



XL9™ & XL20™ Tube Handling Systems

Re-array, Track Volume and Label 96 Tube Rack Samples



XL9 - 9 SBS Rack Capacity



XL20 - 20 SBS Rack Capacity

Reliable, Flexible and Affordable

BioMicroLab's XL Series of reliable, flexible and affordable robotic pick and place systems automate critical sample management tasks such as organizing, reformatting and accurately tracking samples. The XL9 and XL20 are fully compatible with LIMS systems and with multiple labware formats. Choose and order your XL Series platform with the capacity and modules right for your lab's application.

Choose the Rack Capacity and Options To Enhance Your Workflow...

XL9
9 Rack Capacity

OR

XL20
20 Rack Capacity

SCAN
DECODE



DETECT
VOLUME

OPTIONS

RE-ARRAY
REFORMAT



LABEL

Applications

- Compound sample library management
- QA/QC
- Cherry pick tubes for efficient liquid handling
- Track sample library volume/inventory
- Save freezer space by consolidating tube rack samples
- Print and apply human readable and barcode labels
- Great benchtop robot for use alongside fully automated sample stores

Test Tube & Vial Compatibility

- 96 well SBS tube racks (0.2mL to 1.4 mL)
- Labware from major manufacturers (i.e. Matrix, Thermo Scientific, ABgene, Micronic, FluidX, LVL Technologies and Greiner)



Features

- Re-array, reformat or cherry pick tubes
- Weigh tubes (tare & gross weights)
- Detect volume with the LevelCheck
- 2D Barcode decoding
- LIMS integration ready
- Work list based operation
- Efficient for both small and large projects
- Label printer and applicator option
- Designed for continuous use and unattended operation
- Encoder based robotics and precision bearings provide the highest reliability
- Integration software toolkits available



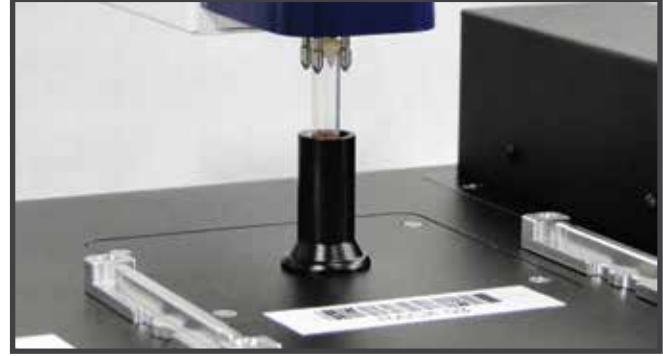
2D Barcode Scanning

Decode 500 vials per hour

Data Matrix 2D marked sample tubes feature a 2D grid barcode located on the bottom of the tube. This provides a unique ID number for each sample tube. The XL9 and XL20 include built-in 2D scanners that quickly identify and decode the barcode as the tubes are moved from rack to rack. In-process decoding provides an additional level of sample integrity and tracking at the time of tube transfer. The XL Work List Manager software captures and reports the tube 2D barcode, tube location, weight, volume and more to LIMS systems.



2D Barcode Scanning



Re-array, Reformat, Cherry Pick

Sort up to 700 tubes per hour

For labs with small or large sample libraries, our benchtop tube handlers provide unattended tube processing for work list based tube transfer from source racks to target racks. Labs depend on BioMicroLab's tube sample management systems to increase their liquid handling throughput and to efficiently provide other groups with sample requests.

Re-array, Reformat, Cherry Pick



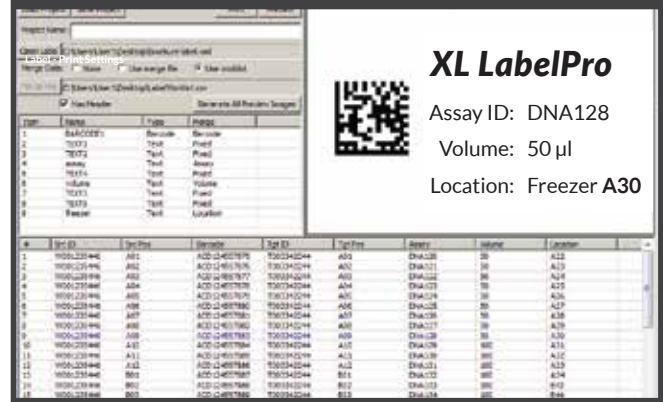
Label Printing and Application

Print and apply up to 180 vials per hour

Automated tube and vial labeling makes it easy to affix human readable labels to labware and eliminates the headaches associated with manual tube labeling.

- Prints 1D & 2D barcodes and human readable text
- Wide variety of label material and sizes available
- Identical or unique labels
- 300 - 600 dpi thermal printer
- User-friendly software
- Available standalone or integrated with the XL200, XL100, XL20 or XL9
- Easy to add the XL LabelPro to your existing XL Series system

XL LabelPro Software



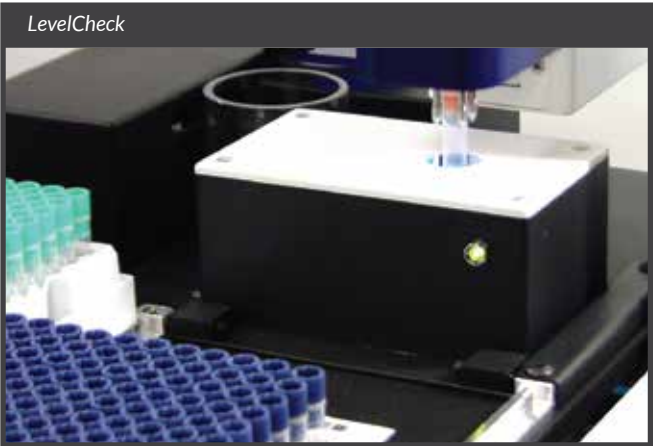
Workflow: Design label > Merge label & data files > Save project > Start printing

Label Printing and Application



BioMicroLab XL20 with XL LabelPro automated label printing instrument

Robotic Tube Handling for 96 Tube Rack Samples



Volume Detection & LevelCheck™

Weigh 300 vials per hour, LevelCheck 375 vials per hour



BioMicroLab offers two types of modules for volume detection with the XL20 or XL9 robotic platform: an automated balance and the LevelCheck. Both systems determine volume of tube samples stored in water, alcohol, DMSO, etc. The XL Series Work List Manager software includes easy-to-use data collection processing modes. For quick job set up the Tare/Gross Weighing Mode provides pre-formatted output files. The XL20 and XL9 can be configured with one or both technologies.

Automated Balance

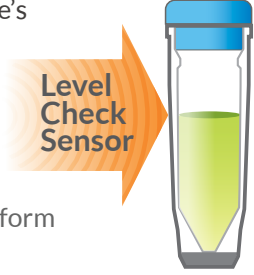
Uses a 4-place balance to capture tube weight

- Measures 300 tubes (~3 racks) per hour
- 4-Place Analytical Balance (0.0001g readability)
- XL Ionizer is available to dissipate electrostatic charge
- Weight data is output in .csv file
- Utilizes two rack positions on the sorting platform

LevelCheck™

Uses a non-contact sensor to detect the sample's meniscus and returns volume data

- Measures 375 tubes (~4 racks) per hour
- Accuracy: +/- 10 - 15µl
- Camera captures the sample image
- Volume data is output in .csv file
- Utilizes one rack position on the sorting platform



Throughput Speeds For Both XL9 and XL20

Operational Mode	Tubes / hour
Re-array only	700
Re-array and 2D Decode	500
Re-array, 2D Decode, Weigh	~250
Re-array and Weigh	~300
Re-array, 2D Decode, LevelCheck	350-400
Re-array, 2D Decode, DMSO Check	350-400
Re-array and Label	180

DMSO Hydration Check

Measure 375 tubes per hour



- Fully automated measurement of hydration level of DMSO
- Accuracy: ±1% of hydration level of DMSO
- Measurement time: <50 ms
- Solvent concentration measurement range: 70% - 100%
- Utilizes one rack position on the sorting platform
- Compatible with Matrix/Micronic 96 well tubes



Utilized Worldwide By

- Genomic Biobanks
- Drug Discovery Laboratories
- Molecular Biology Laboratories

Compatible with 96 well 2D tube labware from all major manufacturers



Cold Room Compatibility

The XL Series accommodates lab requirements for maintaining sample temperature in cold storage, refrigeration systems and cold rooms. Cold room compatible XL Series units used for re-arraying tubes are capable of operation to -10°C. Units equipped with an automated balance are capable of operation to -4°C. Given the compact size, the XL9 and XL20 fit nicely in freezers and cold rooms where space is often limited. Cold room compatible XL Series units operate in the exact same way as they would in an ambient environment.

XL Series Work List Manager Software

User-friendly Windows based software is included with all XL Series instruments to manage sample processing modes and robotic operations. The XL Work List Manager Software provides multiple tube processing modes to meet your varied workflow needs and allows you the flexible control you need to increase your throughput. Easily managed by multiple users. Advanced system error handling options provide unattended operation. Output files can be configured to meet your LIMS system requirements.

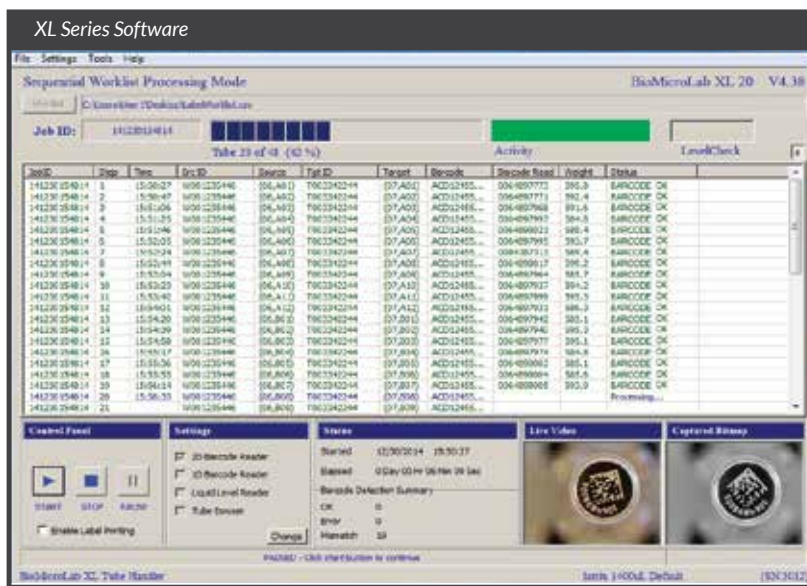
- The user-friendly software controls sorting and re-array operations using a user generated work list (imported .csv file)
- Software generates output files for LIMS sample management database
- Works dynamically with extended work lists
- User is guided through the tube rack loading process with a color coded interface
- Integrates with hand-held barcode scanners for rack identification
- Optional: ActiveX control software

Instrument and Workflow Integration

BioMicroLab offers software developer toolkits (DLL Libraries: SDK and ActiveX) for laboratories developing in-house custom programs to control instrument operation, integrate other robotics, or streamline the processing of input and output files.

XL LabelPro Software

XL LabelPro module includes additional capabilities built into the XL Work List Manager Software to enable you to (1) design your label with both static and merge data fields, (2) manage data to be printed, (3) preview the labels before starting a tube labeling operation, and (4) save label projects for repeated use.



Specifications:	Model	Capacity	Dimensions (depends on model)	Weight (depends on model)
	XL9	9 ANSI/SLAS Racks	18" W x 17" D x 16" H (45 x 43 x 40 cm)	~40 lbs (18kg)
	XL20	20 ANSI/SLAS Racks	28.5" W x 21" D x 16" H (72 x 53 x 40 cm)	~60 lbs (18kg)
	XL9 with Labeler	7 ANSI/SLAS Racks	18" W x 27" D x 16" H* (45 x 69 x 40 cm*)	~62.5 lbs (28.3kg)
	XL20 with Labeler	18 ANSI/SLAS Racks	28.5" W x 31" D x 16" H* (72 x 79 x 40 cm*)	~82.5 lbs (37.4kg)
Electrical: 110-220 VAC 50/60Hz Operating Environment: 10°C to 40°C, 10-90% RH [Standard]; -4°C to 40°C, 10-90% RH [Cold Room Model] System Requirements: Windows 10, 8, 7 - 2 GB RAM Recommended - USB 2.0 ports				
*A Benchtop Extender is available to support the labeling module where the bench top is not deep enough.				