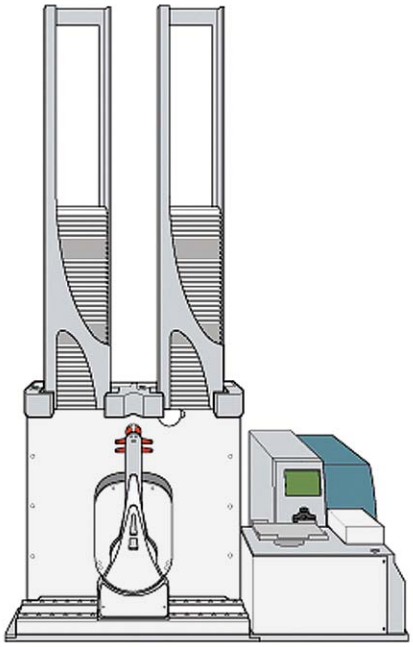
Agilent BenchCel Workstations

Automated Barcode Labeling Workstation

Data Sheet



Agilent BenchCel Workstation available in 2, 4 or 6 labware rack configurations.

Applications

- Microplate manufacturers providing both generic and custom barcoded microplates
- Assay suppliers providing ready-to-run plate-based chemistries with plate labeling requirements to print lot numbers, pull dates, or print other manufacturing information
- Pharmaceutical compound storage and screening facilities with high volume, on-the-spot, custom labeling requirements
- Core labs that support diverse end-user label designs as well as labeling runs of any length
- Any scientific end-user that can benefit from the same or a different label on up to four sides of a microplate—with up to six fields per label, including a barcode field and human-readable text field

Agilent Technologies

Introduction

Rapidly print and apply barcode labels with walkaway convenience

Agilent offers a wide range of instruments that can be used with a BenchCel Microplate Handler to create many flexible automation solutions.

An Agilent Automated Barcode Labeling Workstation can be created using a BenchCel Microplate Handler that feeds unlabeled microplates to an Agilent Microplate Labeler. The Microplate Labeler incorporates a 600 dpi thermal transfer printer to print barcodes and human readable text onto adhesive labels, which it then applies to the microplate.

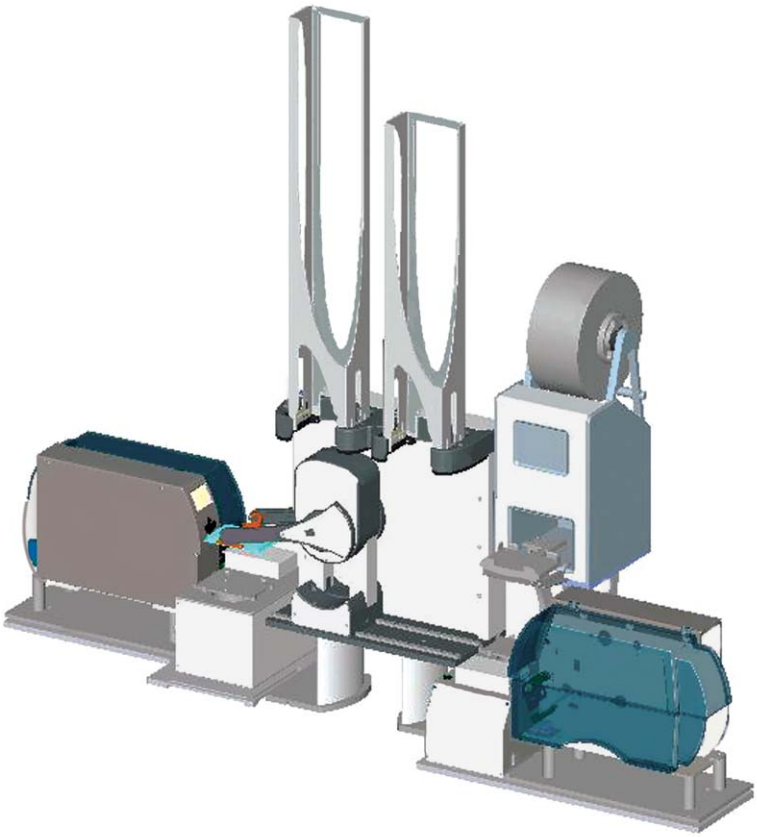
Common Microplate Labeling Applications

- Microplate Identification, Human & Machine Readable
- Barcode Integrity
- Barcode Tracking
- Duplicate Label Creation (Data Clone)
- Replicate Labeling (e.g., Mother Daughter Replication)
- Hit Pick Replicates (e.g., Cherry Picking)

Features & Benefits

- **Flexible Label Formats:** The Microplate Labeler offers a wide range of fonts, linear barcodes, 2D matrix codes and magnifications for maximum flexibility; users can label up to four sides of most compatible labware using a variety of data input sources.
- **Easy to Integrate:** With a small footprint, an easy-to-access plate stage, and straightforward device drivers, the Microplate Labeler is an excellent choice for integration projects.
- **High Speed:** The Microplate Labeler can repeatedly print and apply labels at speeds of up to one label every 4 seconds.
- **Machine Code Verification:** With the optional barcode reader, the Microplate Labeler can verify and re-apply barcode labels. The barcode reader can also be used to clone existing labels or for systematic microplate tracking.

Optional barcode reader/arm assembly.



Room to grow...
An Agilent BenchCel Workstation can have a Microplate Labeler on each end. With the wide range in Z-axis movement of the BenchCel Microplate Handler, up to two instruments can be placed on each side of the BenchCel. (The BenchCel Microplate Handler is available in 2, 4 or 6 labware rack configurations.)

Media Kits

Label Media: Certified for automation using the Agilent Microplate Labeler. The kit contains adhesive labels, plus high-performance, application-matched ribbon for biotech applications.

For complete media specifications, please download a PDF copy of the *Microplate Labeler Consumables Selection Guide* found in the Agilent Microplate Labeler product section at Agilent.com.

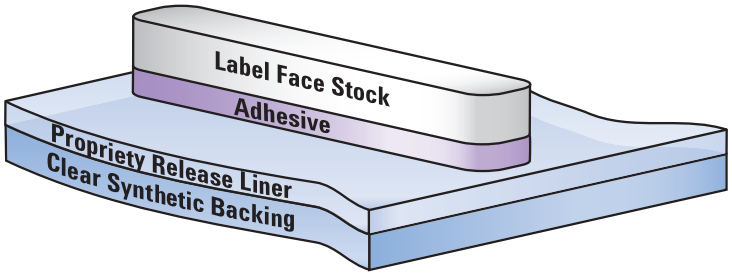
Label Dimensions: 50.8 mm W x 6.35 mm H [2 in x 0.25 in]*

* The instrument design is optimized for use of this Agilent standard label size. For non-standard labels, contact Agilent Automation Solutions Customer Service or Technical Support for additional information or to discuss your requirements.

Roll Length: 6,500 or 13,000 labels per roll. Labels are sold with enough ribbon to print the corresponding amount of labels in Agilent G5404B Microplate Labeler "Media Kits."

Temperature Range: –80°C to 100°C

Durability: DMSO and acetone resistant



Agilent's second generation, automation-certified labels with application-matched ribbon guarantee the highest level of system performance and superior instrument and applications support.

Off-the-shelf production barcode labeling solution for microplates

Microplate manufacturers can add value to labware via generic or custom barcode labeling services or have almost any other type of high volume plate labeling requirement—Agilent can provide proven, quick, customized solutions, using off-the-shelf instruments at a fraction of the cost of custom built setups. Agilent also provides professional support, service contracts, on-site service and training.

Includes Full Agilent Support

- FREE phone and e-mail technical support
- Service contracts
- On-site service
- Depot service

Optimizing Throughput and Return on Investment

Timing estimations

It is common for any customer concerned about return on investment to ask about throughput. Agilent has some general rules that are used internally to estimate throughput. Timing estimates can vary—and these numbers represent theoretical estimates. Customers already using Agilent VWorks software may also use the simulation option in VWorks for these types of estimates.

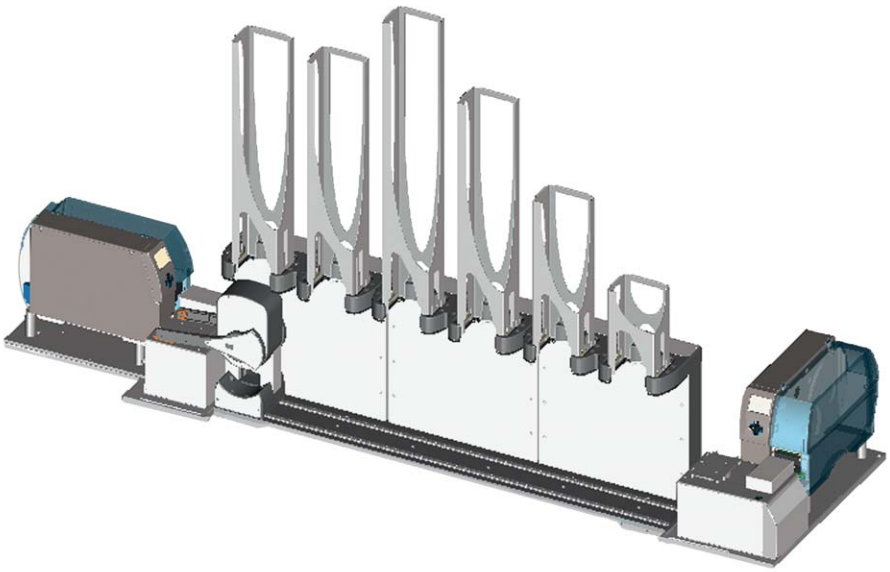
	Time (sec.)
Downstack plate to stage	8
Label (one side of plate)	4
Upstack plate to rack	8
TOTAL TIME PER PLATE	20

Adding a second Microplate Labeler

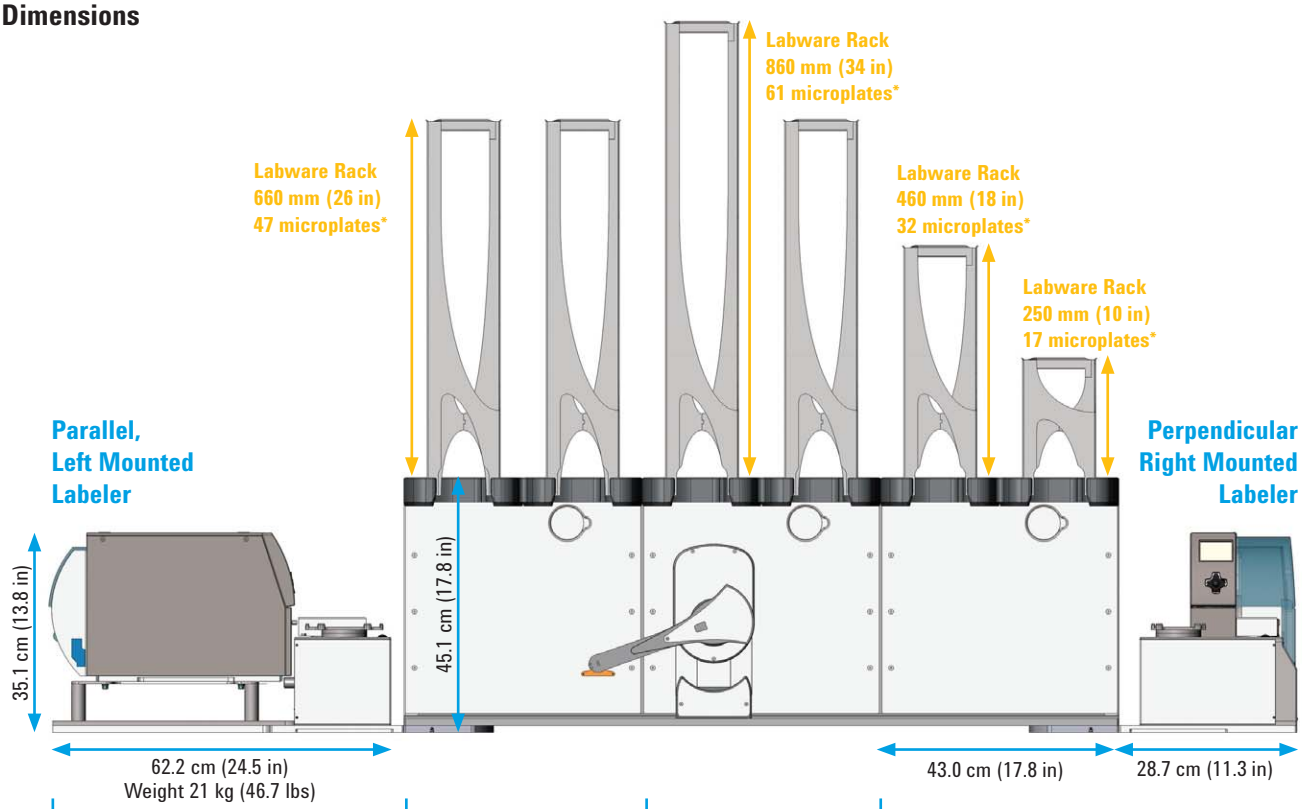
High volume microplate labeling customers may be interested in the benefits of adding a second Agilent Microplate Labeler to a Workstation or System to achieve higher throughput.

Estimates of 1.5X throughput improvement can be used for theoretical throughput calculations when a second Microplate Labeler is added to a system with a single plate handling robot.

If a more precise estimate is required, contact Agilent's Technical Support department to obtain a quotation for Application Team Professional Services. Application Scientists can help you estimate the timing or may be able to set up your application in the lab for actual timing measurements.



Dimensions



71.7 cm L x 62.2 cm D x 45.1 cm H
(28.2 in L x 24.49 in D x 17.76 in H)

BenchCel 2R / Labeler

Weight 43 kg (94.4 lbs)

114.7 cm L x 62.2 cm D x 45.1 cm H
(45.16 in L x 24.49 in D x 17.76 in H)

BenchCel 4R / Labeler

Weight 49 kg (108.3 lbs)

158.7 cm L x 62.2 cm D x 45.1 cm H
(62.48 in L x 24.49 in D x 17.76 in H)

BenchCel 6R / Labeler

Weight 54 kg (118.4 lbs)

220.9 cm L x 62.2 cm D x 45.1 cm H
(86.97 in L x 24.49 in D x 17.76 in H)

BenchCel 6R with Microplate Labeler on right and left

Weight 75 kg (165.4 lbs)

* Number of 14.4 mm microplates

Specifications

Certification	CE Certified	
Computer/Software Requirements		
Host Computer	PC running Windows 2000, XP, Vista, Windows 7	
Software	Agilent VWorks Automation Control	
Interface	10 BaseT Ethernet Port (recommended), RS-232 Serial Port	
Data sources	Comma-separated value text file	
Dimensions / Weight	Please see diagram in this document	
Labeling Specifications		
Labels per plate	Up to one label per side	
Label positions (vertical)	(2 ea.) A high and a low position accessible via software	
Label positions (horizontal)	(1 ea.) Label must be centered on side of plate	
Fields, Data	(1) One Symbol field; Up to (6) six human readable fields	
Symbologies (1D)	Code 128, Code 39 (full ASCII), Interleaved 2 of 5, Codabar, Code 93, HIBC	
Symbologies (2D)	Data Matrix, PDF 417, Micro PDF 416	
Fonts (built-in)		
Bitmap (1-10X Mag)	12x12, 16x16, 16x32, OCR-A, OCR-B	
Vector (6-25 Points)	Droid Mono, Droid Mono Bold, Swiss 721, Swiss 721 Bold,	
Scaling	10-1000% (Horizontal)	
Graphics	Not available (some graphic images may be pre-printed onto label stock–ask your Agilent representative for a special quotation)	
Printer-stored formats	20 max (9-pre-defined)	
Label Media	(Microplate Labeler Consumables Selection Guide PDF available for download)	
Dimensions	50.8 mm W x 6.35 mm H (2 in x 0.25 in) [Standard Size]	
Capacity	6,500 or 13,000 standard size labels	
Temperature Range	-80°C to 100°C	
Durability	Resistant to most common laboratory solvents, including DMSO, acetone, and alcohol.	
Labware Compatibility		
Microplates	Should meet the Standards ANSI/SBS 1-2004 through ANSI/SBS 4-2004	
Capacity	2, 4 or 6 labware racks; up to 320 standard microplates	
Operating Requirements		
Electrical	100-240 VAC, 50/60 Hz, Operating AC Current (typical)	
Inrush	8.2A/120 V	5.7A/240 V
Current (typical)	40A/120 V	80A/240 V
Air	98 LPM at 5.5 bar (≤ 3.5 cfm at 85 psi)	
Performance		
Printer Resolution	600 dpi	
Label Application Precision	± 1.0 mm horizontally and ± 0.5 mm vertically	
Timings (typical)	Downstack plate to stage	8 sec
	Label one side of plate	4 sec
	Upstack plate to rack	8 sec
	Total time per plate	20 sec
Print Technology	Thermal transfer	

Workstation Ordering Information

(See the Microplate Labeler datasheet for standalone labeler purchase)

(Initial Instrument Order/ Configuration)	*(Sold as standalone)*	
Part Number	**Part Number**	**Description**
Agilent BenchCel Microplate Handler		
G5400A		**BenchCel Integrated Workstation**.
		• Agilent VWorks Automation Control Software CD
		• Workstation integration plates/hardware
		• Desktop PC provided, with option to upgrade to laptop
		• I&F (Installation & Familiarization--on-site installation and training)
G5400A Option 1		**BenchCel Microplate Handler (robot/base unit)**
		• User Guide
		• Communication cables for PC/labeler
		• Air connection kit
		• Power Cord
		BenchCel Stacking Units (requires Rack Mount Modules)
G5400A Option 51		BenchCel 2 Stack Unit
G5400A Option 52		BenchCel 4 Stack Unit
G5400A Option 53		BenchCel 6 Stack Unit
Labware Racks for BenchCel Microplate Handler		
G5400A Option 57	19578-001	Standard Rack; 250 mm (no additional charge)
G5400A Option 58	19578-002	Standard Rack; 460 mm (no additional charge)
G5400A Option 59	19578-003	Standard Rack; 660 mm (no additional charge)
G5400A Option 60	19578-004	Standard Rack; 860 mm (up-charge)
G5400A Option 65	19579-101	Front Loading Rack; 250 mm (up-charge)
G5400A Option 66	19579-102	Front Loading Rack; 460 mm (up-charge)
G5400A Option 67	19579-103	Front Loading Rack; 660 mm (up-charge)
Agilent Microplate Labeler *(Use these part numbers only when a complete Workstation is ordered)*		
G5400A Option 5		**G5404B Microplate Labeler (includes 6.5K Media Kit)**
		• PlateTag/ActiveX Software CD
		• User Guide
		• Communication cables for PC-to-Microplate Labeler connection
		• Air connection kit
		• Power cord
		• Media Kit w/6.5K labels & ribbon
G5400A Option 260	08332-101	G5404A/B Microplate Labeler Barcode Reader (purchased by about 50% of customers)
	G5404-60005	G5404B Microplate Labeler Media Kit, 2.5 x 0.25 in, 6.5K
	G5404-60013	G5404B Microplate Labeler Media Kit, 2.5 x 0.25 in, 13K
Misc. Labeler		
	G5404-68001	G5404B Microplate Labeler, Shipping Carton Kit (replacement for Depot repairs)
	06397-001	G5404A/B Microplate Labeler Vac Pad Kit 0.25"
Service Agreements *(part numbers for pricing at time of instrument purchase only) – One Year On-Site*		
	R1936A	Microplate Labeler Service Agreement
	R1937A	Labeler Barcode Reader Service Agreement
	R1941A	BenchCel 2R Service Agreement
	R1942A	BenchCel 4R Service Agreement
	R1943A	BenchCel 6R Service Agreement

Notes:

1. **Labware Compatibility.** The use of this instrument platform requires the use of microplates that meet the ANSI Standards ANSI/SBS 1-2004 through ANSI/SBS 4-2004. Since customer application requirements can vary, customers should make an effort to confirm the suitability of this product for their needs as Agilent does not warrant or make claims as to the suitability of an instrument for customer applications. Product Specialists and Application Scientists are available to assist the customer in determining if the instrument is a good match for the workflow under consideration.

2. **Third-Party Media:** Labels and Ribbons. The performance of the Agilent Microplate Labeler has been optimized using Agilent media. If you choose to try third-party labels or ribbons and experience poor performance or instrument problems, and contact Agilent for support, it is your responsibility to immediately notify the Agilent support representative that you are using third-party media. Use of third-party labels and ribbons may be outside the scope of the terms of the Microplate Labeler instrument warranty and may result in the user paying for any necessary repairs and applications support as a result of using these materials. If you are considering the use of third-party consumables because the Agilent consumables do not meet your requirements, please give Agilent the opportunity to try to help.

3. **Reference.** This information is for reference only. Instrument Warranty: One year. Details are available on the Agilent website.

www.agilent.com/lifesciences/automation

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