

Agilent CrossLab Start Up Services

Agilent G5573A Bravo NGS Option A Site Preparation Checklist

Thank you for purchasing an instrument from **Agilent Technologies**. CrossLab Start Up is focused on helping customers shorten the time it takes to start realizing the full value of their instrument investment.

Correct site preparation is the key first step in ensuring that your instruments and software systems operate reliably over an extended lifetime. This document is an **information guide and checklist** prepared for you that outlines the supplies, space, and utility requirements for the system set up in your lab.

Introduction

Customer Information

- If you have questions or problems in providing anything described as part of *Customer Responsibilities* below, please contact your local Agilent or partner support / service organization for assistance prior to delivery. In addition, Agilent and/or its partners reserve the right to reschedule the installation dependent upon the readiness of your laboratory.
- Should your site not be ready for whatever reasons, please contact Agilent as soon as possible to re-schedule any services that have been purchased.
- Other optional services such as additional training, operational qualification (OQ) and consultation for user-specific applications may also be provided at the time of installation when ordered with the system but should be contracted separately.
- Please refer to the other peripheral products (ie, samplers etc.) for site preparation requirements.

Customer Responsibilities

Ensure that your site meets the following specifications before the installation date. For details, see specific sections within this checklist, including:

- The necessary laboratory or bench space is available.
- The required **environmental conditions for the lab** as well as laboratory gases, tubing.
- The **power requirements** related to the product (e.g. **number & location** of electrical outlets).
- The **required operating supplies** necessary for the product and installation.
- While Agilent is delivering **Installation and Introduction** services, users of the instrument should be present throughout these services; otherwise, they will miss important operational, maintenance and safety information.
- Please consult the **Special Requirements and Other Considerations** section below for other product-specific information

Important Customer Web Links

- To access Agilent training and education, visit <http://www.agilent.com/chem/training> to learn about training options, which include online, classroom and onsite delivery. A training specialist can work directly with you to help determine your best options.

- To access the **Agilent Resource Center** web page, visit <https://www.agilent.com/en-us/agilentresources>. The following information topics are available:
 - Sample Prep and Containment
 - Chemical Standards
 - Analysis
 - Service and Support
 - Application Workflows
- The **Agilent Community** is an excellent place to get answers, collaborate with others about applications and Agilent products, and find in-depth documents and videos relevant to Agilent technologies. Visit <https://community.agilent.com/welcome>
- Videos about specific preparation requirements for your instrument can be found by searching the **Agilent YouTube** channel at <https://www.youtube.com/user/agilent>
- **Need to place a service call?** [Flexible Repair Options | Agilent](#)

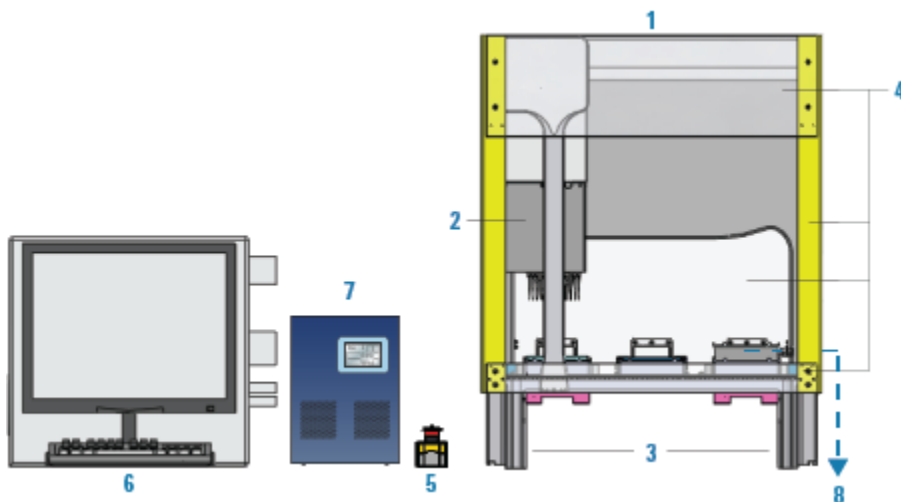
Site Preparation

Bravo NGS Option A Components

Primary components

Item	Description
1.	Bravo Automated Liquid-Handling Platform
2.	Liquid-handling head (96LT Head, standard)
3.	Bravo risers, 146 mm
4.	Bravo safety equipment, including Light Curtain and shields
5.	Emergency-stop pendant
6.	Computer and monitor
7.	Inheco MTC Controller (for Peltier Thermal Stations on Bravo deck)
8.	Thermo Cube (not shown)

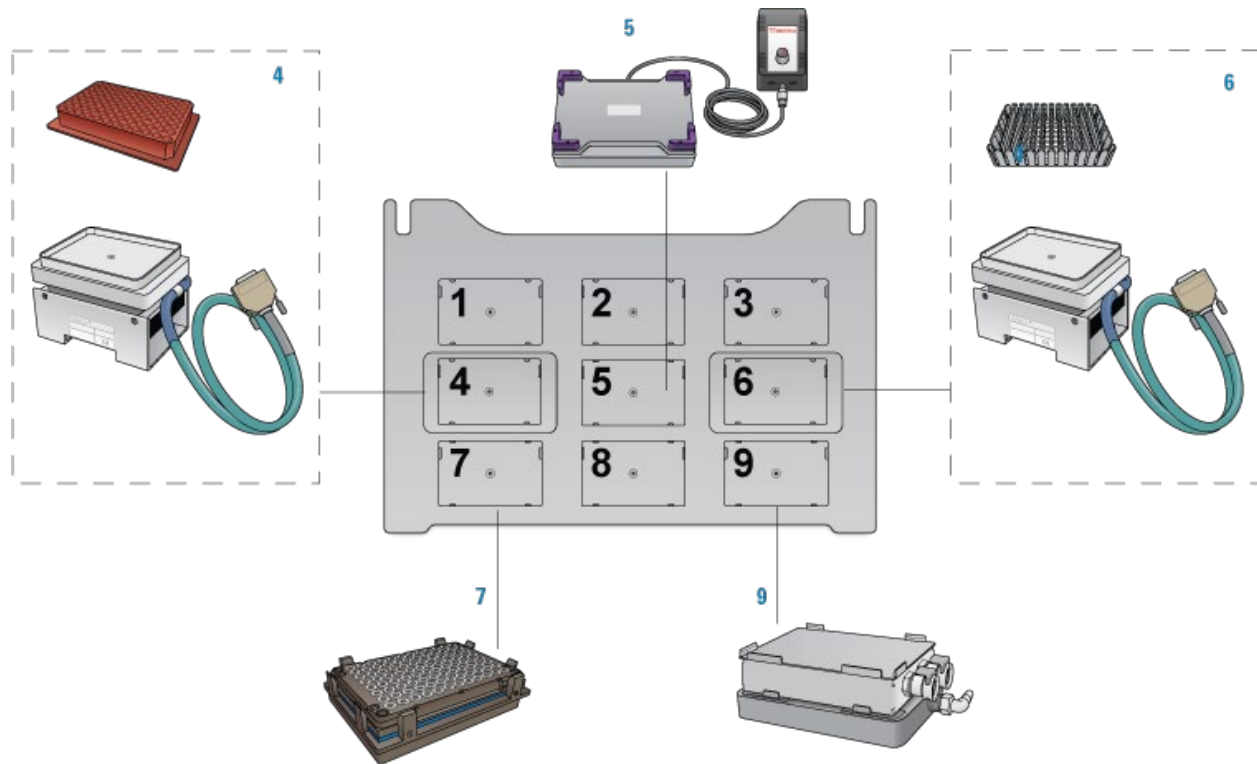
Figure. Bravo NGS Option A components (front view)



Accessories installed on the Bravo deck

- Peltier Thermal Station (CPAC) at locations 4 and 6, which use the Inheco MTC Controller
- Orbital Shaking Station at location 5
- Magnetic Bead Accessory at location 7
- Thermal Station (cooling pad) at location 9, which uses a recirculating chiller (Thermo Cube)

Figure. Accessories installed on the Bravo deck (top view)



Dimensions and Weight

Identify the laboratory bench space before your system arrives based on the table below. Pay special attention to the total height and total weight requirements for all system components you have ordered and avoid bench space with overhanging shelves. Also pay special attention to the total weight of the modules you have ordered to ensure your laboratory bench can support this weight.

Special notes

- See Other Requirements for shipping container dimensions and weight and laboratory table specifications.
- The Thermo Cube may be positioned underneath the table. The Thermo Cube must be within 152 cm (5 feet) of the cooling pad (Thermal Station) to connect the tubing.
- The accessory tubing and cables are routed off the Bravo deck through the access windows in the Bravo side or rear shields. The Bravo front opening is covered by top and bottom shields and the Light Curtain.

The following table provides dimensions and weight requirements.

IMPORTANT: This product requires additional lifting assistance in order to be located in your lab due to its weight. Please discuss the arrangements for this activity with the service engineer prior to installation.

Instrument Description	Weight		Height		Depth		Width	
	Kg	lbs.	cm	in	cm	in	cm	in
Bravo Platform (standard) on risers (not including accessories on Bravo deck)	52.1	114.9	84.3	33.2	43.8	17.2	64.8	25.5
Computer workstation with space for pendant	29.5 approx	65 approx	36.3	14.3	61.6	24.3	72.6	28.6
MTC Controller (Inheco)	5.8	12.9	28	10.24	25.4	10	18.5	7.3
ThermoCube controller (Mecour)	13	28	32	13	32.4	12.8	30.5	12

WARNING: The table surface must be at least 86 cm (34 in) from the floor to restrict reach-over access above the Light Curtain and shields. Reaching over the Light Curtain and shields can expose operators to moving-parts hazards.

Figure. Overall height of the Bravo NGS Option A (front view)

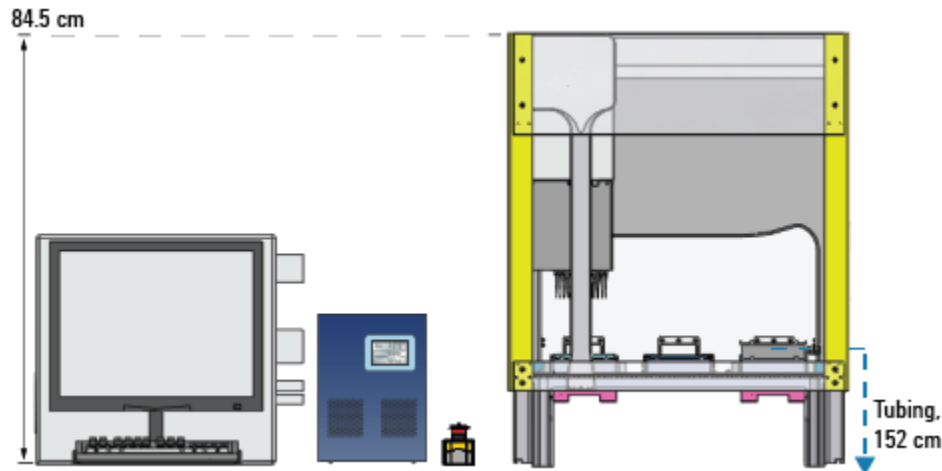
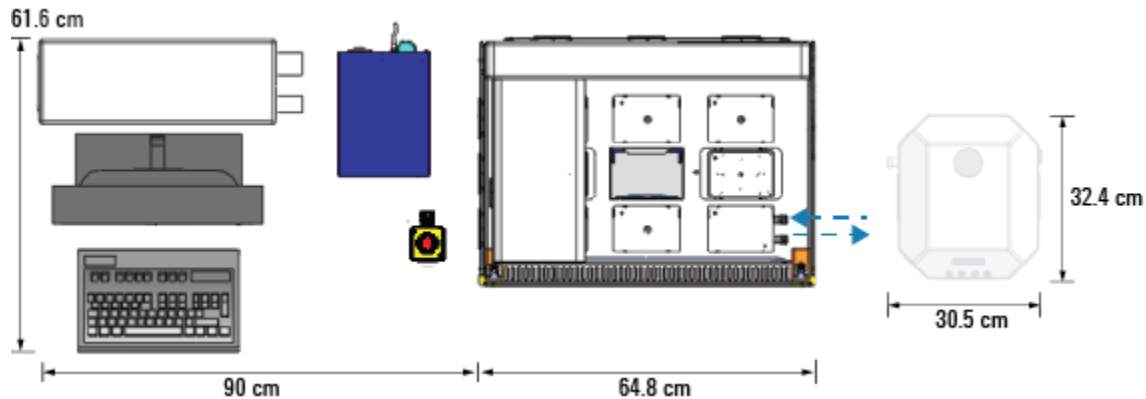


Figure. Overall width and depth of the Bravo NGS Option A (top view)



Note: The position of the Thermo Cube and MTC Controller may vary. However, the controllers must be placed within proximity of the Bravo deck to accommodate the reach of the cables and plumbing lines that connect to the accessories installed on the deck.

Environmental Conditions

Operating your instrument within the recommended temperature ranges ensures optimum instrument performance and lifetime. The site’s ambient temperature conditions must be stable for optimum performance.

Special notes

- Performance can be affected by sources of heat & cold, e.g. direct sunlight, heating/cooling from air conditioning outlets, drafts and/or vibrations.
- The Bravo NGS is intended to operate in a low-vibration environment. Excessive vibration may induce pipettor errors.
- The Bravo NGS Option A is for indoor use only.

Instrument Description	Operating Temperature Range °C (F)	Operating Humidity Range %
Bravo NGS Option A	4 to 40 °C	10% to 90% RH, non-condensing

Power Consumption

Special notes

- If a computer system is supplied with your instrument, be sure to account for those electrical outlets.
- Provide an appropriate power strip to accommodate power cords for up to 10 devices.
- The Bravo Platform uses 250 V, 10 A, 5mm x 20mm, fast-acting fuse.
- In addition to the following instruments, consider the power requirements of the computer workstation and accessories.

Instrument Description	Line Voltage and Frequency V, Hz	Maximum Power Consumption VA
Bravo Platform	100-240 VAC 50/60/Hz	300

Required Operating Supplies by Customer for Installation

Special notes

See the table below on required supplies in order to ensure successful installation.

Item Description (including Dimensions etc.)	Vendor's Part Number (if applicable)	Recommended Quantity
Coolant or process fluid, such as Koolance (27% propylene glycol/water mix) or 27% to 50% ethylene glycol/water mix for the Thermal Station (cooling pad) with ThermoCube	-	600 mL, approximately
Disposable, 250 µL tips, filtered, sterile For ordering, go to Pipette tip supplies	Agilent 19477-022	Case of 50
Labware, such as microplates and reservoirs	Various	-

Special Requirements and Other Considerations

Shipping container dimensions and weight

The following table lists the dimensions and weights of the Bravo shipping container. Ensure all doorways, hallways, floors, and elevators along the pathway to the installation site can accommodate the container.

Instrument Description	Weight		Height		Depth		Width	
	Kg	lbs.	cm	in	cm	in	cm	in
Bravo container and pallet	85.1	18 7	100	40.4	67.1	26.4	87.1	34.3

Additional packages contain the pipette head, shields, light curtain, and accessories.

Note: Depending on the order, the shipment can include additional packages.

Laboratory table specifications

- The laboratory table must support the weight of the Bravo NGS Option A without excessive shaking or movement. The table should be fixed in place, for example, castors that lock.
- The table must be level in the direction of the length and the depth of the Bravo Platform. Using a traditional bubble level, the table should be leveled such that the bubble is centered between the two limit lines of the level.
- The table surface must be:
 - Chemical resistant, for example, phenolic table surfaces.
 - Have a thickness relative to the material that will prevent warping when the Bravo NGS Option A and computer are set upon the table.
- The table surface must be attached to the table frame.
- The table frame must have:
 - A leveling mechanism in the feet or castors.
 - Cross members to prevent the table from swaying when the Bravo NGS Option A is in operation and to prevent the table surface from bending when the Bravo NGS Option A and computer are placed on top.
 - Dimensions that enable support of the table surface without overhang.
 - Have castors that can be unlocked to enable moving the system away from a wall to provide maintenance access to the rear of the Bravo NGS Option A.

- The table should have available surface space or an extra shelf for the accessory controllers.

Computer requirements

If your organization uses a computer other than one configured by Agilent Technologies, make sure the computer meets the minimum requirements:

- Windows 10 (64-bit edition)
- VWorks Automation Control software 13.1
- 3.20 GHz, 8 MB cache, processor, 4 cores
- 8 GB DIMM
- 500 GB hard drive capacity (100 GB, minimum)
- HD Graphics
- 1280 x 1924 screen resolution
- Browser with JavaScript enabled: Microsoft Internet Explorer 8.0, or later, or Mozilla Firefox 3.0, or later (required for viewing the knowledge base)
- A PDF viewer, such as Adobe Reader (required for opening the user guide PDF files)
- Dedicated 10BaseT or faster Ethernet card for connecting to the Bravo Platform LAN. A second network card is required if the controlling computer will be connected to the site LAN. The Agilent service representative will ensure that the device LAN port connects to the Bravo Platform and that communication is established.

Note: Agilent Technologies is not responsible for establishing communication with your site LAN.

- USB ports, 2 minimum
- Serial port, if available (provides more reliable communication with the Orbital Shaking Station than a USB-to-serial adapter)
- Microsoft Office (required for viewing .xlsx and .docx files for the applications)

Special safety precautions

WARNING: Changing or modifying the safety equipment can prevent the safe operation of the workstation, invalidate its safety compliance, and lead to personal injury or property damage. Any customer who does not use the supplied safety equipment or who modifies the supplied safety equipment assumes full responsibility for providing an appropriate level of safety for its operators and for providing the applicable safety compliance marking and documentation.

All safety equipment supplied with the Bravo NGS Option A will be installed for you. The safety equipment includes shields and a Light Curtain to prevent access to moving-parts hazards. A robot-disable pendant connects to the Bravo safety interlock circuit. Pressing the red emergency-stop button on the pendant or interrupting the Light Curtain will cause the Bravo motion to stop.

For detailed information on the safety equipment, including the safety interlock circuit, see the [G5562A, G5563A Bravo Platform Safety and Installation Guide](#) (part number G5563-90002).

For general safety guidelines, see the

[Automation Solutions Product General Safety Guide](#) (part number G5500-90015).

You can find these guides at

[Automation Solutions Help and Learning \(agilent.com\)](#)

Service Engineer Review (Optional)

Service Engineer Comments

If the Service Engineer completed a review of the Site Preparation requirements with the customer, the Service Engineer should complete the following Comments section.

If there are any specific points that should be noted as part of performing the service review or other items of interest for the customer, please write in this box.

Site Preparation Verification

Service Request Number:

Date of Review:

Service Engineer Name:

Customer Name:

Service Engineer Signature:

Total number of pages in this document: