



PRE-INSTALLATION GUIDE

ImageXpress Pico Automated Cell Imaging System

with CellReporterXpress Image Acquisition and Analysis Software

Welcome to the family of ImageXpress system users. This document provides the information you need to prepare for your new ImageXpress® Pico Automated Cell Imaging System.

Environmental Requirements

The ImageXpress Pico system is designed to operate indoors under laboratory conditions of 18°C to 30°C (64°F to 86°F) with 20% to 75% non-condensing humidity. As with any precision optical instrument, take special care to maintain a low-dust, low-vibration environment. Temperature and humidity extremes can affect performance.

Avoid the following lab conditions:

- Avoid installation in or near any room with high-motion equipment, including vacuum pumps, centrifuges, elevators, air conditioners, or heaters.

- Avoid installation directly in the path of air vents. Sudden temperature changes and air-flow vibrations can degrade performance.
- Avoid installation near external vibration caused by trains or excessive vehicle traffic.
- Avoid installation in a room with noticeable vibration on floors or walls.
- Avoid installation in direct sunlight.
- Avoid installation within 5 m (16.4 ft) from a refrigerator.
- Avoid installation within 2 m (6.5 ft) from a door.
- Avoid installation on a table that is mechanically attached to a wall.
- Avoid installation on a table with shakers, stirrers, mixers, or centrifuges.

Space and Table Requirements

The ImageXpress Pico system requires a sturdy table or lab bench with a

weight rating of at least 50 kg (110.2 lb). With no options, the instrument weighs 38 kg (83.8 lb). With the optional Environmental Control (EC) System, the instrument weighs 40 kg (88.2 lb).

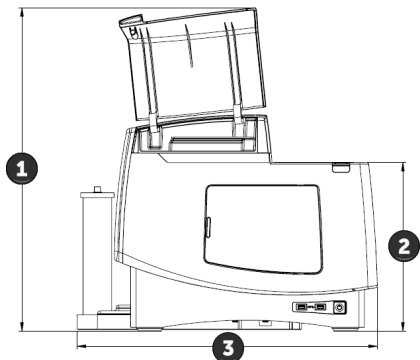
We recommend that the table or lab bench be at least 94 cm (37.0 in.) wide by 61 cm (24.0 in.) deep. Additional space or a separate table is required for the host computer.

Most low-magnification applications tolerate non-optical tables that can be purchased from vendors specializing in industrial furniture, including:

- Ergotron (www.ergotron.com/en-us/anthro)
- RDM (www.rdm-ind.com)
- SteelSentry (www.steelsentry.com)

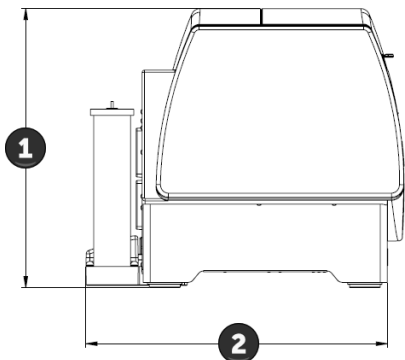


The front and the top of the instrument must be accessible to allow access to the objectives, filter cubes, and stage holder. In addition, you must maintain 20 cm to 30 cm (7.9 in. to 11.8 in.) of clearance at the rear of the instrument to ensure sufficient ventilation and provide access for disconnecting power from the instrument.



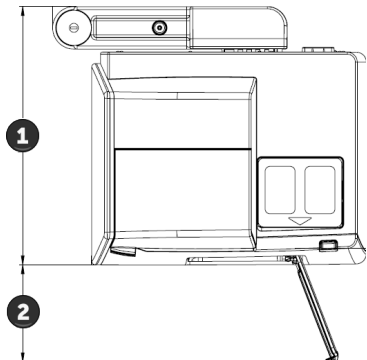
Instrument Front (shown with optional Environmental Control System)

Dimension	Description
1	67.8 cm (26.7 in.)
2	35.3 cm (13.9 in.)
3 (without EC)	55.1 cm (21.7 in.)
3 (with EC)	62.9 cm (24.8 in.)



Instrument Side (shown with optional Environmental Control System)

Dimension	Description
1	45.3 cm (17.8 in.)
2 (without EC)	39.7 cm (15.6 in.)
2 (with EC)	49.0 cm (19.3 in.)



Instrument Top (shown with optional Environmental Control System)

Dimension	Description
1 (without EC)	42.5 cm (16.7 in.)
1 (with EC)	51.6 cm (20.3 in.)
2	9.5 cm (7.7 in.)

Host Computer

The host computer, which is your interface to the instrument, is an integral part of the ImageXpress Pico system. With the Workstation and Monitor Bundle, Molecular Devices provides a Dell Precision tower and a touch-screen monitor designed and configured for the ImageXpress Pico system.

Host Computer	Specification
Width	9.3 cm (3.6 in.)
Length	29.2 cm (11.5 in.)
Height	29.0 cm (11.4 in.)

Power Requirements

- Connections available to all international supply voltages.
- The instrument requires an input voltage range from 100 VAC to 240 VAC, 50/60 Hz, 4 amps maximum at 115 VAC.
- Fluctuations must be within 10% of the nominal voltage.
- When using a power strip, the host computer and monitor should be connected to a different power strip than the instrument.

To limit the risk of interruption during power loss, use an uninterruptible power supply (UPS) to provide backup power and power line conditioning for both the instrument and host computer.

The power requirements for individual components are listed below. To determine the power consumption (in watts) for the ImageXpress Pico system, add the power requirements of all applicable components. For example, the power consumption of a typical system is 452 watts (that is, 200 + 200 + 52).

Power Requirement	Watts	Power Cables
Instrument	200	1
Host Computer	200	1
Monitor 24"	52	1

CellReporterXpress Software Requirements

The host computer runs the CellReporterXpress® Image Acquisition and Analysis Software, which offers a uniquely designed, user-friendly interface and allows the ImageXpress Pico to be networked in a variety of configurations. The software features over 25 available predefined experiment protocols and high-powered analysis tools.

The Workstation and Monitor Bundle includes a Dell computer that meets the following specifications:

Item	Specification	Notes
Processor	Intel Core i9 with 16 logical cores, 11th generation	
RAM	32 GB (2 × 16 GB) DDR4	
Storage	Solid-State Drive (SSD)	For operating system drive.
Graphics	NVIDIA Quadro P620, 2 GB (or higher)	
Network	Secondary 1 Gb NIC PCIe	Do not use a wireless connection or a USB-to-Ethernet adapter to connect the host computer to the instrument.
Operating System	Microsoft Windows 10 Pro	Also tested with Windows 10 Enterprise and Education editions and Windows Server 2016 Standard edition.
Browser	Google Chrome	
USB 3 Port	---	For external storage drive, if used.
Display Resolution	---	Optimized for 1920 x 1080 (Full HD).

In a server configuration, analysis and storage operations can be performed remotely. See the CellReporterXpress Installation Guide for details of computer requirements for each configuration.

Supported Browsers for Remote Clients

In a network configuration or a server configuration, you can connect to the host computer using other computers and tablets as remote clients. The remote client can be any desktop computer, laptop computer, or iPad or Android tablet with a screen size of at least 9 inches.

Remote clients can use the following supported browsers to display the user interface and interact with the software:

Operating System	Browser
Microsoft Windows	Google Chrome or Mozilla Firefox
Apple macOS	Google Chrome or Apple Safari
Apple iOS	Apple Safari
Google Android	Google Chrome
Linux	Google Chrome

Facility Receiving Requirements

Your ImageXpress Pico system will arrive on a pallet in one box, which contains the instrument and its accessories.

Instrument Box	Specification
Width	66 cm (26 in.)
Length	112 cm (44 in.)
Height	74 cm (29 in.)
Weight	50 kg (110 lb)
Ambient Storage Conditions	Temperature: -20°C to +60°C (-4°F to 140°F) Relative Humidity: 15% to 75% (noncondensing)

With the Workstation and Monitor Bundle, the host computer and monitor will arrive separately.

Computer Box	Specification
Width	48.7 cm (19.2 in.)
Length	39.4 cm (15.5 in.)
Height	26.4 cm (10.4 in.)
Weight	6.8 kg (15.1 lb)

Use a pallet jack (recommended) or rolling cart to move the boxes to the installation location. Always use great care when transporting the instrument within your facility.

All boxes should be stored indoors and protected from environmental extremes until the instrument and accessories are unpacked. If the boxes are stored in conditions significantly colder than room temperature, they should not be opened until the temperature has reached equilibrium (typically at least 6 hours) to avoid the formation of condensation inside the instrument.

If a Molecular Devices field service engineer is installing your system, do not open any boxes until the field service engineer is present (unless instructed to do).

Installation Guidelines

The ImageXpress Pico system is designed to be user installable. All installation documentation is available in the Knowledge Base on the Molecular Devices Support website. Before you begin, review the documentation so you know what to expect.

As an option, a Molecular Devices field service engineer can install the ImageXpress Pico system for you. During installation, the field service engineer will set up a stand-alone configuration on the host computer to configure and test the system.

With the Workstation and Monitor Bundle, the CellReporterXpress software is pre-installed on the host computer. We strongly recommend that you do not replace the host computer or perform any updates other than those described in the CellReporterXpress Installation Guide or advised by Molecular Devices Technical Support. Note that if you connect the host computer to your organization's domain, it is possible that some settings may be overwritten and may need to be set again. See the CellReporterXpress Installation Guide for details.

Environmental Control System Requirements

The ImageXpress Pico system is available with the optional Environmental Control system, which enables you to perform multi-day, live-cell, time-lapse experiments and hypoxia experiments.

If your instrument is equipped with this option, you must provide pressurized gases and the appropriate pressure regulators to complete installation. See the ImageXpress Environmental Control System Gas Requirements Pre-Installation Guide for details.

Firewall Requirements

The ImageXpress Pico system requires that your firewall allow communication to certain ports. The installation program will attempt to configure the ports, but your network policies may prevent this. In that case, you must manually configure the ports. For a server configuration with external analysis and external storage, configure the following ports:

Computer	Port	Direction	Purpose
Host Computer	TCP 80	Inbound	Communication with host computer (without security certificate). Configurable at installation. Required for robotic automation.
	TCP 443	Inbound	Communication with host computer (with security certificate). Configurable at installation.
	UDP 5353	Inbound	Auto detection of the instrument.
	TCP 8091 TCP 9090	Outbound	Communication with instrument. If instrument is behind a firewall, these ports should be forwarded to the IP address of the instrument.
	TCP 12323	Inbound	Communication with storage computer and analysis computer.
	TCP 12324	Outbound	Communication with storage computer.
	TCP 12325	Outbound	Communication with analysis computer.
Analysis Computer	TCP 12323	Outbound	Communication with host computer.
	TCP 12325	Inbound	
Storage Computer	TCP 12323	Outbound	
	TCP 12324	Inbound	

Other configurations require that you configure a subset of these ports. See the CellReporterXpress Installation Guide for details.

Antivirus Settings

We highly recommend that you use antivirus software for all networked computers in the ImageXpress Pico system. The installation program will attempt to create the required antivirus exclusions, but your antivirus software or network policies may prevent this. In that case, you must create exclusions for the following Windows services:

- MD.CoreService (MolDev.CoreService.exe)
- MD.DataService (MolDev.DataService.exe)
- MD.WebService (MolDev.WebService.exe)
- MD.AnalysisService (MolDev.AnalysisService.exe)
- MD.LocationService (MolDev.LocationService.exe)

In addition, you may want to do the following:

- Create exclusions for all paths to storage devices.
- Enable automatic updates for antivirus definitions to increase system security.
- Enable the ability to turn off virus scanning for troubleshooting.

Documentation

The CellReporterXpress software includes context-sensitive Help that you can access from within the software. In addition, you can access the following guides on the Knowledge Base at the Molecular Devices Support website:

- CellReporterXpress Installation & IT Guide
- CellReporterXpress User Guide
- CellReporterXpress Release Notes
- ImageXpress Pico Pre-Installation Guide
- ImageXpress Pico EC Gas Requirements Pre-Installation Guide
- ImageXpress Pico Installation Guide
- ImageXpress Pico User Guide
- ImageXpress Pico Calibration Kit Guide
- ImageXpress Pico Product Safety Sheet

Support and Service

Molecular Devices provides comprehensive support and service solutions for the ImageXpress Pico system supported by a global network of factory-trained engineers. To contact us, go to:

Web: www.moleculardevices.com/service-support
www.moldev.com/support
Email: support@moldev.com

Contact Us

Web: www.moleculardevices.com
Email: info@moldev.com

Check our website for a current listing of worldwide distributors.

Regional Offices

USA and Canada	+1.800.635.5577	China	+86.400.821.3787	Japan	+81.3.6362.9109
UK and Europe*	00800.665.32860	Taiwan	+886.2.2656.7585	Korea	+82.2.3471.9531

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