



Pre-installation Guide

ImageXpress® Micro 4 High-Content Imaging System

Welcome to the family of Molecular Devices® ImageXpress® System users. This document provides you with the necessary information to prepare your facility for the installation of your new ImageXpress Micro 4 High-Content Imaging System.

Environment requirements

The ImageXpress Micro System and all options are designed to operate indoors under laboratory conditions (15° to 30° C; 35% to 50% non-condensing humidity). As with any precision optical instrument, take care to maintain a low-dust, low-vibration environment. Temperature and humidity extremes can compromise performance.

Most low-magnification applications will tolerate non-optical tables that can be purchased from companies specializing in

industrial furniture, such as:

- Anthro (<http://www.anthro.com>)
- RDM (www.rdm-ind.com)
- SteelSentry (<http://www.steelsentry.com>)

For high-magnification or vibration-sensitive applications, we suggest a sturdy table such as an optical breadboard from vendors such as:

- Newport (www.newport.com)
- Kinetic Systems (www.kineticsystems.com)
- TMC (www.techmfg.com)

Molecular Devices sales representatives may have recommendations for specific tables; however, it is the user's responsibility to verify weight capacity and general sturdiness of product from third party vendors. An optical table will reduce the

vibration transmitted to the instrument, allowing better imaging performance in relatively poor vibration environments. We do not recommend air or hydraulic isolation tables.

Avoid installing the instrument with the following lab conditions or situations:

- Avoid installation in or next to a room where there is high-motion equipment, like elevators, air conditioners, and heaters.
- Avoid placement directly in the path of air vents, because sudden temperature changes and air-flow vibrations can degrade performance.
- Avoid placement near external vibration caused by trains or excessive vehicle traffic.
- Avoid placement in any room with noticeable vibration on floors or walls.
- Avoid placement less than 5 m (15 ft) away from refrigerators.
- Avoid placement less than 2 m (6 ft) away from doors.
- Avoid using a table that is mechanically attached to a wall.
- Avoid sharing a table with shakers, stirrers, mixers, or centrifuges.

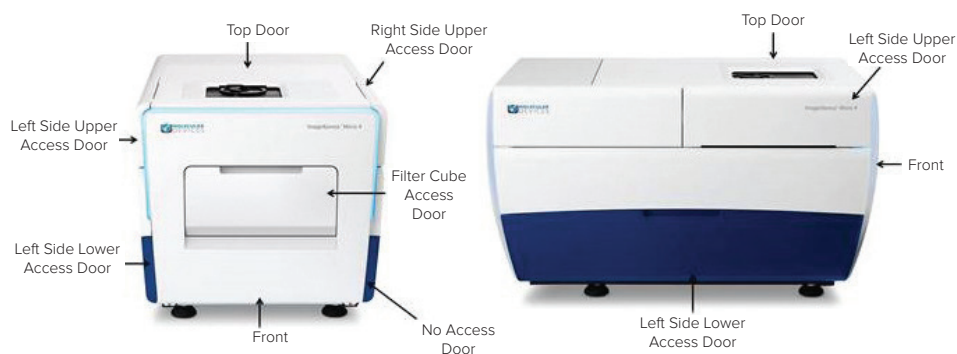


Figure 1. Instrument front and sideways installation orientation options.

Space and table requirements

A table or lab bench suitable for the size and weight of the instrument is required. The size and weight for the instrument portion of the ImageXpress Micro System are provided in Table 1. The size of the ImageXpress Micro system components are provided in Table 2.

ImageXpress Micro System can be purchased with Environmental Control (EC), Phase Transmitted Light (TL), Transmitted light without phase, (LED-TL), or Fluidics and Environmental Control (Fluidics/EC) and various combinations. Note that the Fluidics and Phase Transmitted Light options are not compatible with each other. The height and weight of the ImageXpress Micro System are increased by the addition of the Phase Transmitted Light or Fluidics options.

To minimize vibrations, the systems power and options controller, light source and computer should not be placed on the same table as the ImageXpress Micro instrument. Often these items are placed on the floor below the instrument. The optimal configuration is to keep components within 1.2 meters/4 feet of the instrument as cables are approximately 1.8 meters/6 feet in length. The acquisition computer for the system can be used with multiple monitors, so ample desk space for monitor placement is needed.

The instrument should be accessible on the front and the sides of the instrument to allow access to the objectives, filters and replacement of the tip box exchange in the case of the fluidics option. For the fluidics option the rear of the instrument should be accessible so that the tip waste bin can be removed and emptied.

The ImageXpress Micro 4 instrument can be installed in two orientations. Sideways installation is the recommended orientation as it allows easier access to the left side doors. Space for the instrument as well as adequate clearance around the instrument is necessary for user and service access.

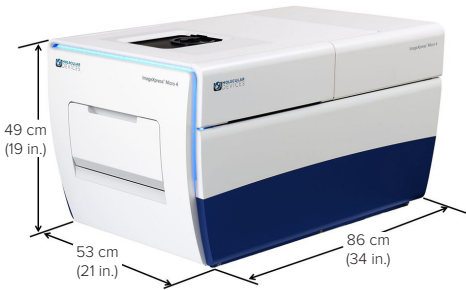


Figure 2. Instrument height, width, and length.



Figure 3. Distance between the outside edges of the instrument feet.

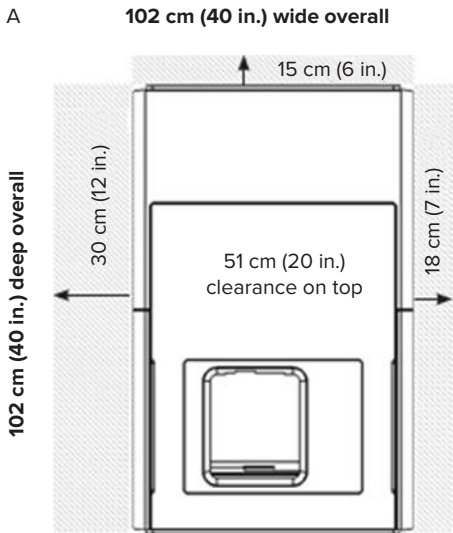
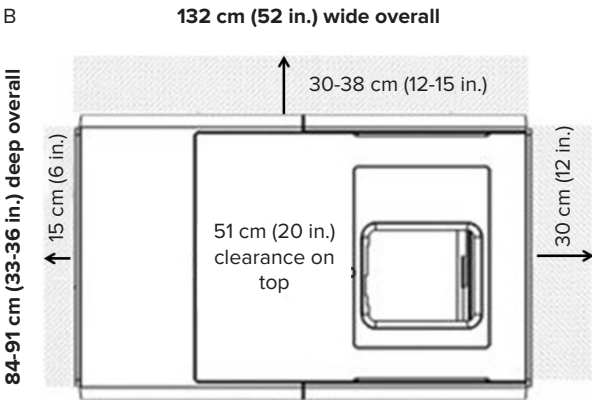


Figure 4. A. Front installation.



B. Sideways installation. Molecular Devices recommends sideways installation to allow optimal access to the upper & lower side door.

Dimensions (cm/in.)	W	L	H	Weight (kg/lbs.)
Instrument, no option, with LED-TL option or with EC option	53/21	86/34	48/19	98/215
Instrument with Phase TL option	53/21	86/34	81/32	103/225
Instrument with Fluidics/EC option	53/21	86/34	107/32	137/300

Table 1. Size and weight of the ImageXpress Micro 4 System instrument and base unit with options.

Dimensions (cm/in.)	W	L	H
Acquisition Computer for ImageXpress System	20/8	53/21	43/17
Power and Options Controller	27/11	51/20	20/8
Light source (approximate size)	18/7	25/10	13/5
Monitor, 27"	64/25	41/16	64/25
Monitor, 22"	51/20	25/10	51/20

Table 2. Size and of the ImageXpress Micro 4 System components.

Power requirements

- Direct connections to all international supply voltages available.
- Use the included IEC power cord to connect the external ImageXpress Micro Systems Power and Options Controller to a GROUNDED power receptacle that is rated for 15 A.
- For systems that do not include the EC option, input voltage range is from 100 VAC to 240 VAC, 50/60 Hz, 12 amps maximum.
- For systems that include EC option, input voltage range is either 100-120 VAC, 50/60Hz, 12 amps maximum or 200-240 VAC, 50/60Hz, 12 amps maximum. The appropriate version is specified at time of order.
- Fluctuations must be within $\pm 10\%$ of the nominal voltage.
- When using a power strip, the computer and monitor should be connected to a different power strip than the ImageXpress Micro Systems Power and Options Controller that connects to the instrument and light source.

It is recommended that the ImageXpress Micro Systems Power and Options Controller be maintained a different circuit than the computer and monitor. To limit the risk of interruption during power loss, a uninterruptible power supply (UPS) can be used to provide backup power and power line conditioning for the instrument and computer.

The power requirements for the individual components are listed in Table 3. To determine the power consumption (watts) or apparent power (volt-amperes or VA) for the ImageXpress Micro System, add together the power of all applicable components. For example the power consumption of a system without options and with 2 large monitors is 505 Watts (185+120+120+40+40). The maximum power requirement of any configuration is 805 Watts. Most of the additional power for the EC option is needed for the EC heater.



Figure 5. Instrument with Fluidics/EC option.



Figure 6. Instrument with Phase Transmitted Light option.

Power Requirement	Watts	VA	Power Cables
Instrument, no option	185	195	1
Instrument with Phase TL/EC option	485	511	1
Instrument with Fluidics/EC option	410	432	1
Instrument with Phase TL option	285	300	1
Instrument with EC option	385	405	1
Light Source	120	126	1, connects to power and options controller
Computer	120	133	1
Monitor, 27" (each)	40	44	1
Monitor, 22" (each)	20	22	1

Note: Addition of LED-TL option does not appreciably add to the power requirements of the system, so it is not included in this table.

Table 3. Power requirement for the ImageXpress Micro System.

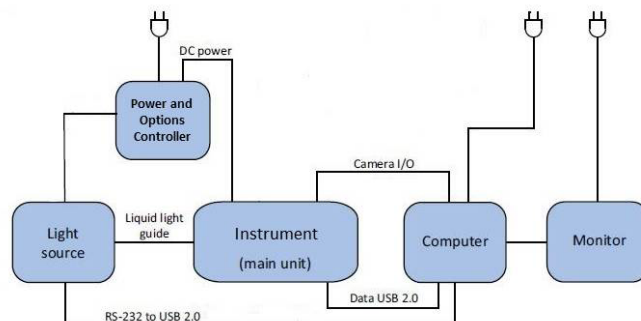


Figure 7. ImageXpress Micro 4 System components without options.

Installation supplies

Users must provide the following to assist in instrument installation:

- Sturdy table, at least 94 cm (37 in.) by 61 cm (24 in.), with 39" of vertical clearance, and rated for over 104 kg (230 lbs.) with minimal vibration
- Table clearance of 132 cm (52 in.) wide, 84-91 cm (33-36 in.) deep and with 39" of vertical clearance (sideways installation)
- Additional space or a separate table or workstation for computer keyboard, mouse and monitor(s)
- If the fluidics option is included, the table should be rated for another 45 kg (100 lbs.)
- Power strip (optional)
- Online power conditioning UPS (optional)
- Network cable and 1 Gigabit network connection
- If the fluidics option is included, use only Molecular Devices pipette tips (part number 9000-0761 (200 µL capacity) and 9000-0763 (25 µL capacity))

Installation supplies required for Environmental Control option

- A tank or house CO₂/air mixture (e.g., 5% CO₂/95% air) as appropriate for your application
- CO₂ regulator that can supply 20 PSI (138 kilopascal)
- Tubing (¼"; 6 mm O.D.) of appropriate length to go between ImageXpress system and CO₂ regulator
- Adapter for CO₂ regulator that can accept the ¼" (6 mm) tubing

Facility receiving requirements

Only Molecular Devices personnel are authorized to open the crate(s).

Equipment will arrive in 2 crates for standard system or 3 crates if an option is included. Shipping crate dimensions and weights are shown in Table 4. Crates must be stored inside and protected from environmental extremes until equipment is removed. The instrument crate requires 10 feet of clearance on one side to allow removal of the instrument from the crate.

Due to its weight, the instrument must be moved to installation site on a rolling cart (included) that is approximately 61 cm (24") wide x 92 cm (36") long.

Support and service

For support or service, please contact us at:

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

Contact Us

Phone: +1-800-635-5577
Web: www.moleculardevices.com
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Check our website for a current listing of worldwide distributors.

Regional Offices

USA and Canada
+1.800.635.5577
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+44.118.944.8000
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China (Beijing)
+86.10.6410.8669
China (Shanghai)
+86.21.3372.1088
Hong Kong
+852.2248.6000

Japan (Osaka)
+81.6.7174.8331
Japan (Tokyo)
+81.3.6362.5260
South Korea
+82.2.3471.9531

Brazil
+55.11.3616.6607

*Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Netherlands, Spain, Sweden and Switzerland

Dimensions (cm/in.)	W	L	H	Weight (kg /lbs.)
Instrument crate	81/32	134/53	112/44	275/605
System components crate	77/30	56/22	77/30	50/110
Phase TL or PhaseTL/EC crate, if applicable	77/30	56/22	77/30	50/110
Fluidics/EC crate, if applicable	115/45	122/48	86/34	90/200

Table 4. Shipping crate dimensions and weight.