

## Agilent G5541A NGS Bravo Option A - Site Preparation Checklist

Thank you for purchasing an Agilent G5541A NGS Bravo Option A. To get you started and to assure a successful and timely installation, please refer to this specification or set of requirements.

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, consumables, space and utility requirements for your equipment.

### Customer Responsibilities

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

- The laboratory space requirements to accommodate the size and weight of the instrument
- The laboratory table specifications
- The environmental conditions for the lab as well as laboratory gases and plumbing
- The power requirements related to the product (e.g., number and location of electrical outlets)
- The required operating supplies necessary for the product and installation
- Please consult Other Requirements section below for other product-specific information.
- For more details, please consult the following guides:
  - Bravo Automated Liquid Handling System Safety and Installation Guide (G5409-90007)
  - Bravo Automated Liquid Handling Platform User Guide (G5409-90006)

**If Agilent is delivering installation and familiarization services, users of the instrument should be present throughout these services; otherwise, they will miss important operational, maintenance and safety information.**

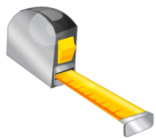
### Important Customer Information

1. If you have questions or problems in providing anything described as a Customer Responsibility above, 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.
2. Should your site not be ready for whatever reasons, please contact Agilent as soon as possible to re-arrange any services that have been purchased.
3. Other optional services such as additional training 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.

## Agilent G5541A NGS Bravo Option A - Site Preparation Checklist

4. The NGS Bravo Option A has the following components:
  - a. Bravo Automated Liquid Handling Platform on risers with the following accessories installed on the deck:
    - i. Peltier Thermal Station (CPAC) installed at locations 4 and 6. These accessories use an Inheco MTC controller, which is included.
    - ii. Orbital Shaking Station installed at location 5.
    - iii. Magnetic Bead Accessory installed at location 7.
    - iv. Thermal Station (cooling pad) installed at location 9. The cooling pad uses a recirculating chiller (Thermo Cube).
  - b. Safety equipment, including the Bravo Light Curtain, shields, and an emergency-stop pendant.

Optionally, the PlateLoc Thermal Microplate Sealer may be ordered.



### Dimensions and Weight

Identify the laboratory table space before your system arrives based on the following information.

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.**

#### Special Notes:

1. See **Other Requirements** for shipping container dimensions and weight and laboratory table specifications.
2. 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.
3. The accessory tubing and cables are routed off the Bravo deck through the access windows in the Bravo side or read shields. The Bravo front opening is covered by top and bottom shields and the Light Curtain.

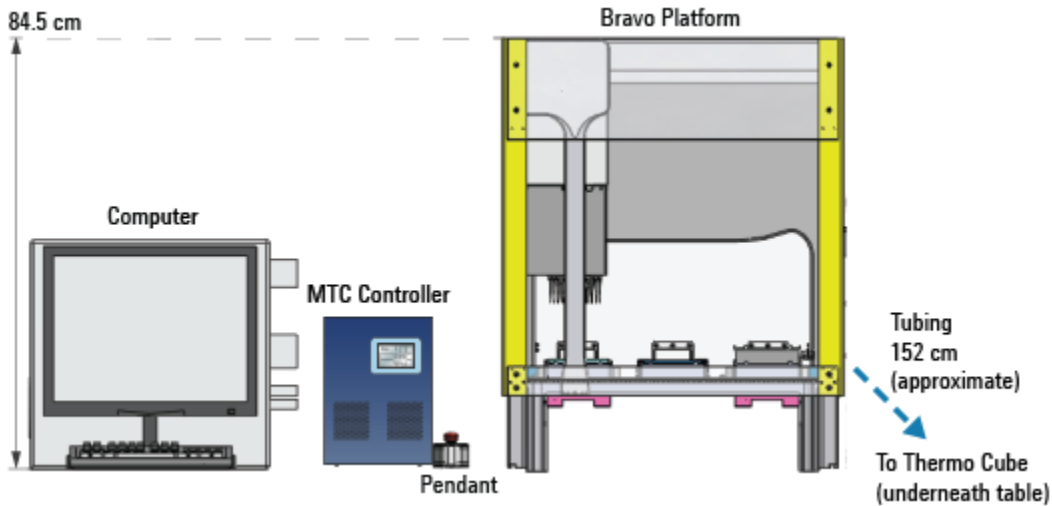
Instrument Description	Weight		Height		Depth		Width	
	Kg	lb	cm	in	cm	in	cm	in
Bravo Platform (standard) on risers (not including accessories on Bravo deck)	52.1	114.9	84.3	33.2	43.8	17.2	64.8	25.5
Computer workstation with space for pendant	29.5 approx	65 approx	36.3	14.3	61.6	24.3	72.6	28.6
MTC Controller (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**

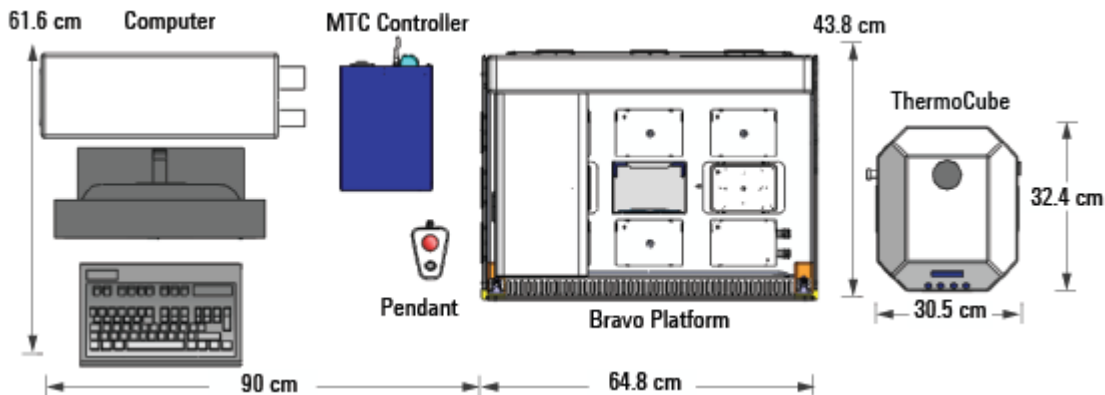
**Agilent G5541A NGS Bravo Option A –  
Site Preparation Checklist**

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 NGS Bravo Option A (front view)**



**Figure: Overall width and depth of the NGS Bravo 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.

## Agilent G5541A NGS Bravo Option A - Site Preparation Checklist



### Environmental Conditions

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

#### Special Notes

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

Operating temp range °C (F)	Operating humidity range (%)	Altitude	Pollution degree	Installation category
0 to 40 °C	10% to 90% RH, non-condensing	Up to 2000 m	2	II



### Power Consumption

#### Special Notes

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

Instrument Description	Line Voltage & Frequency (V, Hz)	Maximum Power Consumption (VA)
Bravo Platform	100 - 240 VAC, 50/60 Hz	11.5 A at 120 V~ 6 A at 240 V~
(Optional) PlateLoc Sealer	100 - 240 VAC, 50/60 Hz	4 A at 120 V~ 2.5 A at 240 V~

**Agilent G5541A NGS Bravo Option A -  
Site Preparation Checklist**

**Required Operating Supplies by Customer**
**Special Notes**

1. 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 $\mu$ L tips, filtered, sterile  To order, go to:  <a href="http://www.chem.agilent.com/en-US/products-services/Instruments-Systems/Automation-Solutions/Disposable-Pipette-Tips/Pages/default.aspx">http://www.chem.agilent.com/en-US/products-services/Instruments-Systems/Automation-Solutions/Disposable-Pipette-Tips/Pages/default.aspx</a>	Agilent 19477-022	Case of 50
Labware, such as microplates and reservoirs	Various	-

## Agilent G5541A NGS Bravo Option A - Site Preparation Checklist



### Other Requirements

#### 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.

Description	Weight		Height		Depth		Width	
	Kg	lb	cm	in	cm	in	cm	in
Bravo container and pallet	85.1	187	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:

1. The laboratory table must support the weight of the NGS Bravo Option A without excessive shaking or movement. The table should be fixed in place, for example, castors that lock.
2. 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
3. The table surface must be:
  - a. Chemical resistant, for example, phenolic table surfaces.
  - b. Have a thickness relative to the material that will prevent warping when the NGS Bravo Option A and computer are set upon the table.
4. The table surface must be attached to the table frame.
5. The table frame must have:
  - a. A leveling mechanism in the feet or castors.
  - b. Cross members to prevent the table from swaying when the NGS Bravo Option A is in operation and to prevent the table surface from bending when the NGS Bravo Option A and computer are placed on top.
  - c. Dimensions that enable support of the table surface without overhang.
  - d. Have castors that can be unlocked to enable moving the system away from a wall to provide maintenance access to the rear of the NGS Bravo Option A.
6. The table should have available surface space or an extra shelf for the accessory controllers.

## Agilent G5541A NGS Bravo Option A - Site Preparation Checklist

### Computer Requirements

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

- Windows 7 (64-bit edition)
- 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 Mozilla Firefox 3.0 (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 NGS Bravo 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 - Bravo Automated Liquid Handling System Safety and Installation Guide (part number G5409-90007)

For general safety guidelines, see the - Automation Solutions Products General Safety Guide (part number G5500-90015)

You can find these guides in the Automation Solutions Knowledge Base at:

<http://www.agilent.com/chem/askb>

## Agilent G5541A NGS Bravo Option A - Site Preparation Checklist

### Important Customer Web Links

- For additional information on SureSelectXT Automated Target Enrichment go to:  
<http://www.chem.agilent.com/library/usermanuals/public/G7550-90000.pdf>
- For an optimized automation protocol that uses the HaloPlex exome target enrichment system with sample processing steps automated using the Agilent NGS Bravo Option A, go to:  
<http://www.chem.agilent.com/library/usermanuals/public/G9906-90020.pdf>
- For additional information about our solutions, please visit our web site at  
<http://www.chem.agilent.com/en-US/Pages/HomePage.aspx>
- Need to get information on your product?  
Automation Solutions Knowledge Base - <http://www.agilent.com/chem/askb>  
Literature Library - <http://www.agilent.com/chem/library>
- Need to know more? Customer Education - <http://www.agilent.com/chem/education>
- Need technical support, FAQs? - <http://www.agilent.com/chem/techsupp>
- Need supplies? - <http://www.agilent.com/chem/supplies>

Document part number: G5541A-90005