

Agilent BenchBot Robot

Data Sheet



Applications

Microplate handling for life sciences applications

- Genomic workflows including Next-Gen Sequencing and microarray sample preparation
- Cell-based assays
- Microplate-based cell maintenance
- High throughput HPLC sample management
- Enzyme assays and more...

Introduction

The Agilent BenchBot Robot is a compact robot that automates microplate handling for a variety of laboratory applications. The BenchBot Robot can be installed on standard laboratory benches, within enclosed hoods, or on portable docking tables. It is designed to integrate easily with Agilent instruments and a wide variety of third-party instruments.



Agilent Technologies

Features & Benefits

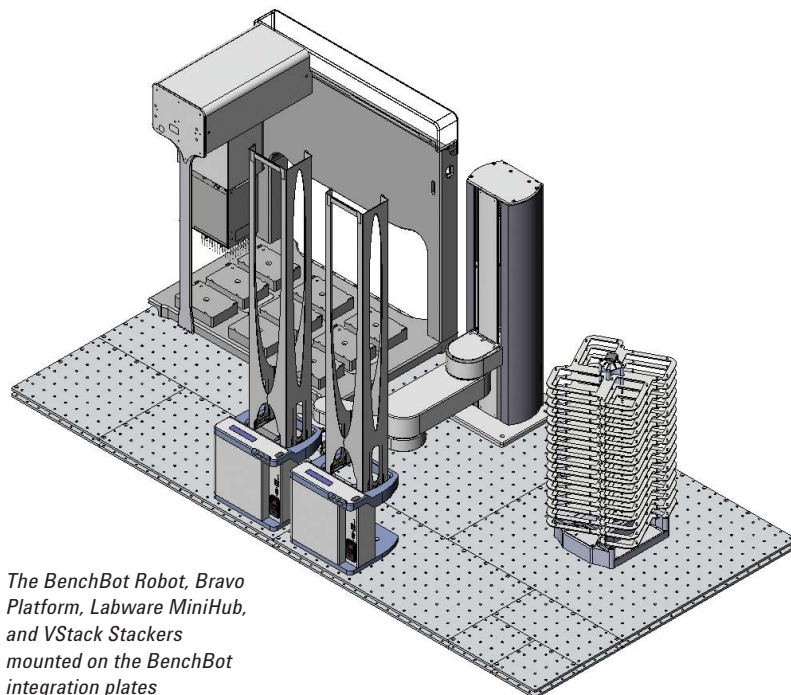
- Compact design works in most common laboratory settings
- One-touch teaching process simplifies teaching process and reduces setup time
- Scalable design can be easily reconfigured to support additional instrumentation
- Flexible integration with Agilent and third-party instruments

Compact design

The BenchBot Robot has minimal space requirements and can be set up on a standard laboratory workbench, within a laminar flow hood, or on portable docking tables. The compact dimensions and its large work envelope can accommodate more instruments than other workstations. The open design of the BenchBot arm enables easy access to the work surface and integrated instruments.

Customizable workspace

The BenchBot Robot and adjacent instruments can be mounted on a standard laboratory workbench using the BenchBot Integration Plates. Available in different sizes, the innovative aluminum plates can be combined to create customized workspaces. The plate design also facilitates workstation setup and re-configuration.



The BenchBot Robot, Bravo Platform, Labware MiniHub, and VStack Stackers mounted on the BenchBot integration plates

Easy set up

The BenchBot Robot uses one-touch teaching to facilitate integration with other instruments. In the teach mode, the robot arm can be freely moved to any location and teachpoints can be set by simply pressing the button on the end effector.

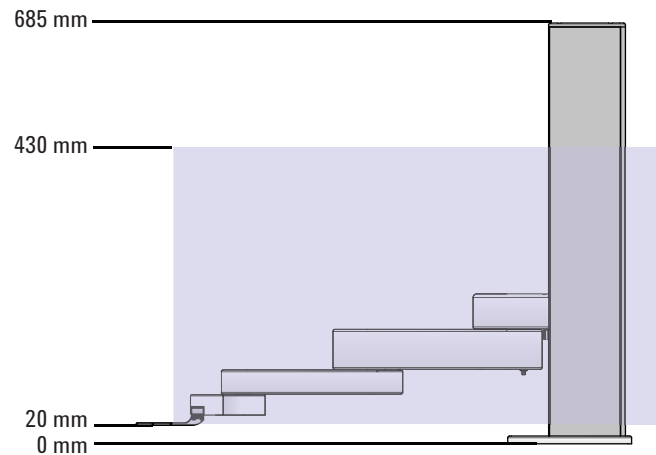
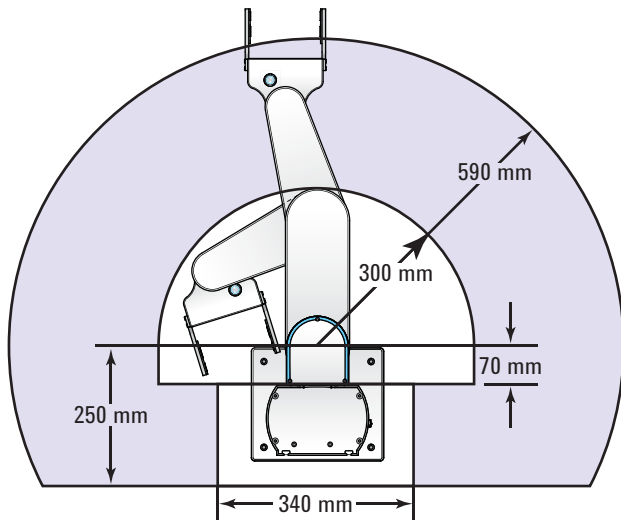
Integrated VWorks control helps the robot to determine the best labware gripping height from one instrument to another, whether gripping in portrait or landscape mode. Multiple gripping orientations can be defined for each teachpoint.

Re-configurable and scalable workstations

The extended reach of the BenchBot arm creates a cylindrical work envelope for integration with multiple instruments to create automated workstations of increasing complexity. Unlike some microplate handlers that can access only a fixed number of teachpoints, the BenchBot Robot can access any number of instruments or teachpoints within the cylindrical workspace. With the flexible bench attachments and easy teachpoints, workstations can be reconfigured with additional equipment at any time.

Additional Information

Radial and vertical reach



Specifications

Electrical requirements

Requirement	Value
Voltage	100–240 VAC
Frequency	50/60 Hz
Current	4 A
Power consumption	200 W typical
Fuses	4 A, 250 V, time delay
Chassis plug	IEC 60320 C14

Environment: 4–40 °C, 10–90% RH, non-condensing

Software: VWorks Benchtop software (contact Sales or Technical Support for the most appropriate software for your application)

Controller: PC using Windows XP or Windows 7 operating system

Interface: 10BaseT Ethernet port

Labware compatibility microplates:

ANSI/SBS compliant labware including PCR microplates, deep-well microplates, filter microplates, tube racks, and most tip boxes

Vertical reach: (bottom of grippers to tabletop) 20 mm to 430 mm

Robot zone: Robot arm moves within 300 mm radius semicircle around mast. This area must be free of equipment and teachpoints are excluded from this area.

Travel: Shoulder: 186°, elbow: 336°, wrist: infinite, z: 430 mm

Grip force: 12 N (2.7 lb)

Standard gripper fingers: 4.1 mm thick, replaceable rubber gripping pads

Min/max plate dimensions:

Min 80 mm portrait / Max 133 mm landscape. Supports all ANSI-compliant labware.

Payload: SBS microplates 200 g max for full speed, 500 g max

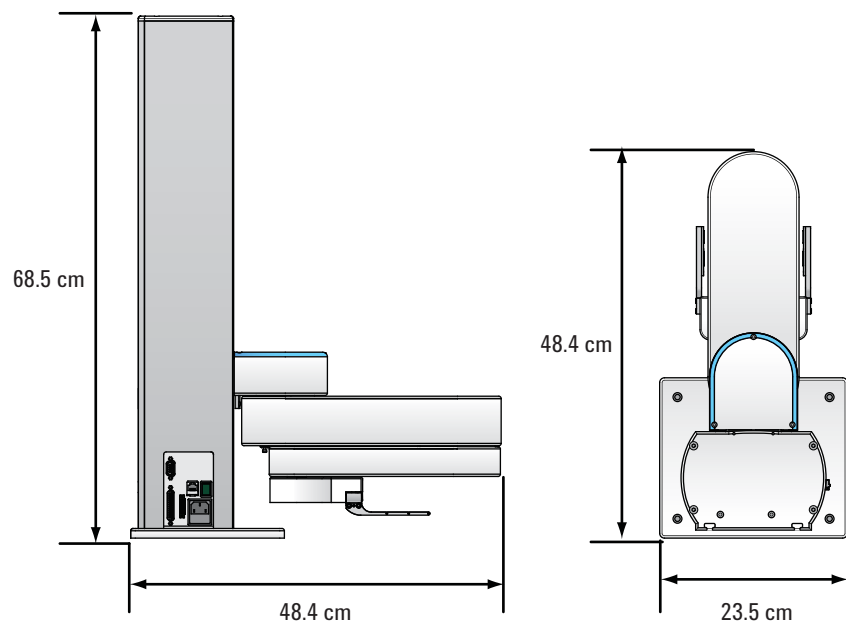
Mounting pattern: 4 x M6, hole diameter 6.76 mm (0.266 in), through the base

Teaching: One-button teaching on end effector, or jog/teach remotely at computer terminal

Emergency stop: stop pendant and interlock

Communications: Ethernet with VWorks control (installer 12 or later)

BenchBot Robot side view and top view



Dimension	Value
Height	68.5 cm (27.0 in)
Width	23.5 cm (9.3 in)
Depth	48.4 cm (19.0 in)
Weight	18.2 kg (40 lb)

Regulatory compliance

Regulatory Compliance	Standard
EMC	
European Union	EMC Directive 2004/108/EC IEC 61326-1:2005/EN 61326-1:2006
Canada	ICES/NMB-001:2004
Australia/New Zealand	AS/NZS CISPR 11:2004
Safety	
European Union	Machinery Directive 2006/42/EC Low Voltage Directive 2006/95/EC IEC 61010-1:2001/EN61010-1:2001
Canada	CAN/CSA-C22.2 No. 61010-1-04
USA	ANSI/UL 61010-1:2004
Part Number	
Description	
G5486A	BenchBot Robot, Workstation
G5487A	BenchBot Robot, Standalone

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