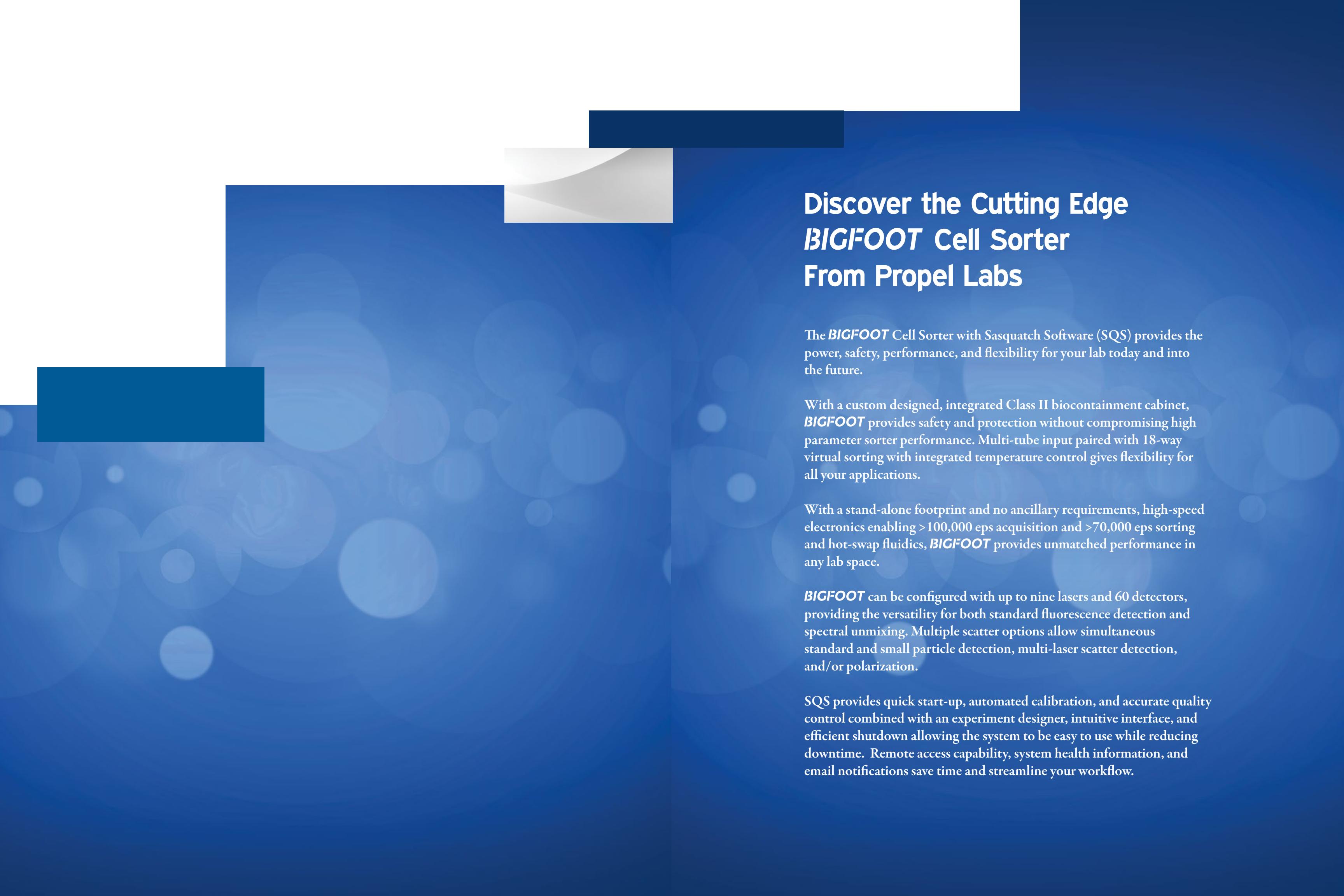


BIGFOOT



 **PROPEL***labs*



Discover the Cutting Edge **BIGFOOT** Cell Sorter From Propel Labs

The **BIGFOOT** Cell Sorter with Sasquatch Software (SQS) provides the power, safety, performance, and flexibility for your lab today and into the future.

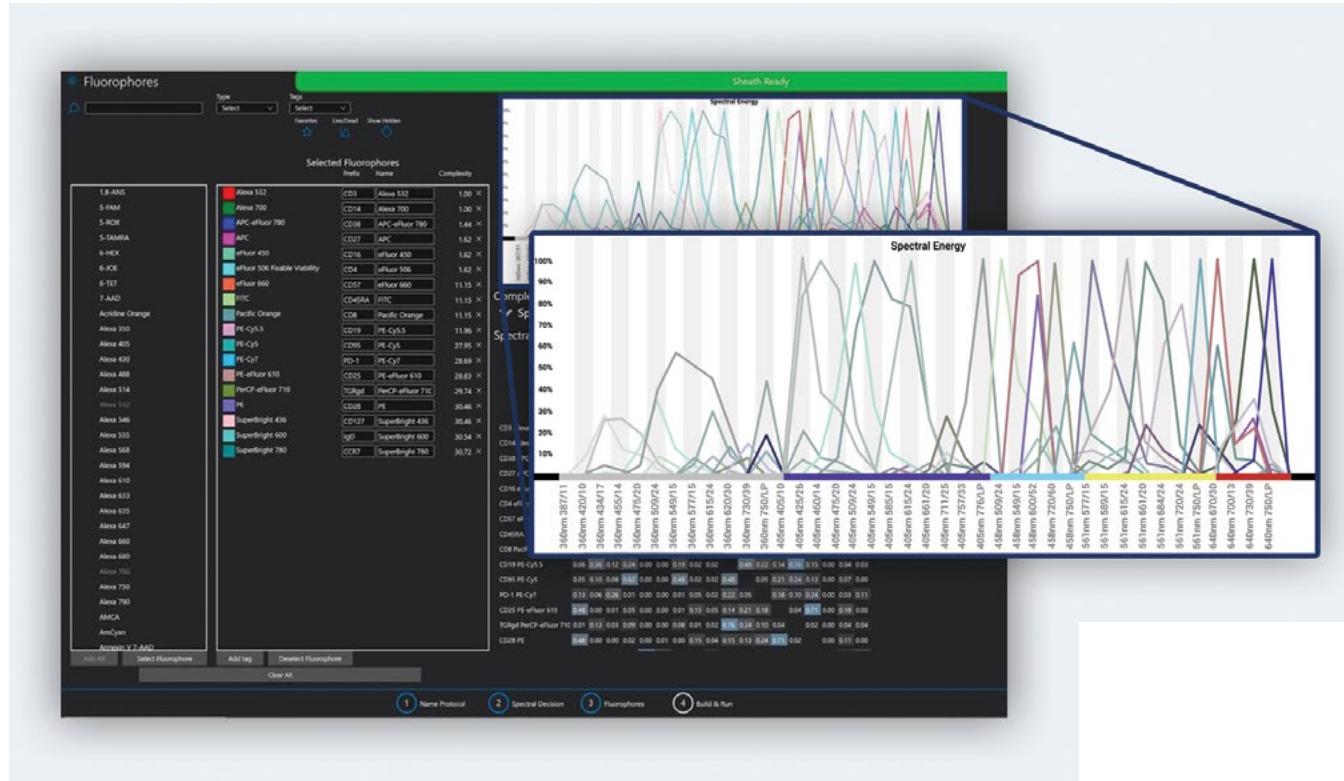
With a custom designed, integrated Class II biocontainment cabinet, **BIGFOOT** provides safety and protection without compromising high parameter sorter performance. Multi-tube input paired with 18-way virtual sorting with integrated temperature control gives flexibility for all your applications.

With a stand-alone footprint and no ancillary requirements, high-speed electronics enabling >100,000 eps acquisition and >70,000 eps sorting and hot-swap fluidics, **BIGFOOT** provides unmatched performance in any lab space.

BIGFOOT can be configured with up to nine lasers and 60 detectors, providing the versatility for both standard fluorescence detection and spectral unmixing. Multiple scatter options allow simultaneous standard and small particle detection, multi-laser scatter detection, and/or polarization.

SQS provides quick start-up, automated calibration, and accurate quality control combined with an experiment designer, intuitive interface, and efficient shutdown allowing the system to be easy to use while reducing downtime. Remote access capability, system health information, and email notifications save time and streamline your workflow.

High Speed



Sorting and Analysis

The first of its kind, Bigfoot allows both spectral sorting and spectral analysis on cell populations.

+ Configurable

Bigfoot high-end configurations take advantage of the large number of lasers and detectors and allow spectral unmixing for both analysis and sorting.

+ Simple

The experiment wizard assists the user in running controls, identifying potential issues, and applying the unmixing algorithms to produce high quality data.

+ Flexible

Bigfoot allows both acquisition and sorting on spectrally unmixed data or conventionally compensated data, streamlining workflow from panel development to high speed sorting for all your users.

Configurable, quick, and calibrated. Bigfoot's high throughput is in a league of its own: **up to 10x faster** than the competition.

+ Configurable

The Bigfoot system has user configurable sort output holders for 1.5, 5, 15, and 50mL tubes, microwell plates up to 1536 wells, microscope slides, and even 10X Chips* with integrated temperature control (4-37°C) providing maximum versatility.

+ Virtual sorting

With standard 6-way sorting and virtual 18-way sorting Bigfoot can be used to separate multiple sort populations from a single sample or different samples for walk away sorting.

+ Calibration

With built-in stream calibration and drop delay as well as media detection, sort setup is simplified for users.

+ High-throughput

With sort rates up to 70,000 eps, sorting is fast and configurable. From 4-way sorting into 96 well plates, 8-way sorting into 384 well plates or straight down sorting into 1536 well plates, Bigfoot speed and recovery will exceed your expectations.

+ Integrated

From built-in media detection cameras to volume tracking of sorted samples, Bigfoot's integrated features reduce common errors with cell sorting.

+ Jet-in-air

Bigfoot's jet-in-air sensing, gentle with fragile cells, enables the usage of a wide range of nozzle tip sizes while taking advantage of high sort speed and yield.



Class II

With a custom-designed Class II biocontainment cabinet, Bigfoot provides both safety and sample protection that is ergonomically optimized for sorting workflow.

+ Adjustable

The adjustable sash maintains containment while allowing easy access to the nozzle and sample/sort areas providing constant sample and user protection.

+ Ease of access

Enclosing only parts such as the nozzle, sample and sort chamber; the electronics, lasers, and optics remain outside the containment zone improving service access and temperature regulation.

+ Integrated

Dedicated sort area aerosol management (AMS) HEPA filter and integrated software communication provides containment warnings and increased flow if a clog is detected to maintain protection.

+ Organized

Built in sample vortex, plate storage area, tube rack, and biohazard bag streamline workflow.

+ Compliant

The system has been verified to meet personnel and product protection standards for a Class II Type A2 biosafety cabinet per NSF International Standard 49.

+ Certified

An airflow/containment certification protocol is provided giving guidance to your internal biohazard certifier.



Efficient

+ 6 input positions

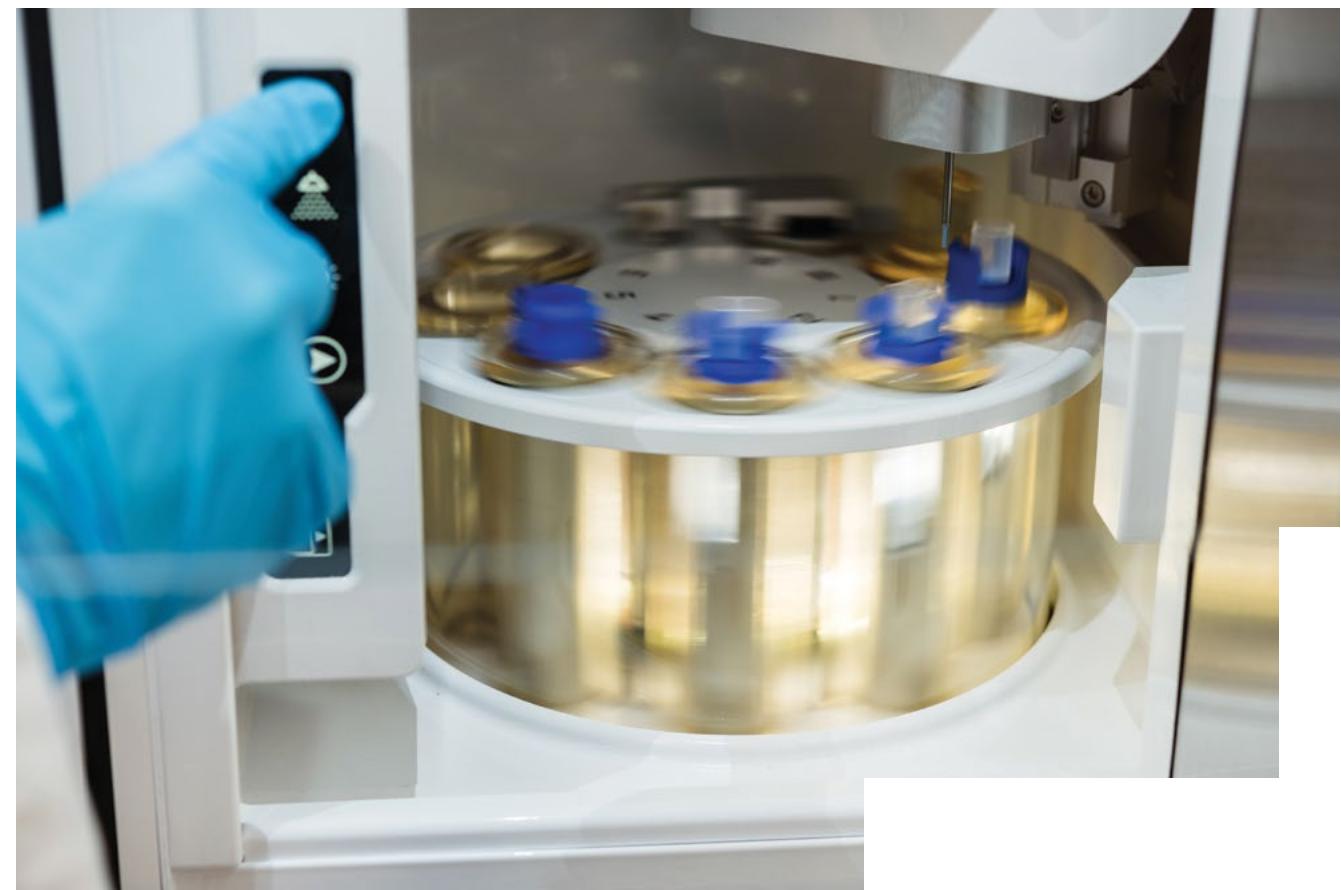
Bigfoot enables sampling from 1.5, 5, and 15mL tubes with automatic tube type sensing and built-in crash detection.

+ Integrated wash station and on-board calibration beads

The integrated wash station reduces carryover and on-board calibration beads allow programmable, automated startup and calibration.

+ Built-in agitation and temperature control

Using the built-in agitation and temperature control (4-37°C), Bigfoot maintains the integrity of your samples from start to finish.





Stable

+ Gentle with fragile cells

Bigfoot's jet-in-air sensing is gentle with fragile cells, maximizing viability with a wide range of nozzle tip sizes while taking advantage of high sort speeds and yield.

+ 5-axis automated stream alignment

Ease of use is improved and short to long term variability reduced with automated 5-axis stream alignment and QC.

+ Precise droplet monitoring

Integrated control systems ensure optimal droplet formation persistence and position stabilization over time ensuring accurate drop delay maintenance through the day.

+ Simplified tip swapping

Designed with ease of use in mind, the nozzle storage station and swap tip wizard simplify the workflow and reduce user errors during setup.

+ Reduced dead volume

Built-in bubble detection notifies the user and automatically stops sample, reducing dead volume.

+ 50-150 μ m nozzle tips

Bigfoot supports 50, 70, 100, 120, and 150 μ m nozzle tips.

Powerful

With custom electronics, firmware, and software designed specifically for high-performance sorting, Bigfoot has the power and flexibility to tackle your application challenges.

+ Accurate

Proprietary electronics simultaneously collect high-dynamic range data for measured peak, area, and width for every channel to accurately characterize your sample.

+ High-end performance

The massively parallel, pipelined architecture eliminates hard aborts and allows complex, high color experiments with up to a 60 x 60 compensation matrix or spectral unmixing without limiting instrument performance.

+ Zero dead time

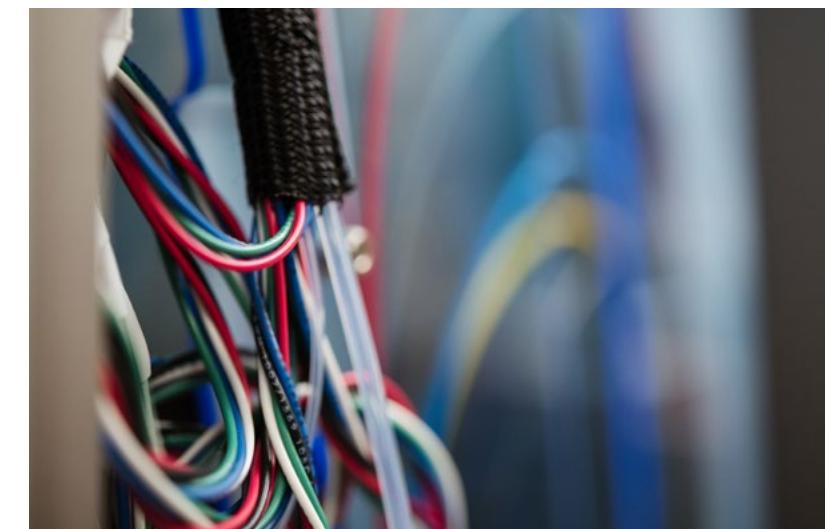
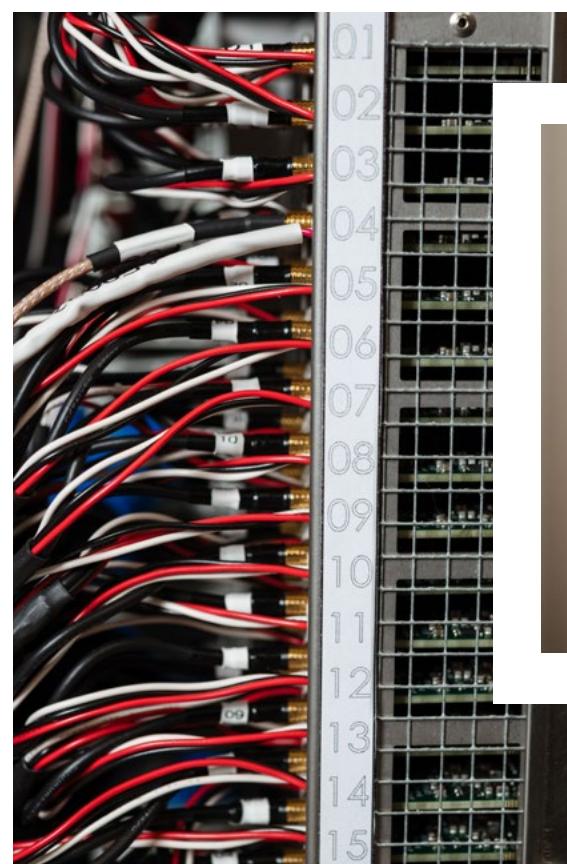
Dynamic window extension ensures full data collection for every sample.

+ Automatic laser delay

Without user interaction, the electronics automatically configures the optimal laser delay for different nozzle sizes and pressures.

+ Sort logic

Flexible configuration allows for independent sort logic setups built from 64 total bivariate gates of up to 512 x 512 resolution, along with multiple modes for purity, enrichment, and drop envelopes.



Nozzle

Electronics

Streamlined

+ Convenient storage is provided for adapters, spare parts, and tubes to help reduce cluttered lab space.

+ No external support components are needed. Goodbye external water baths, vacuum pumps, and compressors.

+ Hot-swappable bulk-fluid bottles allow for a full shift of operation, or for continuous operation by changing during a sort. Optional kits are available for connecting to house DI and waste to reduce the need to fill and empty bulk fluid tanks.

+ On-board cleaner, decontamination, and sheath concentrate bottles allow for automated sheath mixing as well as system rinsing and cleaning without manual intervention.

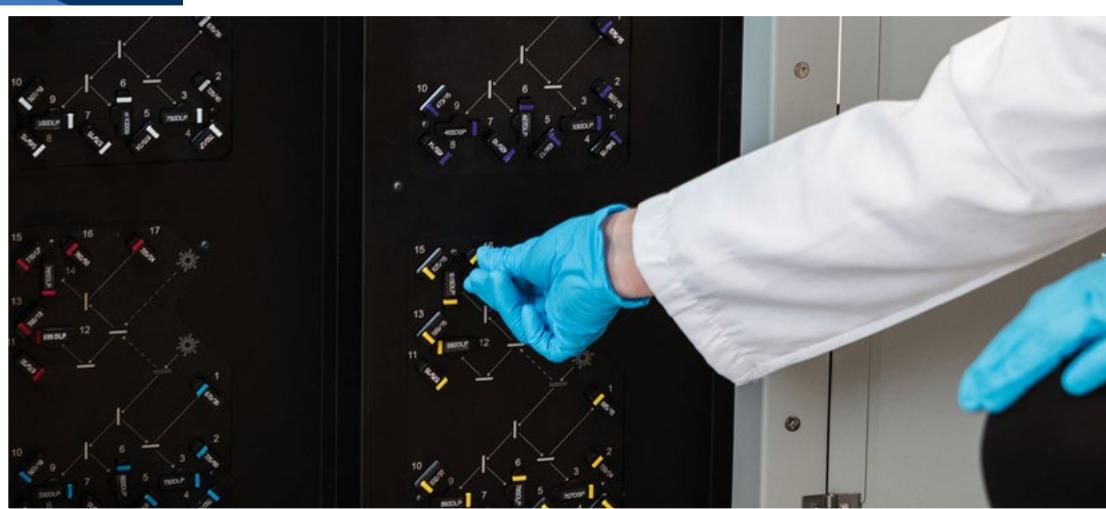
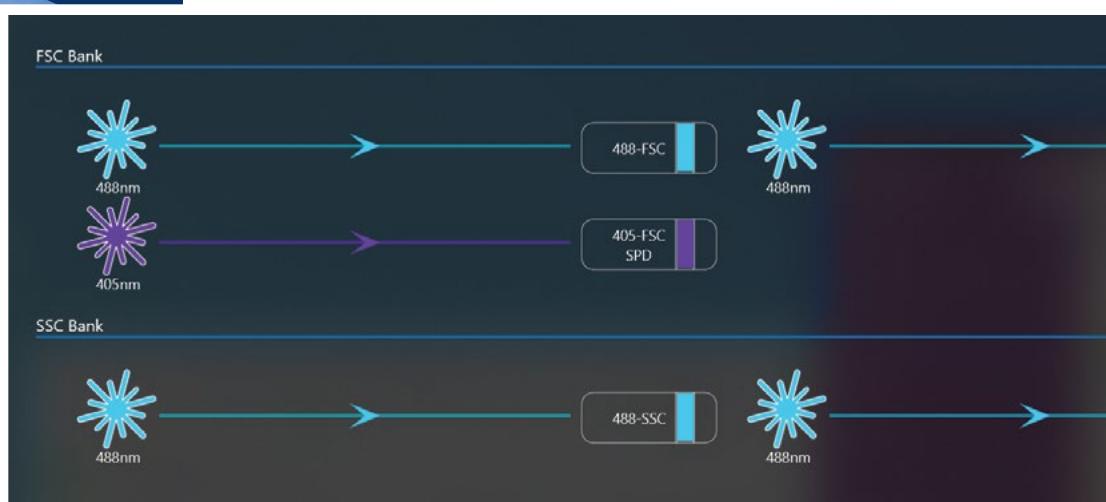
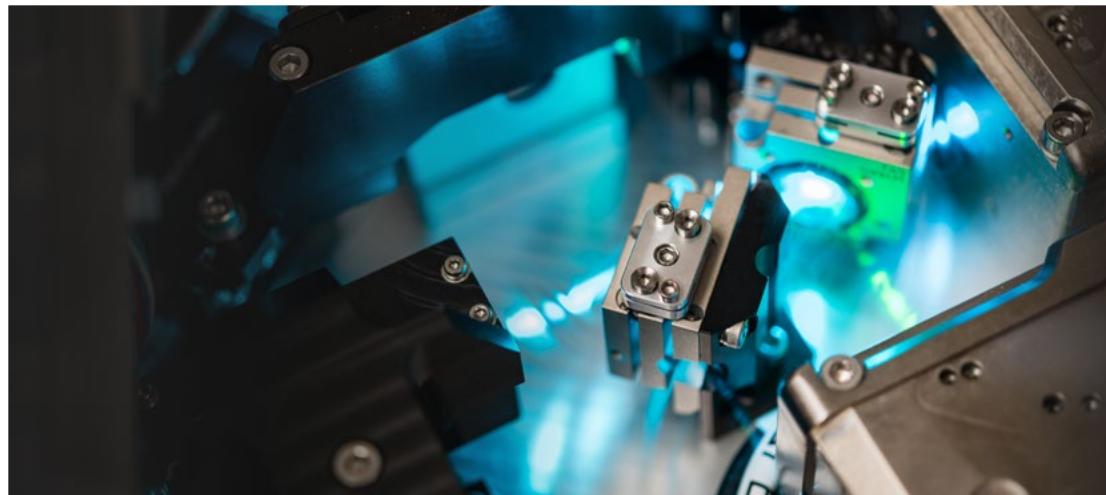
+ Optional, adjustable monitor and keyboard arms provide ergonomically-optimized flexibility over multiple heights and positions.



Optics

Flexible

The Bigfoot optical platform adapts to your needs with flexible laser options and optimized filter sets.



+ Flexible

Bigfoot offers free space excitation of up to nine lasers into seven pinholes ranging from 349nm to 785nm, allowing flexible wavelength selection for your multi-color experiments.

+ Stable

Integrated beam shaping and short path lengths maintain optical stability day to day.

+ Configurable

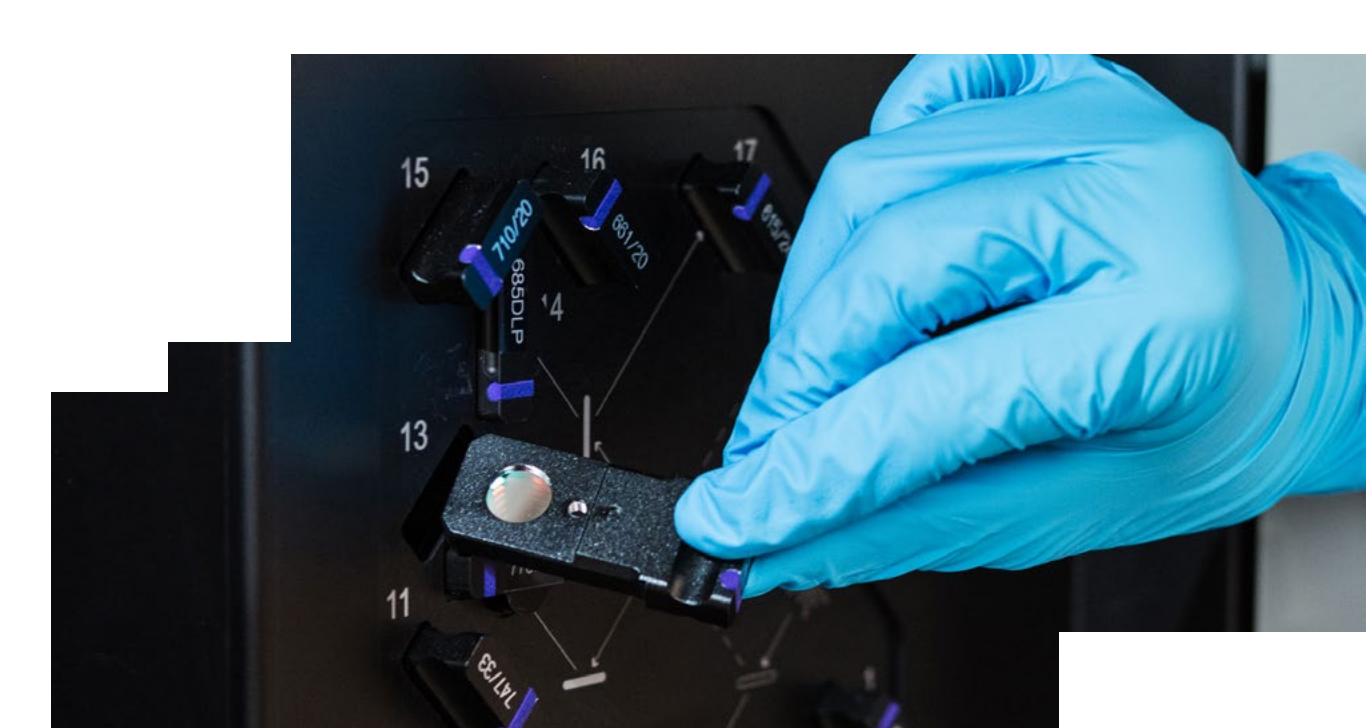
With up to 60 detectors, Bigfoot will adapt to your multi-color applications while still allowing optical filter changes for future needs.

+ Multiple scatter options

Multiple scatter options, including small particle scatter detection and polarization, give the ability to fully equip your system for your needs.

+ Smart

Integrated detection verification is provided with an LED array to confirm instrument performance and verify the optical configuration.



Intuitive

SQS utilizes a clean user interface with intuitive workflow and integrated features allowing simplified acquisition, analysis, and sorting.

+ Automated

Startup, quality control and drop delay processes are all automated and let you program the system to be ready when you are.

+ Advanced fluorochrome selector

Helps with experimental design for both standard and spectral experiments and warns of potential conflicts.

+ Remote monitoring

System health monitoring provides status and control, giving you the freedom to walk away from the system while still monitoring experiments from your phone or tablet and to startup or shutdown remotely.

+ High speed

Acquire and store files at 100,000 events per second, up to 100 million events per FCS file with all parameters enabled reducing rare event detection time.

+ Full reporting capabilities

With reports such as system usage, quality control, and trending and sort summary, information is presented clearly for further analysis.

+ Compatibility

Bigfoot generates FCS files that are compatible with other analysis software packages.

+ Analysis features

Features including overlays, color-gating, back-gating, index sorting and ratio plots give you added capability to display and publish data.

SQS

Support

+ System health

With multiple cameras and sensors throughout, Bigfoot system health provides feedback on all subsystems and logs status for proactive troubleshooting.

+ Propel Labs launcher

While ensuring the proper initialization and launching of SQS the launcher also provides the most secure method of installing and updating instrument software.

+ Remote support

Cloud-based instrument reporting allows our knowledgeable team to support your system with the fastest response, increasing your up time.

+ Email notifications

Manage email notifications to save time and streamline your workflow – helping you support your end users.



Customer Care

Application Data

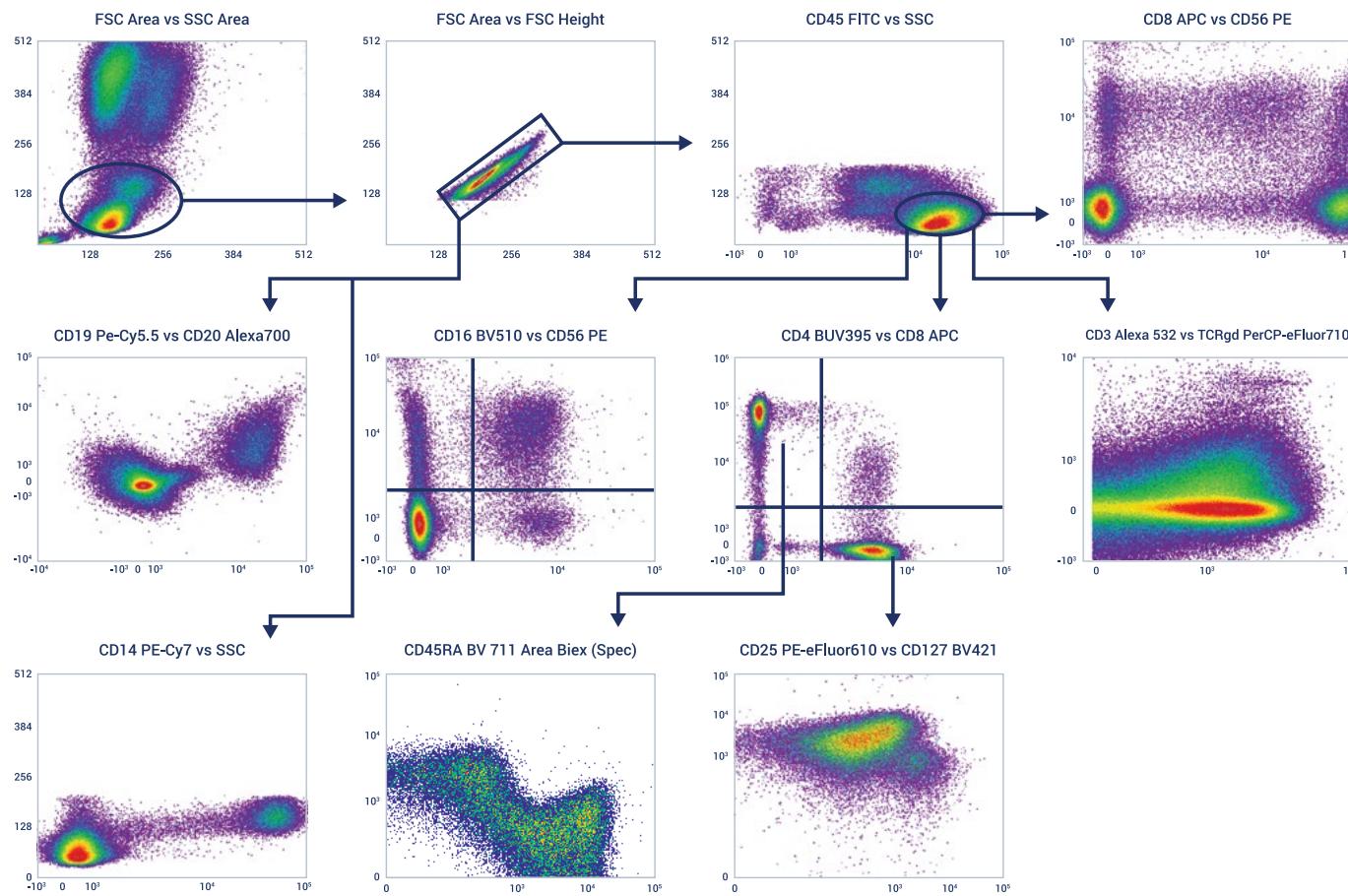


Consistent path lengths, stable optical filter layouts, and highly sensitive PMT detectors optimize detection across the entire spectrum.

Analysis of Human Blood

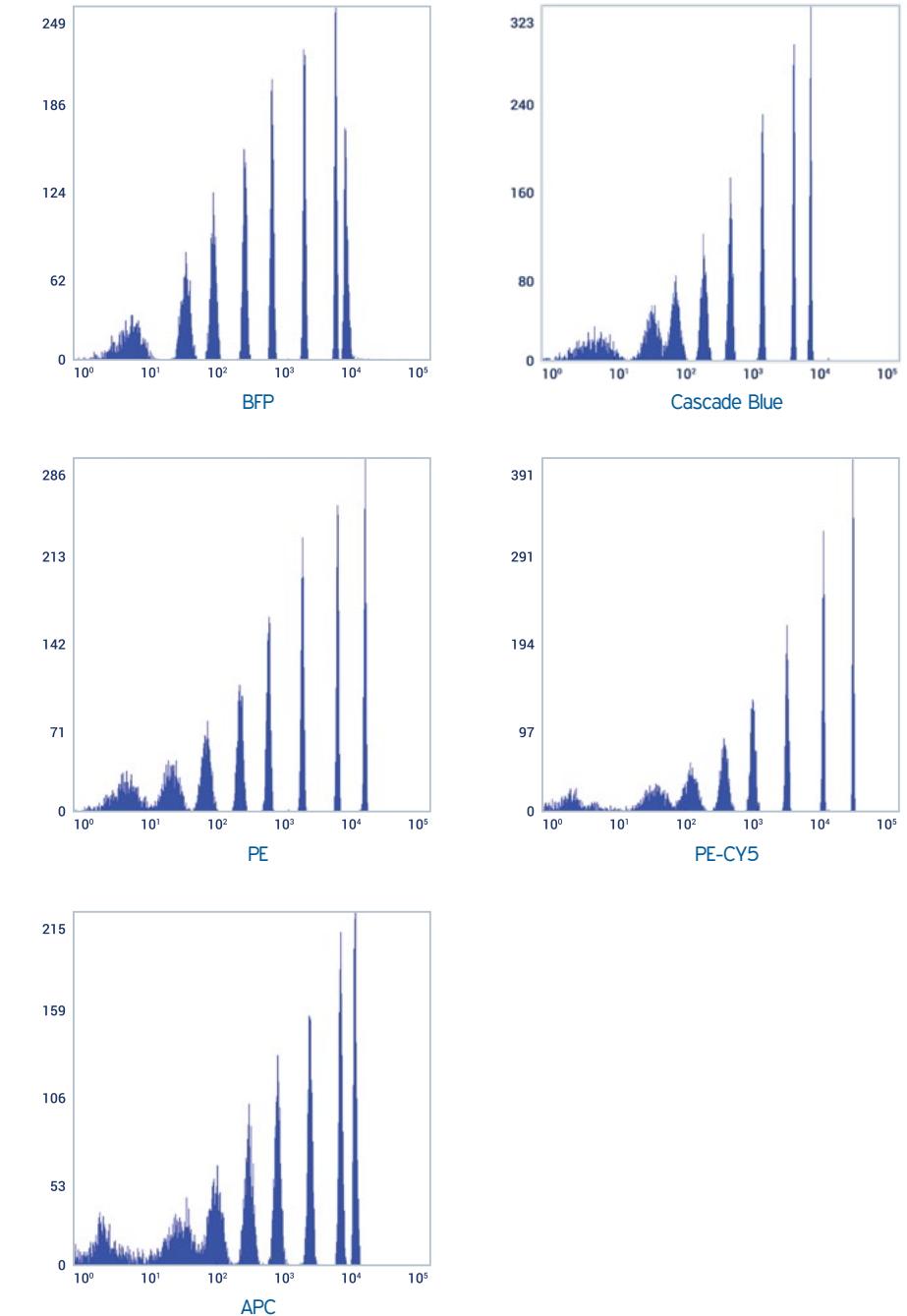
Data below shows a multi-color panel run on a 9-laser Bigfoot Cell Sorter. The panel shown defines T-cell subsets using lysed whole blood from a normal donor. Antibodies used are CD45 FITC, CD3 Alexa 532, CD4 BUV395, CD8 APC, CD16BV510, CD56

PE, CD19 PE-Cy5.5, CD20 Alexa700, CD25 PE-eFluor610, CD127 BV421, TCRgd PerCP-eFluor710, CD14 PE-Cy7, CD45RA BV711, and CD45RO BV786. The data is shown with spectral unmixing and biexponential scaling.



8-peak Bead Resolution in Key Channels

Spherotech® 8-peak beads run on the Bigfoot Cell Sorter show signal resolution in key channels.



Technical Specifications

| | | |
|---------------------|-------------------------|--|
| System | Sensitivity | <100 MESF for FITC, PE, APC; <0.2µm FSC resolution with small particle detection module |
| | Sample Input | 6 tube input positions for 1.5mL, 5mL, or 15mL tubes; temperature control (4-37°C) and agitation for all positions |
| | Sort Output | Up to 6-way sorting into tubes; configurable tube holders include 1.5mL, 5mL, 15mL, and 50mL adapters. Multi-way micro-well plate sorting up to 1536 wells. Temperature control (4-37°C) for all media types. |
| | Nozzle | 50, 70, 100, 120, and 150µm ceramic nozzle tips with adjustable pressure settings |
| | Biocontainment | Integrated Class II biocontainment cabinet for protection of sample and user. Separate AES for sort chamber evacuation. |
| Optics | Excitation | Up to nine lasers. Options include: 349nm 405nm 445nm 488nm 532nm 561nm 594nm 640nm 785nm |
| | Detection | Up to 60 parameters including FSC and SSC |
| Electronics | Speed | >100,000 eps acquisition and >70,000 eps sorting with all 60 parameters |
| | Data processing | Simultaneous measured peak, area, and width for every channel. 24 Bit data for peak and area to maximize dynamic range. True measured width at half-height Low noise converters and proprietary digital processing reduce channel noise |
| Fluidics | Bulk fluids | 2 x 4L bulk fluid tanks on board for DI water and waste. 4L bottle for sheath or sheath concentrate. Two 1L on board cleaners. Optional kits available for connecting to house DI and waste. |
| Installation | Power | 100-240VAC 50/60Hz; 800W max |
| | Dimensions | 99cm W x 99cm D x 177cm H |
| | Weight | 400kg |
| Software | Operating system | Windows* 10 |
| | Software | Sasquatch Software (SQS) |
| | FCS format | FCS 3.1 |
| | QC | Automated quality control and drop delay with on-board calibration beads |
| | Workstation | 8-core i7-9700k processor, 32GB RAM, and 2TB PCIe SSD |
| | Monitor | 32-Inch 4k |
| Regulatory | | CE, Class 1 (I) laser product |
| | | Research use only |

BIGFOOT





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