SpotBot® 3 Personal, Complete and Protein Edition Desktop Microarrayers

Users Manual
v.130709.1

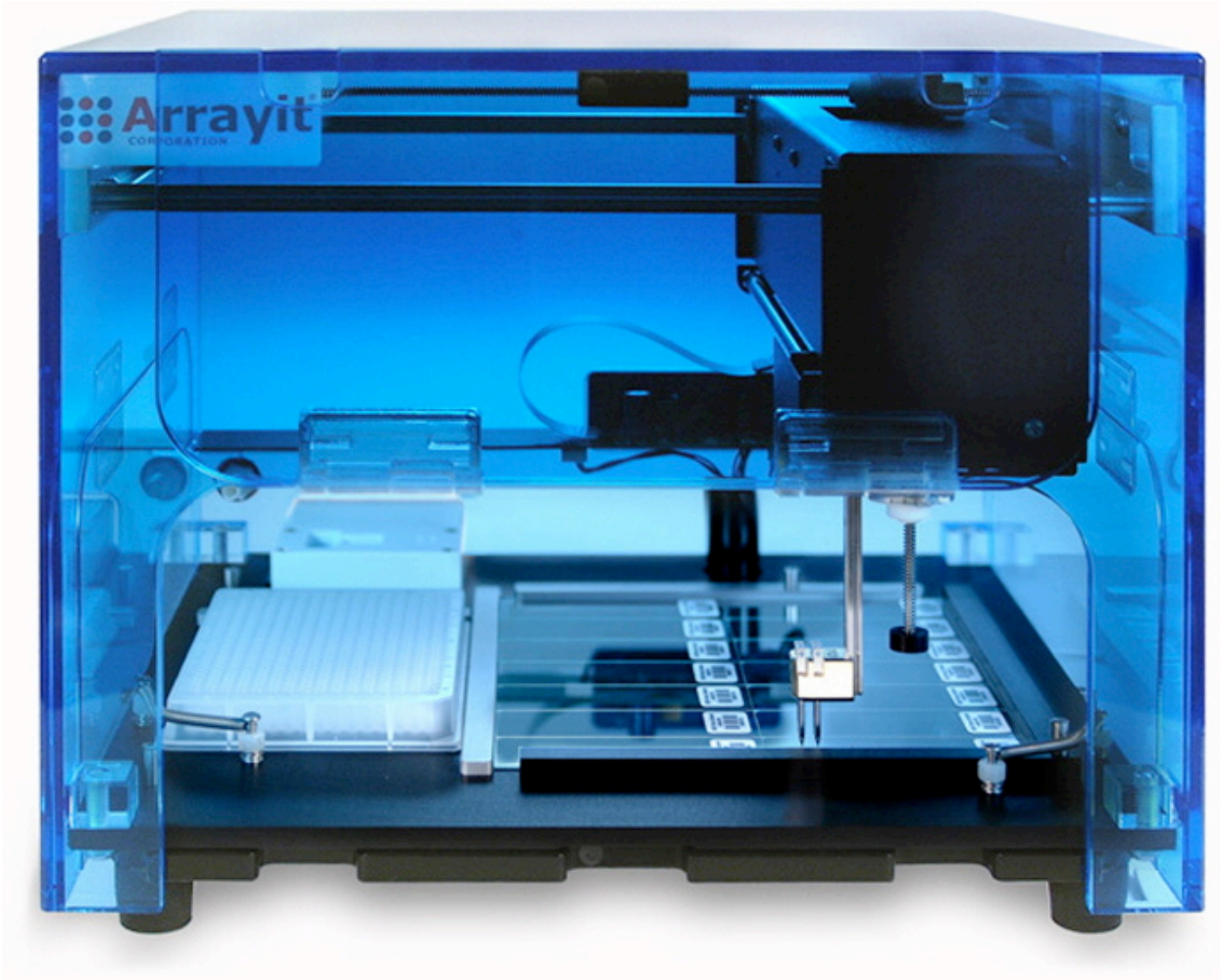

Table of Contents

Introduction

SpotBot® 3 Personal Microarrayers represent the latest technological advance in the highly cited Arrayit SpotBot® product line, installed in more than 360 institutions worldwide. A heavy duty gantry, professional series printhead, new software, Vision System, and Protein and "HotBot" editions are among the latest features offered by SpotBot® 3 instruments. Customers can leverage our patented contact printing technology to produce diverse DNA, protein, reverse phase and whole cell microarray content in personal desktop designs that offer precision, compactness and affordability. SpotBot® 3 Personal Microarrayers are the ultimate automated solution to innovative microarray research, genomics, proteomics and diagnostics, and are essential equipment for a growing number of life science and healthcare laboratories.

On-Line Resources
Click here to watch our SpotBot® Movie!
Click here to watch our SpotBot® technical video.
Click here to download the SpotBot® 3 Microarrayer User's Manual.
Click here to download the SpotBot® 3 Microarrayer Software Manual.
Click here to download the SpotBot® 3 Advanced Vision System Manual. This 26.4 MB manual downloads in several minutes.

The SpotBot® 3 Protein Edition (SPA3PRO) includes a high-performance chiller bath for rapid and accurate cooling of the entire printing deck from ambient down to 4ºC. A pair of 2-meter (6 ft.) insulated coolant flow tubes allow convenient storage of the chiller bath beneath the bench, to maximize bench top efficiency and workspace utilization. SpotBot® 3 "HotBot" Edition Microarrayers (SPA3HOT) includes a high-performance Peltier heating unit for rapid and accurate heating of the entire printing deck from ambient to 45ºC. Chiller and heating units may differ in appearance from the unit shown here based on system requirements and availability.

System Specifications and Features

- SpotBot® 3 instruments represent a significant advance over earlier instruments
- Heavy duty gantry offers improved precision, speed and durability
- Arrayit patented contact printing technology (U.S. 6,101,946) adds confidence
- SpotBot® 3 Vision System option allows high-resolution pin location viewing
- 4-pin printhead configuration in a 2 x 2 pattern at 4.5 mm spacing
- Professional series printhead for reduced friction and unsurpassed printing precision
- Axis resolution and repeatability of ±10 µm
- Deck accommodates 14 standard glass substrate slides (25 x 76 mm)
- Deck accommodates 1 microplate (384-well)
- Complete deck and microplate cooling from ambient to 4°C for Protein Edition
- Complete deck and microplate heating from ambient to 45°C for "HotBot" Edition
- Humidity control option from 10-80% RH
- Megasonic Wash Station option enhances pin cleaning
- Compatible with all Stealth and 946 Micro Spotting Pins
- Printing routines allow 1-5 technical replicates per sample
- 3,600 spots per sub-microarray (9 x 9 mm)
- 50,400 spots per entire substrate (18 x 63 mm)
- Printing time of 2 hrs per 384-well microplate
- >1,000 samples in 6 hours
- Compatible with Windows 2000 and XP Pro (Windows 7 beta version available)
- Power requirements: Standard 120-volt or 220 volt outlets
- Ease-of-operation via new version 3 Graphical User Interface (GUI)
- Robot size (H x L x W): 22 cm (8.7 in) x 30 cm (11.8 in) x 30 cm (11.8 in)
- Robot weight: 6.4 Kg (14 lbs) including vacuum and peristaltic pumps
- Private label and OEM agreements available
- World's only truly portable microarrayers, volume = 1.0 ft3
- World's only turnkey desktop protein microarray manufacturing system
- Create a miniature "cold room" on your desktop with Protein Edition Systems
- Flow-through platen cooling maximizes chilling uniformity
- Systems arrive pre-calibrated and ready to use
- Micro-robotics enable efficient motion control
- "Zero" thermal emission, ultra-low energy consumption, and quiet operation
- Forced air stream pin drying eliminates sample carry-over
- Humidity control of 5% per minute and ±1 % at steady state
- Minimal wash buffer consumption of <1.0 liter per 8 hours of operation
- Minimal air turbulence virtually eliminates sample evaporation during printing
- Vibration dampeners allow high printing quality in any laboratory
- Class 100 cleanroom compatible
- 338 installations worldwide
- World's most popular personal microarrayer product line
- Customer Installation time of 1 hour

Scientific Publications
Click on the links to find more than 225 scientific publications featuring Arrayit SpotBot® Personal Microarrayers.

System Components and Options

System Component	SpotBot® 3 Personal Microarrayer Cat. SPA3	SpotBot® 3 Personal Microarrayer Complete Cat. SPA3XP	SpotBot® 3 Personal Microarrayer Protein Edition Cat. SPA3PRO	SpotBot® 3 Personal Microarrayer Protein Edition Complete Cat. SPA3PROXP	SpotBot® 3 Personal Microarrayer "HotBot" Edition Cat. SPA3HOT	SpotBot® 3 Personal Microarrayer "HotBot" Edition Complete Cat. SPA3HOTXP
SpotBot® 3 Personal Microarrayer	Yes	Yes				
SpotBot® 3 Personal Microarrayer Protein Edition			Yes	Yes		
SpotBot® 3 Personal Microarrayer "HotBot" Edition					Yes	Yes
110-Volt or 220-Volt System, Customer Specified	Yes	Yes	Yes	Yes	Yes	Yes
SpotBot® 3 Vision System	Option	Option	Option	Option	Option	Option
Chiller Bath with Insulated Tubing and Voltage-Appropriate Power Cable			Yes	Yes		
Liquid Coolant, 2 Liters			Yes	Yes	Yes	Yes
Digital Thermometer with Temperature Probe and Thermal Compound			Yes	Yes	Yes	Yes
Air Compressor with Voltage-Appropriate Cable	Yes	Yes	Yes	Yes	Yes	Yes
Peristaltic Pump with Tubing Set and Voltage Appropriate	Yes	Yes	Yes	Yes	Yes	Yes

Power Supply						
Wash Buffer Assembly, 1 Liter	Yes	Yes	Yes	Yes	Yes	Yes
Wash Waste Container, 1 Liter	Yes	Yes	Yes	Yes	Yes	Yes
SpotBot® 3 Wash Buffer, 1 Liter	Yes	Yes	Yes	Yes	Yes	Yes
Substrate Locator L-Bracket	Yes	Yes	Yes	Yes	Yes	Yes
Megasonic Power Supply and Wash Station	Option	Option	Option	Option	Option	Option
Humidity Control Apparatus	Option	Option	Yes	Yes	Yes	Yes
Dehumidification Apparatus	Option	Option	Yes	Yes	Yes	Yes
946MP4 Pins (4 Each) and Test Pin	Yes	Yes	Yes	Yes	Yes	Yes
Custom Pins, 4 Each	Option	Option	Option	Option	Option	Option
946 Pin Tool	Yes	Yes	Yes	Yes	Yes	Yes
Anti-Vibration Pads, 4 Each	Yes	Yes	Yes	Yes	Yes	Yes
SuperEpoxy 2 Microarray Substrates, 25 Each	Yes	Yes	Yes	Yes	Yes	Yes
Micro Spotting Solution Plus (50 ml of 2X)	Yes	Yes				
Protein Printing Buffer, 50 ml of 2X			Yes	Yes	Yes	Yes
384-Well Microplate, Cat. MMP384	Yes	Yes	Yes	Yes	Yes	Yes
COM Cable	Yes	Yes	Yes	Yes	Yes	Yes
Power Supply, 110-220 Volt	Yes	Yes	Yes	Yes	Yes	Yes
BioBlue Mini Computer with pre-installed software, keyboard,	Yes	Yes	Yes	Yes	Yes	Yes

mouse and mouse pad						
LED 20” flat panel display	Yes	Yes	Yes	Yes	Yes	Yes
Hybridization Cassette		Yes		Yes		Yes
High-Throughput Wash Station		Yes		Yes		Yes
Microarray High-Speed Centrifuge		Yes		Yes		Yes

Technical Notes

1. Calibration Files. SpotBot® 3 Microarrayers are calibrated in our laboratories to ensure proper operation, and the calibration files are pre-loaded onto the system computer prior to shipping. SpotBot® 1 and 2 systems may use calibration files provided on a compact disc (CD). Calibration files are unique to each SpotBot® system and must be installed prior to operating all SpotBot Microarrayers. Please contact technical support (arrayit@arrayit.com) if you have any questions about system calibration.

2. Megasonic Power Supplies and Wash Stations. Megasonic Power Supplies will generate some heat during operation. This is normal. If vibrational waves are visible in the Wash Station, the system is working fine. Please make sure to keep a 10 cm distance between the Power Supply and all other system components to allow proper cooling of the Power Supply by the ambient laboratory environment. Please also remember to maintain at least 2 ml/min buffer flow through the Wash Station at all times as insufficient buffer flow will cause elevated power supply temperatures. Please also remember to power off the power supply after each printing session. The lack of vibrational waves in the Wash Station or excessive Power Supply heating during use may indicate improper function. Please contact technical support (arrayit@arrayit.com) for technical assistance and replacement components.

Software and Instrument Options Links
Click here to view the Standard SpoCLe Generator.
Click here to view the Multiple Microarray SpoCLe Generator.
Click here to view the Biacore SpoCLe Generator.
Click here to view Microplate Printing SpoCle Generator.
Click here to view the Megasonic Wash Station.
Click here for assistance with Gal file generation.

Installation Photographs and Instructions

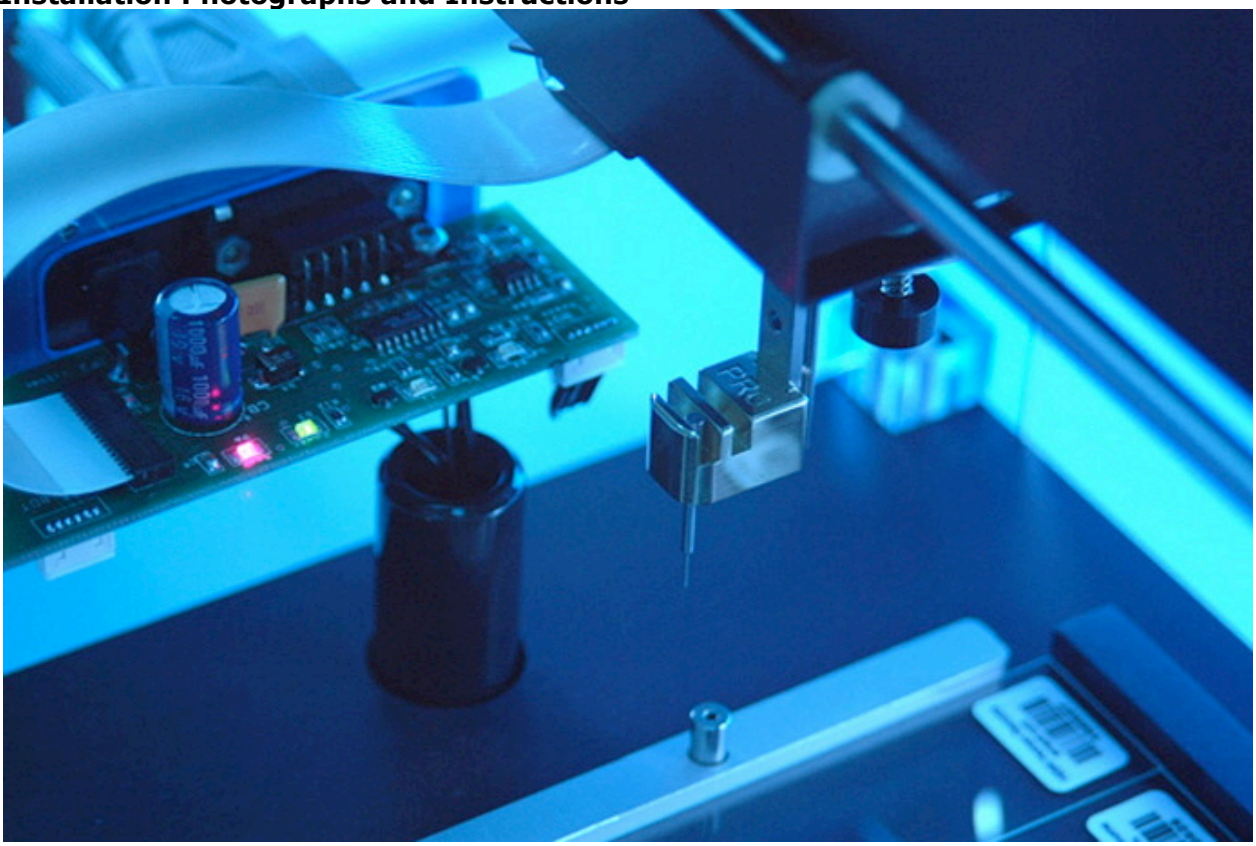

Figure 1. SpotBot® 3 Microarrayer in the "home" position. The printed circuit board and operation lights (top left) permit fully automated computer-control. The professional printhead (center) contains a calibration pin in the first of 4 pin apertures.

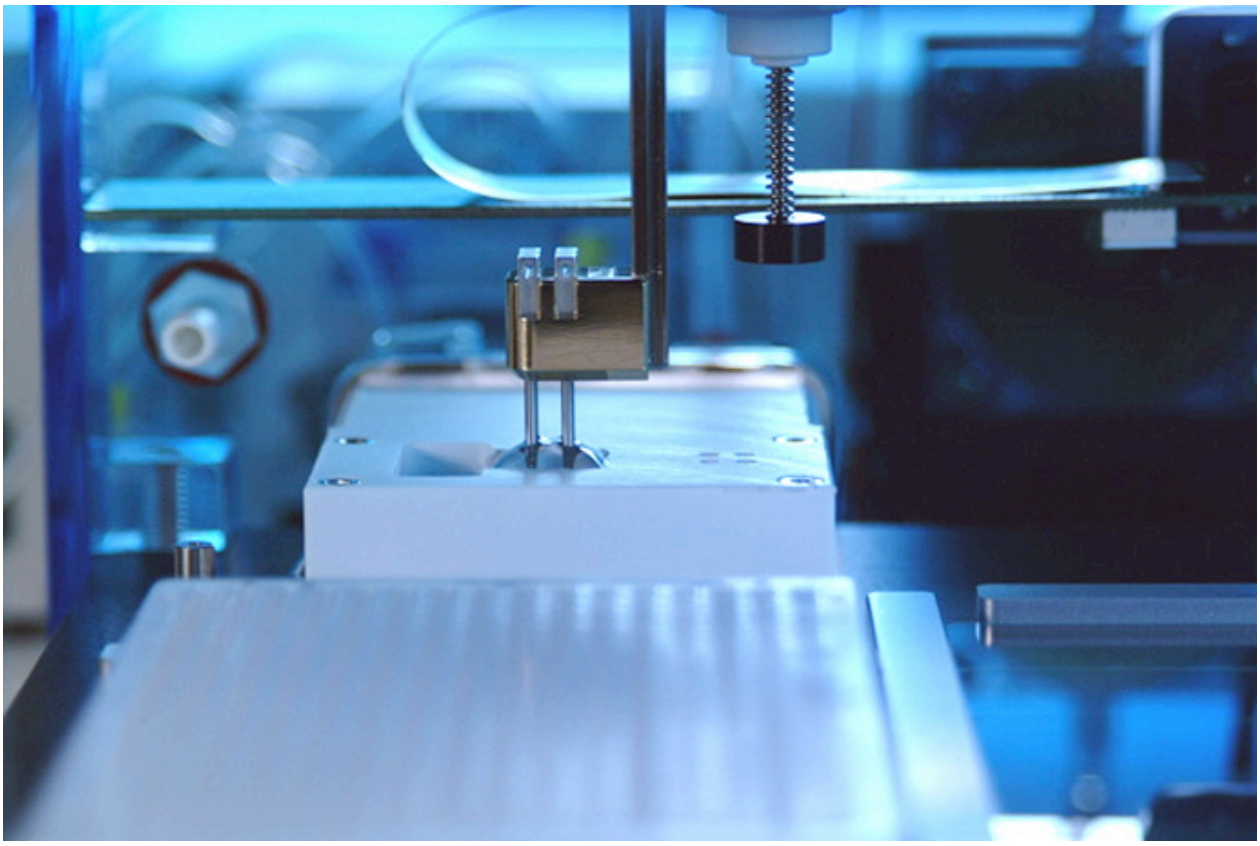

Figure 2. Megasonic Wash Station on the SpotBot® 3 Protein Edition Microarrayer. Megasonic waves propagated through the wash buffer facilitate highly efficient pin cleaning. The dry port to the right of the wash station uses pressurized air to dry the pins after cleaning.

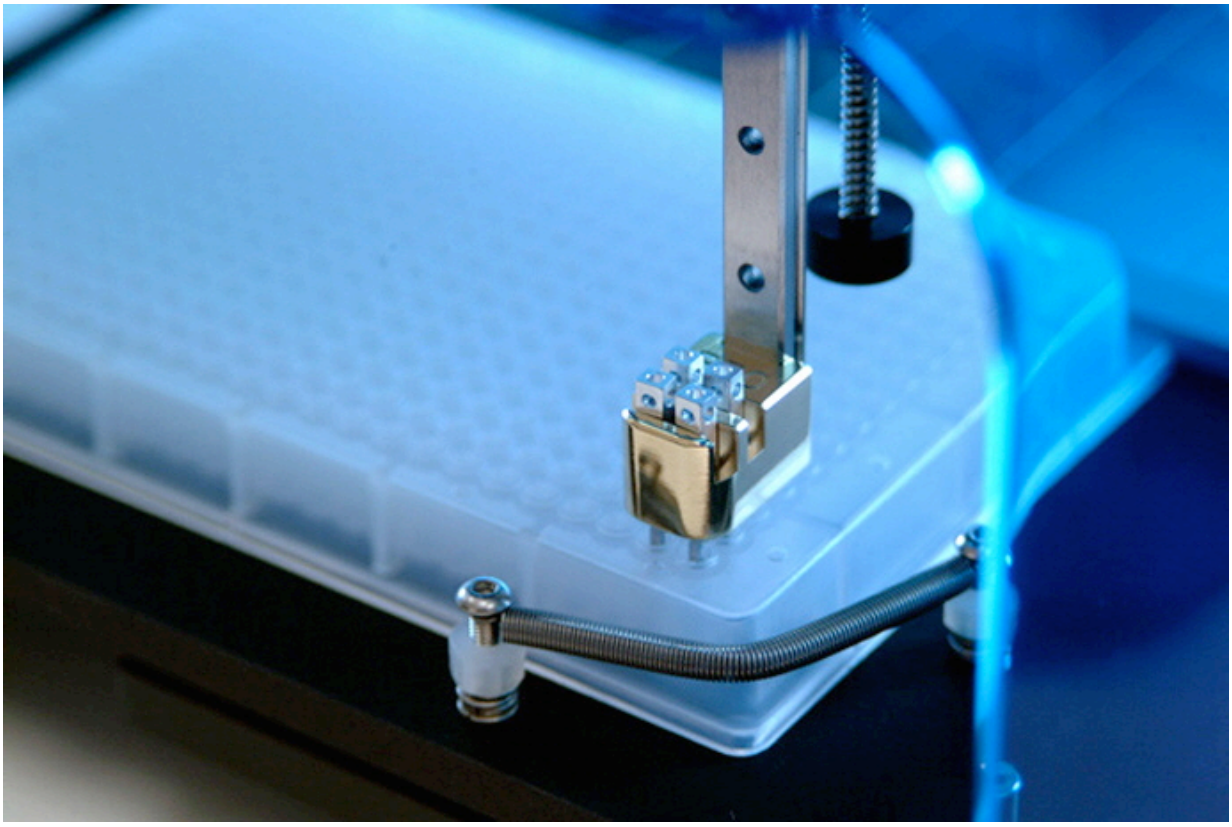

Figure 3. SpotBot® 3 Microarrayer in the sample loading position. The Professional Series Printhead and 4 946MP4 Pins move into the loading position in the first group of 4 wells in the 384-well microplate. A loading time of 3 seconds allows each pin tip to load 0.2 µl of sample from each well containing 5 µl of total sample volume.

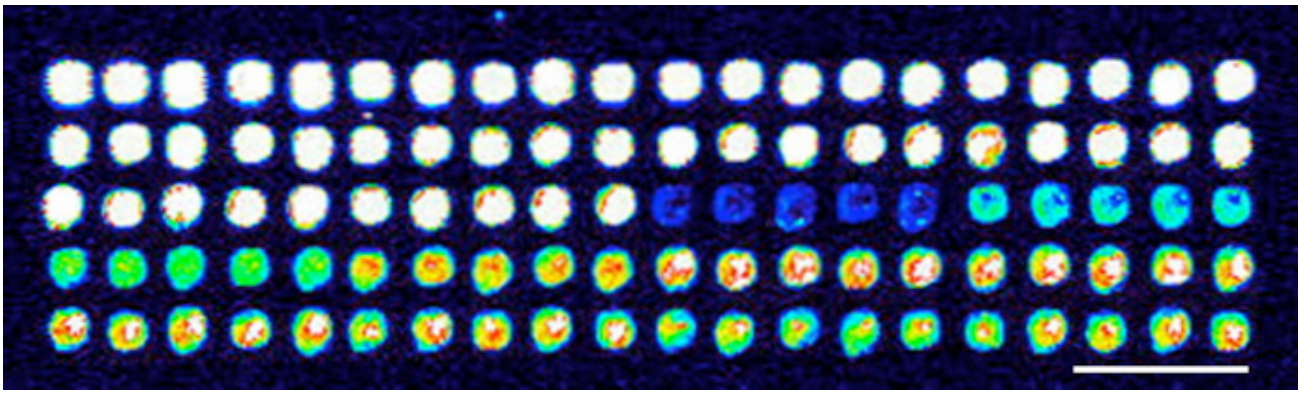

Figure 4. Microarray printed with the SpotBot® 3 Protein Edition Microarrayer. Dilutions of ArrayIt® Green540 and Red640 fluorescent dyes were printed with four 946MP4 Pins and a Professional Series Printhead. All samples were printed in quintuplicate at 200-µm center-to-center spacing. The uniformity of the rows and columns of printed spots reveals the excellent printing performance of the SpotBot® 3 Protein Edition Microarrayer. The space bar denotes 500 µm in the image.

Figure 5. The Humidification System for SpotBot® 3 Personal Microarrayers includes a Humidity Control Compressor, Control Valve, Humidity Chamber, and Temperature and Humidity Pen. The system allows humidification of the internal instrument chamber from ambient to 80% relative humidity (RH) with an accuracy of ±1%. The same core components and instrument port are used for the Dehumidification Apparatus (see Fig. 9).

Advantages of the SpotBot® 3 Protein Edition

Protein microarray experimentation requires the preservation of protein structure at both the sample and printed protein stages. Arrayit SpotBot® 3 Protein Edition Microarrayers feature a proprietary deck and cooling system that provide cooling of the microplate and glass substrate slides down to 4ºC. The result is unsurpassed retention of protein structure and function in ambient laboratory, without the inconvenience of cold room experimentation. Protein Editions systems are particularly well-suited for laboratories studying antigens, antibodies, peptides, cellular extracts and other protein sample types susceptible to room temperature proteolysis.

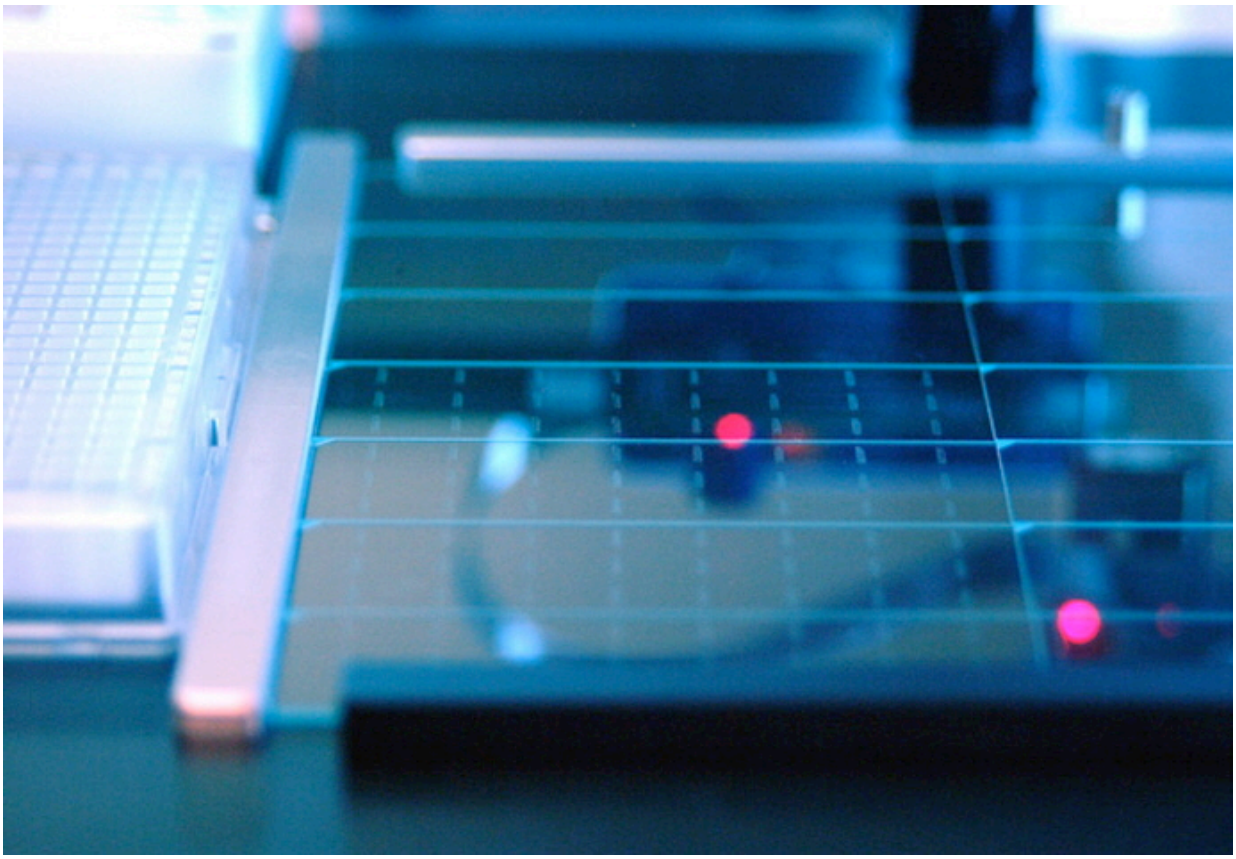

Figure 6. Multiple microarrays per substrate printed with a SpotBot® 3 Personal Microarray Robot. Shown is a photograph of the SpotBot® 3 platen containing SuperAmine Microarray Substrates printed with a SpotBot® 3 Personal Microarrayer running 946MP4 Pins printing at 175 µm spacing. A total of 24 microarrays per substrate were printed using the Multiple Microarray Format SpoCLe Generator version 1.1.02, which can be downloaded at http://spotsupport.com.

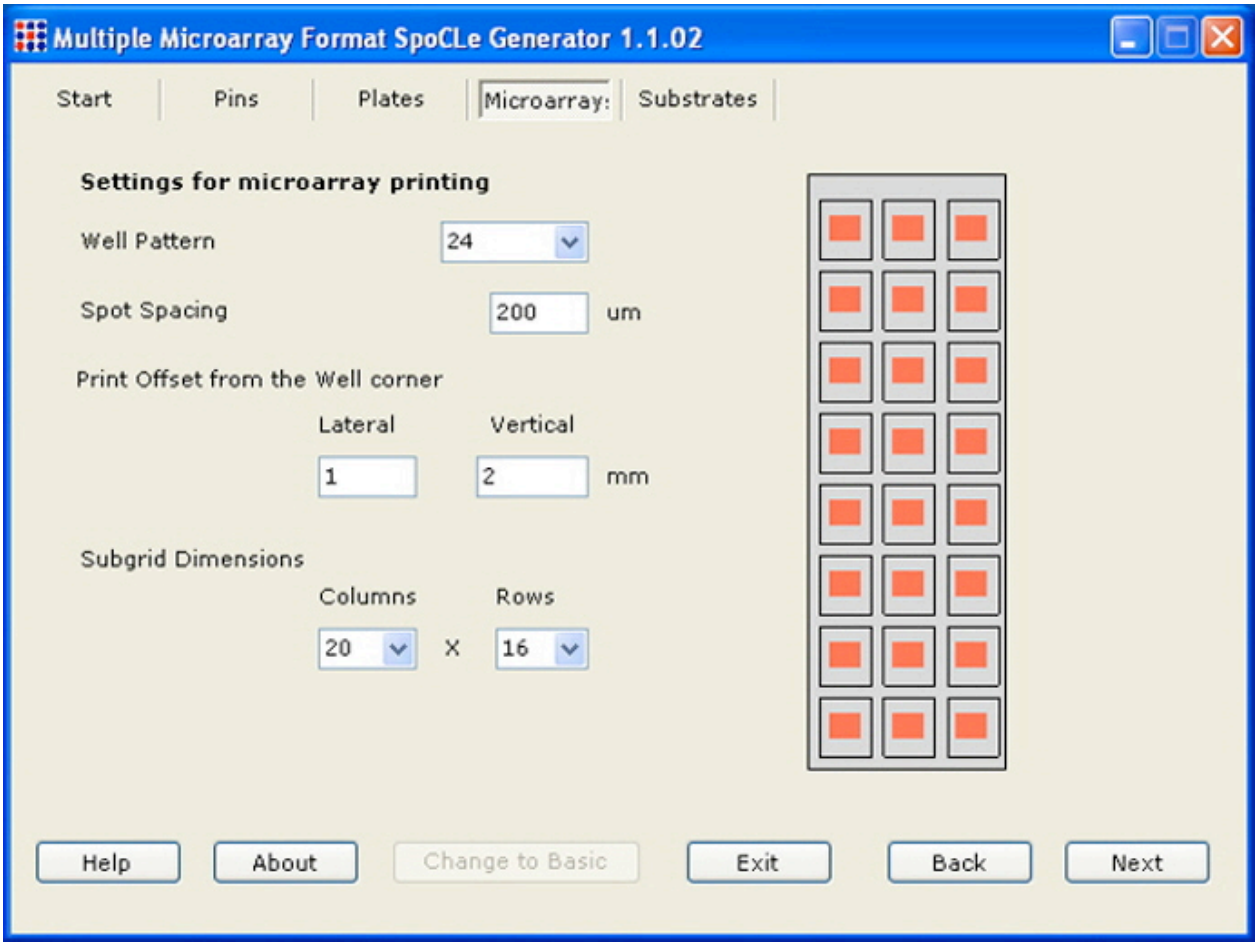

Figure 7. Multiple Microarray Format SpoCLe Generator version 1.1.02 allows the printing of multiple microarrays per substrate with SpotBot 2 Personal Microarrayers (see Fig. 6). Shown is a screenshot of the software interface. The user selects the number of microarrays or "well pattern", spot spacing in microns, print offsets in millimeters, and subgrid dimensions as columns and rows. The software then generates a graphic showing how the printed microarrays (orange icons) will appear on the substrates. The Multiple Microarray Format SpoCLe Generator version 1.1.02 can be downloaded at http://spotsupport.com.

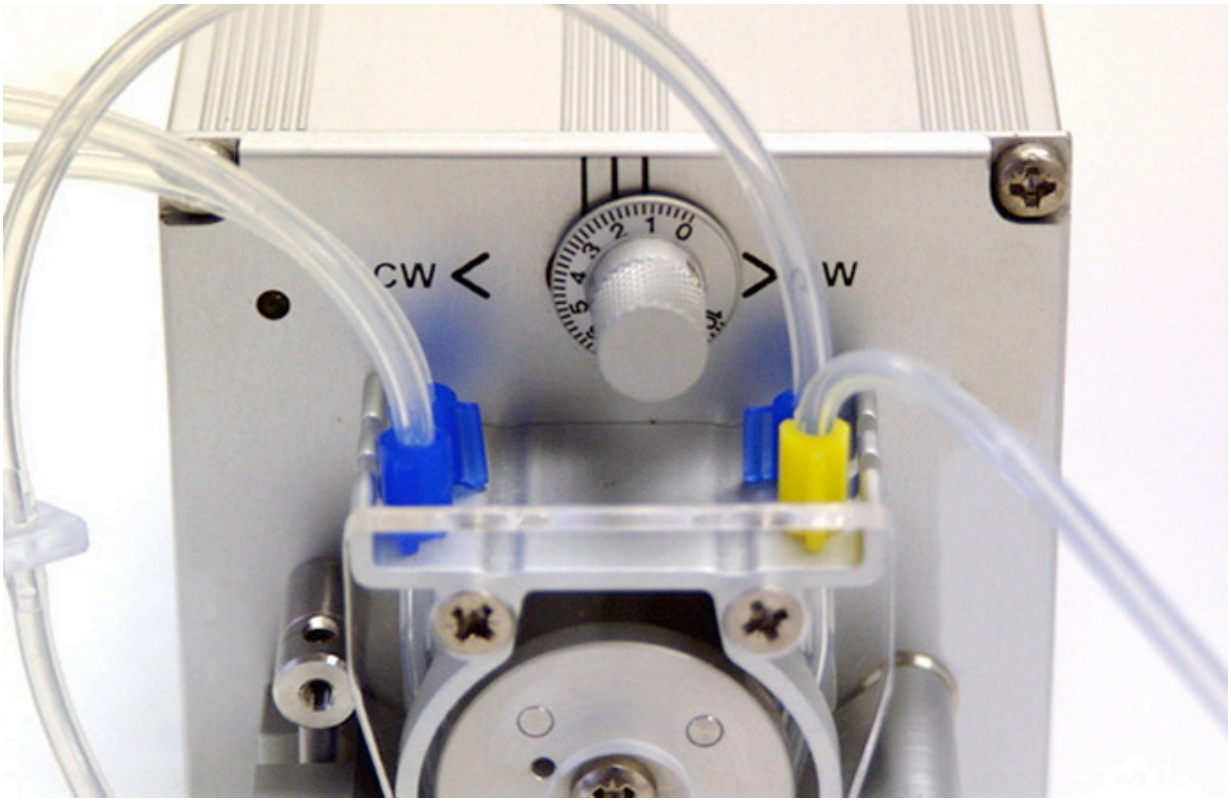

Figure 8. Shown is a photograph of the Peristaltic Pump used on SpotBot®2 Personal Microarrayers. Tubing colors should be configured as shown. The speed dial should be set to the right (CW, clockwise setting) for correct buffer flow into the Wash Station. Pumps are either 12 rpm or 100 rpm as designated on the back of the instrument under "speed". A proper buffer flow rate of 1.0 ml/min into the SpotBot®2 Wash Station is achieved using dial setting 8 (12 rpm pump) or dial setting 1 (100 rpm pump, shown here). Tubing connections (not shown) should be green-green, blue-blue, yellow-yellow, and white-white as designated on the tubing ends and hardware: green-green = Peristaltic Pump intake to Wash Buffer Reservoir; blue-blue = Peristaltic Pump intake to Wash Station outlet; white-white = Peristaltic Pump outlet to Wash Station intake; yellow-yellow = Peristaltic Pump outlet to Wash Waste Container.

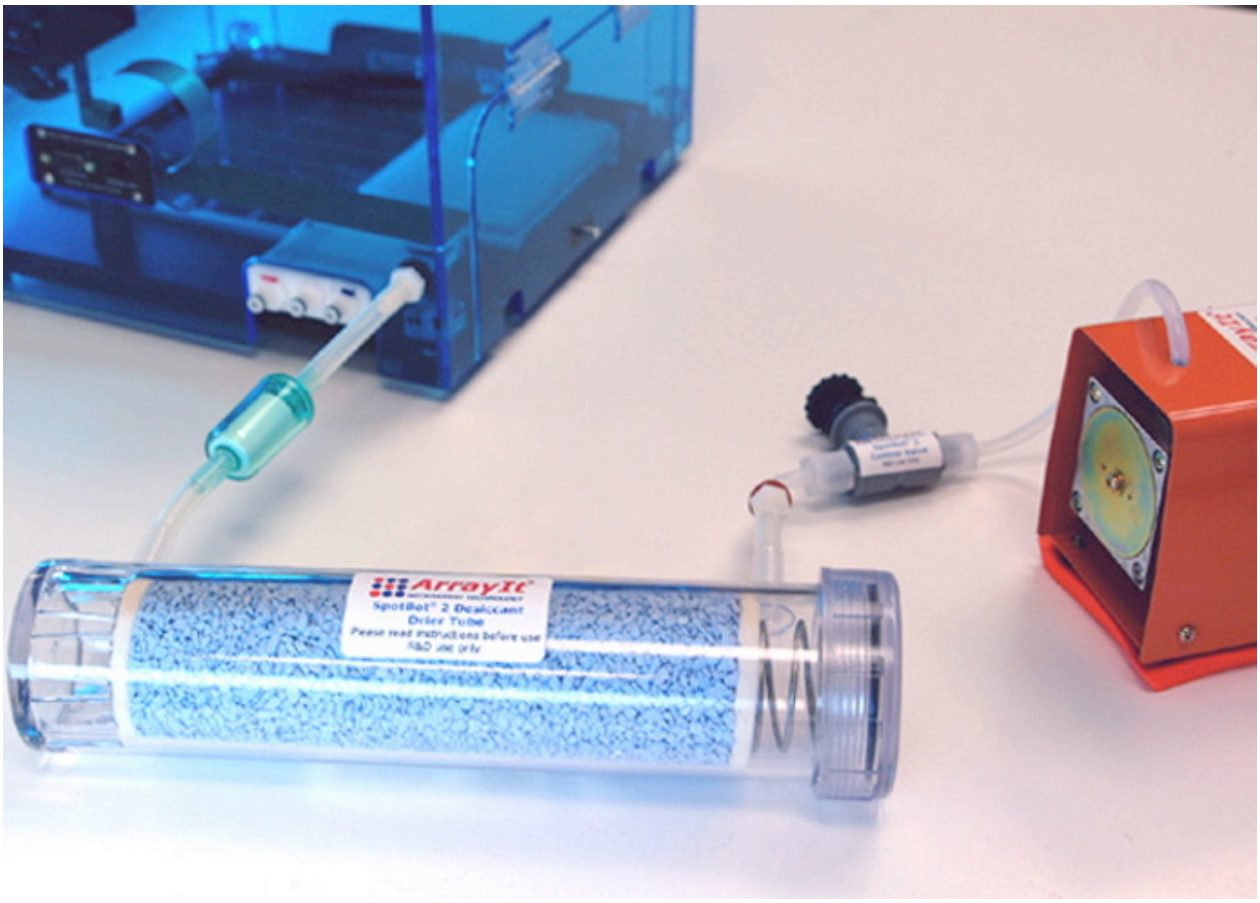

Figure 9. Shown is the Dehumidification Apparatus attached to the correct port on the SpotBot® 3 Protein Edition Personal Microarrayer. The Air Compressor (orange) pushes air through a user-controlled valve and into the desiccant tube. De-humidified air is then filtered (green filter) to remove particulate matter, and propelled under pressure into the SpotBot® 3 instrument. The Dehumidification Apparatus prevents excessive humidity from accumulating when the instrument platen is cooled below ambient temperature. Humidity can be held within 1% of the desired level. The Humidification Apparatus (see Fig. 5) is ported onto the same fitting as the Dehumidification Apparatus.

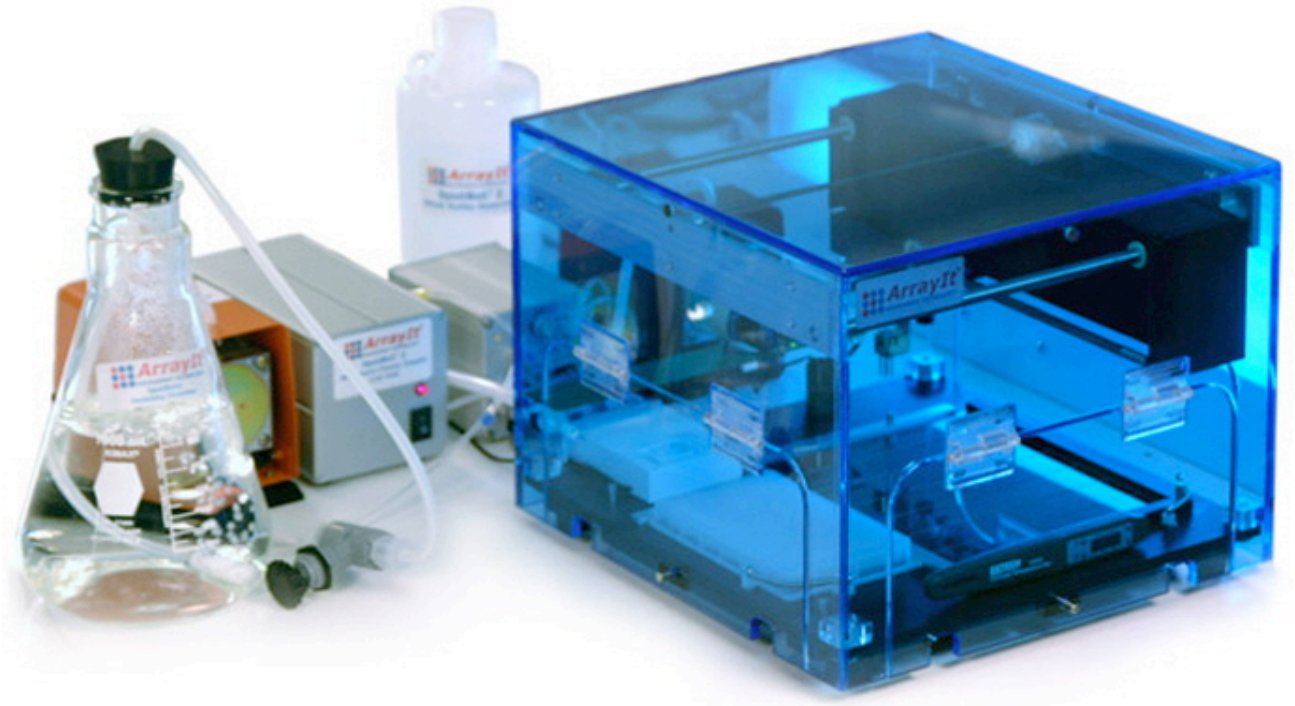

Figure 10. Shown is a photograph of the SpotBot® 3 Microarrayer including the accessories. The translucent wash buffer reservoir, orange air compressor for the dry station, silver peristaltic pump for the wash station, silver megasonic power supply and humidification system including the orange air compressor, humidification reservoir and gray valve are shown correctly configured behind the instrument. The modular and compact accessories improve system utility and performance and simplify maintenance and repair. Inside the instrument, the microplate, L-bracket and temperature/humidity pen are visible. The SpotBot® 3 Protein Edition Microarrayer is configured similarly except that the humidification is replaced by dehumidification (see Figure 9) and a chiller bath is added for deck cooling.

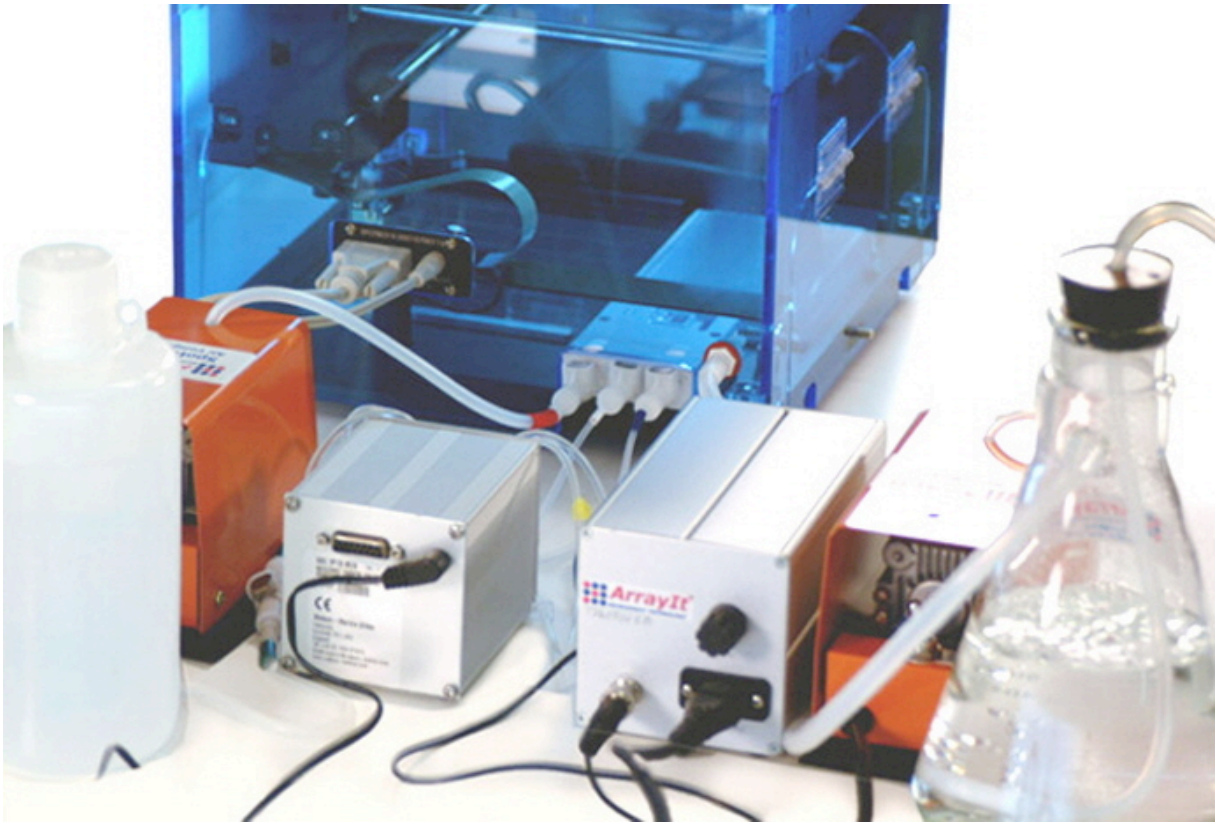

Figure 11. Shown is a photograph of the SpotBot® 3 Personal Microarrayer including the accessories. The translucent wash buffer reservoir, orange air compressor for the dry station, silver peristaltic pump for the wash station, silver megasonic power supply and humidification system including the orange air compressor and humidification reservoir are shown correctly configured behind the instrument. The COM cable, power supply, dry station fitting (red), wash buffer fitting (white), waste buffer outtake (blue), and humidification tubing are shown correctly attached to the back of the instrument. The modular and compact accessories design improves system utility and performance and simplifies maintenance and repair. The SpotBot® 3 Protein Edition Microarrayer is configured similarly except that the humidification is replaced by dehumidification (see Figure 9) and a chiller bath is added for deck cooling.

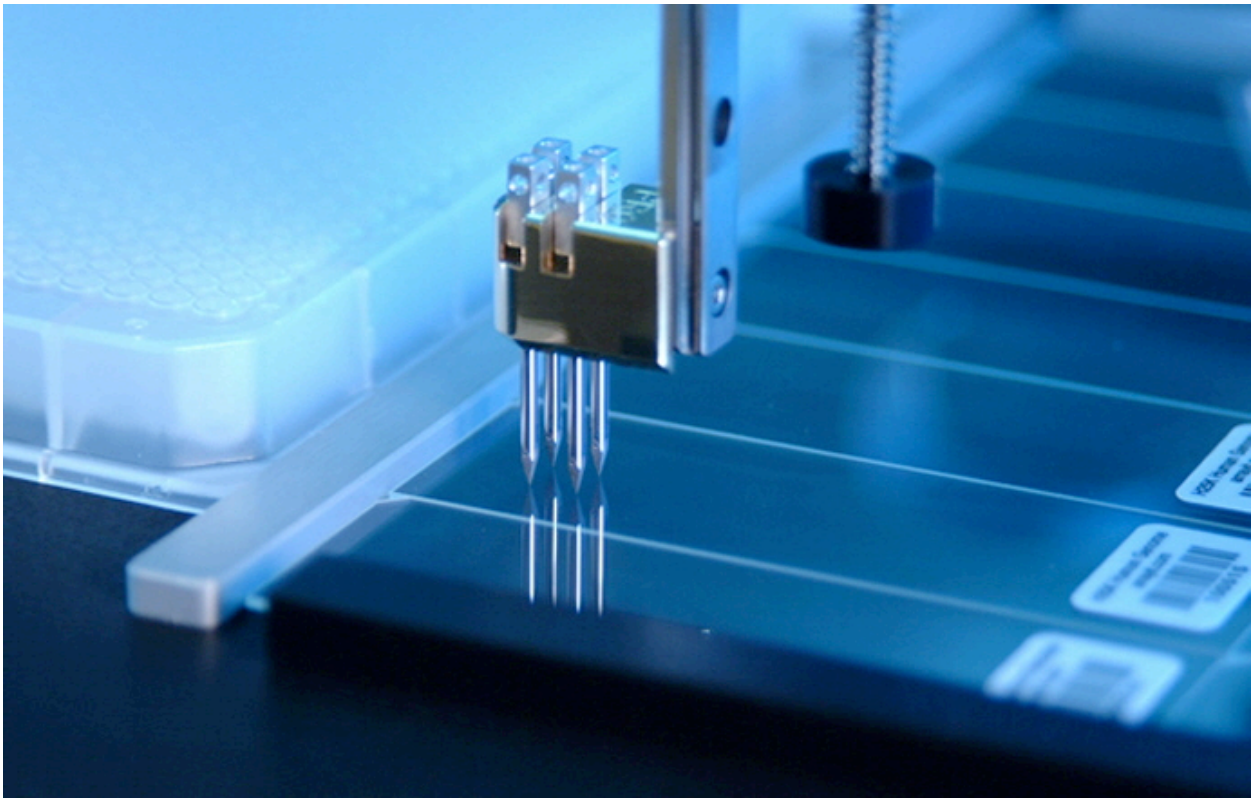

Figure 12. SpotBot® 3 Personal Microarrayer Professional Series Printhead and four 946MP4 Microarray Printing Pins shown in the printing position on the deck. An "overtravel" of 0.5 mm is used to ensure precise printing onto each glass substrate slide. The SpotBot® 3 Protein Edition Microarrayer preserves the activity and integrity of printed samples by cooling the entire deck, including the microplate samples and substrate slides.

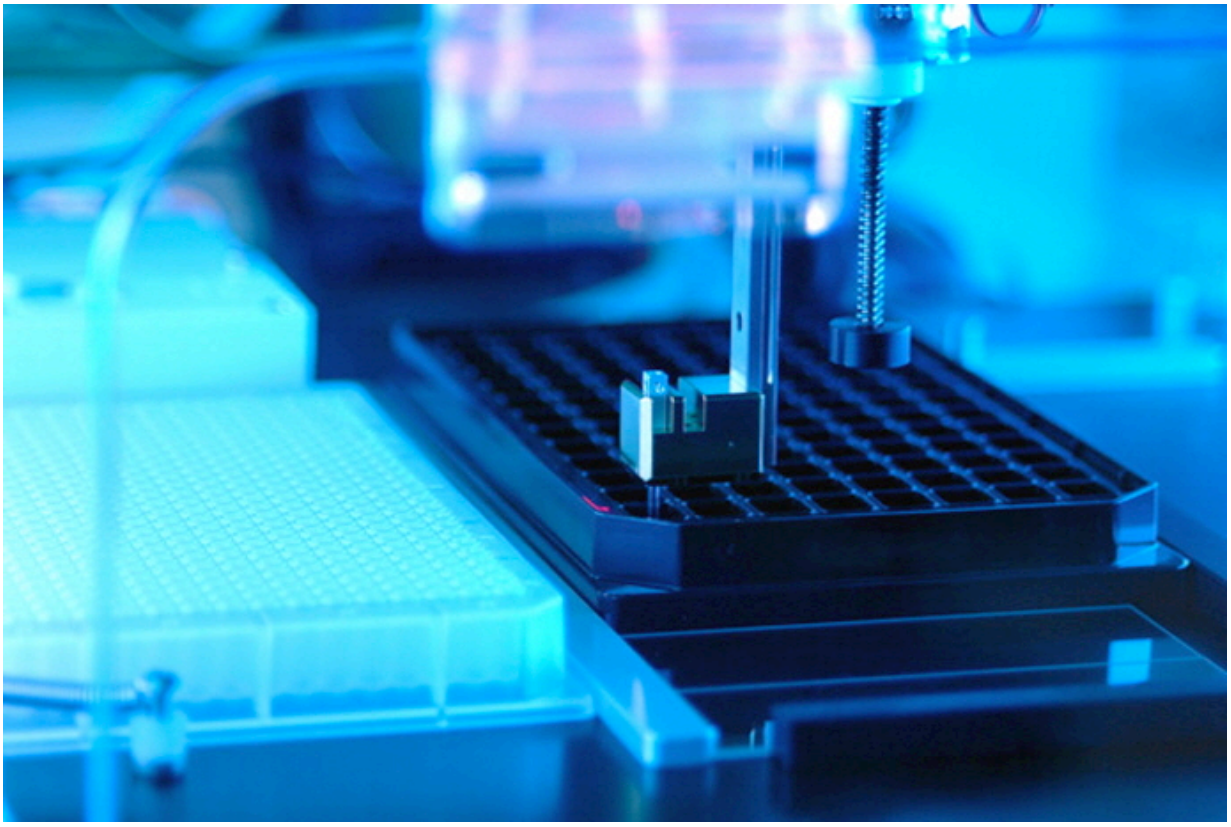

Figure 13. SpotBot® 3 Microplate Printing. SpotBot® 3 Protein Edition Personal Microarrayers enable microarray printing into 96-well microplates (shown) and 384-well microplates, as well as onto microplate-sized glass substrates using the standard SpotBot® 3 Protein Edition components and Well Plate Printing Spocle Generator v2.0.2 software running on SpotApp v3.6.0. Microplate printing software is downloadable on the SpotSupport web site. Microplate printing requires the Microplate L-Bracket Locator (Cat. MLS) to hold the microplate in position during printing, and utilizes two pre-print substrates as shown here. System calibration is required prior to printing. Please do not attempt microplate printing prior to system calibration.

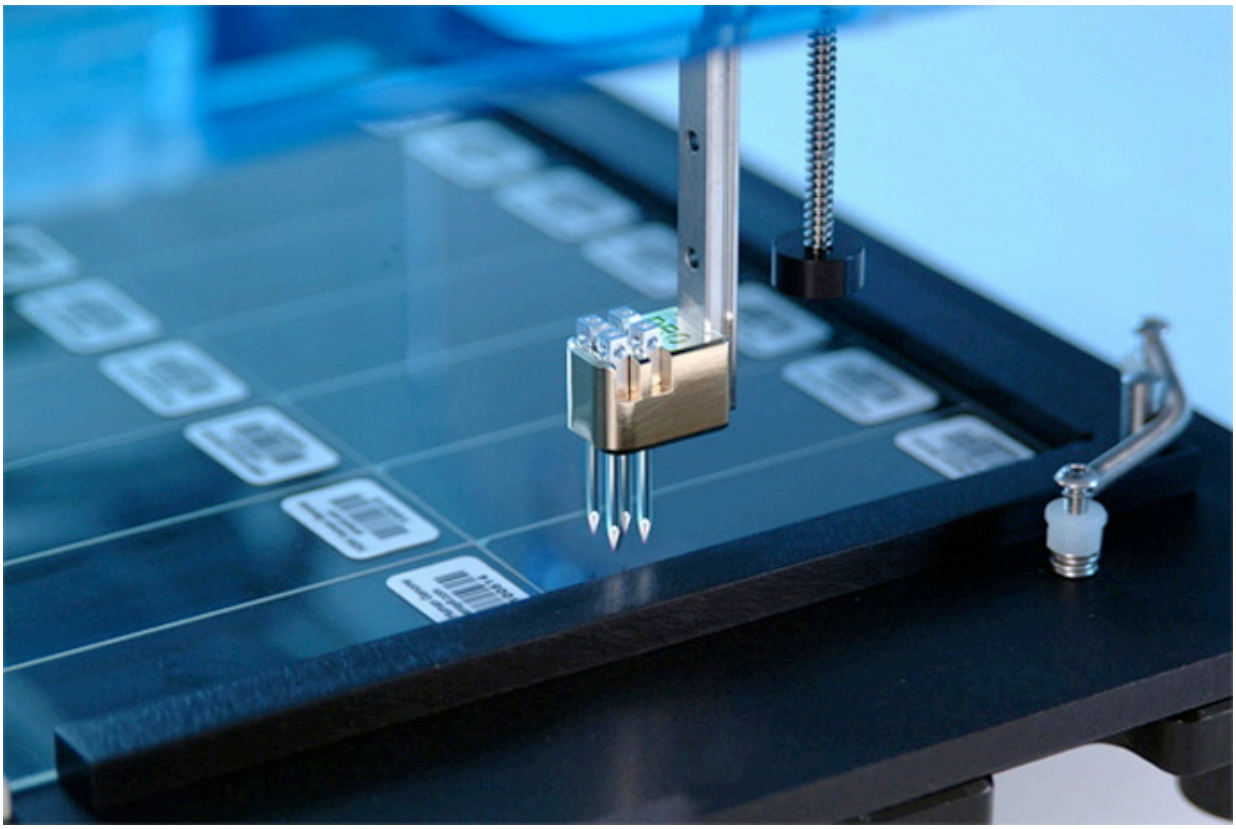

Figure 14. SpotBot® 3 Personal Microarrayer Professional Series Printhead and 946MP4 Printing Pins in the "safe Z" position over the glass substrate slides. The spring-loaded L-Bracket immobilizes the substrate slides on the platen during printing to maintain a high degree of positional precision and accuracy.

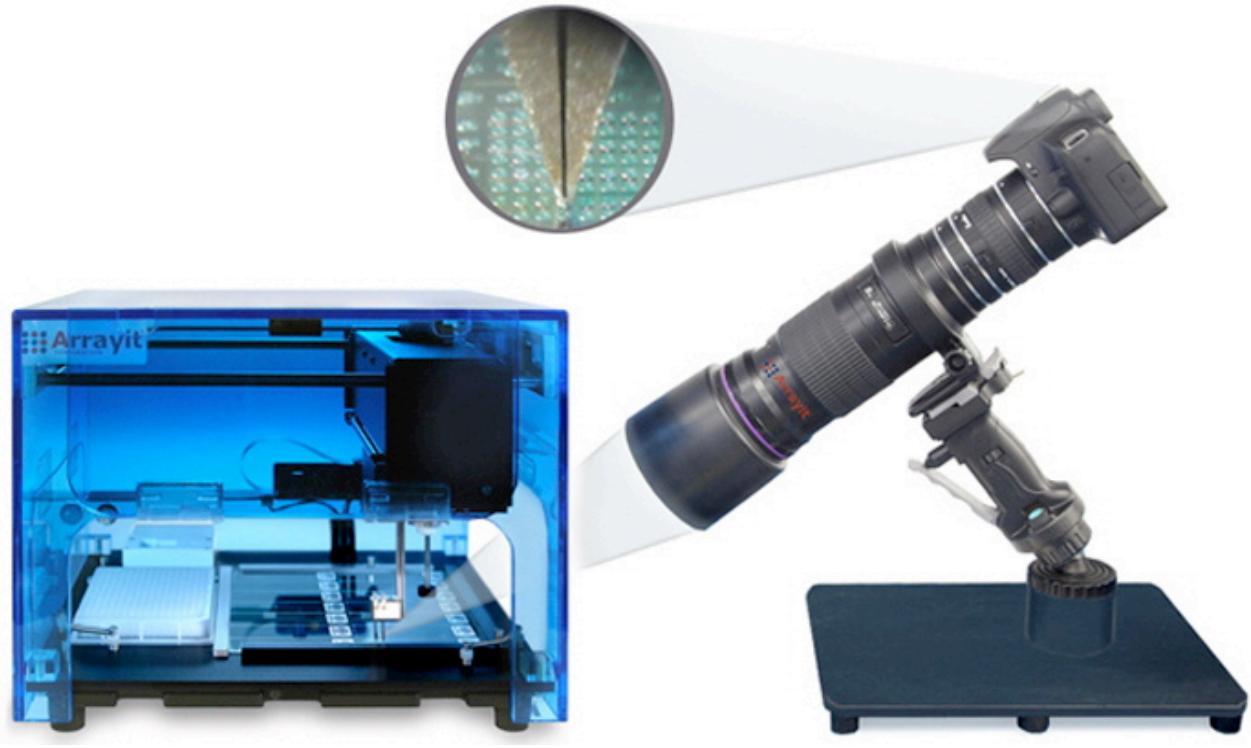

Figure 15. SpotBot® 3 Personal Microarrayer Vision System with high-resolution digital camera, tripod, and custom software interface to view and record absolute positional coordinates on the printing deck. The Vision System allows visualization of microscopic substrate elements such as 100 µm microelectrodes (see insert) using a digital camera with 10 µm spatial resolution. Highly recommended for aerospace, bio-engineering, material science applications.

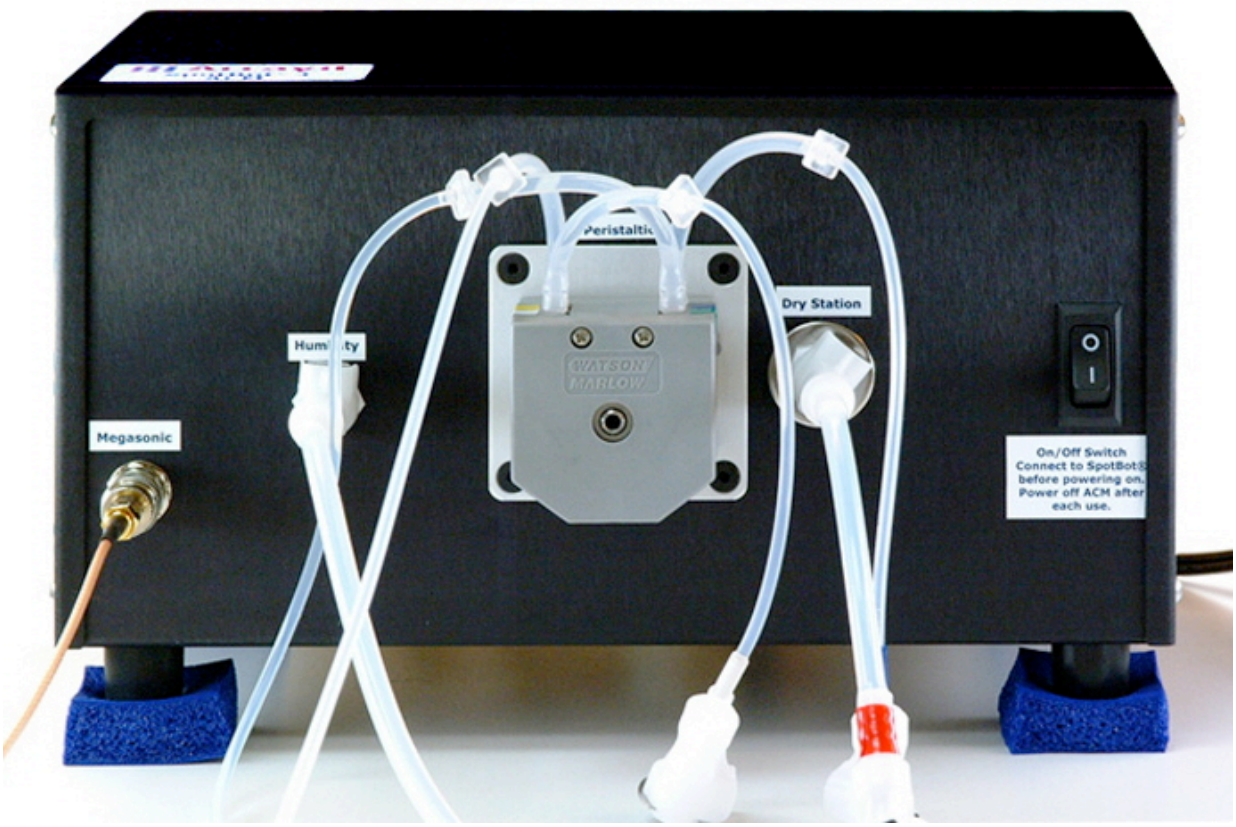

Figure 16. SpotBot® 3 Personal Microarrayer Accessory Control Module (ACM) including connections from left-to-right for the megasonic wash station, humidty control, peristaltic pump, pin drying station, power switch and ACM power supply (rear left). The megasonic cable should be connected to the threaded connector on the wash station and the peristaltic and dry station connections should be color-coded as follows: peristaltic wash buffer inward flow to 1L wash buffer reservoir (green-green), peristaltic wash buffer inward flow to wash station inward flow (white-white), peristaltic wash waste outward flow to wash station outward flow (blue-blue), peristaltic wash waste outward flow to 1L wash waste container (yellow-yellow), and dry station forced air stream to dry station pin drying port (red-red). ACM anti-vibration pads should be placed under the 4 ACM feet as shown. Connect all ACM connections to the SpotBot® 3 prior to powering on the ACM and power off the ACM after each use.

Ordering Information

Catalog ID	Description	Price (US dollars)*
SPA3	SpotBot® 3 Personal Microarrayer with version 3 software and intuitive graphical interface. Improved durability and precision compared to earlier SpotBot® systems, Arrayit patented printing technology (U.S. 6,101,946), 22-component system brings microarray manufacturing to the desktop. Perfect personal microarrayer for research, genomics, personalized medicine and diagnostics.	$19,950
SPA3XP	SpotBot® 3 Personal Microarrayer Complete with version 3 software and intuitive graphical interface. Improved durability and precision compared to earlier SpotBot® systems, Arrayit patented printing technology (U.S. 6,101,946), 22-component system brings microarray manufacturing to the desktop. Complete system also includes a hybridization cassette, wash station and microarray high-speed centrifuge. Perfect personal microarrayer for research, genomics, personalized medicine and diagnostics.	$20,396
SPA3PRO	SpotBot® 3 Personal Microarrayer Protein Edition with version 3 software and intuitive graphical interface. Improved durability and precision compared to earlier SpotBot® systems, Arrayit patented printing technology (U.S. 6,101,946), 22-component system brings microarray manufacturing to the desktop. The Protein Edition System includes a cooled platen, chiller bath and humidity control to allow ambient to 4ºC cooling of the entire deck for superior protein microarray manufacturing on your desktop. Perfect personal protein microarrayer for research, genomics, proteomics, personalized medicine and diagnostics.	$29,138
SPA3PROXP	SpotBot® 3 Personal Microarrayer Protein Edition Complete with version 3 software and intuitive graphical interface. Improved durability and precision compared to earlier SpotBot® systems, Arrayit patented printing technology (U.S. 6,101,946), 22-component system brings microarray manufacturing to the desktop. The Protein Edition System includes a cooled platen, chiller bath and humidity control to allow ambient to 4ºC cooling of the entire deck for superior protein microarray manufacturing on your desktop. The Complete System also includes a hybridization cassette, wash station and microarray high-speed centrifuge. Perfect personal protein microarrayer for research, genomics, proteomics, personalized medicine and diagnostics.	$29,610
SPA3HOT	SpotBot® 3 Personal Microarrayer "HotBot" Edition with version 3 software and intuitive graphical interface. Improved durability and precision compared to earlier SpotBot® systems, Arrayit patented printing technology (U.S. 6,101,946), 22-component system brings microarray manufacturing to the desktop. The "HotBot" Edition System includes a heated platen, heater bath and humidity control to allow ambient to 45ºC heating of the entire deck for superior enzyme and whole cell microarray manufacturing on your desktop. Perfect personal "hotbot" microarrayer for research, genomics, proteomics, and enzyme and whole cell applications for personalized medicine and diagnostics.	$29,400
SPA3HOTXP	SpotBot® 3 Personal Microarrayer "HotBot" Edition Complete with	$29,900

	version 3 software and intuitive graphical interface. Improved durability and precision compared to earlier SpotBot® systems, Arrayit patented printing technology (U.S. 6,101,946), 22-component system brings microarray manufacturing to the desktop. The ”HotBot” Edition System includes a heated platen, heater bath and humidity control to allow ambient to 45ºC heating of the entire deck for superior enzyme and whole cell microarray manufacturing on your desktop. The Complete System also includes a hybridization cassette, wash station and microarray high-speed centrifuge. Perfect personal ”hotbot” microarrayer for research, genomics, proteomics, and enzyme and whole cell applications for personalized medicine and diagnostics.	
SVS	SpotBot® 3 Personal Microarrayer Advanced Vision System with high-resolution digital camera, tripod, LED illumination source, and custom software interface to view and record absolute positional coordinates on the printing deck, 10 µm spatial resolution highly recommended for R&D users printing on microarray, biochip, biosensor, microfluidic and microelectronic substrates for biochemistry, aerospace, bio-engineering, and material science applications.	$8,138
SCS	SpotBot® 3 Personal Microarrayer Custom Software routines for SpotBot® 3 and SpotBot® 3 Protein Edition systems including custom programming, testing and installation. Allows customers to create custom scripts for microarray and microplate printing. Fees may be slightly higher for extensive programming requests.	$3,098
PWS	Complete one-year parts and service warranty for the SpotBot® 3 Microarray System. Warranty coverage includes all system components used in a regular manner except pins and printheads. Warranty does not cover system damage caused by irregular use. Warranty coverage is highly recommended for all customers as a cost-effective means of ensuring optimal system performance.	$2,625
PWS2	Complete two-year parts and service warranty for the SpotBot® 3 Microarray System. Warranty coverage includes all system components used in a regular manner except pins and printheads. Warranty does not cover system damage caused by irregular use. Warranty coverage is highly recommended for all customers as a cost-effective means of ensuring optimal system performance.	$4,358
PWS3	Complete three-year parts and service warranty for the SpotBot® 3 Microarray System. Warranty coverage includes all system components used in a regular manner except pins and printheads. Warranty does not cover system damage caused by irregular use. Warranty coverage is highly recommended for all customers as a cost-effective means of ensuring optimal system performance.	$5,513
PWSPRO	Complete one-year parts and service warranty for the SpotBot® 3 Protein Edition Microarray System. Warranty coverage includes all system components used in a regular manner except pins and printheads. Warranty does not cover system damage caused by irregular use. Warranty coverage is highly recommended for all customers as a cost-effective means of ensuring optimal system performance.	$3,780
PWS2PRO	Complete two-year parts and service warranty for the SpotBot® 3 Protein Edition Microarray System. Warranty coverage includes all	$6,379

	system components used in a regular manner except pins and printheads. Warranty does not cover system damage caused by irregular use. Warranty coverage is highly recommended for all customers as a cost-effective means of ensuring optimal system performance.	
PWS3PRO	Complete three-year parts and service warranty for the SpotBot® 3 Protein Edition Microarray System. Warranty coverage includes all system components used in a regular manner except pins and printheads. Warranty does not cover system damage caused by irregular use. Warranty coverage is highly recommended for all customers as a cost-effective means of ensuring optimal system performance.	$8,111
UG3S	Upgrade any SpotBot® or SpotBot® 2 Personal Microarrayer to the SpotBot® 3 specification. The upgrade includes disassembly, cleaning, SpotBot® 3 heavy duty gantry, Professional Series Printhead, wash station rebuild, reassembly, calibration and testing. The Upgrade provides SpotBot® 3 performance at less than half the cost of a new system.	$9,713
UG3SPRO	Upgrade any SpotBot® or SpotBot® 2 Personal Microarrayer or Personal Microarrayer Protein Edition System to the SpotBot® 3 Protein Edition specification. The upgrade includes disassembly, cleaning, cooled platen, chiller bath, humidity control, SpotBot® 3 Protein Edition heavy duty gantry, Professional Series Printhead, wash station rebuild, reassembly, calibration and testing. The Upgrade provides SpotBot® 3 Protein Edition performance at less than half the cost of a new system.	$13,913
NWS	Non-warranty repair for all SpotBot® 1, 2 and 3 Personal Microarrayers, including system inspection, testing, diagnosis, disassembly, parts, re-assembly, testing, calibration, cleaning, and printhead and wash station cleaning. Cost to replace platens, accessories and instrument cases may be higher. Please allow 3-6 weeks for non-warranty repairs.	$7,665
NWSPRO	Non-warranty repair for all SpotBot® 1, 2 and 3 Personal Microarrayer Protein Edition Systems, including system inspection, testing, diagnosis, disassembly, parts, re-assembly, testing, calibration, cleaning, and printhead and wash station cleaning. Cost to replace platens, accessories and instrument cases may be higher. Please allow 3-6 weeks for non-warranty repairs.	$10,290
MSW110V	Megasonic Wash Station for SpotBot® 3 Personal Microarrayer and Personal Microarrayer Protein Edition Systems, 110 volt domestic version.	$2,993
MSW220V	Megasonic Wash Station for SpotBot® 3 Personal Microarrayer and Personal Microarrayer Protein Edition Systems, 220 volt international version.	$3,045
MSWT	Megasonic Wash Station replacement unit for SpotBot® 3 Personal Microarrayers, 110-220 volt.	$1,995
MSWP	Megasonic Power Supply replacement unit for SpotBot® 3 Personal Microarrayers, 110-220 volt.	$1,523
HCSPA	Humidification Apparatus for all SpotBot® 3 Personal Microarray Systems, increases humidity from ambient to 80% RH ±1%, includes humidity control compressor, humidification chamber, control valve, hygrometer and thermometer, and tubing, available	$1,460

	in 110 volt and 220 volt systems.	
DSPA	Dehumidification Apparatus for all SpotBot® 3 Personal Microarray Systems, reduces humidity from ambient to <10% RH ±1%, includes humidity control compressor, desiccators tube, control valve, air filter, hygrometer, and tubing, available in 110 volt and 220 volt systems.	$1,481
PROPH4	Professional Series Printhead for all SpotBot® 3 Personal Microarray Systems with high-precision pin apertures for reduced friction and unparallel printing precision.	$1,008
ACS	Air Compressor for all SpotBot® 3 Personal Microarray Systems.	$1,008
PPS	Peristaltic Pump for all SpotBot® 3 Personal Microarray Systems.	$1,659
WDS	Wash and Dry Station for all SpotBot® 3 Personal Microarray Systems.	$1,339
SLS	Substrate Locator for all SpotBot® 3 Personal Microarray Systems.	$226
MLS	Microplate L-Bracket Locator to Position Microplates for Microplate Printing on all SpotBot® 3 Personal Microarray Systems.	$293
CTS	Complete tubing set for all SpotBot® 3 Personal Microarray Systems including tubing, connectors, extensions and four quick-connect fittings.	$483
WBS	Wash Buffer for all SpotBot® 3 Personal Microarray Systems, sterile and free of particulate and biological contaminants, ideal for all microarray wash stations including sonic systems, shipped pre-made and ready to use, 1 liter of 1X solution.	$83
HFS	Humidity fitting for all SpotBot® 3 Personal Microarray Systems, 2 3/16” long with double 1/4” hose barbs, retainer nut and rubber humidity gasket. Connects to humidification and de-humidification options.	$79
AIC	Arrayit High-Performance Instrument Cleaner removes dust, particulates, fingerprints and other contaminants from all SpotBot® 3 microarrayers. Apply using pump nozzle and Cleanroom Wipes, 65 ml of 1X solution.	$100
WBD	Wash Buffer Dispenser Bottle for SpotBot® 3 Personal Microarray Systems, 1 liter capacity.	$135
WWC	Waste Wash Container for SpotBot® 3 Personal Microarray Systems, 1 liter capacity.	$135

For the most current pricing information, technical assistance, and shipping schedules please contact us by telephone 408-744-1331, email arrayit@arrayit.com, or click on the purchase buttons above to proceed directly to the purchase page.
*International pricing may vary as much as 30% (or more depending on country) due to import duties, stocking fees and technical support.
*Add shipping and handling to all orders.