XL20 Tube Handling Instrument

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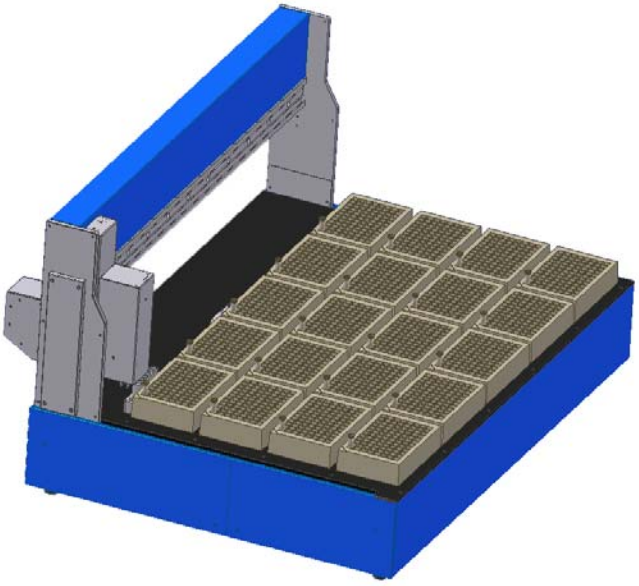
BioMicroLab XL20 Tube Handling Instrument

Overview



XL20 Robotic Tube Handling Instrument

- Automates tube sorting for samples in 96 tube racks
- Sorts 500 to 900 tubes per hour
- Processes 0.5 ml to 1.4 ml tubes
- 20 Tube rack capacity (1,920 tubes)
- Scans and decodes 2D marked tubes
- Work list based system

XL20 Robotic Tube Handling Instrument with Analytical Balance

- Automates tube sorting and weighing for samples in 96 tube racks
- Integrated Analytical Balance (Max. readability 0.0001g)
- Sorts 500 to 900 tubes per hour
- Weighs 200 to 300 tubes per hour
- Processes 0.5 ml to 1.4 ml tubes
- 18 Tube rack capacity (1,728 tubes)
- Scans and decodes 2D marked tubes
- Work list based system

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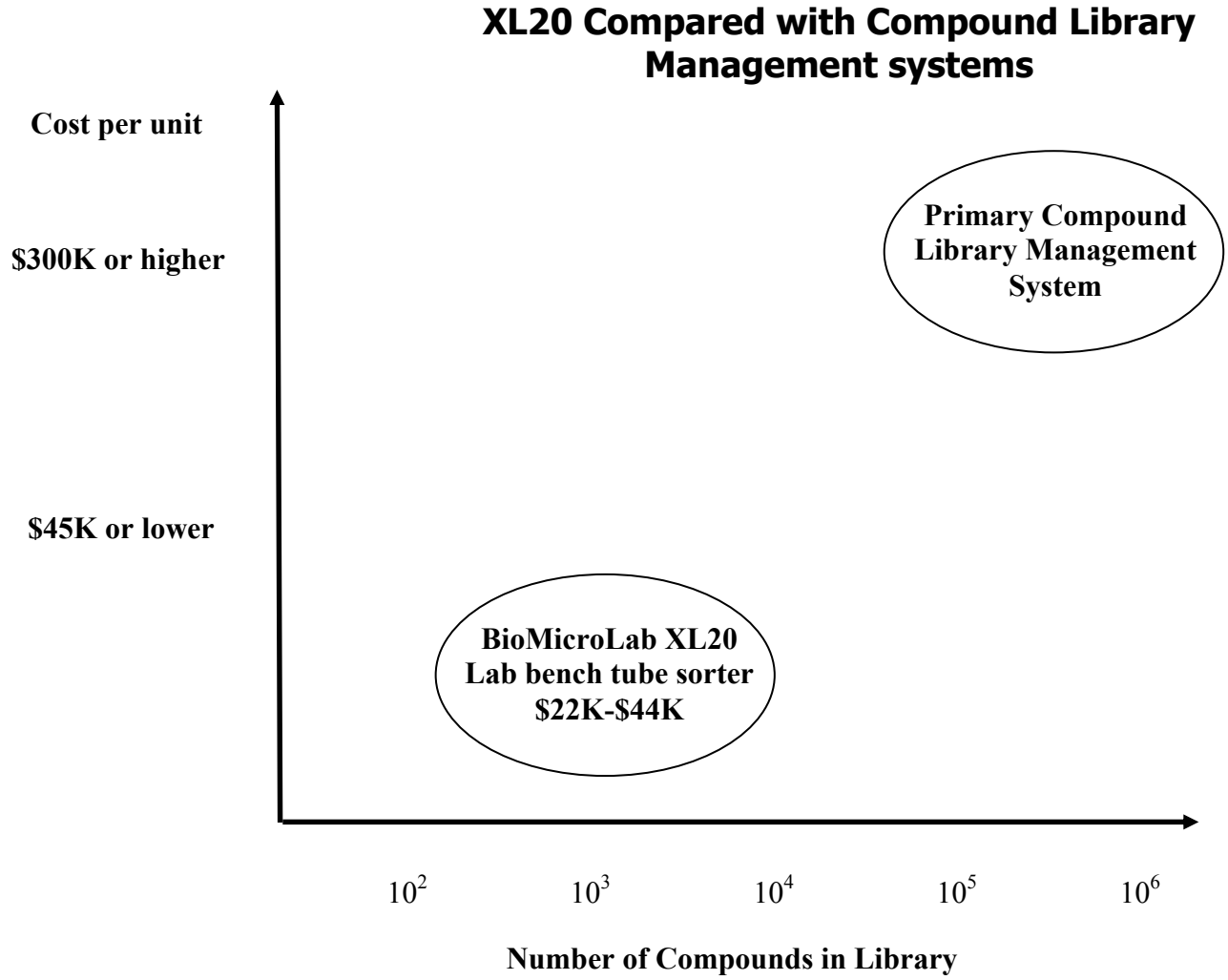
XL20 Product Positioning



Key XL20 Attributes

- Bench Top Lab Automation Instrument
- Low-cost automation
- Automates the handling and weighing issues with the use of tubes from 0.5 ml to 1.4 ml size.
- Significant labor cost savings via automation of manual tasks associated with cherry picking and weighing of tubes.
- Robust robotics for relatively maintenance free operation

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XL20 Tube Handler Models

XL20 Base model
- 20 tube rack capacity robot
- Linear Bar Code scanner
- XL20 Work List Manager software

XL20 plus 2D Reader System
- 20 tube rack capacity robot
- 2D scanner module
- Linear Bar Code scanner
- XL20 Work List Manager software

XL20 plus Analytical Balance System
- 18 tube rack capacity robot
  - Analytical Balance (Max. readability 0.0001g)
  - Linear Bar Code scanner
  - XL20 Work List Manager software

XL20 plus 2D Reader & Analytical Balance System
- 18 tube rack capacity robot
  - 2D scanner module
  - Analytical Balance (Max. readability 0.0001g)
  - Linear Bar Code scanner
  - XL20 Work List Manager software

System requirements: The XL20 requires a Windows 2000/XP (512 MB RAM) computer for operation.

XL20 Options:
- On-site XL20 installation and training available: $2,500.00
- DELL computer pre-configured with XL20 software: $1,895.00
- 2D Bar Coded tube scanners:
  - SampleScan HS –
    - High speed single rack scanner $7,495.00
  - SampleScan 96
    - Three rack tube scanner $3,200.00

Typical XL20 Product Configuration

- XL20 Robotics platform (with 2D tube scanner and Analytical Balance options)
- Windows 2000/XP Computer
- On Site Installation and Training

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Work List Manager Software

Overview

- The Work List Manager Software is a Windows application that manages tube sorting and weighing tasks
- Work List Manager Software imports a .csv file that contains instructions on movement of tubes from source rack to destination rack positions.
- Work List Manager Software generates log files which include: tube movement, 2D data, and tube weight
- Dynamically tracks racks and tube movement to allow processing work lists greater than 20 tube racks

Software functions

Setup

- Guides tray loading process
- Utilizes bar code marked tube racks
- Error checks for valid tube rack ID number

Work list processing

- Work list format: comma delimited text file
- Pick tube at source location and place tube at target location
- Options to scan tube's 2D code and to weigh tube
- Simple operation: select work list, load racks, and start tube sorting process

Log files

- Work list log file tracks movement activity of tubes handled and outputs log file data to LIMS. User can customize fields that appear in a job's output file.

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Work List Manager Software

Work List Format

The work list file format is a comma delimited text file. Additional file format support planned in future releases.

Example of work list fields				
Source	**Source**		**Target**	**Target**
Rack Bar Code ID	Tube Location	Tube 2D ID	Rack Bar Code ID	Tube Location
250001	A03	0011379113	300000	A01

Example of typical work list

(Source) (Target)
250001, A03, 0011379113, 300000, A01
250002, H08, 0011557396, 300000, A02
250003, F04, 0011556052, 300000, AO3
250004, E12, 0008286060, 300000, A04
300001, D01, 0011556265, 300000, A05
400002, F08, 0011556082, 300000, A06
500003, G01, 0008822650, 300000, A07
600004, C09, 0011379094, 300000, A08

- In this work list example, the system is picking a single tube from eight different source racks and placing the tubes into one target rack (rack ID# 300000).

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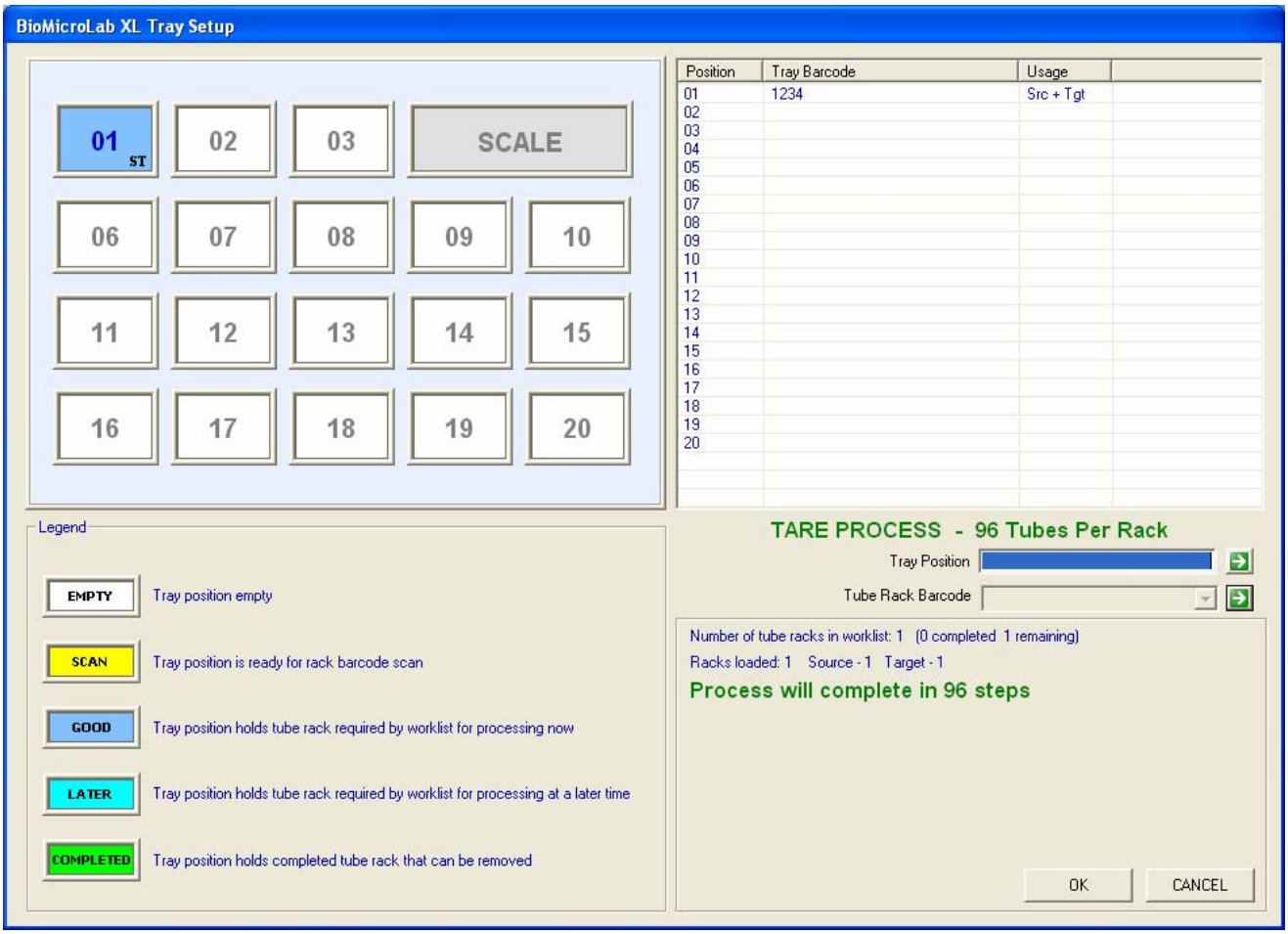
Work List Manager Software



Work List Manager Tray Setup Screen

- The Work List Manager's Tray Setup Screen guides the placement of tube racks onto the twenty rack positions of the XL20's robot platform
- The software associates the Work List's tube ID data with the physical positions of the tube racks on the XL20 robot
- Tube racks labeled with a bar code may be quickly scanned and placed on the XL20's robot platform

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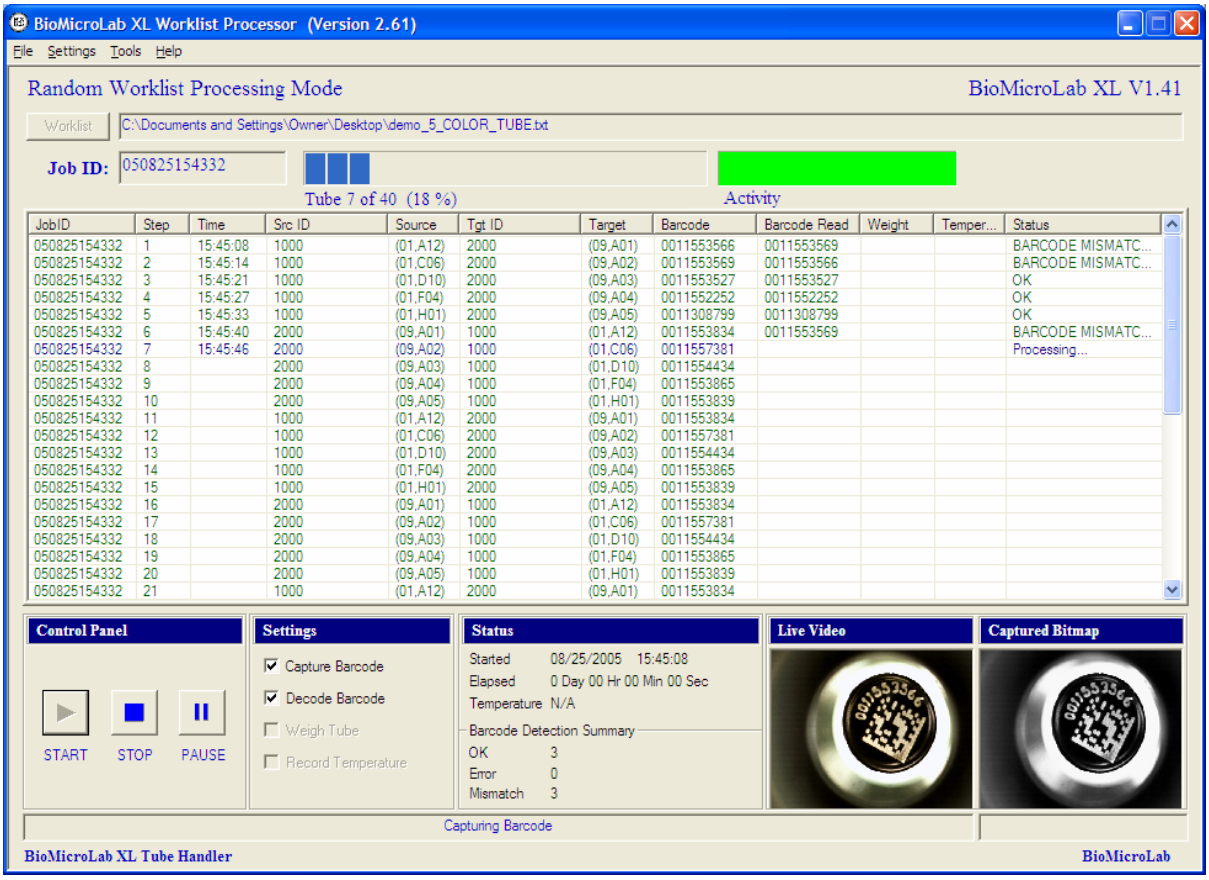
Work List Manager Software



Work List Manager Work List Processor Screen

- The Work List Manager's List Processor Screen displays current work list and status of each tube
- Modes of Operation: Tare/Net Weight Processing Mode, Random Processing Mode, and Sequential Processing Mode.
- The software generates a Job ID code based on date and time data for each work list processed

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Specifications

Product description

- Robotic system for sorting tubes stored in SBS type 96 tube racks
- Work list based software controls system and tracks tubes
- Optional integrated 2D scanner to read 2D marked tubes
- Optional integrated Analytical Balance (0.0001g readability) to weigh tubes

Applications

- Compound library management
- Preparation or "cherry picking" samples
- Sorting of specific arrays
- Re-array tubes

Robotics features

Automated tube handling robot:

- Base model XL20 robotic platform holds 20 tube racks (1,920 tubes)
- XL20 platform with analytical balance option holds 18 tube racks (1,728 tubes)
- Unattended processing of 1,920 tubes per XL20 base model platform
- Processes work lists with more than 1,920 tubes via software control

Software features

Tube Manager Software:

- Guides user through tube rack loading process
- Supports input from bar code scanner to identify bar code marked racks
- Work list controlled movement of tubes with 2D and weight data capture
- Confirms tube ID from work list with captured 2D data
- Generates log file and LIMS output file for use by sample tracking systems
- A variety of output file configurations for LIMS or process integration

Performance

Throughput:

- 900 tubes per hour - sort only mode
- 500 tubes per hour - sort and 2D scan mode
- 200 to 300 tubes per hour - sort and weigh mode

System setup: load or unload a set of racks

- 2 minutes to load or to unload 20 tube racks

Lab Ware Compatibility

- Tube rack: SBS standard 96-tube rack
- 0.5 ml to 1.4 ml tubes
- 2D bar-coded (or unmarked) tubes
- Bar code marked (or unmarked) tube racks

Operating Requirements

- Electrical: 110-220 VAC 60Hz
- Environment: 5-40° C, 10-90% RH

PC system requirements

- Windows 2000 / XP PC with 1.2 GHz processor and 512 MB RAM
- Serial port (RS-232 port) & USB ports

Machine Specifications:

- Weight: 45 lbs.
- Shipping weight: 85 lbs.
- XL20 Dimensions: 22.5" W x 28" L x 16" H
- Certification: Designed for CE standard