**Average throughput in specimen containers per hour per device**

<table>
<thead>
<tr>
<th>Functionality</th>
<th>Included</th>
<th>Yes/No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specimen integrity monitor/Automated aliquot</td>
<td>yes/no</td>
<td>yes/no/yes/no</td>
</tr>
<tr>
<td>Auto. input/accession/Auto. decap/Auto. sort/Auto. storage &amp; retrieval</td>
<td>yes/no</td>
<td>yes/no/yes/yes</td>
</tr>
<tr>
<td>Modular HW/Installed options/Device can operate in track &amp; manual mode</td>
<td>yes/no</td>
<td>yes/no</td>
</tr>
<tr>
<td>Automated input/accessioning available</td>
<td>yes/no</td>
<td>yes/no</td>
</tr>
<tr>
<td>Automated input/output module</td>
<td>yes/no</td>
<td>yes/no</td>
</tr>
<tr>
<td>Automated functions: Accessioning/Track load/Centrifugation/Decapping</td>
<td>yes/no</td>
<td>yes/no</td>
</tr>
<tr>
<td>Automated functions: Rack specific sort/Aliquot/Tube relabeling/Resealing</td>
<td>yes/no</td>
<td>yes/no/yes/no</td>
</tr>
<tr>
<td>Automated functions: Storage-retrieval/intelligent sample routing</td>
<td>yes/no</td>
<td>yes/no</td>
</tr>
<tr>
<td>Automated functions: Storage-retrieval/SW supports approved CLSI standards</td>
<td>yes/no</td>
<td>yes/no</td>
</tr>
<tr>
<td>Automated centrifugation available</td>
<td>yes/no</td>
<td>yes/no</td>
</tr>
<tr>
<td>Automated functions: Aliquot/Tube relabeling/Resealing</td>
<td>yes/no</td>
<td>yes/no</td>
</tr>
<tr>
<td>Automated functions: Decapping</td>
<td>yes/no</td>
<td>yes/no</td>
</tr>
<tr>
<td>Automated functions: Storage-retrieval/SW supports approved CLSI standards</td>
<td>yes/no</td>
<td>yes/no</td>
</tr>
<tr>
<td>Automated functions: Rack specific sort</td>
<td>yes/no</td>
<td>yes/no</td>
</tr>
<tr>
<td>Automated functions: Storage-retrieval/intelligent sample routing</td>
<td>yes/no</td>
<td>yes/no</td>
</tr>
<tr>
<td>Automated functions: Storage-retrieval/SW supports approved CLSI standards</td>
<td>yes/no</td>
<td>yes/no</td>
</tr>
</tbody>
</table>

**Software features/functionality**

- Patient demographics & insurance data/Rule-based architecture
- Data retrieval/Internet connectivity
- Online real-time help system/DC/Stats & management reports
- Evaluates quality & reassessment of results from automated analyzers
- Specimen tracking/Process management/Random-access spec. movement
- Supports acquisition No. redundancy (duplicate specimen ID)
- Supports specimen carrier & level identification
- Unique bar-code number per container required
- Modular HW/Installed options/Device can operate in track & manual mode
- Required utilities/Required maintenance
- Carrier type/Scalable system

**Transportation systems available**

<table>
<thead>
<tr>
<th>Model/Dimen.</th>
<th>yes/no</th>
<th>yes/no</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model/Dimen.</td>
<td>yes/no</td>
<td>yes/no</td>
</tr>
<tr>
<td>Containers device accommodates/Avg. throughput in cm per second</td>
<td>yes/no</td>
<td>yes/no</td>
</tr>
<tr>
<td>Supports automatic rerouting for reflex-repeat-dilutions</td>
<td>yes/no</td>
<td>yes/no</td>
</tr>
<tr>
<td>Modular HW/Installed options/Device can operate in track &amp; manual mode</td>
<td>yes/no</td>
<td>yes/no</td>
</tr>
<tr>
<td>Required utilities/Required maintenance</td>
<td>yes/no</td>
<td>yes/no</td>
</tr>
<tr>
<td>Carrier type/Scalable system</td>
<td>yes/no</td>
<td>yes/no</td>
</tr>
</tbody>
</table>

**LIS(s) & versions interfaced & live w/LAS| Hew LIS(s) are interfaced w/your LAS**

- Cerner Classic
- Cerner Millennium
- Cortes, Delphic, Diaconeza, GE Ultra, GLMS
- MIPS, Lab Track, Medisolution by Technidata, Medisystem 5.4, Misys, Misys CPR (Cleverleaf Engine), Misys Smart, ModtabGold (Ibasa), OSM, Roche
- Omega, SCS, Siemens, Soft/HL7, ASTM

**Instrument Manager, Ultra, Apollo, Kestral, others/ASTM, CLSI-LIS2A**

**List price**

<table>
<thead>
<tr>
<th>List price</th>
<th>$462,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item</td>
<td></td>
</tr>
<tr>
<td>Process control SW/Transportation systems/Auto. centrifugation</td>
<td></td>
</tr>
<tr>
<td>Auto. input/accession/Auto. decap/Auto. sort/Auto. storage &amp; retrieval</td>
<td></td>
</tr>
<tr>
<td>Specimen integrity monitor/Automated aliquot</td>
<td></td>
</tr>
<tr>
<td>Instrument (analyzer) interfaces/Automated recap</td>
<td></td>
</tr>
</tbody>
</table>

**Flexibility**

- Configurable, component-based design
- Functionality: refrigerated online storage & multiple tubes types simultaneously, RFID, point-in-space sampling
- Supports: Lean Six Sigma Black Belt consultants; configurable laboratory automation and middleware solutions

**Benchtop sorting at an affordable price**

- Ability to change deck layout in one minute
- Flexible input and output positions
**Laboratory automation systems and workcells**

<table>
<thead>
<tr>
<th>Name of system/First year installed/No. of sites signed</th>
<th>PathFinder 900/2006/5</th>
<th>AutoMate 800/2006/21</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of live sites installed in N. America/Europe/Asia-Australia</td>
<td>0/4/6 11/91/10</td>
<td>11/91/10</td>
</tr>
</tbody>
</table>

**Automation products that are available**
- Pre-analytical process/Total laboratory automation
- Automated functions: Accessioning/Track load/Correction/Decapping
- Automated functions: Rack specific sort/Alert/Tube relabeling/Releasing
- Automated functions: Storage-retrieval/intelligent sample routing
- SW: Dedicated Process Control/Middleware control using LIS/Architecture
- Company has dedicated automation support team/Remote sys. monitoring

**Software features/functionality**
- Patient demographics & insurance data/Rule-based architecture
- Supports data retrieval/internet connectivity
- Online real-time help system/DC/Stats & management reports
- Evaluates validity & reusability of results from automated analyzers
- System tracking/Privacy setting/Random-access spec. movement
- Supports accession No. redundancy (duplicate specimen ID)
- Supports specimen ID scanner & level identification
- Unique bar-code number per container required
- Specimen routing/Workload SPEC/point-to-point routing (one tube to multiple workstations)
- Supports scheduling of instrument/track scheduling
- Route test to workstation/Automatic reflex, repeat, dilutions
- Supports multiple HW config./Supports other proprietary transport, HW
- Sample storage & retrieval SW/Supports approved CLSI standards

**Instrument Manager, Ultra, Kestral, Apollo, others/ASTM, CLSI-LIS2A**
- List price: $420,000 (fully optioned system)

**Tabulation does not represent an endorsement by the College of American Pathologists.**

*Jeff Quint  jfquint@beckman.com

**List price**

- $420,000 (fully optioned system)

**Distinctions (supplied by company)**

**Laboratory automation systems and workcells**

**Jeff Quint**

**Spectrum of devices & features**

**Transportation systems available**
- Model/Oem: Arm: (W ≤ D ≤ H): Conforms to CLSI Stand. Auto 1-5
- Containers device accommodates/Avg. throughput in cm per second
- Supports automatic rerouting for reflex/repeat/dilutions
- Modular HW/installed options/Device can operate in track & manual mode
- Required utilities/Required maintenance
- Carrier type/Scaleable system

**Automated centrifugation available**
- Model/Oem: Arm: (W ≤ D ≤ H): Conforms to CLSI Stand. Auto 1-5
- Maximum throughput/Containers device accommodates
- Can identify tube types for custom programmed rate & spin times per run
- More than one centrif. can be connected to track system
- For multi-unit centrif., each centrif. operates independently for rate & time
- Maintenance required

**Automated input/accessioning available**
- Model/Oem: Arm: (W ≤ D ≤ H): Conforms to CLSI Stand. Auto 1-5
- Maximum No. of samples that can be loaded/Maintenance required
- Containers device accommodates/Dedicated lanes for stat samplings
- Maintains integrity of sample containers
- Automated sorting available

**Automated aliquetting available**
- Model/Oem: Arm: (W ≤ D ≤ H): Conforms to CLSI Stand. Auto 1-5
- Containers device accommodates
- Inspects samples for bar code/Tests & reports clerks in specimen
- Detects & reports quality not sufficient/specimens/Maintenance required

**Instrument (analyzer) interfaces**
- Rules-based instrument interface/Control subsystem
- Process control of instrument via control subsystem
- Physical/hardware (instrument/specimen) interface
- Hematology/Chemistry/Coagulation
- Immunohistochemistry

**Mechanical interfaces**
- Process control of instrument via control subsystem

**Other robotic products/components to which system, product is linked**

**Automated recapper or sealer available**
- Model/Oem: Arm: (W ≤ D ≤ H): Conforms to CLSI Stand. Auto 1-5
- Recaps-seals multiple size tubes simultaneously/Containers device accommod.
- Maintenance required

**Automated storage & retrieval available**
- Model/Oem: Arm: (W ≤ D ≤ H): Conforms to CLSI Stand. Auto 1-5
- Containers device accommodates/Connects to the track
- Room temperature/Min. & max. No. of tubes stored per module
- Multiple size tubes can be stored in the same module/Maintenance required
- Refrigerated storage & retrieval capability
- Longitudinal upgrade path or plan to protect users' investments

**Avg. time to install/Who provides service, support/Hours support is available**

**On-site biomedical engineer required/Useer group meets regularly**

**List price**

- $420,000 (fully optioned system)

**Individual list prices for components**
- Process control SW/Transportation systems/AC/centrifugation
- Auto. input, accession/Auto. decap/Auto. sort/Auto. storage & retrieval
- Specimen integrity monitor/Automated aliquetting
- Instrument (analyzer) interfaces/Automated recapping

**Ability to change deck layout in five minutes; ability to recap primary tubes with original cap to preserve tube-type identity, dual track for parallel processing of samples leading to high overall throughput (that is, output tubes)**

**Automatic rack layout can be reconfigured with another rack style; intelligent aliquetting; sample storage routing by duration and temperature**
**Automation products that are available**
- Pre-analytical process/total laboratory automation
- Automated functions: Accessioning/Track load/Contribution/Decapping
- Automated functions: Rack specific sort/Aliquot/Tube relabeling/Releasing
- Automated functions: Storage-retrieval/intelligent sample routing
- SW: Dedicated Process Control/Middleware control using LIS Architecture
- Company has dedicated automation support team/Remote sys. monitoring

**Software features/functionality**
- Patient demographics & insurance data/Rules-based architecture
- Supports data retrieval/Internet connectivity
- Online real-time help system/DCI/Stats & management reports
- Evaluates validity & repeatability of results from automated analyzers
- specimen tracking/Proximity processing/Random-access spec. movement
- Supports accession No. redundancy (duplicate specimen ID)
- Supports specimen carrier & level identification
- Unique bar-code number per container required
- specimen tracking/Multi-stop routing (one tube to multiple workstations)
- Specimen.Track inflammation/Instrument scheduling
- Routes test to workstation/Automatic reagent, re(dilution, elution)
- Supports multiple SW config/Supports other proprietary transport, HW
- Sample storage & retrieval/SW/Supports approved CLSI standards

**Transportation systems available**
- **No. of live sites installed in N. America/Europe/Asia-Australia**
  - AutoMate 2500 Family units: 64
  - LH 1500 Hematology Automation Series: 100

**List(s) & versions interfaced & live w/LAS: How List(s) are interfaced w/your LAS**

**LIS feature/automation SW feature**

**Supports data retrieval/Internet connectivity**

**SW: Dedicated Process Control/Middleware control using LIS**

**Architecture**

**LH 1500 Hematology Automation Series**

**Contact**

**Beckman Coulter**

**200 S. Kraemer Blvd., Brea, CA 92822**

**Mary Beth Johnson**

**mbjohnson@beckman.com**

**www.beckmancoulter.com**

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* * *
### Laboratory automation systems and workcells

**Power Processor III**

- **Vendor:** Beckman Coulter
- **Model:** Power Processor III/—/yes
- **List Price:** 500 ExDec/—/yes
- **Specs:** 1,200 W
- **Features:**
  - Average throughput is 75 / 2,300 tubes per hour w/single loading module
  - Single container per carrier
  - Single specimen container per carrier
  - Vendor: Beckman Coulter

**Power Processor II**

- **Vendor:** Integrated Laboratory Automation Solutions
- **Model:** Power Processor II/—/yes
- **List Price:** The Efficiency Series/variables with instrument size/year
- **Specs:** 800 W
- **Features:**
  - Average throughput is 75 / 2,300 tubes per hour w/single loading module
  - Single container per carrier
  - Single specimen container per carrier
  - Vendor: Integrated Laboratory Automation Solutions

### Software features/functionality

- **Patient demographics & insurance data/Rule-based architecture** depends on configuration and laboratory requirement
- **Supports data retrieval/internet connectivity**
- **Online real-time help system/DC/Stats & management reports**
- **Evaluates validity & reusability of results from automated analyzers**
- **Specimen tracking/Privacy processing/Random-access spec. movement**
- **Supports access No. redundancy (duplicate specimen ID)**
- **Supports specimen carrier & level identification**
- **Uniquely bar-code number per container required**
- **Specimen routing/Stop/move routing (one tube to multiple workstations)**
- **Specimen routing/Instrument scheduling**
- **Supports test worklist/Automatic repeat, repeat, dilutions**
- **Supports multiple HW config./Supports other proprietary transport, HW**
- **Sample retrieval & storage/Supports approved CLSI standards**

### Tabulation does not represent an endorsement by the College of American Pathologists.

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**List price**

- **Individual list prices for components**
  - Process control SW/Transportation systems/ Auto. centrifugation
  - Auto. input, acquisition/ Auto. decap/Auto. sort/ Auto. storage & retrieval
  - Specimen integrity monitor/Automated aliquot
  - Instrument analyzer/software/Automated recap

- **Average throughput in specimen containers per hour per device**

**Note:** A dash in lieu of an answer means company did not answer question or question is not applicable.
Automation products that are available
- Pre-analytical processor/Total laboratory automation
- Automated functions: Accessioning/Track load/Contribution/Decapping
- Automated functions: Rack specific sort/Aliquot/Tube rebank/Recycling
- Automated functions: Storage-retrieval/Intelligent sample routing
- SW: Dedicated Process Control/Middleware control using LIS/Architecture
- Company has dedicated automation support team/Remote sales, monitoring

Software features/functionality
- Patient demographics & insurance data/Rules-based architecture
- Supports data retrieval/internet connectivity
- Online real-time help system/QC/Stats & management reports
- Evaluates viability & reusability of results from automated analyzers
- Specimen tracking/Preparation processing/Random-access spec. movement
- Supports accession No. redundancy (duplicate specimen ID)
- Supports specimen carrier & level identification
- Unique bar-code number per container required
- Specimen routing/Multiport sourcing (one tube to multiple workstations)
- Supports sample scheduling
- Routes test to workstation/Automatic reflex, repeat, dilutions
- Supports multiple size HW config/Supports other proprietary transport, HW
- Sample storage & retrieval SW/Supports approved CLSI standards

Transportation systems available
- Yes/no
- Model/Dimen. (H x W x D)/Conforms to CLSI Standard Auto 1-5
- Containers device accommodates/Avg. throughput in cm per second
- Supports automatic routing for reflex-repeat dilutions
- Modular HW/Installed options/Device can operate in track & manual mode
- Required utilities/Required maintenance
- Carrier type/Scalable system

Automated centrifugation available
- Yes/no
- Model/Dimen. (H x W x D)/Conforms to CLSI Standard Auto 1-5
- Maximum throughput/Container device accommodates
- Can identify tube types for custom programmed & rate spin times per run
- More than one centrif. can be connected to track system
- For multi-unit centrif., each centrif. operates independently for rate & time
- Maintenance required

Automated liquid/accessing available
- Yes/no
- Model/Dimen. (H x W x D)/Conforms to CLSI Standard Auto 1-5/Avg. throughput**
- Containers device accommodates/Dedicated load for stat samples
- Maximum No. of samples that can be loaded/Maintenance required

Automated decapping available
- Yes/no
- Model/Dimen. (H x W x D)/Conforms to CLSI Standard Auto 1-5/Avg. throughput**
- Containers device accommodates/Maintenance required
- Removes multiple size tube caps per run/Removes screw type sample caps

Automated sorting available
- Yes/no
- Model/Dimen. (H x W x D)/Conforms to CLSI Standard Auto 1-5/Avg. throughput**
- Containers device accommodates/Software can sort by

Specimen integrity monitor available
- Yes/no
- Model/Dimen. (H x W x D)/Conforms to CLSI Standard Auto 1-5/Avg. throughput**
- Containers device accommodates/Maintenance required

Automated aliquoting available
- Yes/no
- Model/Dimen. (H x W x D)/Conforms to CLSI Standard Auto 1-5/Avg. throughput**
- Containers device accommodates
- Inspects samples for bar code/Deets & reports contents in specimen

Ammunition/Disinfectant
- Yes/no
- Temperature/Chemistry/Gauging
- Physical/hardware (instrument/specimen) interface

Equipment interfaces
- Yes/no
- Rules-based instrument interface control subsystem
- Process control of instrument via control subsystem

Instrument (analyzers) interfaces
- Yes/no
- Physical/hardware (instrument/specimen) interface
- Hematology/Chemistry/Gauging
- Immunomass/Disinfectant

LIS(s) to which system/product is interfaced
- Yes/no
- Instrument to which system/product is interfaced
- Other robotic products/components to which system/product is linked

Automated recapper or sampler available
- Yes/no
- Model/Dimen. (H x W x D)/Conforms to CLSI Standard Auto 1-5/Avg. throughput**
- Recaps-seals multiple size tubes simultaneously/Containers device accomm.
- Maintenance required

Automated storage & retrieval available
- Yes/no
- Model/Dimen. (H x W x D)/Conforms to CLSI Standard Auto 1-5/Avg. throughput**
- Containers device accommodates/Connects to the track
- Room temperature/Min. & Max. no. of tubes stored per module
- Multiple size tubes can be stored in the same module/Maintenance required
- Refrigerated storage & retrieval capability

Longitudinal over time pathway or plan to protect users’ investments

List price
- Individual list prices for components
- Process control SW/Transportation systems automation/centrifugation
- Auto. input, acquisition/Auto. decap/Auto. sort/Auto. storage & retrieval
- Specimen integrity monitor/Instrument aliquoting
- Instrument (analyzers) interfaces/Automated recapper

Distinguishing features (supplied by company)
* For basic building block unit ** Average throughput in specimen containers per hour per device
Note: A dash in lieu of an answer means company did not answer question or question is not applicable

LABOTIX Automation
Peter J. Manes
Peter.Manes@labotix.com
2323 S 171st Street, Omaha, NE 68130
402-296-2274
www.labotix.com

m-u-t America
Karinstritten
kwittman@mut-group.com
3931 Deep Rock Road, Henrico, VA 23233
804-620-4029
www.mut-group.com

Name of system/First year installed/No. of 2009 contracts signed
RUUSH/1994/— No. of live sites installed in N. America/Europe/Asia-Australia
11/4/—

List price
$116,000

no robotic arms used, yields high throughput and reliability with ease of operation and installation; users can pour sample tubes into hoppers, eliminating shuffling of tubes in and out of racks in lab reception areas; simplicity and flexibility of sorting rules and methods

Tabulation does not represent an endorsement by the College of American Pathologists.
### Automation products that are available

- **Pre-analytical process/Laboratory automation**
  - **Automated functions:** Accessioning/Track load/Contributions/Decapping
  - **Automated functions:** Rack specific sort/Alloport/Tube relabeling/Resealing
  - **Automated functions:** Storage-retrieval/intelligent sample routing
  - **SW:** Dedicated Process Control/Middleware control using LIS/Architecture
  - **Company has dedicated automation support team/Remote site monitoring**

### Software features/functionality

- **Patient demographics & insurance data/Rule-based architecture**
- **Supports data retrieval/Internet connectivity**
- **Online real-time help system/SC/Stats & management reports**
- **Evaluates validity & reusability of results from automated analyzers**
- **Specimen tracking/Privacy processing/Random-access spec. movement**
- **Supports accession No. redundancy (duplicate specimen ID)**
- **Supports specimen carrier & label identification**
- **Unique bar-code number per container required**
- **Specimen routing/Multiport routing (one tube to multiple workstations)**
- **Specify: instruments, consumables, body fluids**
- **Routine test to workstation/Automatic reflex, repeat, dilutions**
- **Supports multiple HW config/Supports other proprietary transport, HW**
- **Sample storage & retrieval/SW supported approved CLSI standards**

### LIS(s) & versions interface & live w/LAS/How LIS(s) are interfaced w/your LAS

- **enGen Laboratory Automation System/2001/13**
- **Aliquotting System RSA Pro/2002/15**

### Laboratory automation systems and workcells

- **Orbe-Clinical Diagnostics**
  - 1001 US Route 202, Raritan, NJ 08869
  - 787-786-9227
  - www.orbeclinical.com

- **PVT Labsystems**
  - 300 Town Park Dr., Suite 190, Kenesaw, GA 30144
  - 877-786-9227
  - www.pvtlabsystems.com

### List price

- **Individual list prices for components**
  - **Process control SW/Transportation systems/Auto. centrifugation**
  - **Auto. input, access/Auto. decap/Auto. sort/Auto.**
  - **Specimen integrity monitor/Automated aliquot**
  - **Instrument (analyzers) interfaces/Automated recap**

<table>
<thead>
<tr>
<th>Component</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport</td>
<td>$380,000</td>
</tr>
<tr>
<td>Centrifug</td>
<td>$195k–$40k (Silver Server) $78k–$99k (Pick &amp; Place Pro) $70k–$240k</td>
</tr>
<tr>
<td>SW: Dedicated Process Control/Middleware control using LIS/Architecture</td>
<td>$95,000 (QS I) included/included/included</td>
</tr>
<tr>
<td>SW: Process Control SW</td>
<td>$870,000–$980,000</td>
</tr>
</tbody>
</table>

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*Tabulation does not represent an endorsement by the College of American Pathologists.*
Automation products that are available

- Pre-analytical processes/Total laboratory automation
- Automated functions: Accessioning/Tracking/lead/Centrifugation/Decapping
- Automated functions: Rack-specific/Sort/Alarm/Tube relabeling/Resealing
- Automated functions: Storage-retrieval/intelligent sample routing
- SW: Dedicated Process Control/Middleware control using LIS/Architecture
- Company has dedicated automation team/Remote sys. monitoring

Software features/functionality

- Patient demographics & insurance data/Rules-based architecture
- Supports data retrieval/Internet connectivity
- Online real-time help system/DC/Stats & management reports
- Evaluates quality & reliability of results from automated analyzers
- Specimen tracking/Processing/Random-access spec. movement
- Supports accession No. redundancy (duplicate specimen ID)
- Supports specimen carrier & level identification
- Unique bar-code number per container required
- Specimen routing/Multi-stop routing (one tube to multiple workstations)
- Specimen tracking/Instrument scheduling
- Routes test to workstation/Automation, reflex, repeat, dilutions
- Supports multiple HW config./Supports other proprietary transport, HW
- Sample storage & retrieval/SW: Supports approved CLSI standards

LIS(s) & versions interfaced & live w/LIS/How LIS(s) are interfaced w/your LIS

<table>
<thead>
<tr>
<th>Sw, Lims, Lims, Software...</th>
<th>Name of system</th>
<th>First year installed</th>
<th>No. of contracts signed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workstation RSA and RSD Pro</td>
<td>[2003/5]</td>
<td>5/28/5</td>
<td></td>
</tr>
<tr>
<td>Sorting System RSD Pro</td>
<td>[2001/23]</td>
<td>16/112/0</td>
<td></td>
</tr>
</tbody>
</table>

Automation certified by

- Model/Dimen (H × W × D)/Conforms to CLSI Std. Auto 1-5
- Supports data retrieval/Interconnectivity
- Can identify tube types for custom programmed rate & spin times per run
- Can control one container, can control on test system
- For multi-unit control...each control, operates independently for rate & time
- Maintenance required

Automated monitoring available

- Model/Dimen (H × W × D)/Conforms to CLSI Std. Auto 1-5
- Containers device accommodate/Dedicated lanes for stat samples
- Maximum No. of samples that can be monitored/Liability required
- Automated decapping available

Automated aliquotting available

- Model/Dimen (H × W × D)/Conforms to CLSI Std. Auto 1-5
- Containers device accommodate/Software can sort by
- Specimen integrity monitor available

Other robotic products/components to which system, product is linked

- PVT LabSystems
- Miriam Hoozelt
- info@pvtlabsystems.com
- 300 Town Park Dr., Suite 190, Kennewick, GA 30414
- 877-788-5227
- www.pvtlabsystems.com
- PVT LabSystems
- Miriam Hoozelt
- info@pvtlabsystems.com
- 300 Town Park Dr., Suite 190, Kennewick, GA 30414
- 877-788-5227
- www.pvtlabsystems.com

List price

<table>
<thead>
<tr>
<th>List price</th>
<th>Individual list prices for components</th>
<th>Price includes</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>$400,000–$600,000</td>
<td>(depends on options included)</td>
<td>$250,000</td>
<td>(including in-house)</td>
</tr>
</tbody>
</table>

Distinguishing features (supplied by company)

- For basic building block

  - Name of system/First year installed/No. of contracts signed
  - SW: Dedicated Process Control/Middleware control using LIS/Achitecture
  - Company has dedicated automation team/Remote sys. monitoring
Automation products that are available

- Pre-analytical processor/Total laboratory automation
- Automated functions: Accessioning/Track load/Contribution/Decapping
- Automated functions: Rack specific sort/Alert/Tube rerouting/Resealing
- Automated functions: Storage-retrieval/intelligent sample routing
- SW: Dedicated Process Control/Middleware control using LIS/Architecture
- Company has dedicated automation support team/Remote sys. monitoring

Software features/functionality

- Patient demographics & insurance data/Rule-based architecture
- Supports data retrieval/internet connectivity
- Online real-time help system/DC/Stats & management reports
- Evaluates validity & reusability of results from automated analyzers
- Specimen tracking/Privacy processing/Random-access spec. movement
- Supports accession No. redundancy (duplicate specimen ID)
- Supports specimen carrier & level identification
- Unique bar-code number per container required
- Specimen routing/multi-stop routing (one tube to multiple workstations)
- Specifications included in instrument/albumation SW feature
- Routes test to workstation/Automatic reflex, repeat, dilutions
- Supports multiple SW config./Supports other proprietary transport, HW
- Sample storage & retrieval/SW supported/CLSI standards

LIS(3) & versions interfaced & live w/ LIS/Now LIS(3) are interfaced w/ your LIS

<table>
<thead>
<tr>
<th>Name of system/First year installed/No. of 2009 contracts signed</th>
<th>Sorting System Kolibri/to be released, Feb. 2011/—</th>
<th>Modular Pre-Analytics/2000/48 (U.S.)</th>
</tr>
</thead>
</table>
Part 8 of 12

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</tr>
</thead>
</table>

**Average throughput in specimen containers per hour per device**

* For basic building block unit

**Average throughput in specimen containers per hour (it can be used for both at the same time)

**Modular HW/Installed options/Device can operate in track & manual mode

**Specimen integrity monitor available

**Flexible and scalable to fit customer needs and facility space

**Unique bar-code number per container required

**Sample storage & retrieval SW/Supports approved CLSI standards Automation SW feature/automation SW feature

**Automated sorting available

**Pre-analytical processor/Total laboratory automation

**Automated functions: Accessioning/Track load/Contribution/Decapping

**Automated functions: Rack specific sort/Alert/Tube rerouting/Resealing

**Automated functions: Storage-retrieval/intelligent sample routing

**SW: Dedicated Process Control/Middleware control using LIS/Architecture

**Company has dedicated automation support team/Remote sys. monitoring

**Software features/functionality

- Patient demographics & insurance data/Rule-based architecture
- Supports data retrieval/internet connectivity
- Online real-time help system/DC/Stats & management reports
- Evaluates validity & reusability of results from automated analyzers
- Specimen tracking/Privacy processing/Random-access spec. movement
- Supports accession No. redundancy (duplicate specimen ID)
- Supports specimen carrier & level identification
- Unique bar-code number per container required
- Specimen routing/multi-stop routing (one tube to multiple workstations)
- Specifications included in instrument/albumation SW feature
- Routes test to workstation/Automatic reflex, repeat, dilutions
- Supports multiple SW config./Supports other proprietary transport, HW
- Sample storage & retrieval/SW supported/CLSI standards

LIS(3) & versions interfaced & live w/ LIS/Now LIS(3) are interfaced w/ your LIS

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</tr>
</thead>
</table>

**Transportation systems available

- Model/Dimension: (W x D x H) (cm) Conforms to CLSI standards Auto 1-5
- Container device accommodates/Segments, throughput in cm per second
- Supports automated rerouting for reflex-rerepeat-dilutions
- Modular SW/installed options/Device can operate in track & manual mode
- Required utilities/Required maintenance
- Carrier type—

**Automated centrifugation available

- Model/Dimension: (W x D x H) (cm) Conforms to CLSI standards Auto 1-5
- Maximum throughput/Containers device accommodates
- Can identify tube types for custom programmed rate & spin times per run
- More than one centrif. can be connected to track system
- For multi-centrif. each centrif. operates independently for rate & time
- Maintenance required

**Automated input/extraction available

- Model/Dimension: (W x D x H) (cm) Conforms to CLSI standards Auto 1-5/Segments throughput
- Containers device accommodates/Dedicated lanes for stat samples
- Maximum No. of samples that can be loaded/Maintenance required
- Automated decapping available

- Model/Dimension: (W x D x H) (cm) Conforms to CLSI standards Auto 1-5/Segments throughput
- Containers device accommodates/Maintenance required
- Removes multiple size tube caps per run/Removes screw type sample caps
- Automated sorting available

- Model/Dimension: (W x D x H) (cm) Conforms to CLSI standards Auto 1-5/Segments throughput
- Containers device accommodates/Software can sort by
- Specimen integrity monitor available

**Automated aliquetting available

- Model/Dimension: (W x D x H) (cm) Conforms to CLSI standards Auto 1-5/Segments throughput
- Containers device accommodates
- Detects & reports quantity not sufficient specimen/Maintenance required

**Instrument (analyzer) interfaces

- Rules-based instrument interface control subsystem
- Process control of instrument via control subsystem
- Physical/hardware/instrument/specimen interface
- Hematology/Chemistry/Coagulation
- Immunossay/Lyticysis

**Instruments to which your system/product is interfaced

- Hitachi, Stage, Beckman A/B gate

**Other robotic products/components to which system, product is linked

- Hitachi, Stage, Beckman A/B gate

**Automated recapper or sealer available

- Model/Dimension: (W x D x H) (cm) Conforms to CLSI standards Auto 1-5/Segments throughput
- Recapper-seals multiple specimen tubes simultaneously/Containers device accommodates
- Maintenance required

**Automated storage & retrieval available

- Model/Dimension: (W x D x H) (cm) Conforms to CLSI standards Auto 1-5/Segments throughput
- Containers device accommodates/Connects to the track
- Room temperature/Min. & Max. No. of tubes stored per module
- Multiple size tubes can be stored in the same module/Maintenance required
- Refrigerated storage & retrieval capability
- Longitudinal upgrade path or plan to protect users' investments
- Avg. time to install/Who provides service, support/Hours support is available
- On-site biomedical engineer required/user group meets regularly

**List price

<table>
<thead>
<tr>
<th>Individual list prices for components</th>
</tr>
</thead>
<tbody>
<tr>
<td>Process control SW/Transportation systems/Auto. centrifugation</td>
</tr>
<tr>
<td>Auto. input, accession/Auto. decap/Auto. sort/Auto. storage &amp; retrieval</td>
</tr>
<tr>
<td>Specimen integrity monitor/Automated aliquetter</td>
</tr>
<tr>
<td>Instrument (analyzers) interfaces/Automated recapper</td>
</tr>
</tbody>
</table>

**Distinguishing features (supplied by company)

- Small footprint/remote access for diagnosis and service; sorting platform is a simultaneous input and output area (it can be used for both at the same time)
- Completely scalable and flexible to fit customer needs and facility space requirements; programmed and personalized to any customer workflow requirements; these models can be configured in 10s+ standard layouts, connecting up to 12 chemistry/immunochemistry modules

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<table>
<thead>
<tr>
<th>Software features/functionality</th>
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<tbody>
<tr>
<td>• Patient demographics &amp; insurance data/Rules-based architecture</td>
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<td>• Supports data retrieval/internet connectivity</td>
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<td>• Online real-time help system/DIC/Stats &amp; management reports</td>
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<td>• Evaluates validity &amp; reusability of results from automated analyzers</td>
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<tr>
<td>• Specimen tracking/Priority processing/Random-access spec. movement</td>
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<td>• Specimen routing/Stop routing (one tube to multiple workstations)</td>
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<tr>
<td>• Supports multi-hole centrifuge/other centrifuges</td>
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<tr>
<td>• Process control SW/Transportation systems/Auto. centrifugation</td>
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<td>• Refrigerated storage &amp; retrieval capability</td>
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<tr>
<td>• Model/Dimen. (H × W × D) [Conforms to CLSI Stand. Auto 1-S]</td>
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<tr>
<td>• Contains device accommodates/Avg. throughput in cm per second</td>
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<tr>
<td>• Modular HW/Installed options/Device can operate in track &amp; manual mode</td>
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<tr>
<td>• Required utilities/Required maintenance</td>
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<tr>
<td>• Carrier type/Scalable system</td>
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<th>Automated centrifugation</th>
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<tr>
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<tr>
<td>Automated input/accessioning</td>
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<td>• Maximum No. of samples that can be loaded/Maintenance required</td>
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<tr>
<td>Automated decapping available</td>
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<td>• Containers device accommodates/Maintenance required</td>
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<tr>
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<tr>
<td>Automated sorting available</td>
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<td>• Containers device accommodates/Software can sort by Specimen integrity monitor available</td>
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<td>• Containers device accommodates/Maintenance required</td>
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<tr>
<td>Instrument analyzer/interfaces</td>
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<td></td>
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<tr>
<td>• Rules-based instrument interface control subsystem</td>
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<tr>
<td>• Physical hardware (instrument/specimen) interface</td>
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<tr>
<td>• Hematology/Chemistry/Coagulation</td>
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<tr>
<td>• Immunoassay/Urinalysis</td>
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<tr>
<td>Instruments to which your system/product is interfaced</td>
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<td></td>
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<tr>
<td>Other robotic products/components to which system, product is linked</td>
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<td>• Recaps-seals multiple size tubes simultaneously/Contains device accomm.</td>
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<td>Automated functions: Storage-retrieval/Intelligent sample routing</td>
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<td>Automated functions: Accession/Track load/Contributions/Degapping</td>
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<tr>
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<tr>
<th>Automation products that are available</th>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

**List price individual list prices for components**

| Process control SW/Transportation systems/Auto. centrifugation |   |   |
| Auto. input, accession/Auto. decap/Auto. sort/Auto. storage & retrieval |   |   |
| Specimen integrity monitor/Automated aliquot |   |   |
| Instrument (analyzer) interfaces/Automated recapper |   |   |
| **List** |   |   |

**Laboratory automation systems and workcells**

| Parts of 12 |   |   |
| Sarstedt, Inc. |   |   |
| Siemens Healthcare Diagnostics |   |   |
| Peter Rumswinkel, VP/GM sarstedt@siloulou.net |   |   |
| P. O. Box 468, Newton, NC 28658 |   |   |
| 800-257-5101 sarstedt.com |   |   |
| 914-524-3823 www.siemens.com/diagnostics |   |   |

| Name of system/First year installed/No. of 2000 contracts signed |   |   |
| Sarstedt PVS |   |   |

**List of LIS(s) & versions interfaced & live with LIS(s) that are interfaced with your LIS:**

<p>| Siemens, Cerner, Meditech, SCC Soft, Misys, Data Innovations, OSI, Telepath-iSoft, Netlab, LMX Labzis II, SCL 2000, others/ASTM |   |   |</p>
<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automated functions</td>
<td>Integration with Laboratory Information Systems (LIS) &amp; live with LAS, supports multiple robotic products and interfaces with various instruments.</td>
</tr>
<tr>
<td>Pre-analytical sample management</td>
<td>StreamLab Analytical Workcell and Advia Automation Workcells for integration with various systems.</td>
</tr>
<tr>
<td>Encapsulation</td>
<td>VersaCell System for automated input/accessioning, accommodating different sample sizes.</td>
</tr>
<tr>
<td>Sample tracking</td>
<td>VersaCell System for tracking and managing samples automatically.</td>
</tr>
<tr>
<td>SW feature</td>
<td>StreamLab Analytical Workcell and Advia Automation Workcells for various software functionalities.</td>
</tr>
<tr>
<td>LIS feature</td>
<td>VersaCell System for LIS integration and workflow management.</td>
</tr>
<tr>
<td>Online help system</td>
<td>StreamLab Analytical Workcell and Advia Automation Workcells for real-time support.</td>
</tr>
<tr>
<td>QC features</td>
<td>StreamLab Analytical Workcell and Advia Automation Workcells for quality control.</td>
</tr>
<tr>
<td>SW feature for LIS compatibility</td>
<td>StreamLab Analytical Workcell and Advia Automation Workcells for comprehensive integration.</td>
</tr>
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**Software Features/functionality**

- Patient demographics & insurance data/Rule-based architecture
- Supports data retrieval/Internet connectivity
- Online real-time help system/DC/Stats & management reports
- Evaluates validity & reusability of results from automated analyzers
- Specimen tracking/Process control of instrument via control subsystem
- Supports accession No. redundancy (duplicate specimen ID)
- Supports specimen level/identifier
- Unique bar-code number per container required
- Specimen routing/Multi-stop routing (one tube to multiple workstations)
- Supports automated retesting for reflex/repeat-dilutions
- Modular HH/Installed options/Device can operate in track & manual modes
- Required utilities/Required maintenance
- Container/carryable system

**Transportation systems available**

- Model/Dimensions (H x W x D)/Conforms to CLSI Std. Auto 1-5
- Containers device accommodates/Avg. throughput in cm per second
- Maximum throughput/Container device accommodates
- Can identify tube by custom programmed rate & spin times per run
- More than one centrifuge can be connected to track system
- For multi-unit centrifuge, each operates independently for rate & time
- Maintenance required
- Automated input/accessioning available
- Model/Dimensions (H x W x D)/Conforms to CLSI Std. Auto 1-5/Avg. throughput
- Containers device accommodates/Dedicated lanes for stat samples
- Maximum No. of samples that can be loaded/Maintenance required
- Automated decapping available
- Model/Dimensions (H x W x D)/Conforms to CLSI Std. Auto 1-5/Avg. throughput
- Containers device accommodates/Maintenance required
- Removable multiple size tube caps per run/Removes screw type sample caps
- Automated sorting available
- Model/Dimensions (H x W x D)/Conforms to CLSI Std. Auto 1-5/Avg. throughput
- Containers device accommodates/Software can sort by
- Specimen integrity monitor available
- Model/Dimensions (H x W x D)/Conforms to CLSI Std. Auto 1-5/Avg. throughput
- Containers device accommodates/Maintenance required
- Automated aliquetting available
- Model/Dimensions (H x W x D)/Conforms to CLSI Std. Auto 1-5/Avg. throughput
- Containers device accommodates/Maintenance required
- Detects & reports quantifiable insufficient samples/Maintenance required
- Impacts samples for bar code/Detectors & reports of specimen
- Detects & reports quantifiable insufficient samples/Maintenance required
- Instruments to which your system/product is interfaced

**Additional Features**

- Modular HW/Installed options/Device can operate in track & manual modes
- Integrated automation solution with open architecture allows custom configuration and reconfiguration by incorporating a 90-degree track turn, which helps maintain a small footprint.
- StreamLab Analytical Workcell and Advia Automation Workcells for comprehensive integration.
- StreamLab systems are scalable with open configurations for continue connectivity development and software enhancements.

**Contact Information**

- Siemens Healthcare Diagnostics
  - Tim Keating 302-631-9482
  - www.usa.siemens.com/diagnostics
- Siemens Healthcare Diagnostics
  - Tim Keating 302-631-9482
  - www.usa.siemens.com/diagnostics

**Additional Resources**

- Siemens Healthcare Diagnostics
  - 302-631-9482
  - www.usa.siemens.com/diagnostics

**Tableau**

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### Laboratory automation systems and workcells

**Part 11 of 12**  
**Laboratory automation systems and workcells**

**Name of system/First year installed/No. of 2000 contracts signed**

<table>
<thead>
<tr>
<th>System</th>
<th>First Year Installed</th>
<th>No. of 2000 Contracts Signed</th>
</tr>
</thead>
<tbody>
<tr>
<td>HST-N/1991/50+</td>
<td>1991</td>
<td>50+</td>
</tr>
<tr>
<td>XE-Alpha N/1991/70</td>
<td>1991</td>
<td>70</td>
</tr>
</tbody>
</table>

**Automation products that are available**

- Pre-analytical processes/Total laboratory automation
- Automated functions: Accessioning/Track load/Contribution/Decapping
- Automated functions: Rack specific sort/Aliquot/Tube relabeling/Releasing
- Automated functions: Storage-retrieval/Intelligent sample routing
- SW: Dedicated Process Control/Middleware control using LIS/Architecture
- Company has dedicated automation support team/Remote sys. monitoring

**Software features/functionality**

- Patient demographics & insurance data/Rules-based architecture
- Supports data retrieval/Internet connectivity
- Online real-time help system/SC/Stats & management reports
- Evaluates validity & reusability of results from automated analyzers
- Specimen tracking/PROCESSING/Random-access spec. movement
- Supports accession No. redundancy (duplicate specimen ID)
- Supports specimen carrier & level identification
- Unique bar-code number per container required
- Specimen routing/Stop/Stop routing (one tube to multiple workstations)
- Specimen tracking/Tracking instrument scheduling
- Routes test to workstation/Automatic reflex, repeat, dilutions
- Supports multiple HW config/Supports other proprietary transport,HW
- Sample storage & retrieval SW/Supports approved CLSI standards

**Transportation systems available**

- Model/Omnim. (H - W - D)/Conforms to CLSI Stand. Auto 1-5
- Containers device accommodates/Avg. throughput in cm per second
- Can identify tube type for custom programmed rate & spin times per run
- More than one centrif. can be connected to track system
- For multi-unit centrif., each centrif. operates independently for rate & time
- Maintenance required
- Automated input/accessing available
- Cont. dev. device accommodates/ dedicate lanes for stat samples
- Maximum No. of samples that can be loaded/Maintenance required
- Automated decapping available
- Model/Omnim. (H - W - D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput
- Containers device accommodates/Maintenance required
- Removes multiple size tube caps per run/Removes screw cap type sample caps
- Automated sorting available
- Model/Omnim. (H - W - D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput
- Containers device accommodates/Software can sort by
- Specimen identity monitor available
- Model/Omnim. (H - W - D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput
- Containers device accommodates/Maintenance required
- Automated aliquetting available
- Model/Omnim. (H - W - D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput
- Containers device accommodates
- Detects & reports quantity not sufficient samples/Maintenance required

**Instrument/Analyzer interfaces**

- Rules-based instrument interface control subsystem
- Process control of instrument via control subsystem
- Physical/hardware (instrument/specimen) interface
- Hematology/Chemistry/Coagulation
- IMMUNOASSAY/Enzymology

**Instruments to which your system/product is interface**

- Bio-Rad Variant II Turbo Link A1C analyzer
- Thermo automation, Lab Interlink/Labets, IDS

**Automated recapture or reanalyze available**

- Model/Omnim. (H - W - D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput
- Recaps-seals multiple size tubes simultaneously/Containers device accomm.
- Maintenance required

**Automated storage & retrieval available**

- Model/Omnim. (H - W - D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput
- Containers device accommodates/Connects to the track
- Room temperature/Min. & max. No. of tubes stored per module
- Multiple size tubes can be stored in the same module/Maintenance required
- Refrigerated storage & retrieval capability
- Longitudinal upgrade pathway or plan to protect users investments

**Avg. time to install/Who provides service/Hours support is available**

- <3 days/Sysmex/24–7
- 1 day/Sysmex/24–7

**List price**

- Individual list prices for components
- Process control SW/Transportation systems/Auto. centrifugation
- Auto. input, accession/Auto. decap/Auto. sort/Auto. storage & retrieval
- Specimen integrity monitor/Automated aliquot
- Instrument (analyzer) interfaces/Automated recap

**Distinguishing features (supplied by company)**

- Scalable, flexible, and reliable auto and automation systems; fast installation (<3 days); scalable multi-site, multi-system middleware solutions that are developed, tested, and supported by Sysmex
- Scalable and flexible configurations with proven history; 1-day installation; scalable middleware solutions are developed & supported by Sysmex
### Laboratory automation systems and workcells

#### Part 12 of 12

**Yaskawa America Inc., Motoman Robotics Division**

- **Craig Rubenstein**
- **Craig.Rubenstein@motoman.com**
- **805 Liberty Lane, West Carrollton, OH 45449**
- **949-263-2648**
- www.motoman.com/labauto/

**Name of system/First year installed/No. of 2000 contracts signed**

<table>
<thead>
<tr>
<th>Name of system/First year installed/No. of 2000 contracts signed</th>
<th>Autosorter II/2006/13</th>
<th>Autosorter III/2008/13</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Autosorter II</strong></td>
<td>18</td>
<td>18</td>
</tr>
<tr>
<td><strong>Autosorter III</strong></td>
<td>18</td>
<td>18</td>
</tr>
</tbody>
</table>

#### Tabulation does not represent an endorsement by the College of American Pathologists.

**Autosorter II (S) and Autosorter III (S) are interfaced w/ your LAS**

<table>
<thead>
<tr>
<th>Autosorter II/III</th>
<th>Cerner, Triple G, Surround/ODBC, NL7</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Transportation systems available</strong></td>
<td>yes</td>
</tr>
<tr>
<td><strong>Model/Dimensions:</strong></td>
<td>(W 125 in.)</td>
</tr>
<tr>
<td><strong>Maximum throughput</strong>:</td>
<td>100; 16, 13</td>
</tr>
<tr>
<td><strong>Maintenance required</strong>:</td>
<td>yes</td>
</tr>
<tr>
<td><strong>Process control SW</strong>:</td>
<td>—</td>
</tr>
<tr>
<td><strong>Programmable I/O</strong>:</td>
<td>—</td>
</tr>
<tr>
<td><strong>Room temperature/Min. &amp; max. No. of tubes stored per module</strong>:</td>
<td>100; 16, 13</td>
</tr>
<tr>
<td><strong>Multi-size tube carriers can be added to the system</strong>:</td>
<td>yes</td>
</tr>
<tr>
<td><strong>Rearranged specimen container</strong>:</td>
<td>—</td>
</tr>
<tr>
<td><strong>Longitudinal upgrade pathway or plan to protect users’ investments</strong>:</td>
<td>flex</td>
</tr>
<tr>
<td><strong>Avg. time to install/Who provides service, support/Hours support is available</strong>:</td>
<td>planned</td>
</tr>
<tr>
<td><strong>List price</strong>:</td>
<td>$250,000</td>
</tr>
<tr>
<td><strong>Distinguishing features (supplied by company)</strong></td>
<td>customization-friendly; designed and built in the U.S.; independent of IVD instrument manufacturer; free-standing, high-throughput instruments or integrated lines</td>
</tr>
</tbody>
</table>

#### Craig Rubenstein

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- **949-263-2648**
- **www.motoman.com/labauto/**