuous wave diode laser. Access to the beam path is prevented by the use of covers and other system parts that shield the operator from the beam.

User-maintainable parts are not located in the beam path. The only access point for the beam during operation or maintenance is through the objective lens. The interlocked cover door is always closed when imaging.



#### WARNING

The IN Cell Analyzer is a Class 1 laser system. No access to laser radiation is permitted during user operation or user maintenance. During service, however, Class 3 (IN Cell 2200) and Class 4 (IN Cell 6000) radiation is accessible.

Due to the potential for personal injury, particularly to the eyes, service on the IN Cell Analyzer should ONLY be performed by GE personnel or persons trained by GE specifically for this purpose. Unauthorized service by any other personnel may violate the warranty.

## 2.3 Personal protection



#### CAUTION

Always use appropriate personal protective equipment during operation and maintenance of the IN Cell Analyzer.



#### CAUTION

**Hazardous substances.** When using hazardous chemicals and biological agents, take all suitable protective measures, such as wearing protective glasses and gloves resistant to the substances used. Follow local and/or national regulations for safe operation, maintenance, and decommissioning of the equipment.



#### CAUTION

Be aware of potential pinch points when the instrument is turned on. Moving parts can cause injury.



#### WARNING

The IN Cell Analyzer contains AC power. Ensure that power has been shut off prior to opening any housings. All outlets must be grounded. All outlets must be accessible by operators in case an emergency shutdown is required.



#### WARNING

Use only power cords delivered or approved by GE Healthcare.



#### WARNING

Do not place containers of liquid on top of the instrument. Spilled liquid is a fire and electrical hazard.

### 2.4 Installation



#### NOTICE

Do not unpack the IN Cell Analyzer or attempt to perform any installation tasks upon its arrival at your site. An authorized GE representative will perform all unpacking and installation tasks. Unpacking by any person not authorized by GE constitutes responsibility for the equipment and any damage that may have occurred during shipment.



#### WARNING

**Protective ground.** The IN Cell Analyzer must always be connected to a grounded power outlet.



#### WARNING

Only use power cords delivered or approved by GE.



#### WARNING

Do not block access to the power switches or power cords. The power switches must always be easy to access. The power cords with plugs must always be easy to disconnect.



#### CAUTION

**Supply voltage.** Make sure that the supply voltage at the wall outlet corresponds to the marking on the instrument, before connecting the power cord.



#### NOTICE

**Vents on the IN Cell Analyzer.** To ensure adequate ventilation, keep all objects away from the vents on the system.

#### NOTICE

**Disconnect power.** To prevent equipment damage, always switch off power to the IN Cell Analyzer before any component cable is connected or disconnected.



#### NOTICE

Any computer used with the equipment shall comply with IEC 60950 and be installed and used according to the manufacturer's instructions.

## 2.5 Electrical safety

All of the IN Cell Analyzer electrical components comply with CE and other applicable standards, such as UL, CSA, and IEC. Follow the electrical safety information in this section to ensure that you are operating the system safely.



#### WARNING

High voltage electronics may be found in some system components. During normal operation, you are protected from high voltage.



#### CAUTION

Before using the system, ensure that the system is clean and dry. Any problems must be taken care of before the system power is turned on.



#### WARNING

The system is intended to operate from a power source that does not apply more than 100-120/200-240V (50-60 Hz) between supply conductors or between either supply conductor and ground. A protective ground connection, by way of the grounding conductor in the power cord, is essential for safe operation.



#### WARNING

If any liquid is spilled on or around the instrument, unplug the instrument immediately and wipe up the spill. DO NOT PLUG THE SYSTEM INTO ANY POWER MAINS UNTIL THE PROBLEM IS RESOLVED.



#### WARNING

In case of fire, unplug the instrument. Ensure that the power connector is always accessible.



#### WARNING

Maintain easy access to power switch and power cord. Do not block the rear or side panels of the instrument. The power switch must always be easy to access and the power cord must always be easy to disconnect.



#### WARNING

Do not damage power supply cords by bending, twisting, heating, or allowing the cords to become pinned under the equipment. Using damaged power cords could result in fire or electric shock. If a power supply cord is damaged, contact your local GE representative for a replacement.

## 2.6 Maintenance and decommissioning



#### WARNING

**Electrical shock hazard.** All repairs should be done by service personnel authorized by GE. Do not open any covers or replace any parts unless specifically directed to do so in the user documentation.



#### CAUTION

Disconnect power. Always switch off power to the system before replacing any of its components, unless stated otherwise in the user documentation.



#### CAUTION

Always use appropriate personal protective equipment when decommissioning the equipment.



#### CAUTION

Wipe the system with a damp tissue using a cleaning agent so that no hazardous solvents or biological agents remain on the surface.

## 2.7 Liquid Handling safety

The Liquid Handling Module allows you to perform experiments in which liquid is introduced to the microplate. Liquid samples are aspirated from either a reagent bottle or a compound plate, and are then dispensed into wells on the sample plate.



#### CAUTION

The aspiration needle could puncture the skin if touched. Under normal use, however, the Liquid Handling Module is enclosed within the instrument and is not accessible to the user.

The liquid handling system is designed with the following safety features:

- The liquid delivery is mounted on a breakaway carrier.
- The system has containment features to manage small spills that direct liquid to a drain for cleanup.
- Containment features also keep spills away from electrical components.

## 2.8 System operation

#### To turn on the IN Cell Analyzer:

- 1 Turn on the workstation and log on.
- 2 Turn on the imaging system hardware by depressing the system power switch (shown below) once. (Your system may have a round power switch.)

Power Switch



During initialization, three lights will illuminate on the front of the instrument (Green, Orange, Red). The Green light will remain on after the instrument plate stage door has opened and closed, indicating that initialization is complete.

- 3 Once the Green light turns on, signifying that initialization is complete, launch the acquisition software by selecting one of the following:
  - Click Start | All Programs | GE Healthcare | IN Cell Analyzer 2200/6000 | IN Cell Analyzer

OR

• Click the IN Cell Analyzer desktop icon

#### To shut down the IN Cell Analyzer:

- 1 Choose one of the following:
  - Click Application:Hardware:Shutdown Instrument.

or

- Press down on the system power switch for one second. After a two-minute delay, the system should shut down. If it does not, press the switch again.
  - **Note:** If the system still does not shut down, press and hold the power switch to perform a "hard" system shutdown.
- 2 Turn off the PC and monitor.



### 2.9 System safety and identification labels

This section describes the IN Cell Analyzer 2200 and IN Cell Analyzer 6000 safety and identification labels and their locations on the scanner. It also shows the location of a general warning label meant to encourage users to read the documentation.

#### Laser safety labels -IN Cell Analyzer 2200

#### Class 3B 100 mW Laser Autofocus safety labels

The laser safety labels shown in the following figures are attached to the cover of the Laser Autofocus Module. These labels are not visible during operation or user maintenance, but are visible during service.

Class 3B 100 mW Laser Autofocus safety labels (English/French)



CAUTION CLASS 3B INVISIBLE LASER RADIATION WHEN OPEN AVOID EXPOSURE TO BEAM

Locations of the Class 3B 100 mW Laser Autofocus safety labels



#### Class 3B 100 mW Transmitted Light Mounting Bracket safety label

The laser safety labels shown in the following figures are attached to the transmitted light mounting bracket, above the objective. They are not visible during operation or user maintenance, but are visible during service.

Class 3B 100 mW Laser Autofocus safety labels over objective (English/French)



CAUTION CLASS 3B INVISIBLE LASER RADIATION EMITTED FROM OBJECTIVE AVOID EXPOSURE TO BEAM

Locations of the Class 3B 100 mW laser safety labels over objective



#### Class 3B Laser Interlock safety label

The laser interlock safety labels shown in the following figures are applied in two locations on the scanner. They are not visible during operation or user maintenance, but are visible during service.

Class 3B Laser Interlock safety labels



CAUTION CLASS 3B INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED AVOID EXPOSURE TO BEAM

The first location for the interlock safety labels is on the outside of the front metal chassis skin, as shown in the following figure.

**Note:** Even though the label is located on the outside of the front metal chassis skin cover, the label refers to the top cover. The front metal chassis skin is not interlocked for laser safety. Removing the front metal chassis skin does not allow access to radiation.



Class 3B Laser Interlock safety labels - Location 1

The second location for the interlock safety labels is on the left-front tab (behind the metal chassis cover) on the front of the scanner, as shown in the following figure.

**Note:** This label is partially covered when the front metal chassis cover is attached to the system.



Class 3B Laser Interlock safety labels - Location 2

#### Laser safety labels -IN Cell Analyzer 6000

#### **Class 4 Laser Interlock Caution labels**

The laser safety labels shown in the following figures are applied to the scanner in multiple locations. Not every location is visible during operation or user maintenance, but all are visible during service.



Class 4 Laser Interlock Caution labels (English/French)

#### CAUTION

CLASS 4 VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED.

AVOID EYE OR SKIN EXPOSURE TO DIRECT OR SCATTERED RADIATION.

The Laser Interlock Caution safety labels are located under the filter cover panel.



Class 4 Laser Interlock Caution labels - under filter cover panel

They are also located on the system's front panel.

Class 4 Laser Interlock Caution labels - front panel



Finally, the Laser Interlock Caution labels are also located behind the front panel and can only be viewed after the panel has been removed.

Class 4 Laser Interlock Caution labels - underneath front panel



#### **Class 4 Laser Non-Interlock Caution labels**

The laser safety labels shown in the following figures are applied to the scanner in several locations. Not every location shown in the following figures is visible during operation or user maintenance, but all are visible during service.

Class 4 Laser Non-Interlock Caution labels (English/French)



#### CAUTION

CLASS 4 VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN.

AVOID EYE OR SKIN EXPOSURE TO DIRECT OR SCATTERED RADIATION.

The Laser Non-Interlock Caution labels are attached to the front and rear optics access panels.



Class 4 Laser Non-Interlocked Caution labels - front and rear optics access panels

**Optics - Front Panel** 



**Optics - Back Panel** 

The Laser Non-Interlocked Caution labels are also located on the Hardware Autofocus (HWAF) Module. The English version is located as shown in the following figure. The French version of the label is located on the side of the module indicated by the green arrow.



Class 4 Laser Non-Interlocked Caution labels - Hardware Autofocus Module

The same labels are also located in three locations on the cover of the Laser Module. Two sets of the labels are shown in the following figure. The third set is located on the end of the cover, as indicated by the green arrow.

Class 4 Laser Non-Interlocked Caution labels - Cover of the Laser Module



These labels are also located on the Laser Module itself, as shown in the following figure.

Class 4 Laser Non-Interlocked Caution labels - Laser Module

Finally, the Laser Non-Interlocked Caution labels are also located on the system stage, as shown in the following figure.

Class 4 Laser Non-Interlocked Caution labels - System Stage



#### **General laser warning labels**

The following general laser warning labels are applied by the laser manufacturer to the front of Multi-Laser Engine, as shown in the following figure.

General laser warning labels - Multi-Laser Engine



## System identification and compliance labels (CE labels)

The IN Cell 2200 and 6000 each have their own system identification label, also known as their CE label. These labels are located on the right side of the systems near the power outlet, as shown in the following figure.

CE label location



The CE labels for each system are shown in the following figures.

IN Cell Analyzer 2200 CE Label



#### IN Cell Analyzer 6000 CE Label



#### **General warning label**

This label is placed below the cover to the power switch. It is intended to encourage users to consult these Operating Instructions before turning on the instrument.

General warning label


General warning label location



## Symbols used in safety labels

The following symbols are used on the system CE and safety labels.

Symbol	Meaning
ĺĺ	Read the operating instructions before using the system. Do not open any covers or replace any part unless specifically instructed to do so in the <i>Operating Instructions</i> .
	This symbol indicates that the system complies with the requirements for electromagnetic compliance (EMC) in Australia and New Zealand.
CE	This symbol indicates that the system complies with applicable European directives.

Meaning
<i>(IN Cell 2200 Only)</i> This symbol indicates that the product complies with Korean standard Radio Research Agency Notification 2014-16, Nov. 17, 2014 to meet the Korean Radio Waves Act 2010 regulation.
The Eurasian Conformity mark is the single conformity mark that indicates that the product is approved for circulation on the markets of the member states of the Eurasian Customs Union.
WARNING: LASER RADIATION indicates a hazardous situation which, if not avoided, could result in serious injury due to hazardous radiation. It is important not to proceed until all stated conditions are met and clearly understood.
WARNING: HIGH LEAKAGE CURRENT. EARTH CONNECTION ESSENTIAL BEFORE CONNECTING SUPPLY.
This ISM device complies with the Canadian ICES-001 Standard for Industrial, Scientific, and Medical (ISM) Radio Frequency Generators. Cet appareil ISM est conforme á la norme NMB-001 du Canada pour les industriels, scientifiques et médicaux (ISM) générateurs de fréquence Radio.
These marks indicate that the instrument has been listed by a Nationally Recognized Testing Laboratory (NRTL).

# Labels concerning hazardous substances

The following symbols, when found on safety labels, apply to hazardous substances.

Symbol	Meaning
X	This symbol indicates that electrical and electronic equipment waste must not be disposed of as unsorted municipal waste and must be collected separately. Please contact an authorized representative of the manufacturer for information concerning the decommissioning of equipment.
20)	This symbol indicates that the product contains hazardous materials in excess of the limits established by the Chinese standard GB/T 26572. Requirements for Concentration Limits for certain Hazardous Substances in Electronics.

# 2.10 System cable and tubing placement and safety

Recommendations in this section, regarding the appropriate placement of the system's power cabling, environmental control, and liquid cooling components, must be followed in order to minimize the risk of personal injury.

### **Power cables**

IN Cell Analyzer power cabling should always be routed to minimize trip hazards and arranged so that all system power can be easily and quickly disconnected in the event of an emergency.



### CAUTION

Cables can be a trip hazard. Use caution when walking around the perimeter of the imaging system.

## Overflow tubing (optional Liquid Handler only)

The IN Cell Analyzer's optional Liquid Handler uses external overflow tubing. Ensure that this tubing is routed so that it does not create a trip hazard.



**CAUTION** Tubing can be a trip hazard. Use caution when walking around the perimeter of the imaging system.

## Pressure safety (optional Environmental Control Module only)

The tubing used for the optional Environmental Control Module on the IN Cell Analyzer is rated at 175 psi max.



#### CAUTION

Maximum pressure for the system's CO<sub>2</sub> is 20 psi.

# 2.11 Safety goggles

Because the IN Cell Analyzer is a Class 1 safety system, you are not required to wear safety goggles during regular system use. If, however, the safety interlock is defeated (for example, while the system is being serviced), the appropriate safety goggles must be worn.

Safety goggles that protect your eyes from all laser wavelengths are the best type to use in a multi-laser environment. These may be difficult to obtain, so the next best practice is to be absolutely certain you wear the correct safety goggles for each laser type being used.

# 2.12 Emergency procedures

This section describes how to perform an emergency shutdown of the system. It also describes what to do in the event of a power failure.

#### WARNING

Access to power switches and power cord plugs. Maintain easy access to all power switches and power cords. The power switches must always be easy to access and the power cords must always be readily accessible.

### **Emergency shutdown**

In the event of an emergency:

- 1 Close the IN Cell Analyzer application.
- 2 Turn off the instrument at the main power switch.
- 3 Turn off the workstation and monitor from their main power switches.

### **Power failure**

In the event of a power failure:

- 1 Turn off the instrument at the main power switch.
- 2 Turn off the workstation and monitor from their main power switches.

# 2.13 Recycling procedures

The equipment shall be decontaminated before decommissioning and all local regulations shall be followed with regard to scrapping of the equipment.

### **Disposal, general instructions**

When taking a system out of service, the different materials must be separated and recycled according to national and local environmental regulations.

### Decontamination

The equipment and the accessories must be clean from contaminants before decommissioning, and all local regulations with regard to waste disposal must be followed. Samples are to be disposed of according to local regulations.

# Recycling of hazardous substances

The system uses hazardous substances. Detailed information is available from your local GE representative.

### **Disposal of waste materials**

Microplates and any used materials from the instrument must be disposed of in the manner prescribed by national and local environmental regulations.



#### CAUTION

Hazardous waste must be handled and disposed of properly.

# Disposal of electrical components

Electrical and electronic equipment waste must not be disposed of as unsorted municipal waste and must be collected separately. Please contact an authorized representative of GE for information concerning the decommissioning of your equipment.



#### CAUTION

The IN Cell Analyzer and Environmental Control Module must not be disposed of as unsorted municipal waste and must be collected separately. Please contact an authorized representative of GE for information concerning the decommissioning of your equipment.

# 2.14 Declaration of hazardous substances

# IN Cell Analyzer 2200/6000

根据 SJ/T11364-2014 《电子电气产品有害物质限制使用标识要求》特提供如下有关污染控制方面的信息。

The following product pollution control information is provided according to SJ/T11364-2014 Marking for Restriction of Hazardous Substances caused by electrical and electronic products.

1. 电子信息产品污染控制标志说明 Explanation of Pollution Control Label



该标志表明本产品含有超过中国标准 GB/T 26572 《电子电气产品中限用物质的限量要求》中限量的有害物质。标志中的数字为本产品的环保使用期,表明本产品在正常使用的条件下,有毒有害物质不会发生外泄或突变,用户使用本产品不会对环境造成严重污染或对其人身、财产造成严重损害的期限。单位为年。为保证所申明的环保使用期限,应按产品手册中所规定的环境条件和方法进行正常使用,并严格遵守产品维修手册中规定的定期维修和保养要求。产品中的消耗件和某些零部件可能有其单独的环保使用期限标志,并且其环保使用期限有可能比整个产品本身的环保使用期限短。应到期按产品维修程序更换那些消耗件和零部件,以保证所申明的整个产品的环保使用期限短。本产品在使用寿命结束时不可作为普通生活垃圾处理,应被单独收集妥善处理。

This symbol indicates the product contains hazardous materials in excess of the limits established by the Chinese standard GB/T 26572 Requirements of concentration limits for certain restricted substances in electrical and electronic products. The number in the symbol is the Environment-friendly Use Period (EFUP), which indicates the period during which the hazardous substances contained in electrical and electronic products will not leak or mutate under normal operating conditions so that the use of such electrical and electronic products will not result in any severe environmental pollution, any bodily injury or damage to any assets. The unit of the period is "Year".

In order to maintain the declared EFUP, the product shall be operated normally according to the instructions and environmental conditions as defined in the product manual, and periodic maintenance schedules specified in Product Maintenance Procedures shall be followed strictly. Consumables or certain parts may have their own label with an EFUP value less than the product. Periodic replacement of those consumables or parts to maintain the declared EFUP shall be done in accordance with the Product Maintenance Procedures.

This product must not be disposed of as unsorted municipal waste, and must be collected separately and handled properly after decommissioning.

(Continued on next page)

2. 有害物质的名称及含量 Name and Concentration of Hazardous Substances

	有害物质					
	Hazardous substances' name					
部件名称	铅	汞	镉	六价铬	多溴联 苯	多溴二 苯醚
Component Name	(Pb)	(Hg)	(Cd)	(Cr6+)	(PBB)	(PBDE)
电路板组件 Printed Circuit Board Assemblies	Х	0	0	0	0	0
电源 Power Supplies	0	0	0	0	0	ο
电缆 Cables	х	0	0	0	0	0
机械组件 Mechanical Assemblies	0	0	0	0	0	0
系统柜 System Cabinet	0	0	0	0	0	0
主机机架 / 底座组件 Frame / Chassis Assembly	0	0	0	0	0	0
摄像装置 Cameras	0	0	0	0	0	0
工作站 Workstation	0	0	0	0	0	0
固态照明组件 (适用于 2200) Solid State Illumination Assembly (2200 only)	0	0	0	0	0	0
多路激光器引擎 (适用于 6000) Multi Laser Engine (6000 only)	0	0	0	0	0	0
紧固件 Fasteners	0	0	0	Х	0	0

### 产品中有害物质的名称及含量

#### Table of Hazardous Substances' Name and Concentration

本表格依据 SJ/T 11364 的规定编制。 This table is prepared according to SJ/T 11364.

0: 表示该有害物质在该部件所有均质材料中的含量均在 GB/T 26572 规定的限量要求以下。

X: 表示该有害物质至少在该部件的某一均质材料中的含量超出 GB/T 26572 规定的 限量要求。

• 此表所列数据为发布时所能获得的最佳信息.

O: Indicates that this hazardous substance contained in all of the homogeneous materials for this part is below the limit requirement in GB/T 26572.

X: Indicates that this hazardous substance contained in at least one of the homogenous materials used for this part is above the limit requirement in GB/T 26572.

• Data listed in the table represents the best information available at the time of publication.



# 2.15 Wiring diagram - Safety interlocks

2 Safety Instructions2.15 Wiring diagram - Safety interlocks

# 3 Installation

# About this chapter

This chapter describes the site requirements and other critical information needed for safe installation of the IN Cell Analyzer. Additional information can be found in the IN Cell Analyzer Site Preparation Guide available from your GE representative.



**WARNING** The IN Cell Analyzer must be unpacked and installed by a qualified GE representative.

Section	See page
3.1 Delivery information and requirements	50
3.2 System packaging	51
3.3 Facility requirements	52

# 3.1 Delivery information and requirements

## **Shipping Containers**

The system is shipped in a palletized crate, with the following measurements. These values may vary depending on the configuration of your system. If installation requires the use of an elevator, ensure that it is rated to carry the necessary weight.

Shipping Container	hipping Container Approximate Size (L x W x H)	
Pallet dimensions	135 x 88 x 119 cm (53 x 35 x 47 in.)	175 kg (385 lbs)

## Handling of Shipping Containers

Instruct your receiving department to document any damage to the shipping container with the shipper at the time of delivery acceptance. Also, check for tripped tilt/shock sensors located on the outside of the container.

If possible, take pictures of any visible damage and then refer to www.gelifesciences.com/contact to report the damage.



#### NOTICE

Do not unpack the container! An authorized GE representative will perform the unpacking. Unpacking by any person not authorized by GE constitutes responsibility for the equipment and any damage that may have occurred during shipment, which may void the warranty.

A GE Field Service Engineer will install the system on the planned installation date. Once the installation is complete, a GE Field Application Scientist will follow up with on-site training, covering basic system operation according to the agreed upon schedule.

#### Important Installation Note!

Due to the size of some IN Cell Analyzer system components, moving them up or down stairs is not possible. If an elevator is not available, or if the elevator present is not able to accommodate the weight or dimensions of the various IN Cell Analyzer components, please contact GE as soon as possible to discuss alternative methods for installing the equipment.

Doors, corridors, and elevators should have a minimum width of 91 cm (36 in.) and a minimum height of 2 m (6.5 ft) to allow transport of the system to its installation location.

A forklift or pallet jack capable of carrying up to 175 kg (385 lbs) is required when moving the system while in its shipping crate. A suitable lifting device must be used when lifting or moving the instrument.

# 3.2 System packaging

Inspect the packaging and system components as follows:

- Inspect the Shock Watch and Tilt Sensors located on the crate. Note if any of the sensors have been tipped, but do not reject the system at this time.
- Visually inspect the instrument for shipping damage. Note any system damage.
- Check the equipment for any apparent damage before starting installation.

Document any damage carefully and contact your GE representative.

#### Storage

If the IN Cell Analyzer should need to be stored prior to installation, the following requirements should be met.

- Ambient temperature 0°C to 60°C (32°F to 140°F)
- Relative humidity 10% to 95%, noncondensing

## Uncrating the system

This section describes the conditions required to uncrate the system.



#### NOTICE

Do not attempt to uncrate the system yourself. The IN Cell Analyzer system and peripherals, such as the workstation, monitor, keyboard, and mouse, must be unpacked and installed by a GE representative ONLY.

Floor space needed to uncrate the system is  $2.4 \times 1.2$  m (8 × 4 ft).

# 3.3 Facility requirements

This section describes the electrical and environmental requirements for the IN Cell Analyzer.

Parameter	Requirement
Electrical power	100-120/200-240 VAC, 50/60 Hz, 5A/2.5A Overvoltage Category: CAT5 Power consumption: - IN Cell Analyzer 2200 - 500 W - IN Cell Analyzer 6000 - 500 W
Temperature	Operating temperature: Stable from 15-35° C (59-91.4° F) Fluctuation rate: No more than ±2° C over four hours with an hourly variation of no more than 1° C. Fluctuations may introduce alignment drift into system.
Humidity	10-80%, noncondensing
Altitude	Up to 2000 m (6561 ft)
Operating Environment	Pollution Degree 2, IPXO
Environmental control option	25% CO2, balanced air, externally regulated at 20 psig (1.4 bar)

## Affects on the facility

Noise production:

- IN Cell Analyzer 2200 < 70dB
- IN Cell Analyzer 6000 < 60dB

Thermal energy contribution:

• IN Cell Analyzer 2200 and IN Cell Analyzer 6000 ~1706 BTU/hr

### **Facility connections**

The IN Cell Analyzer requires three AC ports: 1 for the instrument, 1 for the workstation, and 1 for the monitor.

Systems with the Live Cell option also require 6 mm (1/4 in.) OD nylon or polyurethane tubing connected to a  $CO_2$  source regulated at 1.4 bar (20 psi).

Internet access is required for licensing and remote access. A CAT5e or better cable (CAT6 is preferred) is required to connect the system to the local facility's network.

### Equipment and working area

The IN Cell Analyzer instrument dimensions are 112.8  $\times$  63.5  $\times$  59.2 cm (44.4  $\times$  25  $\times$  23.3 in.) (W  $\times$  H  $\times$  D) with the footprint being W  $\times$  D.

- During operation, there must be adequate clearance on the right of the system to access and change bottles in the Bottle Holder panel. There must be adequate clearance on the left side of the system to remove the Filter Cover Panel and service the filter.
- A minimum of 10 cm (4 in.) of clearance between the rear of the Instrument and the wall to allow for adequate cooling air flow.
- 10 cm (4 in.) of clearance is required between the left side of the instrument and any object to allow access to the sample loading area and service the filter.
- 15.25 cm (6 in.) of clearance is required between the right side of the instrument and any object to allow access to the power switch and reagent bottle area.
- If the optional Liquid Handler option is purchased, space below the instrument is required to place two waste receptacle bottles (7 cm diameter x 14 cm tall and 8.6 cm diameter x 17.5 cm tall) and associated drain tubing to the bottles.
- To allow service and maintenance access, up to 1 m (3 ft) of free space around the system may be required during a service visit. This may require the system to be moved to a different location during a service visit if additional space is required.

The instrument weighs approximately 101 kg (223 lbs.). A suitable lifting device must be used when lifting or moving the device.



Normal operation clearance requirements

### Workstation

The supplied Ethernet cable (CAT5e is acceptable, CAT6 is preferred) used to connect the workstation to the instrument is 2.1 m (7 ft) long.

A table for the workstation and monitor is not provided. The workstation must be positioned within 2.1 m (7 ft) of the right side of the instrument, or 0.3 m (1 ft) of the left side of the instrument.

### **IT requirements**

The following information provides general IT requirements for the IN Cell Analyzer.

#### **Internet access**

Internet access is required to activate licensing and for remote access for troubleshooting purposes.

#### Network configuration summary

- Scanner IP address: 159.159.159.1
- Workstation network card IP address dedicated to instrument: 159.159.159.3 or 159.159.2 and the subnet mask is 255.255.255.0

The following ports must not be blocked:

- 22/TCP, UDP Secure Shell (SSH)--used for secure logins, file transfers (scp, sftp) and port forwarding
- Ports 51684 and 57234 are used by the IN Cell Analyzer application
- Port 9999 by default (configurable in the IN Cell Analyzer[xxxx].xml file) is used for remote control. (xxxx = 2200 or 6000)

#### User accounts

New user accounts setup on the system must adhere to:

- GE requires Administrator level access for the installation of software updates. This access level must also be permitted for service and diagnostics.
- User accounts must allow write access to the following folder: C:\Program Files\GE Healthcare\

## **Remote Control**

The IN Cell Analyzer has a remote control mode that is compatible with certain robotic plate handlers. Customization by the robot supplier may be required. Contact your GE sales representative for details.

### **Environmental Control module**

Prior to installation of the Environmental Control Module at a customer site, GE requires the customer to take responsibility for the following:

- 1 All items in the Environmental Control Module Ancillary Parts List must be supplied prior to installation.
- 2 A pressured gas supply (most likely administered by the local Environmental Health Safety (EHS) policies at the setup site).
- 3 Correct setup and installation of the gas supply with guidance from the site's EHS representative.
- 4 CO<sub>2</sub> delivery to the Environmental Control module gas control unit at 20 psi from a 25% CO<sub>2</sub> premix cylinder (25% CO<sub>2</sub> premixed in air).
- 5 A dual stage regulator to set the 20 psi output pressure from the cylinder to the Environmental Control Module gas control unit. This dual stage regulator requires an outlet fitting a 1/4" FPT fitting with a barbed end to fit 4 mm internal diameter tubing (supplied), which fits directly into the back of the Environmental Control Module gas control unit.
- 6 The tubing supplied for the Environmental Control Module gas control unit is approximately 1 m; therefore, the gas cylinder needs to be positioned no more than this distance from the IN Cell Analyzer. If the gas cylinder cannot be positioned within 1 m of the imager, the customer site must provide appropriate tubing.

3 Installation3.3 Facility requirements

# 4 Operation

# About this chapter

This chapter describes the most basic procedures required to create and run a protocol.

Section	See page
4.1 Loading a plate	58
4.2 Overview of the Assay Development Mode	59
4.3 Focusing on the sample	60
4.4 Setting channel parameters	61
4.5 Selecting fields to image	62
4.6 Starting the scan	63

# 4.1 Loading a plate

#### To load a plate into the IN Cell Analyzer plate carrier:

- 1 Click the **Load** icon 💿 on the Main toolbar. The access door on the top-left of the instrument slides open.
- 2 Firmly seat the plate in the plate carrier.

Insert a plate into the plate carrier





3 Click the **Load** icon **O** again, or click on a well location within the Plate/Slide View window to close the access door.

If you are using the Environmental Controller option, ensure that you secure the lid squarely on the plate and connect the CO2 and power source correctly.

Environmental Controller Lid



# 4.2 Overview of the Assay Development Mode

Assay Development Mode is used to define the scan parameters. The most commonly used settings can be controlled from the Dashboard. Detailed settings are available in the "cards" listed under the Dashboard heading on the left side of the window. Progression through each of these cards can be sequential or random.

Note: For basic experiments, not all cards will be needed.

▼ Dashboard	Dashboard	
Protocol Name Plate/Slide		Channels
Objective Lens Fields Specimen Options Channel Settings Focus Options Image Processing Plate Heater Liquid Handling	Name:         Three_Channel_2200_96_well           Plate/Slide:         PE ViewPlate-96 6005182 96-well plate         Verify           Objective:         Nikon 10X/0.45, Plan Apo, CFU60         SAC •           Binning:         1 X 1         Polychroic:         QUAD2           Focus Options         Focus Options         Focus Option         Focus Option	DAPI FITC2 Oj6
Acquisition Options Review Scan	Initial Focus (Z <sub>Q</sub> ):     0.00 +       Power Level (%):     20 +       Refocus at each Time Point     Auto Offset	DAPI Settings
	✓ Software Autofocus <ul> <li>Adaptive Small ■</li> <li>On every 1 = field(s)</li> <li>of every 1 = well(s)</li> </ul>	Exposure(s) 0.0010 + AF Offset 0.00 + Image Mode: 2-D + Erame Avg: 1 Erame Avg: 1

#### Assay Development Mode

# 4.3 Focusing on the sample

- 1 In the **Name** field, enter a descriptive protocol name. This name will be used to reload the protocol for future scans.
- 2 From the **Plate/Slide** drop-down list, select the plate or slide type.
- 3 From the **Objective** drop-down list, select the appropriate lens.

Dashboard settings for creating a new protocol

Dashboard		
Name:	New	
Plate/Slide:	Greiner uClear	Verify
Objective:	Nikon 10X/0.45, Plan Apo, CFI/60	SAC -

- 4 Click on an area in the Plate View to move the sample over the objective.
- 5 Click the Laser Autofocus icon to focus. If the objective does not move into a position close to focus, click the Verify button and apply the measured parameters.
- 6 If necessary, use the **Focus Finder** tool  $F_F$  to achieve optimal focus.

# 4.4 Setting channel parameters

1 Click the **Add New Channel** button to display a list of available dyes. Choose the dyes that most closely match the labels in your sample.

Choose dyes for your sample

Channels	
+• 🗙 📝	
DAPI	4
FITC	
🛑 🛑 Cy5	

2 Click the first channel in the selected row to take an image with the given channel settings. Adjust the exposure time as necessary.

Adjust Exposure

DAPI Settings				
Exposure(s):	0.1000	•		
AF Offset:	0.0	•		
Image Mode:	2-D			
	Frame Av	<u>iq: 1</u>		
AF				

**Note:** Refer to the Min, Max, and Mean values at the bottom of the image panel when optimizing exposure times.

Min: 0 | Max: 3243 | Mean: 117 | %Optimum...

We recommend that you keep the Max value below 45,000 counts to help avoid saturation during the scan.

- 3 From the **Image Mode** drop-down list, select the image mode required for your experiment. For normal situations, select the "2-D Image Mode."
- 4 Repeat Steps 2 through 3 for all channels.

# 4.5 Selecting fields to image

#### To select fields to image:

• In the Plate View, hold down the CTRL key while dragging the mouse cursor over the fields of interest.

Select fields to image



#### To clear selected fields:

• Hold down the SHIFT key while dragging the mouse cursor over the fields.

# 4.6 Starting the scan

1 In the main toolbar, click the Run Protocol icon  $\stackrel{4}{\longrightarrow}$  to open the Acquisition Session dialog box. (The acquisition protocol will be saved automatically if any changes have been made.)

Acquisition Session

Acquisition Session			
Stack Destination Specify a folder in which to store the scan results.			
Base Image Folder			
Base Folder:	C:\ Browse		
Data Folder Naming			
Annotation:			
Naming method: O Current Date & Time  O Unique Plate Identifier O Scratch Folder			
This protoco	ol is not configured with a review scan protocol.		
Review Scan F	Folder: View Protocol Chain		
	Cancel Run		

- 2 In the **Base Folder** field, specify the location to save the data.
- 3 Select a naming method for the results folder.
- 4 Click **Run** to start the scan.

4 Operation 4.6 Starting the scan

# 5 Maintenance

# About this chapter

The IN Cell Analyzer requires minimal maintenance and cleaning. This chapter describes the few procedures required to clean and maintain the system.

Section	See page
5.1 Daily checks and routine maintenance	66
5.2 CO <sub>2</sub> humidifier	69
5.3 Liquid handling reagent and wash bottle	71
5.4 Mains power troubleshooting	73
5.5 Spare parts and accessories	74

# 5.1 Daily checks and routine maintenance

The following processes should be performed on a regular or daily basis, on a schedule defined by your local data administrator.

### Data Back Up

It is recommended that you back up the data files and programs in the computer workstation in accordance with procedures defined by your local data administrator.

### **Environmental Checks**

Check that the room where the IN Cell Analyzer is being used meets the environmental requirements listed in the GE Healthcare Site Preparation Guide provided by the Field Service Engineer prior to installation.

### **Cleaning the System**

Do not attempt to clean any components located within the system enclosure panels.

#### To clean dust and dirt from the outside of the instrument:

- 1 Disconnect the system from power.
- 2 Wipe down the system using a lint free cloth slightly moistened (but not soaked) with 70% ethanol.
- 3 Wait until all parts are dry before running any experiments.



#### CAUTION

Ensure that no liquid has penetrated the enclosure before you reconnect the system to the mains power supply.



#### WARNING

Always disconnect the mains power supply prior to using any liquid cleaners, or other liquids, near or on the system.



#### WARNING

Always disconnect the mains power supply prior to removing any part of the system enclosure.

#### To clean the air filter:

1 Remove the system's left side cover as shown in the following figure. The cover is held in place with pressure pins that release when pulled.

Remove the left side cover



2 Remove the air filter from the IN Cell Analyzer system's air intake as shown in the following figure. The air filter is held in place with heavy duty hook and loop fasteners and may require significant effort to be removed.

Remove the air filter



- 3 Clean the air filter mesh using a vacuum cleaner. Be sure to get the mesh as clean as possible.
- 4 Return the air filter to its original position on the IN Cell Analyzer system. Press it into the hook and loop fastener to make sure it is firmly seated.

Replace the air filter



# 5 Maintenance5.1 Daily checks and routine maintenance

5 Install the left side panel. Press the panel firmly over the pressure pins until you feel the pressure pins lock into place. It may be necessary to strike the panel with the palm of your hand directly over the pressure pins to seat them.

Install the left side panel



# 5.2 CO<sub>2</sub> humidifier

The fluid storage area for the  $CO_2$  humidifier is located on the right side of the IN Cell Analyzer system, farthest from the access door (outlined by a dotted green line in the following figure).

Bottle storage area





#### WARNING

Always disconnect the mains power supply prior to using any liquid cleaners, or other liquids, near or on the system.

#### To fill the CO2 bottle:

- 1 Disconnect the system from the mains power supply.
- 2 Slide open the fluid compartment door to access the fluid storage bottle.



- 3 Hold the lid and unscrew the bottle from the lid and tubing.
- 4 Refill the bottle.
- 5 Reattach the bottle to the lid by holding the lid and screwing the bottle into the lid.
- 6 Reconnect the tubing to the bottle.
- 7 Return the bottle to the bottle storage compartment.

8 Close the door to the fluid compartment, reconnect the IN Cell Analyzer to power, and restart the system.



### CAUTION

Ensure that no liquid has penetrated the enclosure before you reconnect the system to the mains power supply.

9 Click the Environmental Control icon J in the main toolbar to display the Environmental Control window.

# 5.3 Liquid Handling Reagent and Wash Bottles

The fluid storage area for the Liquid Handling module's reagent and wash bottles is located on the right side of the IN Cell Analyzer system, farthest from the access door (outlined by a dotted green line in the following figure).

Reagent and wash bottle storage area



Always fill the reagent and wash bottles to appropriate levels before beginning a Liquid Handler experiment.

Always inspect the waste receptacles and their tubing. Inspect the red tubing for liquid. Contact your GE representative if there is any liquid in the red tubing.

After your experiment is completed, flush the pump with a solution of (minimum) 91% Isopropyl Alcohol at 130  $\mu$ l per second for two minutes. This keeps the pump primed for the next liquid handling experiment.



#### WARNING

Always disconnect the mains power supply prior to using any liquid cleaners, or other liquids, near or on the system.

#### To fill the reagent and wash bottles:

- 1 Disconnect the system from the mains power supply.
- 2 Slide open the fluid compartment door to access the fluid storage area.
- 3 Fill the supplied bottle with the appropriate liquid and then place the bottle in the bottle compartment located on the right side of the instrument.
- 4 Connect the delivery tubing to the wash and reagent fluid storage bottles through the cap. The tubing is appropriately labeled for the wash and reagent bottles.

5 Close the door to the fluid compartment, reconnect the IN Cell Analyzer to power, and restart the system.



### CAUTION

Ensure that no liquid has penetrated the enclosure before you reconnect the system to the mains power supply.

6 Click the Liquid Handling icon 🔌 in the main toolbar to display the Liquid Handling window.
## 5.4 Mains power troubleshooting



WARNING The instrument must be decontaminated before it is sent for repair or decommissioned.



#### WARNING

System repairs or modifications must be performed by GE personnel.



#### WARNING

Always disconnect power from the system before replacing any component unless otherwise stated in the user documentation.

The following process describes what to do if the workstation, monitor, or imager will not turn on.

### To troubleshoot power issues with the workstation, monitor, or imager:

- 1 Turn off the workstation, monitor, and imager using their main power switches.
- 2 Check that the mains power source is providing power (by connecting another electrical item to the power outlet). If the mains power source does not work, contact your local maintenance department before proceeding.
- 3 Check that the main power cable is connected correctly and that the plugs are firmly located in the sockets.
- 4 Test the workstation, monitor, or imager again by attempting to turn it on.
- 5 If the selected component still does not work, contact your local GE service engineer.

# 5.5 Spare parts and accessories:

For up-to-date information on spare parts and accessories, visit www.gelifesciences.com/incell.

For local office contact information, visit:

#### www.gelifesciences.com/contact

GE Healthcare UK Limited Amersham Place, Little Chalfont Buckinghamshire, HP7 9NA UK

www.gelifesciences.com



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All goods and services are sold subject to the terms and conditions of sale of the company within GE which supplies them. A copy of these terms and conditions is available on request. Contact your local GE representative for the most current information.

#### Notice to purchaser

The IN Cell Analyzer 2200 and IN Cell Analyzer 6000 systems are for research use only. They are not for use in diagnostic procedures in humans or animals.

GE Healthcare Europe GmbH Munzinger Strasse 5, D-79111 Freiburg, Germany

GE Healthcare UK Limited Amersham Place, Little Chalfont, Buckinghamshire HP7 9NA UK

GE Healthcare Bio-Sciences Corp. 100 Results Way, Marlborough, MA 01752 USA

GE Healthcare Dharmacon, Inc. 2650 Crescent Drive, Lafayette, CO 80026 USA

HyClone Laboratories, Inc. 925 W 1800 S, Logan, UT 84321 USA

GE Healthcare Japan Corporation Sanken Bldg. 3-25-1, Hyakunincho Shinjuku-ku Tokyo 169-0073, Japan