# Laboratory automation systems and workcells

*Part 1 of 14*

*See accompanying article on page 12*
*See* captodayonline.com/productguides *for an interactive version of guide*

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|---|---|---|
| Name of system/First year installed/No. of 2011 contracts signed | Accelerator APS/2005/— | PathFinder 350S/2008/27 |
| No. of live sites installed in N. America/Europe/Asia-Australia | 20+/—/— | ~14 (North and South America)/~10/8 |
| Automation products that are available | | |
| • Pre-analytical processor/Total laboratory automation | yes/yes | yes/no |
| • Automated functions: Accessioning/Track load/Centrifugation/Decapping | yes/yes/yes/yes | yes/yes/no/yes |
| • Automated functions: Rack specific sort/Aliquot/Tube relabeling/Resealing | yes/no/no/yes | yes/yes/yes/yes |
| • Automated functions: Storage-retrieval/Intelligent sample routing | yes/yes | no/yes |
| • SW: Dedicated Process Control/Middleware control using LIS/Architecture | yes/yes/open | no/no/open |
| • Company has dedicated automation support team/Remote system monitoring | yes/yes | yes/yes |
| Software features/functionality | | |
| • Patient demographics and insurance data/Rules-based architecture | automation SW feature/automation SW feature | — |
| • Supports data retrieval/Internet connectivity | automation SW feature/automation SW feature | —/automation SW feature |
| • Online real-time help system/QC/Stats and management reports | automation SW feature/automation SW feature/automation SW feature | —/—/automation SW feature |
| • Evaluates validity and releasability of results from automated analyzers | automation SW feature | LIS feature |
| • Specimen tracking/Priority processing/Random-access spec. movement | automation SW feature/automation SW feature/automation SW feature | automation SW feature/automation SW feature/— |
| • Supports accession number redundancy (duplicate specimen ID) | automation SW feature | automation SW feature |
| • Supports specimen carrier and level identification | automation SW feature | automation SW feature |
| • Unique bar-code number per container required | automation SW feature | — |
| • Specimen routing/Multistop routing (one tube to multiple workstations) | automation SW feature/automation SW feature | automation SW feature/automation SW feature |
| • Specimen scheduling/Instrument scheduling | automation SW feature/automation SW feature | — |
| • Routes test to workstation/Automatic reflex, repeat, dilutions | automation SW feature/automation SW feature | automation SW feature/automation SW feature |
| • Supports multiple HW configuration/Supports other proprietary transport. HW | automation SW feature/automation SW feature | automation SW feature/— |
| • Sample storage and retrieval SW/Supports approved CLSI standards | automation SW feature/automation SW feature | LIS feature/automation SW feature |
| LIS(s) and versions interfaced and live w/LAS/How LIS(s) are interfaced with your LAS | Cerner Classic, Cerner Millennium, Cortex, Delphic, Dianoema, GE Ultra, GLMIS by MIPS, Lab Track, Medisolution by Technidata, Meditech 5.4, Misys, Misys CPR (Cloverleaf Engine), Misys Smart, ModulabGold (Izasa), OSM, Roche Omega, SCS, Siemens, Soft/HL7, ASTM | Instrument Manager, Ultra, Apollo, Kestral, others/ASTM, CLSI-LIS2A |
| Transportation systems available | yes | no |
| • Model/Dimensions* (H × W × D)*/Conforms to CLSI Stand. Auto 1-5 | APS track section/40.2 × variable × 17.0 inches/yes | — |
| • Containers device accommodates/Average throughput in cm per second | 16, 13 × 100; 16, 13 × 75, others, multiple types simultaneously/13 | — |
| • Supports automatic rerouting for reflex-repeat-dilutions | yes | — |
| • Modular HW/Installed options/Device can operate in track and manual mode | yes/floor mounted/yes | — |
| • Required utilities/Required maintenance | compressed air, electricity, water/— | — |
| • Carrier type/Scalable system | single specimen container per carrier/yes | — |
| Automated centrifugation available | yes | no |
| • Model/Dimensions (H × W × D)/Conforms to CLSI Stand. Auto 1-5 | Hettich/58.5 × 32 × 42 inches/yes | — |
| • Maximum throughput/Containers device accommodates | up to 320/16, 13×100; 16, 13×75, others, multiple types simultaneously | — |
| • Can identify tube types for custom programmed rate and spin times per run | no | — |
| • More than one centrifuge can be connected to track system | yes | — |
| • For multi-unit centrifuge, each centrifuge operates independently for rate and time | no | — |
| • Maintenance required | weekly, monthly | — |
| Automated input/accessioning available | yes | yes |
| • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** | input-output module/54.3 × 77.6 × 39.6 inches/yes/up to 600 | PathFinder 350S/98 × 40 × 52 cm (39 × 16 × 21 inches)/yes/350 tubes per hour |
| • Containers device accommodates/Dedicated lanes for stat samples | 16, 13 × 100; 16, 13 × 75, others, multiple types simultaneously/yes | 16, 13 × 100; 16, 13 × 75/yes |
| • Maximum No. of samples that can be loaded/Maintenance required | 744/weekly, monthly | flexible/annually |
| Automated decapping available | yes | no |
| • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** | decapper module/46.7 × 34.7 × 17 inches/yes/up to 600 | — |
| • Containers device accommodates/Maintenance required | 16, 13 × 100; 16, 13 × 75, others, multiple types simultaneously/daily, weekly | — |
| • Removes multiple size tube caps per run/Removes screw type sample caps | yes/yes | — |
| Automated sorting available | yes | yes |
| • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** | input output module/54.3 × 77.6 × 39.6 inches/yes/up to 600 | PathFinder 350S/98 × 40 × 52 cm (39 × 16 × 21 inches)/yes/350 tubes per hour |
| • Containers device accommodates/Software can sort by | 16, 13 × 100; 16, 13 × 75, others, mult. types simult./specimen, method, ouput | 16, 13 × 100; 16, 13 × 75/specimen, method, output |
| Specimen integrity monitor available | no | no |
| • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** | — | — |
| • Containers device accommodates/Maintenance required | — | — |
| Automated aliquotting available | no | no |
| • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** | — | — |
| • Containers device accommodates | — | — |
| • Inspects samples for bar code/Detects and reports clots in specimen | — | — |
| • Detects and reports quantity not sufficient specimens/Maintenance required | — | — |
| Instrument (analyzer) interfaces | | |
| • Rules-based instrument interface control subsystem | yes | no |
| • Process control of instrument via control subsystem | yes | no |
| Physical/hardware (instrument/specimen) interface | | |
| • Hematology/Chemistry/Coagulation | no/point-of-reference sampling/no | — |
| • Immunoassay/Urinalysis | point-of-reference sampling/no | — |
| Instruments to which your system or product is interfaced | Architect c8000, c16000, i2000SR, Ortho Fusion 5.1, Diasorin Liaison (ex-US only) | — |
| Other robotic products/components to which system or product is linked | — | — |
| Automated recapper or sealer available | sealer | no |
| • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput* | resealer module/49.2 × 44.9 × 17 inches/yes/up to 600 | — |
| • Recaps-seals multiple size tubes simult./Containers device accommodates | yes/16, 13 × 100; 16, 13 × 75, others | — |
| • Maintenance required | monthly | — |
| Automated storage and retrieval available | yes | yes |
| • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput* | tube storage module/95 × 89.2 × 70 inches/yes/up to 600 | PathFinder 350S/52 × 98 × 40 cm/yes/350+ |
| • Containers device accommodates/Connects to the track | 16, 13 × 100; 16, 13 × 75, others, multiple types simultaneously/yes | 16, 13 × 100; 16, 13 × 75/yes |
| • Room temperature/Minimum and maximum number of tubes stored per module | no/0 and 15,360 | yes/250 |
| • Multiple size tubes can be stored in the same module/Maintenance required | yes/daily, monthly | yes/weekly, six months |
| • Refrigerated storage and retrieval capability | yes | no |
| Longitudinal upgrade pathway or plan to protect users' investments | modular open architecture | ability to network multiple instruments |
| Average time to install/Who provides service, support/Hours support is available | depends on configuration/Abbott Diagnostics/business and extended hours | 1 day/distributor/— |
| On-site biomedical engineer required/User group meets regularly | yes/yes | no/no |
| List price | varies | $A62,000 |
| Individual list prices for components | | |
| • Process control SW/Transportation systems/Auto. centrifugation | — | included/—/— |
| • Auto. input, accession/Auto. decap/Auto. sort/Auto. storage and retrieval | — | included/—/included/— |
| • Specimen integrity monitor/Automated aliquot | — | — |
| • Instrument (analyzer) interfaces/Automated recap | — | — |
| Distinguishing features (supplied by company) | flexibility: configurable, component-based design; functionality: refrigerated online storage and multiple tube types simultaneously, RFID, point-in-space sampling; support: Lean Six Sigma Black Belt consultants; Class 2 laser; operations manual on Web site | benchtop sorting at an affordable price; ability to change deck layout in one minute; flexible input and output positions |

** For basic bulding 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*

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# Laboratory automation systems and workcells

*Part 2 of 14*

*See* captodayonline.com/productguides *for an interactive version of guide*

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|---|---|---|
| Name of system/First year installed/No. of 2011 contracts signed | PathFinder 900/2008/7 | AutoMate 800/2006/21 |
| No. of live sites installed in N. America/Europe/Asia-Australia | 0/12/7 | 30/100/15 |
| Automation products that are available | | |
| • Pre-analytical processor/Total laboratory automation | yes/no | yes/no |
| • Automated functions: Accessioning/Track load/Centrifugation/Decapping | yes/yes/no/yes | yes/no/yes/yes |
| • Automated functions: Rack specific sort/Aliquot/Tube relabeling/Resealing | yes/yes/yes/yes | yes/yes/yes/no |
| • Automated functions: Storage-retrieval/Intelligent sample routing | no/yes | yes/yes |
| • SW: Dedicated Process Control/Middleware control using LIS/Architecture | no/no/open | yes/no/open |
| • Company has dedicated automation support team/Remote system monitoring | yes/yes | yes/— |
| Software features/functionality | | |
| • Patient demographics and insurance data/Rules-based architecture | —/LIS feature | LIS feature/automation SW feature |
| • Supports data retrieval/Internet connectivity | automation SW feature/automation SW feature | LIS feature/— |
| • Online real-time help system/QC/Stats and management reports | automation SW feature/—/automation SW feature | automation SW feature/LIS feature/automation SW feature |
| • Evaluates validity and releasability of results from automated analyzers | LIS feature | LIS feature |
| • Specimen tracking/Priority processing/Random-access spec. movement | automation SW feature/automation SW feature/automation SW feature | automation SW feature/automation SW feature/automation SW feature |
| • Supports accession number redundancy (duplicate specimen ID) | automation SW feature | automation SW feature |
| • Supports specimen carrier and level identification | automation SW feature | automation SW feature |
| • Unique bar-code number per container required | — | automation SW feature |
| • Specimen routing/Multistop routing (one tube to multiple workstations) | automation SW feature/automation SW feature | automation SW feature/automation SW feature |
| • Specimen scheduling/Instrument scheduling | LIS feature/LIS feature | automation SW feature/— |
| • Routes test to workstation/Automatic reflex, repeat, dilutions | LIS feature/LIS feature | automation SW feature/— |
| • Supports multiple HW configuration/Supports other proprietary transport. HW | automation SW feature/— | automation SW feature/— |
| • Sample storage and retrieval SW/Supports approved CLSI standards | LIS feature/automation SW feature | automation SW feature/automation SW feature |
| LIS(s) and versions interfaced and live w/LAS/How LIS(s) are interfaced with your LAS | Instrument Manager, Ultra, Kestral, Apollo, others//ASTM, CLSI-LIS2A | SCC, Siemens, Philips/ASTM, Power Processor |
| Transportation systems available | no | no |
| • Model/Dimensions* (H × W × D)*/Conforms to CLSI Stand. Auto 1-5 | — | — |
| • Containers device accommodates/Average throughput in cm per second | — | — |
| • Supports automatic rerouting for reflex-repeat-dilutions | — | — |
| • Modular HW/Installed options/Device can operate in track and manual mode | — | — |
| • Required utilities/Required maintenance | — | — |
| • Carrier type/Scalable system | — | — |
| Automated centrifugation available | no | yes |
| • Model/Dimensions (H × W × D)/Conforms to CLSI Stand. Auto 1-5 | — | AutoMate 800/—/yes |
| • Maximum throughput/Containers device accommodates | — | 300/16, 13 × 100; 16, 13 × 75, Sarstedt, Greiner, BD pediatric tubes |
| • Can identify tube types for custom programmed rate and spin times per run | — | no |
| • More than one centrifuge can be connected to track system | — | no |
| • For multi-unit centrifuge, each centrifuge operates independently for rate and time | — | no |
| • Maintenance required | — | daily |
| Automated input/accessioning available | yes | yes |
| • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** | PathFinder 900 module/1.7 × 2.5 × 1.4 m/yes/350 tubes per hour | AutoMate 800/—/yes/420 |
| • Containers device accommodates/Dedicated lanes for stat samples | 16, 13 × 100; 16, 13 × 75/yes | 16, 13 × 100; 16, 13 × 75, Sarstedt, Greiner, BD pediatric tubes/yes |
| • Maximum No. of samples that can be loaded/Maintenance required | up to 250/quarterly | 600/daily, monthly |
| Automated decapping available | yes | yes |
| • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** | PathFinder 900 module/1.7 × 2.5 × 1.4 m/yes/>500 tubes per hour | AutoMate 800/—/yes/420 |
| • Containers device accommodates/Maintenance required | 16, 13 × 100; 16, 13 × 75/weekly, monthly, annually | 16, 13 × 100; 16, 13 × 75, Sarstedt, Greiner, BD pediatric/daily, monthly |
| • Removes multiple size tube caps per run/Removes screw type sample caps | yes/yes | yes/yes |
| Automated sorting available | yes | yes |
| • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** | PathFinder 900 module/1.7 × 2.5 × 1.4 m/yes/350 tubes per hour | AutoMate 800/—/yes/420 |
| • Containers device accommodates/Software can sort by | 16, 13 × 100; 16, 13 × 75/specimen, method, output | 16, 13 × 100; 16, 13 × 75, Sarstedt, Greiner, BD pediatric/method, output |
| Specimen integrity monitor available | no | no |
| • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** | — | — |
| • Containers device accommodates/Maintenance required | — | — |
| Automated aliquotting available | yes | yes |
| • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** | PathFinder 900 module/1.7 × 2.5 × 1.4 m/yes/>500 tubes per hour | AutoMate 800/—/yes/420 |
| • Containers device accommodates | 16, 13 × 100; 16, 13 × 75 | 16, 13 × 100; 16, 13 × 75, Sarstedt |
| • Inspects samples for bar code/Detects and reports clots in specimen | yes/yes | yes/yes |
| • Detects and reports quantity not sufficient specimens/Maintenance required | yes/weekly, monthly, annually | yes/daily, monthly |
| Instrument (analyzer) interfaces | | |
| • Rules-based instrument interface control subsystem | no | no |
| • Process control of instrument via control subsystem | no | no |
| Physical/hardware (instrument/specimen) interface | | |
| • Hematology/Chemistry/Coagulation | no/no/no | — |
| • Immunoassay/Urinalysis | no/no | — |
| Instruments to which your system or product is interfaced | none | — |
| Other robotic products/components to which system or product is linked | — | — |
| Automated recapper or sealer available | yes | no |
| • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput* | PathFinder 900 module/1.7 × 2.5 × 1.4 m/yes/>600 tubes per hour | — |
| • Recaps-seals multiple size tubes simult./Containers device accommodates | no/16, 13 × 100; 16, 13 × 75 | — |
| • Maintenance required | daily, monthly, annually | — |
| Automated storage and retrieval available | yes | yes |
| • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput* | PathFinder 900/1.7 × 2.5 × 1.4 m/yes/900+ | AutoMate 800/—/yes/420 |
| • Containers device accommodates/Connects to the track | 16, 13 × 100; 16, 13 × 75/yes | 16, 13 × 100; 16, 13 × 75, Sarstedt, Greiner, BD pediatric tubes/no |
| • Room temperature/Minimum and maximum number of tubes stored per module | no/1,000 in standard format | yes/1 and 400 |
| • Multiple size tubes can be stored in the same module/Maintenance required | yes/weekly, monthly, annually | yes/daily, monthly |
| • Refrigerated storage and retrieval capability | no | no |
| Longitudinal upgrade pathway or plan to protect users' investments | ability to network multiple PathFinders | — |
| Average time to install/Who provides service, support/Hours support is available | 3 weeks/GST and distributor/24–7 | 7 days/Beckman Coulter/24–7 |
| On-site biomedical engineer required/User group meets regularly | no/no | no/no |
| List price | $A420,000 (fully optioned system) | — |
| Individual list prices for components | | |
| • Process control SW/Transportation systems/Auto. centrifugation | included/included/— | — |
| • Auto. input, accession/Auto. decap/Auto. sort/Auto. storage and retrieval | included/included/included/— | — |
| • Specimen integrity monitor/Automated aliquot | —/included | — |
| • Instrument (analyzer) interfaces/Automated recap | —/included | — |
| Distinguishing features (supplied by company) | 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 aliquotting; sample storage routing by duration and temperature |

** For basic bulding 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*

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# Laboratory automation systems and workcells

| *Part 3 of 14*<br><br>*See* captodayonline.com/productguides *for an interactive version of guide* | **Beckman Coulter**<br>**Christian Frenz** cfrenz@beckman.com<br>**200 S. Kraemer Boulevard, Brea, CA 92822**<br>**714-961-6385** www.beckmancoulter.com | **Beckman Coulter**<br>**Mike Hoang** mbhoang@beckman.com<br>**200 S. Kraemer Boulevard, Brea, CA 92822**<br>**714-961-6385** www.beckmancoulter.com |
|---|---|---|
| Name of system/First year installed/No. of 2011 contracts signed | AutoMate 2500 Family/2003/85 | LH 1500 Hematology Automation Series/2002/6 |
| No. of live sites installed in N. America/Europe/Asia-Australia | 77/485/42 | 100/20/20 |
| Automation products that are available | | |
| • Pre-analytical processor/Total laboratory automation | yes/no | yes/yes |
| • Automated functions: Accessioning/Track load/Centrifugation/Decapping | yes/no/no/yes | yes/yes/no/no |
| • Automated functions: Rack specific sort/Aliquot/Tube relabeling/Resealing | yes/yes/yes/yes | yes/no/no/no |
| • Automated functions: Storage-retrieval/Intelligent sample routing | no/yes | yes/yes |
| • SW: Dedicated Process Control/Middleware control using LIS/Architecture | yes/yes/open | yes/yes/open |
| • Company has dedicated automation support team/Remote system monitoring | yes/yes | yes/yes |
| Software features/functionality | | |
| • Patient demographics and insurance data/Rules-based architecture | LIS feature/automation SW feature | — |
| • Supports data retrieval/Internet connectivity | automation SW feature/— | automation SW feature/— |
| • Online real-time help system/QC/Stats and management reports | automation SW feature/—/automation SW feature | automation SW feature/LIS feature/— |
| • Evaluates validity and releasability of results from automated analyzers | — | — |
| • Specimen tracking/Priority processing/Random-access spec. movement | automation SW feature/automation SW feature/automation SW feature | automation SW feature/automation SW feature/automation SW feature |
| • Supports accession number redundancy (duplicate specimen ID) | automation SW feature | — |
| • Supports specimen carrier and level identification | automation SW feature | — |
| • Unique bar-code number per container required | — | automation SW feature |
| • Specimen routing/Multistop routing (one tube to multiple workstations) | automation SW feature/automation SW feature | automation SW feature/ automation SW feature |
| • Specimen scheduling/Instrument scheduling | automation SW feature/— | automation SW feature/ automation SW feature |
| • Routes test to workstation/Automatic reflex, repeat, dilutions | —/— | automation SW feature/ automation SW feature |
| • Supports multiple HW configuration/Supports other proprietary transport. HW | automation SW feature/— | automation SW feature/— |
| • Sample storage and retrieval SW/Supports approved CLSI standards | automation SW feature/automation SW feature | automation SW feature/ automation SW feature |
| LIS(s) and versions interfaced and live w/LAS/How LIS(s) are interfaced with your LAS | Cerner, Misys, Modulus, Data Innovations, SCC, Atlas, McKesson/HL7, ASTM | Cerner, Sunquest, SCC, Meditech, others/LH 1500 |
| Transportation systems available | no | yes |
| • Model/Dimensions* (H × W × D)*/Conforms to CLSI Stand. Auto 1-5 | — | —/—/yes |
| • Containers device accommodates/Average throughput in cm per second | — | 13 × 75/— |
| • Supports automatic rerouting for reflex-repeat-dilutions | — | yes |
| • Modular HW/Installed options/Device can operate in track and manual mode | — | yes/floor mounted/yes |
| • Required utilities/Required maintenance | — | compressed air, electricity/monthly |
| • Carrier type/Scalable system | — | single specimen container per carrier/yes |
| Automated centrifugation available | no | no |
| • Model/Dimensions (H × W × D)/Conforms to CLSI Stand. Auto 1-5 | — | — |
| • Maximum throughput/Containers device accommodates | — | — |
| • Can identify tube types for custom programmed rate and spin times per run | — | — |
| • More than one centrifuge can be connected to track system | — | — |
| • For multi-unit centrifuge, each centrifuge operates independently for rate and time | — | — |
| • Maintenance required | — | — |
| Automated input/accessioning available | yes | yes |
| • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** | AutoMate 2500 Family units/64 × 73 × 53 inches/yes/1,200 | — |
| • Containers device accommodates/Dedicated lanes for stat samples | 16, 13 × 100; 16, 13 × 75; diameter: 10.5–17.0 mm; length: 70–100 mm/yes | 13 × 75/yes |
| • Maximum No. of samples that can be loaded/Maintenance required | 300, continuously/— | 200/monthly |
| Automated decapping available | yes | no |
| • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** | AutoMate 2500 Family units/64 × 73 × 53 inches/yes/1,200 | — |
| • Containers device accommodates/Maintenance required | 16, 13 × 100; 16, 13 × 75; diameter: 10.5–17.0 mm; length: 70–100 mm/— | — |
| • Removes multiple size tube caps per run/Removes screw type sample caps | yes/yes | — |
| Automated sorting available | yes | yes |
| • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** | AutoMate 2500 Family units/64 × 73 × 53 inches/yes/1,200 | —/—/yes/425 |
| • Containers device accommodates/Software can sort by | 16, 13×100; 16, 13×75; others/specimen, test order, fill level, input position | 13 × 75/method |
| Specimen integrity monitor available | no | no |
| • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** | — | — |
| • Containers device accommodates/Maintenance required | — | — |
| Automated aliquotting available | yes | no |
| • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** | AutoMate 1250, 2550/64 × 101 × 53 inches/yes/600 | — |
| • Containers device accommodates | 16, 13 × 100; 16, 13 × 75, secondary tubes 13 × 75 | — |
| • Inspects samples for bar code/Detects and reports clots in specimen | yes/yes | — |
| • Detects and reports quantity not sufficient specimens/Maintenance required | yes/daily | — |
| Instrument (analyzer) interfaces | | |
| • Rules-based instrument interface control subsystem | no | no |
| • Process control of instrument via control subsystem | no | yes |
| Physical/hardware (instrument/specimen) interface | | |
| • Hematology/Chemistry/Coagulation | no/no/no | robotic arm interface/—/— |
| • Immunoassay/Urinalysis | no/no | — |
| Instruments to which your system or product is interfaced | — | LH 750, 755 and LH 780, 785 |
| Other robotic products/components to which system or product is linked | — | — |
| Automated recapper or sealer available | sealer | no |
| • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput* | all AutoMate 2500 Family units/—/yes/1,200 | — |
| • Recaps-seals multiple size tubes simult./Containers device accommodates | yes/16, 13 × 100; 16, 13 × 75 | — |
| • Maintenance required | daily | — |
| Automated storage and retrieval available | — | yes |
| • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput* | — | —/—/yes/340 |
| • Containers device accommodates/Connects to the track | — | 13 × 75/yes |
| • Room temperature/Minimum and maximum number of tubes stored per module | — | yes/1,000 |
| • Multiple size tubes can be stored in the same module/Maintenance required | — | no/weekly, monthly |
| • Refrigerated storage and retrieval capability | — | — |
| Longitudinal upgrade pathway or plan to protect users' investments | longitudinal upgrade pathway | expandable, as the lab grows |
| Average time to install/Who provides service, support/Hours support is available | 1 week/Beckman Coulter/24–7 | 7–21 days/Beckman Coulter/24–7 |
| On-site biomedical engineer required/User group meets regularly | no/no | no/yes |
| List price | $290,000–$460,000 | varies |
| Individual list prices for components | | |
| • Process control SW/Transportation systems/Auto. centrifugation | — | — |
| • Auto. input, accession/Auto. decap/Auto. sort/Auto. storage and retrieval | — | — |
| • Specimen integrity monitor/Automated aliquot | — | — |
| • Instrument (analyzer) interfaces/Automated recap | — | — |
| Distinguishing features (supplied by company) | high speed, cost efficient way to automate pre and postanalytical steps; improves patient safety and lab efficiency through tube inspection unit to ensure correct label is on the sample and that enough sample volume is available; allows direct sorting to most analyzers' racks, and easy to change configurations | automatic hands-off rerun and reflex test from the stockyard to the analyzers; sorting of pending samples for secondary tests by test; automatically loads analyzers and is expandable |

** For basic bulding 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*

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

# Laboratory automation systems and workcells

*Part 4 of 14*

*See* captodayonline.com/productguides *for an interactive version of guide*

**Beckman Coulter**
**Mike Hoang** mbhoang@beckman.com
**200 S. Kraemer Boulevard, Brea, CA 92822**
**714-961-6385** www.beckmancoulter.com

| | |
|---|---|
| Name of system/First year installed/No. of 2011 contracts signed | Power Processor/1998/38 |
| No. of live sites installed in N. America/Europe/Asia-Australia | 402/126/146 |
| Automation products that are available | |
| • Pre-analytical processor/Total laboratory automation | yes/yes |
| • Automated functions: Accessioning/Track load/Centrifugation/Decapping | yes/yes/yes/yes |
| • Automated functions: Rack specific sort/Aliquot/Tube relabeling/Resealing | yes/yes/yes/yes |
| • Automated functions: Storage-retrieval/Intelligent sample routing | yes/yes |
| • SW: Dedicated Process Control/Middleware control using LIS/Architecture | yes/yes/open |
| • Company has dedicated automation support team/Remote system monitoring | yes/yes |
| Software features/functionality | |
| • Patient demographics and insurance data/Rules-based architecture | LIS feature/automation SW feature |
| • Supports data retrieval/Internet connectivity | automation SW feature/automation SW feature |
| • Online real-time help system/QC/Stats and management reports | automation SW feature/automation SW feature/automation SW feature |
| • Evaluates validity and releasability of results from automated analyzers | automation SW feature |
| • Specimen tracking/Priority processing/Random-access spec. movement | automation SW feature/automation SW feature/automation SW feature |
| • Supports accession number redundancy (duplicate specimen ID) | — |
| • Supports specimen carrier and level identification | automation SW feature |
| • Unique bar-code number per container required | automation SW feature |
| • Specimen routing/Multistop routing (one tube to multiple workstations) | automation SW feature/automation SW feature |
| • Specimen scheduling/Instrument scheduling | automation SW feature/automation SW feature |
| • Routes test to workstation/Automatic reflex, repeat, dilutions | automation SW feature/automation SW feature |
| • Supports multiple HW configuration/Supports other proprietary transport. HW | automation SW feature/— |
| • Sample storage and retrieval SW/Supports approved CLSI standards | automation SW feature/automation SW feature |
| LIS(s) and versions interfaced and live w/LAS/How LIS(s) are interfaced with your LAS | SCC, Siemens, Philips, Misys, Cerner, McKesson, GE, Meditech, PerSe, Molis, MIPS, Vista, Swiss Lab/Power Processor, Direct, HL7 |
| Transportation systems available | yes |
| • Model/Dimensions* (H × W × D)*/Conforms to CLSI Stand. Auto 1-5 | Power Processor II/—/yes |
| • Containers device accommodates/Average throughput in cm per second | 16, 13 × 100; 16, 13 × 75, Sarstedt/— |
| • Supports automatic rerouting for reflex-repeat-dilutions | yes |
| • Modular HW/Installed options/Device can operate in track and manual mode | yes/floor and subfloor mounted/yes |
| • Required utilities/Required maintenance | compressed air, electricity/monthly |
| • Carrier type/Scalable system | single specimen container per carrier/yes |
| Automated centrifugation available | yes |
| • Model/Dimensions (H × W × D)/Conforms to CLSI Stand. Auto 1-5 | Power Processor II/—/yes |
| • Maximum throughput/Containers device accommodates | 300–450/16, 13 × 100; 16, 13 × 75, Sarstedt |
| • Can identify tube types for custom programmed rate and spin times per run | no |
| • More than one centrifuge can be connected to track system | yes |
| • For multi-unit centrifuge, each centrifuge operates independently for rate and time | yes |
| • Maintenance required | weekly |
| Automated input/accessioning available | yes |
| • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** | Power Processor II/—/yes/900 |
| • Containers device accommodates/Dedicated lanes for stat samples | 16, 13 × 100; 16, 13 × 75, Sarstedt/yes |
| • Maximum No. of samples that can be loaded/Maintenance required | 200/monthly |
| Automated decapping available | yes |
| • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** | Power Processor II/—/yes/600 |
| • Containers device accommodates/Maintenance required | 16, 13 × 100; 16, 13 × 75, Sarstedt/monthly |
| • Removes multiple size tube caps per run/Removes screw type sample caps | yes/no |
| Automated sorting available | yes |
| • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** | Power Processor II/—/yes/500 |
| • Containers device accommodates/Software can sort by | 16, 13 × 100; 16, 13 × 75, Sarstedt/method, output |
| Specimen integrity monitor available | yes |
| • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** | Power Processor II/—/yes/90 |
| • Containers device accommodates/Maintenance required | 16, 13 × 100; 16, 13 × 75, Sarstedt/monthly |
| Automated aliquotting available | yes |
| • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** | Power Processor II/—/yes/140 primary samples |
| • Containers device accommodates | 16, 13 × 100; 16, 13 × 75, Sarstedt |
| • Inspects samples for bar code/Detects and reports clots in specimen | yes/yes |
| • Detects and reports quantity not sufficient specimens/Maintenance required | yes/daily, weekly |
| Instrument (analyzer) interfaces | |
| • Rules-based instrument interface control subsystem | yes |
| • Process control of instrument via control subsystem | yes |
| Physical/hardware (instrument/specimen) interface | |
| • Hematology/Chemistry/Coagulation | robotic arm interface/point-of-reference sampling, robotic arm interface/point-of-reference sampling, robotic arm interface |
| • Immunoassay/Urinalysis | point-of-reference sampling, robotic arm interface/point-of-reference sampling |
| Instruments to which your system or product is interfaced | Abbott Architect, Axsym; Siemens Advia, Atlas; Beckman Coulter LX 20, DxC, DxI; Ortho 950, 250, Eci; Roche Modular; Stago Star |
| Other robotic products/components to which system or product is linked | — |
| Automated recapper or sealer available | yes |
| • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput* | Power Processor III/—/yes/500 |
| • Recaps-seals multiple size tubes simult./Containers device accommodates | no/13 × 100; 13 × 75, Sarstedt |
| • Maintenance required | weekly |
| Automated storage and retrieval available | yes |
| • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput* | Power Processor III/—/yes/500 |
| • Containers device accommodates/Connects to the track | 13 × 100; 13 × 75, Sarstedt/yes |
| • Room temperature/Minimum and maximum number of tubes stored per module | yes/1 and 6,000 |
| • Multiple size tubes can be stored in the same module/Maintenance required | no/weekly |
| • Refrigerated storage and retrieval capability | yes |
| Longitudinal upgrade pathway or plan to protect users' investments | Power Processor is expandable for upgrades as lab needs grow |
| Average time to install/Who provides service, support/Hours support is available | 7–21 days/Beckman Coutler/24–7 |
| On-site biomedical engineer required/User group meets regularly | no/yes |
| List price | varies |
| Individual list prices for components | |
| • Process control SW/Transportation systems/Auto. centrifugation | — |
| • Auto. input, accession/Auto. decap/Auto. sort/Auto. storage and retrieval | — |
| • Specimen integrity monitor/Automated aliquot | — |
| • Instrument (analyzer) interfaces/Automated recap | — |
| Distinguishing features (supplied by company) | refrigerated storage with recapping and auto rerun; totally open system; intelligent aliquotting; proven consistent turnaround time results |

** For basic bulding 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*

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

# Laboratory automation systems and workcells

| *Part 5 of 14*<br><br>*See* captodayonline.com/productguides *for an interactive version of guide* | **LABOTIX Automation**<br>**Peter J. Manes** peter.manes@labotix.com<br>**2323 S. 171st Street, Omaha, NE 68130**<br>**402-398-2274** www.labotix.com | **m-u-t America**<br>**Karsten Wittmann** kwittmann@mut-group.com<br>**3931 Deep Rock Road, Henrico, VA 23233**<br>**804-620-4029** www.mut-group.com |
|---|---|---|
| **Name of system/First year installed/No. of 2011 contracts signed** | **RRUSH/1994/1** | **HCTS2000 MK3 racking device/2008/—** |
| **No. of live sites installed in N. America/Europe/Asia-Australia** | **11/4/0** | **—** |
| **Automation products that are available** | | |
| **• Pre-analytical processor/Total laboratory automation** | **yes/yes** | **yes/no** |
| **• Automated functions: Accessioning/Track load/Centrifugation/Decapping** | **yes/yes/yes/yes** | **yes/no/no/no** |
| **• Automated functions: Rack specific sort/Aliquot/Tube relabeling/Resealing** | **yes/yes/yes/yes (recapping)** | **yes/no/no/no** |
| **• Automated functions: Storage-retrieval/Intelligent sample routing** | **yes/yes** | **no/yes** |
| **• SW: Dedicated Process Control/Middleware control using LIS/Architecture** | **yes/yes/open** | **yes/yes/closed** |
| **• Company has dedicated automation support team/Remote system monitoring** | **yes/yes** | **yes/yes** |
| **Software features/functionality** | | |
| **• Patient demographics and insurance data/Rules-based architecture** | **—/automation SW feature** | **LIS feature/automation SW feature** |
| **• Supports data retrieval/Internet connectivity** | **automation SW feature/—** | **—** |
| **• Online real-time help system/QC/Stats and management reports** | **automation SW feature/automation SW feature/automation SW feature** | **automation SW feature/—/—** |
| **• Evaluates validity and releasability of results from automated analyzers** | **LIS feature** | **—** |
| **• Specimen tracking/Priority processing/Random-access spec. movement** | **automation SW feature/automation SW feature/automation SW feature** | **automation SW feature/automation SW feature/—** |
| **• Supports accession number redundancy (duplicate specimen ID)** | **LIS feature** | **automation SW feature** |
| **• Supports specimen carrier and level identification** | **—** | **—** |
| **• Unique bar-code number per container required** | **automation SW feature** | **—** |
| **• Specimen routing/Multistop routing (one tube to multiple workstations)** | **automation SW feature/automation SW feature** | **automation SW feature/automation SW feature** |
| **• Specimen scheduling/Instrument scheduling** | **automation SW feature/LIS feature** | **—** |
| **• Routes test to workstation/Automatic reflex, repeat, dilutions** | **automation SW feature/LIS feature** | **—** |
| **• Supports multiple HW configuration/Supports other proprietary transport. HW** | **automation SW feature/—** | **automation SW feature/—** |
| **• Sample storage and retrieval SW/Supports approved CLSI standards** | **automation SW feature/automation SW feature** | **—/automation SW feature** |
| **LIS(s) and versions interfaced and live w/LAS/How LIS(s) are interfaced with your LAS** | **Cerner, PGP, Triple G, Sunquest, Rubicon/HL7 or ASTM** | **Mysis, Soft, DI, VA, DHCP/ASTM** |
| **Transportation systems available** | **yes** | **no** |
| **• Model/Dimensions* (H × W × D)*/Conforms to CLSI Stand. Auto 1-5** | **Flexlink/custom by site/yes** | **—** |
| **• Containers device accommodates/Average throughput in cm per second** | **16, 13 × 100; 16, 13 × 75/variable** | **—** |
| **• Supports automatic rerouting for reflex-repeat-dilutions** | **yes** | **—** |
| **• Modular HW/Installed options/Device can operate in track and manual mode** | **yes/floor mounted, overhead mounted/—** | **—** |
| **• Required utilities/Required maintenance** | **electricity/quarterly** | **—** |
| **• Carrier type/Scalable system** | **single specimen container per carrier/yes** | **—** |
| **Automated centrifugation available** | **yes** | **no** |
| **• Model/Dimensions (H × W × D)/Conforms to CLSI Stand. Auto 1-5** | **Hettich/74 × 34 × 36 inches/yes** | **—** |
| **• Maximum throughput/Containers device accommodates** | **350/16, 13 × 100; 16, 13 × 75** | **—** |
| **• Can identify tube types for custom programmed rate and spin times per run** | **no** | **—** |
| **• More than one centrifuge can be connected to track system** | **yes** | **—** |
| **• For multi-unit centrifuge, each centrifuge operates independently for rate and time** | **yes** | **—** |
| **• Maintenance required** | **quarterly** | **—** |
| **Automated input/accessioning available** | **yes** | **yes** |
| **• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**** | **Labotix/74 × 34 × 36 inches/yes/1,200** | **HCTS2000 MK3/61 × 98 × 53 inches/yes/800–2,000** |
| **• Containers device accommodates/Dedicated lanes for stat samples** | **16, 13 × 100; 16, 13 × 75/yes** | **16, 13 × 100; 16, 13 × 75, 8–19 mm diameter × 75–120 mm height/no** |
| **• Maximum No. of samples that can be loaded/Maintenance required** | **1,200/quarterly** | **550/daily, monthly** |
| **Automated decapping available** | **yes** | **no** |
| **• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**** | **Labotix/20 × 9 × 12 inches/yes/400** | **—** |
| **• Containers device accommodates/Maintenance required** | **16, 13 × 100; 16, 13 × 75/quarterly** | **—** |
| **• Removes multiple size tube caps per run/Removes screw type sample caps** | **yes/no** | **—** |
| **Automated sorting available** | **yes** | **yes** |
| **• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**** | **Labotix/74 × 34 × 36 inches/yes/400** | **HCTS2000 MK3/61 × 98 × 53 inches/yes/800–2,000** |
| **• Containers device accommodates/Software can sort by** | **16, 13 × 100; 16, 13 × 75/specimen, method, output** | **16, 13 × 100; 16, 13 × 75, 8–19 mm diameter × 75–120 mm height/specimen, method, output** |
| **Specimen integrity monitor available** | **yes** | **no** |
| **• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**** | **—** | **—** |
| **• Containers device accommodates/Maintenance required** | **—** | **—** |
| **Automated aliquotting available** | **yes** | **no** |
| **• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**** | **Labotix/60 × 57 × 25 inches/yes/300** | **—** |
| **• Containers device accommodates** | **16, 13 × 100; 16, 13 × 75** | **—** |
| **• Inspects samples for bar code/Detects and reports clots in specimen** | **yes/yes** | **—** |
| **• Detects and reports quantity not sufficient specimens/Maintenance required** | **yes/quarterly** | **—** |
| **Instrument (analyzer) interfaces** | | |
| **• Rules-based instrument interface control subsystem** | **yes** | **no** |
| **• Process control of instrument via control subsystem** | **—** | **no** |
| **Physical/hardware (instrument/specimen) interface** | | |
| **• Hematology/Chemistry/Coagulation** | **point-of-ref., robotic rack/point-of-ref., robotic rack/point-of-ref., robotic rack** | **no/no/no** |
| **• Immunoassay/Urinalysis** | **point-of-reference, robotic rack/point-of-reference, robotic rack** | **no/no** |
| **Instruments to which your system or product is interfaced** | **Beckman Coulter Dxl 800, Stago Star Evolution, Olympus 2700 and 5400, Siemens Advia Centaur, Sysmex HST with SMS, Ortho-Clinical Vitros, and more** | **—** |
| **Other robotic products/components to which system or product is linked** | **—** | **—** |
| **Automated recapper or sealer available** | **recapper** | **no** |
| **• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput*** | **Labotix/60 × 13 × 23 inches/yes/750** | **—** |
| **• Recaps-seals multiple size tubes simult./Containers device accommodates** | **yes/16, 13 × 100; 16, 13 × 75** | **—** |
| **• Maintenance required** | **quarterly** | **—** |
| **Automated storage and retrieval available** | **yes** | **no** |
| **• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput*** | **Labotix/90 × 47 × 56 inches/yes/750** | **—** |
| **• Containers device accommodates/Connects to the track** | **16, 13 × 100; 16, 13 × 75/yes** | **—** |
| **• Room temperature/Minimum and maximum number of tubes stored per module** | **no/5,700** | **—** |
| **• Multiple size tubes can be stored in the same module/Maintenance required** | **yes/quarterly** | **—** |
| **• Refrigerated storage and retrieval capability** | **yes** | **—** |
| **Longitudinal upgrade pathway or plan to protect users' investments** | **open system allows changing analyzers and vendors at any time; expands and changes physical shape of track at any time** | **independent of analyzer company; module can be upgraded with options** |
| **Average time to install/Who provides service, support/Hours support is available** | **30 days/Labotix/24–7–365 days per year** | **<2 days/m-u-t America/24-7** |
| **On-site biomedical engineer required/User group meets regularly** | **—/no** | **no/no** |
| **List price** | **varies** | **$161,600** |
| **Individual list prices for components** | | |
| **• Process control SW/Transportation systems/Auto. centrifugation** | **—** | **included/—/—** |
| **• Auto. input, accession/Auto. decap/Auto. sort/Auto. storage and retrieval** | **—** | **—/—/included/—** |
| **• Specimen integrity monitor/Automated aliquot** | **—** | **—** |
| **• Instrument (analyzer) interfaces/Automated recap** | **—** | **—** |
| **Distinguishing features (supplied by company)** | **open system sorts and delivers all specimens to all vendors' analyzers anywhere in lab; users can change vendors without changing automation; scalable system allows customers to expand and reconfigure automation at any time** | **bulk loading of tubes; tubes are placed into analyzer racks; sorting to output bins and analyzer racks** |

** For basic bulding 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*

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

# Laboratory automation systems and workcells

*Part 6 of 14*

*See* captodayonline.com/productguides *for an interactive version of guide*

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|---|---|---|
| Name of system/First year installed/No. of 2011 contracts signed | HCTS2000 MK2 automated sorter/2007/— | enGen Laboratory Automation System/2001/18 |
| No. of live sites installed in N. America/Europe/Asia-Australia | — | 25/71/2 |
| Automation products that are available | | |
| • Pre-analytical processor/Total laboratory automation | yes/no | yes/yes |
| • Automated functions: Accessioning/Track load/Centrifugation/Decapping | yes/no/no/no | yes/yes/yes/yes |
| • Automated functions: Rack specific sort/Aliquot/Tube relabeling/Resealing | yes/no/no/no | yes/yes/no/— |
| • Automated functions: Storage-retrieval/Intelligent sample routing | no/yes | in development/yes |
| • SW: Dedicated Process Control/Middleware control using LIS/Architecture | yes/yes/closed | yes/yes/open |
| • Company has dedicated automation support team/Remote system monitoring | yes/yes | yes/yes |
| Software features/functionality | | |
| • Patient demographics and insurance data/Rules-based architecture | LIS feature/automation SW feature | automation SW feature/automation SW feature |
| • Supports data retrieval/Internet connectivity | — | automation SW feature/automation SW feature |
| • Online real-time help system/QC/Stats and management reports | automation SW feature/—/— | —/automation SW feature/automation SW feature |
| • Evaluates validity and releasability of results from automated analyzers | — | automation SW feature |
| • Specimen tracking/Priority processing/Random-access spec. movement | automation SW feature/automation SW feature/— | automation SW feature/automation SW feature/automation SW feature |
| • Supports accession number redundancy (duplicate specimen ID) | automation SW feature | — |
| • Supports specimen carrier and level identification | — | automation SW feature |
| • Unique bar-code number per container required | — | automation SW feature |
| • Specimen routing/Multistop routing (one tube to multiple workstations) | automation SW feature/automation SW feature | automation SW feature/automation SW feature |
| • Specimen scheduling/Instrument scheduling | — | automation SW feature/automation SW feature |
| • Routes test to workstation/Automatic reflex, repeat, dilutions | — | automation SW feature/automation SW feature |
| • Supports multiple HW configuration/Supports other proprietary transport. HW | automation SW feature/— | automation SW feature/automation SW feature |
| • Sample storage and retrieval SW/Supports approved CLSI standards | —/automation SW feature | automation SW feature/— |
| LIS(s) and versions interfaced and live w/LAS/How LIS(s) are interfaced with your LAS | Mysis, Soft, DI, VA, DHCP/ASTM | Cerner, Misys, SCC, several others/HL7, ASTM |
| Transportation systems available | no | yes |
| • Model/Dimensions* (H × W × D)*/Conforms to CLSI Stand. Auto 1-5 | — | Covered Conveyor/600–2,400 mm sections/yes |
| • Containers device accommodates/Average throughput in cm per second | — | 16, 13 × 100; 16, 13 × 75/10 |
| • Supports automatic rerouting for reflex-repeat-dilutions | — | yes |
| • Modular HW/Installed options/Device can operate in track and manual mode | — | yes/floor mounted/yes |
| • Required utilities/Required maintenance | — | compressed air, electricity/annually |
| • Carrier type/Scalable system | — | single specimen container per carrier/yes |
| Automated centrifugation available | no | yes |
| • Model/Dimensions (H × W × D)/Conforms to CLSI Stand. Auto 1-5 | — | centrifuge module/1,900 × 1,200 × 1,375 mm/yes |
| • Maximum throughput/Containers device accommodates | — | 400; 96-tube capacity/13 × 100; 13 × 75 |
| • Can identify tube types for custom programmed rate and spin times per run | — | yes |
| • More than one centrifuge can be connected to track system | — | yes |
| • For multi-unit centrifuge, each centrifuge operates independently for rate and time | — | yes |
| • Maintenance required | — | quarterly |
| Automated input/accessioning available | yes | yes |
| • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** | HTS2000 MK2/48 × 56 × 31 inches/yes/2,000 | rack entry-exit module/1,900 × 1,200 × 965 mm/yes/500 |
| • Containers device accommodates/Dedicated lanes for stat samples | 16, 13 × 100; 16, 13 × 75, 8–19 mm diameter × 75–120 mm height/no | 16, 13 × 100; 16, 13 × 75/yes |
| • Maximum No. of samples that can be loaded/Maintenance required | 550/daily, monthly | 600/annually |
| Automated decapping available | no | yes |
| • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** | — | decapper module/1,600 × 600 × 965 mm/yes/600 |
| • Containers device accommodates/Maintenance required | — | 16, 13 × 100; 16, 13 × 75/annually |
| • Removes multiple size tube caps per run/Removes screw type sample caps | — | yes/yes |
| Automated sorting available | yes | yes |
| • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** | HCTS2000 MK2/48 × 56 × 31 inches/yes/2,000 | rack exit-entry module/1,900 × 1,200 × 965 mm/yes/500 |
| • Containers device accommodates/Software can sort by | 16, 13×100; 16, 1 ×75, others/specimen type, bar code, cap color, method, others | 16, 13 × 100; 16, 13 × 75/specimen, method, output |
| Specimen integrity monitor available | no | yes |
| • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** | — | via Vitros 5,1 FS 3600, 5600/—/—/— |
| • Containers device accommodates/Maintenance required | — | 16, 13 × 100; 16, 13 × 75/weekly, monthly, annually |
| Automated aliquotting available | no | yes |
| • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** | — | aliquoter and labeler module/1,900 × 1,500 × 965 mm/yes/200 |
| • Containers device accommodates | — | 16, 13 × 100; 16, 13 × 75 |
| • Inspects samples for bar code/Detects and reports clots in specimen | — | yes/yes |
| • Detects and reports quantity not sufficient specimens/Maintenance required | — | yes/quarterly |
| Instrument (analyzer) interfaces | | |
| • Rules-based instrument interface control subsystem | no | yes |
| • Process control of instrument via control subsystem | no | — |
| Physical/hardware (instrument/specimen) interface | | |
| • Hematology/Chemistry/Coagulation | no/no/no | robotic arm interface/point-of-reference sampling/robotic arm interface |
| • Immunoassay/Urinalysis | no/no | point-of-reference sampling/— |
| Instruments to which your system or product is interfaced | — | Vitros 5600, 4600, 3600, 5,1 FS systems; interfaces with coagulation and hematology systems |
| Other robotic products/components to which system or product is linked | — | — |
| Automated recapper or sealer available | no | recapper |
| • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput* | — | recapper module/1,600 × 600 × 965 mm/yes/500 |
| • Recaps-seals multiple size tubes simult./Containers device accommodates | — | yes/16, 13 × 100; 16, 13 × 75 |
| • Maintenance required | — | annually |
| Automated storage and retrieval available | no | yes, in development |
| • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput* | — | — |
| • Containers device accommodates/Connects to the track | — | — |
| • Room temperature/Minimum and maximum number of tubes stored per module | — | — |
| • Multiple size tubes can be stored in the same module/Maintenance required | — | — |
| • Refrigerated storage and retrieval capability | — | — |
| Longitudinal upgrade pathway or plan to protect users' investments | independent of analyzer company; module can be upgraded with options | customized automation offering, enGen can be reconfigured or upgraded as needs change; SW configuration updates available periodically |
| Average time to install/Who provides service, support/Hours support is available | <2 days/m-u-t America/24–7 | depends on configurable customizations/depends on service contract with Ortho |
| On-site biomedical engineer required/User group meets regularly | no/no | no/no |
| List price | $116,000 | varies |
| Individual list prices for components | | |
| • Process control SW/Transportation systems/Auto. centrifugation | included—/— | — |
| • Auto. input, accession/Auto. decap/Auto. sort/Auto. storage and retrieval | —/—/included/— | — |
| • Specimen integrity monitor/Automated aliquot | — | — |
| • Instrument (analyzer) interfaces/Automated recap | — | — |
| Distinguishing features (supplied by company) | no robotic arms used, high-throughput yields and reliability with ease of operation and installation; users can pour sample tubes into hopper, eliminating shuffling of tubes in and out of racks in lab reception areas; simplicity and flexibility of sorting rules and methods | customizable: systems designed to fit in existing floor space while providing Lean workflow; configurable: systems designed to interface with several lab analyzers; systems grow with the lab |

** For basic bulding 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*

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

# Laboratory automation systems and workcells

*Part 7 of 14*

*See* captodayonline.com/productguides *for an interactive version of guide*

| | Roche Diagnostics<br>**Ed Duning** ed.duning@roche.com<br>**9115 Hauge Drive, Indianapolis, IN 46250**<br>**317-521-4710** www.roche-diagnostics.us | Roche Diagnostics<br>**Ed Duning** ed.duning@roche.com<br>**9115 Hauge Drive, Indianapolis, IN 46250**<br>**317-521-4710** www.roche-diagnostics.us |
|---|---|---|
| **Name of system/First year installed/No. of 2011 contracts signed**<br>**No. of live sites installed in N. America/Europe/Asia-Australia** | **Aliquoting System cobas p612/2002/15**<br>**42/165/59** | **Workstation cobas p612 and cobas p512 connected to EC1/2003/5**<br>**5/25/3** |
| **Automation products that are available** | | |
| • Pre-analytical processor/Total laboratory automation | yes/yes | yes/yes |
| • Automated functions: Accessioning/Track load/Centrifugation/Decapping | yes/yes (as option)/yes/yes | yes/yes/yes/yes |
| • Automated functions: Rack specific sort/Aliquot/Tube relabeling/Resealing | yes/yes/yes/yes | yes/yes/yes/yes |
| • Automated functions: Storage-retrieval/Intelligent sample routing | yes/yes | yes/yes |
| • SW: Dedicated Process Control/Middleware control using LIS/Architecture | yes/yes/closed | yes/yes/closed |
| • Company has dedicated automation support team/Remote system monitoring | yes/yes | yes/yes |
| **Software features/functionality** | | |
| • Patient demographics and insurance data/Rules-based architecture | automation SW feature/automation SW feature | automation SW feature/automation SW feature |
| • Supports data retrieval/Internet connectivity | automation SW feature/automation SW feature | automation SW feature/automation SW feature |
| • Online real-time help system/QC/Stats and management reports | automation SW feature/automation SW feature/automation SW feature | automation SW feature/automation SW feature/automation SW feature |
| • Evaluates validity and releasability of results from automated analyzers | — | — |
| • Specimen tracking/Priority processing/Random-access spec. movement | automation SW feature/automation SW feature/automation SW feature | automation SW feature/automation SW feature/automation SW feature |
| • Supports accession number redundancy (duplicate specimen ID) | automation SW feature | automation SW feature |
| • Supports specimen carrier and level identification | automation SW feature | automation SW feature |
| • Unique bar-code number per container required | — | — |
| • Specimen routing/Multistop routing (one tube to multiple workstations) | automation SW feature/automation SW feature | automation SW feature/automation SW feature |
| • Specimen scheduling/Instrument scheduling | automation SW feature/automation SW feature | automation SW feature/automation SW feature |
| • Routes test to workstation/Automatic reflex, repeat, dilutions | automation SW feature/— | automation SW feature/— |
| • Supports multiple HW configuration/Supports other proprietary transport. HW | automation SW feature/automation SW feature | automation SW feature/automation SW feature |
| • Sample storage and retrieval SW/Supports approved CLSI standards | automation SW feature/automation SW feature | automation SW feature/automation SW feature |
| **LIS(s) and versions interfaced and live w/LAS/How LIS(s) are interfaced with your LAS** | Cerner, MCS, Medat, Systek, MIPS, Providens, Bayer, Molis, Omega, Misys, Vertex, Zanacore, DI, Cirrus, SCC Soft, Nyantech, MCS Promed, Swisslab, Melos, IDAA, Syscomp, OSM, Star LIMS, others/ASTM and system-specific dynamic interface | Cerner, MCS, Medat, Systek, MIPS, Providens, Bayer, Molis, Omega, Misys, Vertex, Zanacore, DI, Cirrus, SCC Soft, Nyantech, MCS Promed, Swisslab, Melos, IDAA, Syscomp, OSM, Star LIMS, others/ASTM and system-specific dynamic interface |
| **Transportation systems available** | yes | yes |
| • Model/Dimensions* (H × W × D)*/Conforms to CLSI Stand. Auto 1-5 | transport built into the instrument/—/yes | transport built into the instrument/—/yes |
| • Containers device accommodates/Average throughput in cm per second | 16, 13 × 100; 16, 13 × 75; 11.5 × 65.5 mm up to 15.5 × 108 mm/— | 16, 13 × 100; 16, 13 × 75; 11.5 × 65.5 mm up to 15.5 × 108 mm/— |
| • Supports automatic rerouting for reflex-repeat-dilutions | no | no |
| • Modular HW/Installed options/Device can operate in track and manual mode | yes/—/yes | yes/floor mounted/yes |
| • Required utilities/Required maintenance | electricity/weekly, quarterly | compressed air, electricity/weekly, quarterly |
| • Carrier type/Scalable system | single specimen container per carrier/yes | single and multiple (5) specimen container per carrier/yes |
| **Automated centrifugation available** | yes | yes |
| • Model/Dimensions (H × W × D)/Conforms to CLSI Stand. Auto 1-5 | single (EC1)/61.4 × 78.3 × 83.6 inches; EC2: 85.8 × 79.3 × 78.7 inches/yes | single (EC1)/61.4 × 78.3 × 83.6 inches/yes |
| • Maximum throughput/Containers device accommodates | EC1: 380 tubes per hour/16, 13 × 100; 16, 13 × 75, others | EC1: 380 tubes per hour/16, 13 × 100; 16, 13 × 75, others |
| • Can identify tube types for custom programmed rate and spin times per run | yes | yes |
| • More than one centrifuge can be connected to track system | yes | yes |
| • For multi-unit centrifuge, each centrifuge operates independently for rate and time | yes | yes |
| • Maintenance required | weekly, quarterly | daily, quarterly |
| **Automated input/accessioning available** | yes | yes |
| • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** | input unit as part of system/78.74 × 33.47 × 69.29 inches/yes/up to 1,200 | input unit as part of instrument/78.74 × 33.47 × 69.29 inches/yes/up to 1,200 |
| • Containers device accommodates/Dedicated lanes for stat samples | 16, 13 × 100; 16, 13 × 75; 11.5 × 65.5 mm up to 15.5 × 108 mm/yes | 16, 13 × 100; 16, 13 × 75; 11.5 × 65.5 mm up to 15.5 × 108 mm/yes |
| • Maximum No. of samples that can be loaded/Maintenance required | 600/daily, quarterly | EC1: 150 tubes/daily, quarterly |
| **Automated decapping available** | yes | yes |
| • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** | decapping module as part of system/14.96 × 12.60 × 5.90 inches/yes/up to 1,200 | decapping module as part of instrument/14.96 × 12.60 × 5.90 in./yes/up to 1,200 |
| • Containers device accommodates/Maintenance required | 16, 13 × 100; 16, 13 × 75; 11.5 × 65.5 to 15.5 × 108 mm/daily, quarterly | 16, 13 × 100; 16, 13 × 75; 11.5 × 65.5 to 15.5 × 108 mm/daily, quarterly |
| • Removes multiple size tube caps per run/Removes screw type sample caps | yes/yes | yes/yes |
| **Automated sorting available** | yes | yes |
| • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** | output sorter as part of system/71.65 × 55.90 × 55.11 inches/yes/up to 1,200 | part of Aliquoting System cobas p612 or Sorting System cobas p512/—/yes/up to 1,200 |
| • Containers device accommodates/Software can sort by | 16, 13×100; 16, 13×75; 11.5×65.5 to 15.5×108 mm/specimen, method, output | 16, 13×100; 16, 13×75; 11.5×65.5 to 15.5×108 mm/specimen, method, output |
| **Specimen integrity monitor available** | yes | yes |
| • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** | Quality Check Unit QS I/11.4 × 19.7 × 14.0 inches/yes/850 | Quality Check Unit QS I/11.4 × 19.7 × 14.0 inches/yes/850 |
| • Containers device accommodates/Maintenance required | 16, 13 × 100; 16, 13 × 75; 11.5 × 65.5 to 15.5 × 108 mm/daily, quarterly | 16, 13 × 100; 16, 13 × 75; 11.5 × 65.5 to 15.5 × 108 mm/daily, quarterly |
| **Automated aliquotting available** | yes | yes |
| • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** | aliquoting unit as part of system/125 × 73.2 × 78.7 inches/yes/655 | aliquoting unit as part of Aliquoting System cobas p612/125 × 73.2 × 78.7 in./yes/655 |
| • Containers device accommodates | 16, 13 × 100; 16, 13 × 75; 11.5 × 65.5 to 15.5 × 108 mm | 16, 13 × 100; 16, 13 × 75; 11.5 × 65.5 to 15.5 × 108 mm |
| • Inspects samples for bar code/Detects and reports clots in specimen | yes/yes | yes/yes |
| • Detects and reports quantity not sufficient specimens/Maintenance required | yes/daily, quarterly | yes/daily, quarterly |
| **Instrument (analyzer) interfaces** | | |
| • Rules-based instrument interface control subsystem | yes | yes |
| • Process control of instrument via control subsystem | no | no |
| **Physical/hardware (instrument/specimen) interface** | | |
| • Hematology/Chemistry/Coagulation | no/no/no | no/no/no |
| • Immunoassay/Urinalysis | no/no | no/no |
| **Instruments to which your system or product is interfaced** | — | — |
| **Other robotic products/components to which system or product is linked** | — | — |
| **Automated recapper or sealer available** | sealer | sealer |
| • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput* | recapping module as part of system/13.39 × 12.20 × 8.66 inches/yes/up to 1,200 | recapping module/13.39 × 12.20 × 8.66 inches/yes/up to 1,200 |
| • Recaps-seals multiple size tubes simult./Containers device accommodates | yes/16, 13 × 100; 16, 13 × 75; 11.5 × 65.5 to 15.5 × 108 mm | yes/16, 13 × 100; 16, 13 × 75; 11.5 × 65.5 to 15.5 × 108 mm |
| • Maintenance required | daily, quarterly | daily, quarterly |
| **Automated storage and retrieval available** | yes | yes |
| • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput* | as part of system (output sorter), up to 41 workplaces/—/yes/up to 1,200 | implemented into system, up to 41 workplaces/—/yes/up to 1,200 |
| • Containers device accommodates/Connects to the track | 16, 13 × 100; 16, 13 × 75; 11.5 × 65.5 to 15.5 × 108 mm/yes | 16, 13 × 100; 16, 13 × 75; 11.5 × 65.5 to 15.5 × 108 mm/no |
| • Room temperature/Minimum and maximum number of tubes stored per module | no/1,200 | no/1,200 |
| • Multiple size tubes can be stored in the same module/Maintenance required | yes/daily, quarterly | yes/— |
| • Refrigerated storage and retrieval capability | no | no |
| **Longitudinal upgrade pathway or plan to protect users' investments** | independent of any analyzer company, Roche/PVT modules can be upgraded | independent of any analyzer company, Roche/PVT modules can be upgraded |
| **Average time to install/Who provides service, support/Hours support is available** | ~1–2 weeks/Roche Diagnostics/daily 8 AM–5 PM (EST) and 24–7 upon request | ~1–2 weeks/Roche Diagnostics/daily 8 AM–5 PM (EST) and 24–7 upon request |
| **On-site biomedical engineer required/User group meets regularly** | no/no | no/no |
| **List price** | — | — |
| **Individual list prices for components** | | |
| • Process control SW/Transportation systems/Auto. centrifugation | —/included/—/included | —/included/included/included |
| • Auto. input, accession/Auto. decap/Auto. sort/Auto. storage and retrieval | included/included/included/— | included/included/included/— |
| • Specimen integrity monitor/Automated aliquot | —/included | —/included as part of Aliquoting System cobas p612 |
| • Instrument (analyzer) interfaces/Automated recap | — | — |
| **Distinguishing features (supplied by company)** | basic platform can be configured for each customer routine workflow using many vendor sample carriers for input and output sorting and archiving; recursive workflow allows samples to be processed multiple times | basic platform can be configured for each customer routine workflow using many vendor sample carriers for input and output sorting and archiving; recursive workflow allows samples to be processed multiple times |

** For basic bulding block unit*

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

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

# Laboratory automation systems and workcells

| *Part 8 of 14*<br><br>*See* captodayonline.com/productguides *for an interactive version of guide* | **Roche Diagnostics**<br>**Ed Duning** ed.duning@roche.com<br>**9115 Hauge Drive, Indianapolis, IN 46250**<br>**317-521-4710** www.roche-diagnostics.us | **Roche Diagnostics**<br>**Ed Duning** ed.duning@roche.com<br>**9115 Hauge Drive, Indianapolis, IN 46250**<br>**317-521-4710** www.roche-diagnostics.us |
|---|---|---|
| **Name of system/First year installed/No. of 2011 contracts signed**<br>**No. of live sites installed in N. America/Europe/Asia-Australia** | **Sorting System cobas p512/2001/23**<br>**28/112/20** | **Modular Pre-Analytics EVO/2000/72**<br>**172/353/265** |
| **Automation products that are available** | | |
| **• Pre-analytical processor/Total laboratory automation** | **yes/yes** | **yes/yes** |
| **• Automated functions: Accessioning/Track load/Centrifugation/Decapping** | **yes/yes/yes/yes** | **yes/yes/yes/yes** |
| **• Automated functions: Rack specific sort/Aliquot/Tube relabeling/Resealing** | **yes/no/no/yes** | **yes/yes/yes/yes** |
| **• Automated functions: Storage-retrieval/Intelligent sample routing** | **yes/yes** | **yes/yes** |
| **• SW: Dedicated Process Control/Middleware control using LIS/Architecture** | **yes/yes/closed** | **yes/yes/open and closed** |
| **• Company has dedicated automation support team/Remote system monitoring** | **yes/yes** | **yes/yes** |
| **Software features/functionality** | | |
| **• Patient demographics and insurance data/Rules-based architecture** | **automation SW feature/automation SW feature** | **automation SW feature/automation SW feature** |
| **• Supports data retrieval/Internet connectivity** | **automation SW feature/automation SW feature** | **automation SW feature/automation SW feature** |
| **• Online real-time help system/QC/Stats and management reports** | **automation SW feature/automation SW feature/automation SW feature** | **automation SW feature/automation SW feature/automation SW feature** |
| **• Evaluates validity and releasability of results from automated analyzers** | **—** | **automation SW feature** |
| **• Specimen tracking/Priority processing/Random-access spec. movement** | **automation SW feature/automation SW feature/automation SW feature** | **automation SW feature/automation SW feature/automation SW feature** |
| **• Supports accession number redundancy (duplicate specimen ID)** | **automation SW feature** | **automation SW feature** |
| **• Supports specimen carrier and level identification** | **automation SW feature** | **automation SW feature** |
| **• Unique bar-code number per container required** | **—** | **automation SW feature** |
| **• Specimen routing/Multistop routing (one tube to multiple workstations)** | **automation SW feature/automation SW feature** | **automation SW feature/automation SW feature** |
| **• Specimen scheduling/Instrument scheduling** | **automation SW feature/automation SW feature** | **automation SW feature/automation SW feature** |
| **• Routes test to workstation/Automatic reflex, repeat, dilutions** | **automation SW feature/—** | **automation SW feature/—** |
| **• Supports multiple HW configuration/Supports other proprietary transport. HW** | **automation SW feature/automation SW feature** | **automation SW feature/automation SW feature** |
| **• Sample storage and retrieval SW/Supports approved CLSI standards** | **automation SW feature/automation SW feature** | **automation SW feature/automation SW feature** |
| **LIS(s) and versions interfaced and live w/LAS/How LIS(s) are interfaced with your LAS** | **Cerner, MCS, Medat, Systek, MIPS, Providens, Bayer, Molis, Omega, Misys, Vertex, Zanacore, DI, Cirrus, SCC Soft, Nyantech, MCS Promed, Swisslab, Melos, IDAA, Syscomp, OSM, Star LIMS, others/ASTM and system-specific dynamic interface** | **Cerner, MCS, Medat, Systek, MIPS, Providens, Bayer, Molis, Omega, Misys, Vertex, Zanacore, DI, Cirrus, SCC Soft, Nyantech, MCS Promed, Swisslab, Melos, IDAA, Syscomp, OSM, Star LIMS, others/LIS to LAS, HL7, ASTM** |
| **Transportation systems available** | **yes** | **yes** |
| **• Model/Dimensions* (H × W × D)*/Conforms to CLSI Stand. Auto 1-5** | **transport built into the instrument/—/yes** | **MPA (A, B, C)/A: 4.6 × 15 × 3.5 ft.; B: 4.6 × 18 × 3.5 ft.; C: 4.6 × 9 × 3.5 feet/yes** |
| **• Containers device accommodates/Average throughput in cm per second** | **16, 13 × 100; 16, 13 × 75; 11.5 × 65.5 to 15.5 × 108 mm/—** | **16, 13 × 100; 16, 13 × 75; 13 × 92, Greiner FBT, others/400 tubes per hour** |
| **• Supports automatic rerouting for reflex-repeat-dilutions** | **no** | **no** |
| **• Modular HW/Installed options/Device can operate in track and manual mode** | **yes/—/yes** | **yes/floor mounted/yes** |
| **• Required utilities/Required maintenance** | **electricity/daily, quarterly** | **electricity/daily, quarterly** |
| **• Carrier type/Scalable system** | **single specimen container per carrier/yes** | **multiple specimen (5) container per carrier/yes** |
| **Automated centrifugation available** | **yes** | **yes** |
| **• Model/Dimensions (H × W × D)/Conforms to CLSI Stand. Auto 1-5** | **single (EC1)/61.4×78.3×83.6 inches; EC2: 85.8×79.3×78.7 in./yes** | **standard centrifuge/3 × 2.5 × 3.5 feet/yes** |
| **• Maximum throughput/Containers device accommodates** | **EC1: 380 tubes per hour/16, 13 × 100; 16, 13 × 75, others** | **250/16, 13 × 100; 16, 13 × 75** |
| **• Can identify tube types for custom programmed rate and spin times per run** | **yes** | **yes** |
| **• More than one centrifuge can be connected to track system** | **yes** | **yes** |
| **• For multi-unit centrifuge, each centrifuge operates independently for rate and time** | **yes** | **no** |
| **• Maintenance required** | **daily, quarterly** | **daily, quarterly** |
| **Automated input/accessioning available** | **yes** | **yes** |
| **• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**** | **input unit as part of system/78.74 × 33.47 × 69.29 inches/yes/up to 1,200** | **standard input buffer/42 × 38 × 41 inches/yes/160 racks** |
| **• Containers device accommodates/Dedicated lanes for stat samples** | **16, 13 × 100; 16, 13 × 75; 11.5 × 65.5 mm up to 15.5 × 108 mm/yes** | **16, 13 × 100; 16, 13 × 75/yes** |
| **• Maximum No. of samples that can be loaded/Maintenance required** | **600/daily, quarterly** | **300/daily, quarterly** |
| **Automated decapping available** | **yes** | **yes** |
| **• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**** | **decapping module as part of system/14.96 × 12.60 × 5.90 inches/yes/up to 1,200** | **standard decapper/49 × 18 × 41 inches/yes/80 racks** |
| **• Containers device accommodates/Maintenance required** | **16, 13 × 100; 16, 13 × 75; 11.5 × 65.5 to 15.5 × 108 mm/daily, quarterly** | **16, 13×100; 16, 13×75; rubber, hemogard, twist-off/daily, quarterly** |
| **• Removes multiple size tube caps per run/Removes screw type sample caps** | **yes/yes** | **yes/yes** |
| **Automated sorting available** | **yes** | **yes** |
| **• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**** | **output sorter as part of system/71.65 × 55.90 × 55.11 inches/yes/up to 1,200** | **standard sorter/36.6 × 11.8 × 41 inches/yes/80 racks** |
| **• Containers device accommodates/Software can sort by** | **16, 13×100; 16, 13×75; 11.5×65.5 to 15.5×108 mm/specimen, method, output** | **16, 13 × 100; 16, 13 × 75; 13×92, Greiner FBT, others/specimen, method, output** |
| **Specimen integrity monitor available** | **yes** | **yes** |
| **• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**** | **Quality Check Unit QS I/11.4 × 19.7 × 14.0 inches/yes/850** | **standard aliquoter/53 × 42 × 41 inches/yes/80 racks** |
| **• Containers device accommodates/Maintenance required** | **16, 13 × 100; 16, 13 × 75; 11.5 × 65.5 to 15.5 × 108 mm/daily, quarterly** | **16, 13 × 100; 16, 13 × 75; 13×92, Greiner FBT, Greiver, others/daily, quarterly** |
| **Automated aliquotting available** | **no** | **yes** |
| **• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**** | **—** | **standard aliquoter/53 × 42 × 41 in.ches/yes/80 racks** |
| **• Containers device accommodates** | **—** | **16, 13 × 100; 16, 13 × 75; 13×92, Greiner FBT, others** |
| **• Inspects samples for bar code/Detects and reports clots in specimen** | **—** | **yes/yes** |
| **• Detects and reports quantity not sufficient specimens/Maintenance required** | **—** | **yes/daily, quarterly** |
| **Instrument (analyzer) interfaces** | | |
| **• Rules-based instrument interface control subsystem** | **yes** | **yes** |
| **• Process control of instrument via control subsystem** | **no** | **yes** |
| **Physical/hardware (instrument/specimen) interface** | | |
| **• Hematology/Chemistry/Coagulation** | **no/no/no** | **no/point-of-reference sampling/no** |
| **• Immunoassay/Urinalysis** | **no/no** | **point-of-reference sampling/point-of-reference sampling** |
| **Instruments to which your system or product is interfaced** | **—** | **Hitachi, Stago** |
| **Other robotic products/components to which system or product is linked** | **—** | **Hitachi, Stago** |
| **Automated recapper or sealer available** | **sealer** | **recapper** |
| **• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput*** | **recapping module as part of system/13.39 × 12.20 × 8.66 inches/yes/up to 1,200** | **standard recapper/50 × 17.5 × 41 inches/yes/80 racks** |
| **• Recaps-seals multiple size tubes simult./Containers device accommodates** | **yes/16, 13 × 100; 16, 13 × 75; 11.5 × 65.5 to 15.5 × 108 mm** | **yes/16, 13 × 100; 16, 13 × 75, 13 × 92, Greiner FBT, Greiver, others** |
| **• Maintenance required** | **daily, quarterly** | **daily, quarterly** |
| **Automated storage and retrieval available** | **yes** | **yes** |
| **• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput*** | **archiving included as part of system (output sorter), up to 41 workplaces/—/yes/up to 1,200** | **p501, p701/p501: 5.3 ft. × 14 feet; p701: 5.3 feet × 17.6 feet/yes/80 racks** |
| **• Containers device accommodates/Connects to the track** | **16, 13 × 100; 16, 13 × 75; 11.5 × 65.5 mm up to 15.5 × 108 mm/yes** | **16, 13 × 100; 16, 13 × 75, 13 × 92, Greiner FBT, Greiver pour-off tube, others/yes** |
| **• Room temperature/Minimum and maximum number of tubes stored per module** | **no/up to 1,200** | **no/p501: 13,500; p701: 27,000** |
| **• Multiple size tubes can be stored in the same module/Maintenance required** | **yes/daily, quarterly** | **yes/daily, quarterly** |
| **• Refrigerated storage and retrieval capability** | **no** | **yes** |
| **Longitudinal upgrade pathway or plan to protect users' investments** | **independent of any analyzer company, Roche/PVT modules can be upgraded** | **support for a minimum of 10 years after production** |
| **Average time to install/Who provides service, support/Hours support is available** | **~1 week/Roche Diagnostics/daily 8 AM–5 PM (EST); 24–7 upon request** | **up to 2 weeks/Roche Diagnostics phone and engineering field support/24-7** |
| **On-site biomedical engineer required/User group meets regularly** | **no/no** | **no/no** |
| **List price** | **—** | **—** |
| **Individual list prices for components** | | |
| **• Process control SW/Transportation systems/Auto. centrifugation** | **—/included/—/included** | **included/included/included** |
| **• Auto. input, accession/Auto. decap/Auto. sort/Auto. storage and retrieval** | **included/included/included/—** | **included/included/included/included** |
| **• Specimen integrity monitor/Automated aliquot** | **—** | **included/included** |
| **• Instrument (analyzer) interfaces/Automated recap** | **—** | **included/included** |
| **Distinguishing features (supplied by company)**<br>** For basic bulding block unit*<br>*** Average throughput in specimen containers per hour per device*<br>*Note: a dash in lieu of an answer means company did not answer question or question is not applicable* | **basic platform can be configured for each customer routine workflow using many vendor sample carriers for input and output sorting and archiving; recursive workflow allows samples to be processed multiple times; quality module QS I for monitoring specimen integrity and measuring volume** | **scalable and flexible to fit customer needs and facility space requirements; programmed and personalized to customer workflow requirements; three models can be configured in 100+ standard layouts, connecting up to 12 chemistry/immunochemistry modules** |

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

# Laboratory automation systems and workcells

| *Part 9 of 14*<br><br>*See* captodayonline.com/productguides *for an interactive version of guide* | **Roche Diagnostics**<br>**Ed Duning** ed.duning@roche.com<br>**9115 Hauge Drive, Indianapolis, IN 46250**<br>**317-521-4710** www.roche-diagnostics.us | **Roche Diagnostics**<br>**Ed Duning** ed.duning@roche.com<br>**9115 Hauge Drive, Indianapolis, IN 46250**<br>**317-521-4710** www.roche-diagnostics.us |
|---|---|---|
| **Name of system/First year installed/No. of 2011 contracts signed** | **cobas p501 (storage and retrieval)/2009/3** | **cobas p701 (storage and retrieval)/2009/4** |
| **No. of live sites installed in N. America/Europe/Asia-Australia** | **1/11/2** | **4/8/2** |
| **Automation products that are available** | | |
| **• Pre-analytical processor/Total laboratory automation** | **no/no** | **no/no** |
| **• Automated functions: Accessioning/Track load/Centrifugation/Decapping** | **no/no/no/yes** | **no/no/no/yes** |
| **• Automated functions: Rack specific sort/Aliquot/Tube relabeling/Resealing** | **no/no/no/yes** | **no/no/no/yes** |
| **• Automated functions: Storage-retrieval/Intelligent sample routing** | **yes/no** | **yes/no** |
| **• SW: Dedicated Process Control/Middleware control using LIS/Architecture** | **yes/yes/closed** | **yes/yes/closed** |
| **• Company has dedicated automation support team/Remote system monitoring** | **yes/yes** | **yes/yes** |
| **Software features/functionality** | | |
| **• Patient demographics and insurance data/Rules-based architecture** | **—/automation SW feature** | **—/automation SW feature** |
| **• Supports data retrieval/Internet connectivity** | **automation SW feature/automation SW feature** | **automation SW feature/automation SW feature** |
| **• Online real-time help system/QC/Stats and management reports** | **automation SW feature/automation SW feature/automation SW feature** | **automation SW feature/automation SW feature/automation SW feature** |
| **• Evaluates validity and releasability of results from automated analyzers** | **—** | **—** |
| **• Specimen tracking/Priority processing/Random-access spec. movement** | **automation SW feature/automation SW feature/—** | **automation SW feature/automation SW feature/—** |
| **• Supports accession number redundancy (duplicate specimen ID)** | **automation SW feature** | **automation SW feature** |
| **• Supports specimen carrier and level identification** | **—** | **—** |
| **• Unique bar-code number per container required** | **automation SW feature** | **automation SW feature** |
| **• Specimen routing/Multistop routing (one tube to multiple workstations)** | **—** | **—** |
| **• Specimen scheduling/Instrument scheduling** | **automation SW feature/—** | **automation SW feature/—** |
| **• Routes test to workstation/Automatic reflex, repeat, dilutions** | **—** | **—** |
| **• Supports multiple HW configuration/Supports other proprietary transport. HW** | **—** | **—** |
| **• Sample storage and retrieval SW/Supports approved CLSI standards** | **automation SW feature/automation SW feature** | **automation SW feature/automation SW feature** |
| **LIS(s) and versions interfaced and live w/LAS/How LIS(s) are interfaced with your LAS** | **Cerner, Misys, SCC Soft/HL7** | **Cerner, Misys, SCC Soft/HL7** |
| **Transportation systems available** | **no** | **no** |
| **• Model/Dimensions* (H × W × D)*/Conforms to CLSI Stand. Auto 1-5** | **—** | **—** |
| **• Containers device accommodates/Average throughput in cm per second** | **—** | **—** |
| **• Supports automatic rerouting for reflex-repeat-dilutions** | **—** | **—** |
| **• Modular HW/Installed options/Device can operate in track and manual mode** | **—** | **—** |
| **• Required utilities/Required maintenance** | **—** | **—** |
| **• Carrier type/Scalable system** | **—** | **—** |
| **Automated centrifugation available** | **no** | **no** |
| **• Model/Dimensions (H × W × D)/Conforms to CLSI Stand. Auto 1-5** | **—** | **—** |
| **• Maximum throughput/Containers device accommodates** | **—** | **—** |
| **• Can identify tube types for custom programmed rate and spin times per run** | **—** | **—** |
| **• More than one centrifuge can be connected to track system** | **—** | **—** |
| **• For multi-unit centrifuge, each centrifuge operates independently for rate and time** | **—** | **—** |
| **• Maintenance required** | **—** | **—** |
| **Automated input/accessioning available** | **yes** | **yes** |
| **• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**** | **manual and connected to Roche automation/14 × 5.3 × 7.5 feet/yes/400** | **manual and connected to Roche automation/17.5 × 5.3 × 7.5 feet/yes/400** |
| **• Containers device accommodates/Dedicated lanes for stat samples** | **16, 13 × 100; 16, 13 × 75, 11.5 × 65.5 mm–15.5 × 108 mm/—** | **16, 13 × 100; 16, 13 × 75, 11.5 × 65.5 mm–15.5 × 108 mm/—** |
| **• Maximum No. of samples that can be loaded/Maintenance required** | **300 manual and continuous from MPA/daily, quarterly** | **300 manual and continuous from MPA/daily, quarterly** |
| **Automated decapping available** | **yes** | **yes** |
| **• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**** | **decapper as part of system/—/yes/total system is 400** | **decapper as part of system/—/yes/total system is 400** |
| **• Containers device accommodates/Maintenance required** | **16, 13 × 100; 16, 13 × 75, 11.5 × 65.5 mm–15.5 × 108 mm/daily, quarterly** | **16, 13 × 100; 16, 13 × 75, 11.5 × 65.5 mm–15.5 × 108 mm/daily, quarterly** |
| **• Removes multiple size tube caps per run/Removes screw type sample caps** | **yes/yes** | **yes/yes** |
| **Automated sorting available** | **yes** | **yes** |
| **• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**** | **sorter as part of system/—/yes/total system is 400** | **sorter as part of system/—/yes/total system is 400** |
| **• Containers device accommodates/Software can sort by** | **16, 13 × 100; 16, 13 × 75; 13 × 92, Greiner FBT, others/specimen, output** | **16, 13 × 100; 16, 13 × 75; 13 × 92, Greiner FBT, others/specimen, output** |
| **Specimen integrity monitor available** | **no** | **no** |
| **• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**** | **—** | **—** |
| **• Containers device accommodates/Maintenance required** | **—** | **—** |
| **Automated aliquotting available** | **no** | **no** |
| **• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**** | **—** | **—** |
| **• Containers device accommodates** | **—** | **—** |
| **• Inspects samples for bar code/Detects and reports clots in specimen** | **—** | **—** |
| **• Detects and reports quantity not sufficient specimens/Maintenance required** | **—** | **—** |
| **Instrument (analyzer) interfaces** | | |
| **• Rules-based instrument interface control subsystem** | **yes** | **yes** |
| **• Process control of instrument via control subsystem** | **yes** | **yes** |
| **Physical/hardware (instrument/specimen) interface** | | |
| **• Hematology/Chemistry/Coagulation** | **no/no/no** | **no/no/no** |
| **• Immunoassay/Urinalysis** | **no/no** | **no/no** |
| **Instruments to which your system or product is interfaced** | **Roche MPA** | **Roche MPA** |
| **Other robotic products/components to which system or product is linked** | **—** | **—** |
| **Automated recapper or sealer available** | **recapper** | **recapper** |
| **• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput*** | **recapper as part of system/—/yes/total system is 400** | **recapper as part of system/—/yes/total system is 400** |
| **• Recaps-seals multiple size tubes simult./Containers device accommodates** | **yes/16, 13 × 100; 16, 13 × 75, 13 × 92, 11.5 × 65.5 mm–15.5 × 108 mm** | **yes/16, 13 × 100; 16, 13 × 75, 13 × 92, 11.5 × 65.5 mm–15.5 × 108 mm** |
| **• Maintenance required** | **daily, quarterly** | **daily, quarterly** |
| **Automated storage and retrieval available** | **yes** | **yes** |
| **• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput*** | **cobas p501/14 × 5.3 × 7.5 feet/yes/400** | **cobas p501/17.5 × 5.3 × 7.5 feet/yes/400** |
| **• Containers device accommodates/Connects to the track** | **16, 13 × 100; 16, 13 × 75, 13 × 92, 11.5 × 65.5 mm–15.5 × 108 mm/yes** | **16, 13 × 100; 16, 13 × 75, 13 × 92, 11.5 × 65.5 mm–15.5 × 108 mm/yes** |
| **• Room temperature/Minimum and maximum number of tubes stored per module** | **no/13,500** | **no/27,000** |
| **• Multiple size tubes can be stored in the same module/Maintenance required** | **yes/daily, quarterly** | **yes/daily, quarterly** |
| **• Refrigerated storage and retrieval capability** | **yes** | **yes** |
| **Longitudinal upgrade pathway or plan to protect users' investments** | **support for a minimum of 10 years after production; product upgrades installed as required** | **support for a minimum of 10 years after production; product upgrades installed as required** |
| **Average time to install/Who provides service, support/Hours support is available** | **1 week/Roche Diagnostics/24-7** | **1 week/Roche Diagnostics/24-7** |
| **On-site biomedical engineer required/User group meets regularly** | **no/no** | **no/no** |
| **List price** | **varies** | **varies** |
| **Individual list prices for components** | | |
| **• Process control SW/Transportation systems/Auto. centrifugation** | **included/—/—** | **included/—/—** |
| **• Auto. input, accession/Auto. decap/Auto. sort/Auto. storage and retrieval** | **included/included/included/based on system options** | **included/included/included/based on system options** |
| **• Specimen integrity monitor/Automated aliquot** | **—** | **—** |
| **• Instrument (analyzer) interfaces/Automated recap** | **—/included** | **—/included** |
| **Distinguishing features (supplied by company)** | **13,500-tube storage capacity with multiple storage durations for 13- and 16-mm tubes; automatically disposes of tubes at the expiration of the selected storage duration; accept tubes for storage from an automatic feed and manual walk up** | **27,000-tube storage capacity with multiple storage durations for 13- and 16-mm tubes; automatically disposes of tubes at the expiration of the selected storage duration; accept tubes for storage from an automatic feed and manual walk up** |

** For basic bulding 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*

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

# Laboratory automation systems and workcells

| *Part 10 of 14*<br><br>*See* captodayonline.com/productguides *for an interactive version of guide* | **Sarstedt, Inc.**<br>**Peter Rumswinkel, VP/GM** sarstedt@bellsouth.net<br>**P. O. Box 468, Newton, NC 28658**<br>**800-257-5101** www.sarstedt.com | **Sarstedt, Inc.**<br>**Peter Rumswinkel, VP/GM** sarstedt@bellsouth.net<br>**P. O. Box 468, Newton, NC 28658**<br>**800-257-5101** www.sarstedt.com |
|---|---|---|
| **Name of system/First year installed/No. of 2011 contracts signed** | **DC/RC 900 Flex/2009/—** | **HSS High Speed Sorter 1625/2004/—** |
| **No. of live sites installed in N. America/Europe/Asia-Australia** | **—** | **—** |
| **Automation products that are available** | | |
| **• Pre-analytical processor/Total laboratory automation** | **yes/no** | **yes/no** |
| **• Automated functions: Accessioning/Track load/Centrifugation/Decapping** | **yes/no/no/yes** | **yes/no/no/yes** |
| **• Automated functions: Rack specific sort/Aliquot/Tube relabeling/Resealing** | **yes/no/no/yes** | **yes/no/no/yes** |
| **• Automated functions: Storage-retrieval/Intelligent sample routing** | **no/yes** | **no/yes** |
| **• SW: Dedicated Process Control/Middleware control using LIS/Architecture** | **yes/yes/open** | **yes/yes/open** |
| **• Company has dedicated automation support team/Remote system monitoring** | **yes/yes** | **yes/yes** |
| **Software features/functionality** | | |
| **• Patient demographics and insurance data/Rules-based architecture** | **—/automation SW feature** | **—/automation SW feature** |
| **• Supports data retrieval/Internet connectivity** | **automation SW feature/automation SW feature** | **automation SW feature/automation SW feature** |
| **• Online real-time help system/QC/Stats and management reports** | **—/—/automation SW feature** | **—/—/automation SW feature** |
| **• Evaluates validity and releasability of results from automated analyzers** | **—** | **—** |
| **• Specimen tracking/Priority processing/Random-access spec. movement** | **automation SW feature/automation SW feature/automation SW feature** | **automation SW feature/automation SW feature/automation SW feature** |
| **• Supports accession number redundancy (duplicate specimen ID)** | **automation SW feature** | **automation SW feature** |
| **• Supports specimen carrier and level identification** | **—** | **automation SW feature** |
| **• Unique bar-code number per container required** | **—** | **—** |
| **• Specimen routing/Multistop routing (one tube to multiple workstations)** | **automation SW feature/automation SW feature** | **automation SW feature/automation SW feature** |
| **• Specimen scheduling/Instrument scheduling** | **automation SW feature/automation SW feature** | **automation SW feature/automation SW feature** |
| **• Routes test to workstation/Automatic reflex, repeat, dilutions** | **automation SW feature/automation SW feature** | **automation SW feature/automation SW feature** |
| **• Supports multiple HW configuration/Supports other proprietary transport. HW** | **automation SW feature/—** | **automation SW feature/—** |
| **• Sample storage and retrieval SW/Supports approved CLSI standards** | **—/automation SW feature** | **—/automation SW feature** |
| **LIS(s) and versions interfaced and live w/LAS/How LIS(s) are interfaced with your LAS** | **—** | **—** |
| **Transportation systems available** | **no** | **no** |
| **• Model/Dimensions* (H × W × D)*/Conforms to CLSI Stand. Auto 1-5** | **—** | **—** |
| **• Containers device accommodates/Average throughput in cm per second** | **—** | **—** |
| **• Supports automatic rerouting for reflex-repeat-dilutions** | **—** | **—** |
| **• Modular HW/Installed options/Device can operate in track and manual mode** | **—** | **—** |
| **• Required utilities/Required maintenance** | **—** | **—** |
| **• Carrier type/Scalable system** | **—** | **—** |
| **Automated centrifugation available** | **no** | **no** |
| **• Model/Dimensions (H × W × D)/Conforms to CLSI Stand. Auto 1-5** | **—** | **—** |
| **• Maximum throughput/Containers device accommodates** | **—** | **—** |
| **• Can identify tube types for custom programmed rate and spin times per run** | **—** | **—** |
| **• More than one centrifuge can be connected to track system** | **—** | **—** |
| **• For multi-unit centrifuge, each centrifuge operates independently for rate and time** | **—** | **—** |
| **• Maintenance required** | **—** | **—** |
| **Automated input/accessioning available** | **yes** | **yes** |
| **• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**** | **—/—/yes/800** | **—/—/yes/1,200** |
| **• Containers device accommodates/Dedicated lanes for stat samples** | **16, 13 × 100; 16, 13 × 75; 13 × 65 to 16 × 100/yes** | **16, 13 × 100; 16, 13 × 75; 13 × 65 to 16 × 100/yes** |
| **• Maximum No. of samples that can be loaded/Maintenance required** | **600/daily, annually** | **600/daily, annually** |
| **Automated decapping available** | **yes** | **yes** |
| **• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**** | **—/—/yes/800** | **—/—/yes/1,200** |
| **• Containers device accommodates/Maintenance required** | **16, 13 × 100; 16, 13 × 75; 13 × 65 to 16 × 100/daily, annually** | **16, 13 × 100; 16, 13 × 75; 13 × 65 to 16 × 100/daily, annually** |
| **• Removes multiple size tube caps per run/Removes screw type sample caps** | **yes/yes** | **yes/yes** |
| **Automated sorting available** | **yes** | **yes** |
| **• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**** | **—/—/yes/800** | **—/—/yes/1,200** |
| **• Containers device accommodates/Software can sort by** | **16, 13 × 100; 16, 13 × 75; 13 × 65 to 16 × 100/specimen, method, output** | **16, 13 × 100; 16, 13 × 75; 13 × 65 to 16 × 100/specimen, method, output** |
| **Specimen integrity monitor available** | **no** | **yes** |
| **• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**** | **—** | **—/—/yes/700** |
| **• Containers device accommodates/Maintenance required** | **—** | **16, 13 × 100; 16, 13 × 75; 13 × 65 to 16 × 100/daily, annually** |
| **Automated aliquotting available** | **no** | **no** |
| **• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**** | **—** | **—** |
| **• Containers device accommodates** | **—** | **—** |
| **• Inspects samples for bar code/Detects and reports clots in specimen** | **—** | **—** |
| **• Detects and reports quantity not sufficient specimens/Maintenance required** | **—** | **—** |
| **Instrument (analyzer) interfaces** | | |
| **• Rules-based instrument interface control subsystem** | **no** | **no** |
| **• Process control of instrument via control subsystem** | **no** | **no** |
| **Physical/hardware (instrument/specimen) interface** | | |
| **• Hematology/Chemistry/Coagulation** | **—** | **—** |
| **• Immunoassay/Urinalysis** | **—** | **—** |
| **Instruments to which your system or product is interfaced** | **—** | **—** |
| **Other robotic products/components to which system or product is linked** | **—** | **—** |
| **Automated recapper or sealer available** | **recapper** | **recapper** |
| **• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput*** | **—/—/yes/800** | **—/—/yes/1.200** |
| **• Recaps-seals multiple size tubes simult./Containers device accommodates** | **yes/16, 13 × 100; 16, 13 × 75; 13 × 65 to 16 × 100** | **yes/16, 13 × 100; 16, 13 × 75; 13 × 65 to 16 × 100** |
| **• Maintenance required** | **daily, annually** | **daily, annually** |
| **Automated storage and retrieval available** | **no** | **no** |
| **• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput*** | **—** | **—** |
| **• Containers device accommodates/Connects to the track** | **—** | **—** |
| **• Room temperature/Minimum and maximum number of tubes stored per module** | **—** | **—** |
| **• Multiple size tubes can be stored in the same module/Maintenance required** | **—** | **—** |
| **• Refrigerated storage and retrieval capability** | **—** | **—** |
| **Longitudinal upgrade pathway or plan to protect users' investments** | **systems are upgradable** | **systems are upgradable** |
| **Average time to install/Who provides service, support/Hours support is available** | **3 days/Sarstedt/M-F 8:00 AM–5 PM** | **2 weeks/Sarstedt/M-F 8:00 AM–5 PM** |
| **On-site biomedical engineer required/User group meets regularly** | **no/no** | **no/no** |
| **List price** | **—** | **—** |
| **Individual list prices for components** | **—** | **—** |
| **• Process control SW/Transportation systems/Auto. centrifugation** | **—** | **—** |
| **• Auto. input, accession/Auto. decap/Auto. sort/Auto. storage and retrieval** | **—** | **—** |
| **• Specimen integrity monitor/Automated aliquot** | **—** | **—** |
| **• Instrument (analyzer) interfaces/Automated recap** | **—** | **—** |
| **Distinguishing features (supplied by company)** | **small sorter footprint; maximizes floor space; fills a gap experienced by smaller labs when large automation is too expensive; supports multiple runs for routine and archiving** | **small footprint requires minimal lab space; modular design enables configuration with only the necessary modules and functions; custom sort target and rules are determined by the user** |

** For basic bulding 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*

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

# Laboratory automation systems and workcells

| *Part 11 of 14*<br><br>*See* captodayonline.com/productguides *for an interactive version of guide* | **Sarstedt, Inc.**<br>**Peter Rumswinkel, VP/GM** sarstedt@bellsouth.net<br>**P. O. Box 468, Newton, NC 28658**<br>**800-257-5101** www.sarstedt.com | **Siemens Healthcare Diagnostics**<br>**Sepehr Seyedzadeh**<br>**511 Benedict Avenue, Tarrytown, NY 10591**<br>**914-524-3827** www.usa.siemens.com/diagnostics |
|---|---|---|
| **Name of system/First year installed/No. of 2011 contracts signed** | **Sarstedt PVS/—** | **ADVIA Solutions/1998/—** |
| **No. of live sites installed in N. America/Europe/Asia-Australia** | **—** | **>150 U.S./>500 worldwide** |
| **Automation products that are available** | | |
| **• Pre-analytical processor/Total laboratory automation** | **yes/no** | **yes/yes** |
| **• Automated functions: Accessioning/Track load/Centrifugation/Decapping** | **yes/—/no/yes** | **yes/yes/yes/yes** |
| **• Automated functions: Rack specific sort/Aliquot/Tube relabeling/Resealing** | **yes/yes/yes/yes** | **yes/no/no/no/various partnerships in place** |
| **• Automated functions: Storage-retrieval/Intelligent sample routing** | **no/yes** | **yes/yes** |
| **• SW: Dedicated Process Control/Middleware control using LIS/Architecture** | **yes/yes/open** | **yes/yes/—** |
| **• Company has dedicated automation support team/Remote system monitoring** | **yes/yes** | **yes/yes** |
| **Software features/functionality** | | |
| **• Patient demographics and insurance data/Rules-based architecture** | **—/automation SW feature** | **LIS feature/automation SW feature** |
| **• Supports data retrieval/Internet connectivity** | **automation SW feature/—** | **automation SW feature/LIS feature** |
| **• Online real-time help system/QC/Stats and management reports** | **—/—/automation SW feature** | **automation SW feature/automation SW feature/automation SW feature** |
| **• Evaluates validity and releasability of results from automated analyzers** | **—** | **automation SW feature** |
| **• Specimen tracking/Priority processing/Random-access spec. movement** | **automation SW feature/automation SW feature/—** | **automation SW feature/automation SW feature/automation SW feature** |
| **• Supports accession number redundancy (duplicate specimen ID)** | **automation SW feature** | **automation SW feature** |
| **• Supports specimen carrier and level identification** | **automation SW feature** | **automation SW feature** |
| **• Unique bar-code number per container required** | **automation SW feature** | **automation SW feature** |
| **• Specimen routing/Multistop routing (one tube to multiple workstations)** | **automation SW feature/automation SW feature** | **automation SW feature/automation SW feature** |
| **• Specimen scheduling/Instrument scheduling** | **automation SW feature/automation SW feature** | **automation SW feature/automation SW feature** |
| **• Routes test to workstation/Automatic reflex, repeat, dilutions** | **automation SW feature/automation SW feature** | **automation SW feature/automation SW feature** |
| **• Supports multiple HW configuration/Supports other proprietary transport. HW** | **automation SW feature/—** | **automation SW feature/automation SW feature** |
| **• Sample storage and retrieval SW/Supports approved CLSI standards** | **—/automation SW feature** | **automation SW feature/automation SW feature** |
| **LIS(s) and versions interfaced and live w/LAS/How LIS(s) are interfaced with your LAS** | **—** | **Siemens, Cerner, Meditech, SCC Soft, Misys, Data Innovations, OSI, Telepath-iSoft, Netlab, LMX Labzis II, SCL 2000, others/ASTM** |
| **Transportation systems available** | **no** | **yes** |
| **• Model/Dimensions* (H × W × D)*/Conforms to CLSI Stand. Auto 1-5** | **—** | **—/950 × 2,000 × 530 mm/yes** |
| **• Containers device accommodates/Average throughput in cm per second** | **—** | **16, 13 × 100; 16, 13 × 75, others/71.6** |
| **• Supports automatic rerouting for reflex-repeat-dilutions** | **—** | **yes** |
| **• Modular HW/Installed options/Device can operate in track and manual mode** | **—** | **yes/floor and subfloor mounted/yes** |
| **• Required utilities/Required maintenance** | **—** | **compressed air, electricity, water/weekly, monthly, quarterly, annually** |
| **• Carrier type/Scalable system** | **—** | **single specimen container per carrier/yes** |
| **Automated centrifugation available** | **no** | **yes** |
| **• Model/Dimensions (H × W × D)/Conforms to CLSI Stand. Auto 1-5** | **—** | **—/1,900 × 1,570 × 860 mm/yes** |
| **• Maximum throughput/Containers device accommodates** | **—** | **300/16, 13 × 100; 16, 13 × 75, others** |
| **• Can identify tube types for custom programmed rate and spin times per run** | **—** | **yes** |
| **• More than one centrifuge can be connected to track system** | **—** | **yes** |
| **• For multi-unit centrifuge, each centrifuge operates independently for rate and time** | **—** | **yes** |
| **• Maintenance required** | **—** | **weekly, monthly, quarterly, annually** |
| **Automated input/accessioning available** | **yes** | **yes** |
| **• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**** | **—/—/yes/1200** | **sample manager/1,900 × 2,040 × 860 mm/yes/325** |
| **• Containers device accommodates/Dedicated lanes for stat samples** | **16, 13 × 100; 16, 13 × 75; 13 × 65 to 16 × 100/—** | **16, 13 × 100; 16, 13 × 75, others/yes** |
| **• Maximum No. of samples that can be loaded/Maintenance required** | **up to 600, configuration-dependent/quarterly** | **1,000/weekly, monthly, quarterly, annually** |
| **Automated decapping available** | **yes** | **yes** |
| **• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**** | **—/configuration-dependent/yes/1,200** | **—/included in centrifuge module/yes/240; independent module/550** |
| **• Containers device accommodates/Maintenance required** | **16, 13 × 100; 16, 13 × 75, multiple/quarterly** | **16, 13 × 100; 16, 13 × 75, others/weekly, monthly, quarterly, annually** |
| **• Removes multiple size tube caps per run/Removes screw type sample caps** | **yes/yes** | **yes/yes** |
| **Automated sorting available** | **yes** | **yes** |
| **• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**** | **—/configuration-dependent/yes/1,200** | **sample manager/1,900 × 2,040 × 860 mm/yes/325** |
| **• Containers device accommodates/Software can sort by** | **16, 13 × 100; 16, 13 × 75, multiple/specimen, method, output** | **16, 13 × 100; 16, 13 × 75, others/specimen, method, output** |
| **Specimen integrity monitor available** | **yes** | **onboard each instrument** |
| **• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**** | **—/configuration-dependent/yes/700** | **integrated on chemistry instrument** |
| **• Containers device accommodates/Maintenance required** | **16, 13 × 100; 16, 13 × 75, multiple/quarterly** | **16, 13 × 100; 16, 13 × 75, others/—** |
| **Automated aliquotting available** | **yes** | **no** |
| **• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**** | **—/configuration-dependent/yes/dependent upon number of aliquots and their volumes** | **—** |
| **• Containers device accommodates** | **16, 13 × 100; 16, 13 × 75, multiple** | **—** |
| **• Inspects samples for bar code/Detects and reports clots in specimen** | **yes/yes** | **—** |
| **• Detects and reports quantity not sufficient specimens/Maintenance required** | **yes/quarterly** | **—** |
| **Instrument (analyzer) interfaces** | | |
| **• Rules-based instrument interface control subsystem** | **no** | **yes** |
| **• Process control of instrument via control subsystem** | **no** | **yes** |
| **Physical/hardware (instrument/specimen) interface** | | |
| **• Hematology/Chemistry/Coagulation** | **—** | **robotic arm interface/point-of-reference sampling/robotic arm interface** |
| **• Immunoassay/Urinalysis** | **—** | **point-of-reference sampling, robotic arm interface/point-of-reference sampling** |
| **Instruments to which your system or product is interfaced** | **—** | **ADVIA 120/2120i/Autoslide solution, ADVIA 1800/2400 solution, ADVIA Centaur XP solution, CLINITEK Atlas solution, Dimension RxL Max solution, others** |
| **Other robotic products/components to which system or product is linked** | **—** | **—** |
| **Automated recapper or sealer available** | **recapper** | **no** |
| **• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput*** | **—/configuration-dependent/yes/1,200** | **—** |
| **• Recaps-seals multiple size tubes simult./Containers device accommodates** | **yes/16, 13 × 100; 16, 13 × 75; 13–16 mm in diameter** | **—** |
| **• Maintenance required** | **quarterly** | **—** |
| **Automated storage and retrieval available** | **no** | **yes** |
| **• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput*** | **—** | **sample manager/1,900 × 2,040 × 860 mm/yes/325** |
| **• Containers device accommodates/Connects to the track** | **—** | **16, 13 × 100; 16, 13 × 75, others/yes** |
| **• Room temperature/Minimum and maximum number of tubes stored per module** | **—** | **yes/1 and 1,000** |
| **• Multiple size tubes can be stored in the same module/Maintenance required** | **—** | **yes/weekly, monthly, quarterly, annually** |
| **• Refrigerated storage and retrieval capability** | **—** | **no** |
| **Longitudinal upgrade pathway or plan to protect users' investments** | **systems are upgradable** | **flexible and expandable: can contain as few as 2 interfaced components-instruments and can expand to up to 16 interfaces** |
| **Average time to install/Who provides service, support/Hours support is available** | **2–3 weeks/Sarstedt or authorized Sarstedt service company/contract dependent** | **configuration dependent/Siemens Heathcare Diagnostics/24–7** |
| **On-site biomedical engineer required/User group meets regularly** | **no/no** | **no/yes** |
| **List price** | **varies** | **varies** |
| **Individual list prices for components** | | |
| **• Process control SW/Transportation systems/Auto. centrifugation** | **—** | **—** |
| **• Auto. input, accession/Auto. decap/Auto. sort/Auto. storage and retrieval** | **—** | **—** |
| **• Specimen integrity monitor/Automated aliquot** | **—** | **—** |
| **• Instrument (analyzer) interfaces/Automated recap** | **—** | **—** |
| **Distinguishing features (supplied by company)**<br>** For basic bulding block unit*<br>*** Average throughput in specimen containers per hour per device* | **bulk loading module: tubes are dumped into a hopper, eliminating need for pre-racking; modular design enables configuration based on individual requirements; screw-cap recapping; manufacturer of instr. and corresponding consumables** | **high-throughput lab automation with broad menu, single LIS connection, flexible configurations and ability to connect multiple disciplines with same track system: (chemistry, immunoassay, hematology, coagulation, urine)** |

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

# Laboratory automation systems and workcells

*Part 12 of 14*

*See* captodayonline.com/productguides *for an interactive version of guide*

| | Siemens Healthcare Diagnostics<br>Tim Keating<br>511 Benedict Avenue, Tarrytown, NY 10591<br>302-631-9482 www.usa.siemens.com/diagnostics | Siemens Healthcare Diagnostics<br>Tim Keating<br>511 Benedict Avenue, Tarrytown, NY 10591<br>302-631-9482 www.usa.siemens.com/diagnostics |
|---|---|---|
| Name of system/First year installed/No. of 2011 contracts signed | StreamLab Analytical Workcell/2002/— | VersaCell System/2002/80 |
| No. of live sites installed in N. America/Europe/Asia-Australia | >160 U.S./>295 worldwide | 160/>1,000 worldwide |
| Automation products that are available | | |
| • Pre-analytical processor/Total laboratory automation | yes/yes | yes/no |
| • Automated functions: Accessioning/Track load/Centrifugation/Decapping | yes/yes/yes/yes | no/no/no/no |
| • Automated functions: Rack specific sort/Aliquot/Tube relabeling/Resealing | yes/analyzer removes aliquot/no/yes | yes/no/no/no |
| • Automated functions: Storage-retrieval/Intelligent sample routing | yes/yes | yes/yes |
| • SW: Dedicated Process Control/Middleware control using LIS/Architecture | yes/yes/open | yes/yes/closed |
| • Company has dedicated automation support team/Remote system monitoring | yes/yes | yes/yes |
| Software features/functionality | | |
| • Patient demographics and insurance data/Rules-based architecture | automation SW and LIS feature/automation SW feature | LIS feature/automation SW feature |
| • Supports data retrieval/Internet connectivity | automation SW feature/automation SW feature | automation/SW feature/— |
| • Online real-time help system/QC/Stats and management reports | automation SW feature/automation SW feature/automation SW feature | —/LIS feature/automation SW feature |
| • Evaluates validity and releasability of results from automated analyzers | automation SW feature | LIS feature |
| • Specimen tracking/Priority processing/Random-access spec. movement | automation SW feature/automation SW feature/automation SW feature | automation SW feature/automation SW feature/automation SW feature |
| • Supports accession number redundancy (duplicate specimen ID) | automation SW feature | automation SW feature |
| • Supports specimen carrier and level identification | automation SW and LIS feature | automation SW and LIS feature |
| • Unique bar-code number per container required | automation SW and LIS feature | automation SW and LIS feature |
| • Specimen routing/Multistop routing (one tube to multiple workstations) | automation SW feature/automation SW feature | automation SW feature/automation SW feature |
| • Specimen scheduling/Instrument scheduling | automation SW and LIS feature/automation SW and LIS feature | automation SW feature/automation SW feature |
| • Routes test to workstation/Automatic reflex, repeat, dilutions | automation SW feature/automation SW feature | automation SW feature/automation SW feature |
| • Supports multiple HW configuration/Supports other proprietary transport. HW | automation SW feature/automation SW feature | automation SW feature/automation SW feature |
| • Sample storage and retrieval SW/Supports approved CLSI standards | automation SW feature/automation SW feature | automation SW feature/— |
| LIS(s) and versions interfaced and live w/LAS/How LIS(s) are interfaced with your LAS | Cerner, Meditech, SCC, Misys, CHCS, LabGem, Swiss Lab, Medicom, Izasa, Confidentia, others/DBASTM, Dimension Protocol, HL7, ASTM | —/ASTM |
| Transportation systems available | yes | yes |
| • Model/Dimensions* (H × W × D)*/Conforms to CLSI Stand. Auto 1-5 | StreamLab/60 × 70 × 35 inches/yes | VersaCell System/70 × 51 × 41 inches/— |
| • Containers device accommodates/Average throughput in cm per second | 16, 13 × 100; 16, 13 × 75/300 tubes per hour | 16, 13 × 100; 16, 13 × 75/— |
| • Supports automatic rerouting for reflex-repeat-dilutions | yes | yes |
| • Modular HW/Installed options/Device can operate in track and manual mode | yes/floor mounted/yes | yes/floor mounted/yes |
| • Required utilities/Required maintenance | compressed air, electricity/weekly | electricity/annually |
| • Carrier type/Scalable system | single specimen container per carrier/yes | single specimen container per carrier/yes |
| Automated centrifugation available | yes | no |
| • Model/Dimensions (H × W × D)/Conforms to CLSI Stand. Auto 1-5 | StreamLab/31 × 23 × 29 inches/yes | — |
| • Maximum throughput/Containers device accommodates | up to 400 per hour/16, 13 × 100; 16, 13 × 75, handles various sizes simultan. | — |
| • Can identify tube types for custom programmed rate and spin times per run | yes | — |
| • More than one centrifuge can be connected to track system | no | — |
| • For multi-unit centrifuge, each centrifuge operates independently for rate and time | — | — |
| • Maintenance required | weekly, monthly | — |
| Automated input/accessioning available | yes | yes |
| • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** | StreamLab/60 × 70 × 35 inches/yes/300 tubes | VersaCell System/70 × 51 × 41 inches/—/200 |
| • Containers device accommodates/Dedicated lanes for stat samples | 16, 13 × 100; 16, 13 × 75/yes | 16, 13 × 100; 16, 13 × 75/yes |
| • Maximum No. of samples that can be loaded/Maintenance required | up to 600/daily, monthly | 200/annually |
| Automated decapping available | yes | no |
| • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** | StreamLab/integrated with input-output track/yes/300 | — |
| • Containers device accommodates/Maintenance required | 16, 13 × 100; 16, 13 × 75/daily, monthly | — |
| • Removes multiple size tube caps per run/Removes screw type sample caps | yes/yes | — |
| Automated sorting available | yes | yes |
| • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** | StreamLab/integrated with input-output track/yes/300 | VersaCell System/70 × 51 × 41 inches/no/200 |
| • Containers device accommodates/Software can sort by | 16, 13 × 100; 16, 13 × 75/specimen, method, output | 16, 13 × 100; 16, 13 × 75/— |
| Specimen integrity monitor available | yes | no |
| • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** | StreamLab/integrated with analyzer/yes/300 | — |
| • Containers device accommodates/Maintenance required | 16, 13 × 100; 16, 13 × 75/— | — |
| Automated aliquotting available | yes | no |
| • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** | StreamLab/integrated with sample transfer module/yes/300 | — |
| • Containers device accommodates | 16, 13 × 100; 16, 13 × 75 | — |
| • Inspects samples for bar code/Detects and reports clots in specimen | yes/yes | — |
| • Detects and reports quantity not sufficient specimens/Maintenance required | yes/daily | — |
| Instrument (analyzer) interfaces | | |
| • Rules-based instrument interface control subsystem | yes | yes |
| • Process control of instrument via control subsystem | yes | yes |
| Physical/hardware (instrument/specimen) interface | | |
| • Hematology/Chemistry/Coagulation | no/pt-of-ref sampling, rob. arm interface/pt-of-ref sampling, rob. arm interf. | no/point-of-reference sampling/no |
| • Immunoassay/Urinalysis | point-of-reference sampling, robotic arm interface/no | point-of-reference sampling/no |
| Instruments to which your system or product is interfaced | Dimension RxL Max, Dimension Vista 1500/500, Immulite 2000 and 2500; Sysmex CA 7000; Dimension EXL with LM, Advia Centaur | Advia 1800, Immulite Immunoassay, Advia Centaur, Dimension EXL with LM, Dimension EXL 200, Dimension RxL MAX |
| Other robotic products/components to which system or product is linked | — | StreamLab analytical workcell and Advia automation workcells |
| Automated recapper or sealer available | yes | no |
| • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput* | StreamLab/40 × 36 × 17 inches/yes/300 | — |
| • Recaps-seals multiple size tubes simult./Containers device accommodates | yes/13 × 100; 13 × 75; 16 × 100; 16 × 75 | — |
| • Maintenance required | daily, monthly | — |
| Automated storage and retrieval available | yes | no |
| • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput* | StreamLab SW and input-output module/60 × 70 × 35 inches/yes/300 | — |
| • Containers device accommodates/Connects to the track | 13 × 100; 13 × 75; 16 × 100; 16 × 75 (47,952 storage capacity)/no | — |
| • Room temperature/Minimum and maximum number of tubes stored per module | yes/up to 576 | — |
| • Multiple size tubes can be stored in the same module/Maintenance required | yes/— | — |
| • Refrigerated storage and retrieval capability | yes | — |
| Longitudinal upgrade pathway or plan to protect users' investments | StreamLab systems are scalable with open configurations | continue connectivity development and software enhancements |
| Average time to install/Who provides service, support/Hours support is available | five days/Siemens/24–7 | two days/Siemens Healthcare Diagnostics/24–7 |
| On-site biomedical engineer required/User group meets regularly | no/yes | no/no |
| List price | — | — |
| Individual list prices for components | | |
| • Process control SW/Transportation systems/Auto. centrifugation | — | — |
| • Auto. input, accession/Auto. decap/Auto. sort/Auto. storage and retrieval | — | — |
| • Specimen integrity monitor/Automated aliquot | — | — |
| • Instrument (analyzer) interfaces/Automated recap | — | — |
| Distinguishing features (supplied by company) | integrated automation solution with open architecture allows custom configuration and reconfiguraton by incorporating a 90-degree track turn, which helps maintain a small footprint | breadth of menu with flexibility of connectivity; throughput, pre and postanalytical sample management |

** For basic bulding 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*

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

# Laboratory automation systems and workcells

*Part 13 of 14*

*See* captodayonline.com/productguides *for an interactive version of guide*

| | Sysmex America<br>**Nilam Patel** pateln@sysmex.com<br>**1 Nelson C. White Parkway, Mundelein, IL 60060**<br>**800-379-7639 ext. 4309** www.sysmex.com/automation | Sysmex America<br>**Krista Curcio** curciok@sysmex.com<br>**1 Nelson C. White Parkway, Mundelein, IL 60060**<br>**800-379-7639 ext. 4613** www.sysmex.com/automation |
|---|---|---|
| **Name of system/First year installed/No. of 2011 contracts signed** | **HST-N/1991/50+** | **XE-Alpha N/1991/30** |
| **No. of live sites installed in N. America/Europe/Asia-Australia** | **350/1,600+ (Europe, Asia, Latin America, Canada, & Australia)** | **250/650+ (Europe, Asia, Latin America, Canada, Australia)** |
| **Automation products that are available** | | |
| **• Pre-analytical processor/Total laboratory automation** | **no/no** | **—/—** |
| **• Automated functions: Accessioning/Track load/Centrifugation/Decapping** | **yes/no/no/no** | **yes/—/no/no** |
| **• Automated functions: Rack specific sort/Aliquot/Tube relabeling/Resealing** | **yes/no/—/no** | **yes/no/—/no** |
| **• Automated functions: Storage-retrieval/Intelligent sample routing** | **no/yes** | **no/—** |
| **• SW: Dedicated Process Control/Middleware control using LIS/Architecture** | **yes/yes/closed** | **yes/yes/closed** |
| **• Company has dedicated automation support team/Remote system monitoring** | **yes/yes** | **yes/yes** |
| **Software features/functionality** | | |
| **• Patient demographics and insurance data/Rules-based architecture** | **automation SW feature/automation SW feature** | **—/automation SW feature** |
| **• Supports data retrieval/Internet connectivity** | **automation SW feature/automation SW feature** | **automation SW feature/LIS feature** |
| **• Online real-time help system/QC/Stats and management reports** | **automation SW feature /automation SW feature /LIS feature** | **automation SW feature /automation SW feature /LIS feature** |
| **• Evaluates validity and releasability of results from automated analyzers** | **automation SW feature** | **automation SW feature** |
| **• Specimen tracking/Priority processing/Random-access spec. movement** | **automation SW feature/automation SW feature/yes** | **automation SW feature/automation SW feature/—** |
| **• Supports accession number redundancy (duplicate specimen ID)** | **automation SW feature** | **automation SW feature** |
| **• Supports specimen carrier and level identification** | **automation SW feature** | **automation SW feature** |
| **• Unique bar-code number per container required** | **automation SW feature** | **automation SW feature** |
| **• Specimen routing/Multistop routing (one tube to multiple workstations)** | **automation SW feature/automation SW feature** | **automation SW feature/automation SW feature** |
| **• Specimen scheduling/Instrument scheduling** | **—/—** | **—/—** |
| **• Routes test to workstation/Automatic reflex, repeat, dilutions** | **automation SW feature/automation SW feature** | **automation SW feature/automation SW feature** |
| **• Supports multiple HW configuration/Supports other proprietary transport. HW** | **automation SW feature/automation SW feature** | **—/automation SW feature** |
| **• Sample storage and retrieval SW/Supports approved CLSI standards** | **automation SW feature/automation SW feature** | **—/—** |
| **LIS(s) and versions interfaced and live w/LAS/How LIS(s) are interfaced with your LAS** | **Cerner (Classic and Millennium), Misys, SCC, Meditech, GE/HL7 and ASTM** | **Cerner (Classic and Millennium), Misys, SCC, Meditech, GE/HL7 and ASTM** |
| **Transportation systems available** | **yes** | **yes** |
| **• Model/Dimensions* (H × W × D)*/Conforms to CLSI Stand. Auto 1-5** | **HST-N/configuration-dependent/yes** | **Alpha N/2 × 7.3 × 3.4 feet** |
| **• Containers device accommodates/Average throughput in cm per second** | **16 × 75; 13 × 75/minutes throughput 150/hour; max as high as lab needs/hour** | **16 × 75; 13 × 75/based on number of analyzers** |
| **• Supports automatic rerouting for reflex-repeat-dilutions** | **yes** | **no** |
| **• Modular HW/Installed options/Device can operate in track and manual mode** | **yes/floor mounted/yes** | **yes/—/yes** |
| **• Required utilities/Required maintenance** | **—** | **—** |
| **• Carrier type/Scalable system** | **rack/yes** | **rack/no** |
| **Automated centrifugation available** | **no** | **no** |
| **• Model/Dimensions (H × W × D)/Conforms to CLSI Stand. Auto 1-5** | **—** | **—** |
| **• Maximum throughput/Containers device accommodates** | **—** | **—** |
| **• Can identify tube types for custom programmed rate and spin times per run** | **—** | **—** |
| **• More than one centrifuge can be connected to track system** | **—** | **—** |
| **• For multi-unit centrifuge, each centrifuge operates independently for rate and time** | **—** | **—** |
| **• Maintenance required** | **—** | **—** |
| **Automated input/accessioning available** | **yes** | **yes** |
| **• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**** | **—** | **—** |
| **• Containers device accommodates/Dedicated lanes for stat samples** | **—** | **—/no** |
| **• Maximum No. of samples that can be loaded/Maintenance required** | **200 samples per input module/—** | **100 samples per input module/—** |
| **Automated decapping available** | **no** | **no** |
| **• Model/Dimen. (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 type sample caps** | **—** | **—** |
| **Automated sorting available** | **yes** | **no** |
| **• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**** | **PVT TS series: low-mid volume ~5 × 3 feet; high volume ~6 × 5 feet** | **—/—/yes/—** |
| **• Containers device accommodates/Software can sort by** | **13 × 75/specimen, method, output** | **—/—** |
| **Specimen integrity monitor available** | **yes (located within the analyzers)** | **yes (located within the analyzers)** |
| **• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**** | **—** | **—** |
| **• Containers device accommodates/Maintenance required** | **—** | **—** |
| **Automated aliquotting available** | **no** | **no** |
| **• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**** | **—** | **—** |
| **• Containers device accommodates** | **—** | **—** |
| **• Inspects samples for bar code/Detects and reports clots in specimen** | **—** | **—** |
| **• Detects and reports quantity not sufficient specimens/Maintenance required** | **—** | **—** |
| **Instrument (analyzer) interfaces** | | |
| **• Rules-based instrument interface control subsystem** | **yes** | **yes** |
| **• Process control of instrument via control subsystem** | **yes** | **yes** |
| **Physical/hardware (instrument/specimen) interface** | | |
| **• Hematology/Chemistry/Coagulation** | **point-of-reference sampling/—/—** | **—** |
| **• Immunoassay/Urinalysis** | **—** | **—** |
| **Instruments to which your system or product is interfaced** | **Bio-Rad Variant II Turbo Link A1C analyzer** | **—** |
| **Other robotic products/components to which system or product is linked** | **Thermo automation, Lab Interlink/Labotix, IDS** | **—** |
| **Automated recapper or sealer available** | **no** | **no** |
| **• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput*** | **—** | **—** |
| **• Recaps-seals multiple size tubes simult./Containers device accommodates** | **—** | **—** |
| **• Maintenance required** | **—** | **—** |
| **Automated storage and retrieval available** | **no** | **no** |
| **• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput*** | **—** | **—** |
| **• Containers device accommodates/Connects to the track** | **—** | **—** |
| **• Room temperature/Minimum and maximum number of tubes stored per module** | **—** | **—** |
| **• Multiple size tubes can be stored in the same module/Maintenance required** | **—** | **—** |
| **• Refrigerated storage and retrieval capability** | **—** | **—** |
| **Longitudinal upgrade pathway or plan to protect users' investments** | **—** | **—** |
| **Average time to install/Who provides service, support/Hours support is available** | **<3 days/Sysmex/24–7** | **1 day/Sysmex/24–7** |
| **On-site biomedical engineer required/User group meets regularly** | **no/no** | **no/no** |
| **List price** | **varies** | **varies** |
| **Individual list prices for components** | | |
| **• Process control SW/Transportation systems/Auto. centrifugation** | **—** | **—** |
| **• Auto. input, accession/Auto. decap/Auto. sort/Auto. storage and retrieval** | **—** | **—** |
| **• Specimen integrity monitor/Automated aliquot** | **—** | **—** |
| **• Instrument (analyzer) interfaces/Automated recap** | **—** | **—** |
| **Distinguishing features (supplied by company)** | **scalable, flexible, and reliable automation and instrument systems; fast installation (<3 days); scalable multi-site, multi-system middleware solutions that are developed, tested, and supported by Sysmex** | **scalable and flexible configurations; one-day installation; scalable middleware solutions are developed and supported by Sysmex** |

** For basic bulding 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*

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# Laboratory automation systems and workcells

| *Part 14 of 14*<br><br>*See* captodayonline.com/productguides *for an interactive version of guide* | **Yaskawa America Inc., Motoman Robotics Division**<br>**Craig Rubenstein** craig.rubenstein@motoman.com<br>**100 Automation Way, Miamisburg, OH 45342**<br>**949-263-2648** www.motoman.com/labauto/ | **Yaskawa America Inc., Motoman Robotics Division**<br>**Craig Rubenstein** craig.rubenstein@motoman.com<br>**100 Automation Way, Miamisburg, OH 45342**<br>**949-263-2648** www.motoman.com/labauto/ |
|---|---|---|
| **Name of system/First year installed/No. of 2011 contracts signed**<br>**No. of live sites installed in N. America/Europe/Asia-Australia** | **Autosorter II/2006/4**<br>**22/—/—** | **Autosorter III/2008/4**<br>**22/—/—** |
| **Automation products that are available** | | |
| • Pre-analytical processor/Total laboratory automation | yes/no | yes/no |
| • Automated functions: Accessioning/Track load/Centrifugation/Decapping | yes/yes/yes/yes | yes/yes/yes/yes |
| • Automated functions: Rack specific sort/Aliquot/Tube relabeling/Resealing | yes/yes/no/yes (recapping) | yes/yes/no/yes (recapping) |
| • Automated functions: Storage-retrieval/Intelligent sample routing | no/yes | no/yes |
| • SW: Dedicated Process Control/Middleware control using LIS/Architecture | yes/yes/open | yes/yes/open |
| • Company has dedicated automation support team/Remote system monitoring | yes/yes | yes/yes |
| **Software features/functionality** | | |
| • Patient demographics and insurance data/Rules-based architecture | —/automation SW feature | —/automation SW feature |
| • Supports data retrieval/Internet connectivity | automation SW feature/automation SW feature | automation SW feature/automation SW feature |
| • Online real-time help system/QC/Stats and management reports | automation SW feature/ automation SW feature/automation SW feature | automation SW feature/ automation SW feature/automation SW feature |
| • Evaluates validity and releasability of results from automated analyzers | — | — |
| • Specimen tracking/Priority processing/Random-access spec. movement | automation SW feature/ automation SW feature/automation SW feature | automation SW feature/ automation SW feature/automation SW feature |
| • Supports accession number redundancy (duplicate specimen ID) | automation SW feature/automation SW feature | automation SW feature/automation SW feature |
| • Supports specimen carrier and level identification | automation SW feature | automation SW feature |
| • Unique bar-code number per container required | automation SW feature | automation SW feature |
| • Specimen routing/Multistop routing (one tube to multiple workstations) | automation SW feature/ automation SW feature | automation SW feature/ automation SW feature |
| • Specimen scheduling/Instrument scheduling | —/— | —/— |
| • Routes test to workstation/Automatic reflex, repeat, dilutions | automation SW feature/— | automation SW feature/— |
| • Supports multiple HW configuration/Supports other proprietary transport. HW | automation SW feature/automation SW feature | automation SW feature/automation SW feature |
| • Sample storage and retrieval SW/Supports approved CLSI standards | automation SW feature/automation SW feature | automation SW feature/automation SW feature |
| **LIS(s) and versions interfaced and live w/LAS/How LIS(s) are interfaced with your LAS** | Cerner, Triple G, Surround/ODBC, HL7 | Cerner, Triple G, Surround/ODBC, HL7 |
| **Transportation systems available** | yes | yes |
| • Model/Dimensions* (H × W × D)*/Conforms to CLSI Stand. Auto 1-5 | —/configuration-dependent/yes | —/configuration-dependent/yes |
| • Containers device accommodates/Average throughput in cm per second | 16, 13 × 100; 16, 13 × 75, 9–16 mm diameter, 75–100 mm height/50 | 16, 13 × 100; 16, 13 × 75, 9–16 mm diameter, 75–100 mm height/50 |
| • Supports automatic rerouting for reflex-repeat-dilutions | yes | no |
| • Modular HW/Installed options/Device can operate in track and manual mode | no/floor mounted/yes | no/floor mounted/yes |
| • Required utilities/Required maintenance | compressed air, electricity/daily, monthly, annually | electricity/daily, monthly, annually |
| • Carrier type/Scalable system | single and multiple (30) specimen container per carrier/yes | single specimen container per carrier/yes |
| **Automated centrifugation available** | no | yes |
| • Model/Dimensions (H × W × D)/Conforms to CLSI Stand. Auto 1-5 | — | Hettich Rotanta/81 × 87 × 42 inches, 9–16 mm diameter, 75–100 mm height/yes |
| • Maximum throughput/Containers device accommodates | — | 300+/16, 13 × 100; 16, 13 × 75, 9–16 mm diameter, 75–100 mm height |
| • Can identify tube types for custom programmed rate and spin times per run | — | no |
| • More than one centrifuge can be connected to track system | — | no |
| • For multi-unit centrifuge, each centrifuge operates independently for rate and time | — | — |
| • Maintenance required | — | daily, monthly, annually |
| **Automated input/accessioning available** | yes | yes |
| • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** | AutoSorter II/6 × 5 × 5 feet/yes/1,000 | AutoSorter III/81 × 87 × 42 inches (enclosed within ASIII footprint)/yes/800 |
| • Containers device accommodates/Dedicated lanes for stat samples | 16, 13 × 100; 16, 13 × 75, 9–16 mm diameter, 75–100 mm height/yes | 16, 13 × 100; 16, 13 × 75, 9–16 mm diameter, 75–100 mm height/yes |
| • Maximum No. of samples that can be loaded/Maintenance required | 1,000/daily, monthly, annually | 300/daily, monthly, annually |
| **Automated decapping available** | yes | yes |
| • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** | —/fits within footprint of AutoSorter II/yes/1,000 | AutoSorter III/81 × 87 × 42 inches (enclosed within ASIII footprint)/yes/800 |
| • Containers device accommodates/Maintenance required | 16, 13 × 100; 16, 13 × 75, 9–16 mm diameter, 75–100 mm height/daily, monthly, annually | 16, 13 × 100; 16, 13 × 75, 9–16 mm diameter, 75–100 mm height/daily, monthly, annually |
| • Removes multiple size tube caps per run/Removes screw type sample caps | yes/yes | yes/yes |
| **Automated sorting available** | yes | yes |
| • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** | AutoSorter II/6 × 5 × 5 feet/yes/1,000 | AutoSorter III/81 × 87 × 42 inches/yes/800 |
| • Containers device accommodates/Software can sort by | 16, 13 × 100; 16, 13 × 75, 9–16 mm diameter, 75–100 mm height/specimen, method, output | 16, 13 × 100; 16, 13 × 75, 9–16 mm diameter, 75–100 mm height/specimen, method, output |
| **Specimen integrity monitor available** | — | — |
| • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** | — | — |
| • Containers device accommodates/Maintenance required | — | — |
| **Automated aliquotting available** | yes | planned |
| • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** | Aloka APS/68 × 101 × 43 inches/yes/500 | Aloka module/to be determined/yes/100–200 |
| • Containers device accommodates | 16, 13 × 100; 16, 13 × 75 | 16, 13 × 100; 16, 13 × 75 |
| • Inspects samples for bar code/Detects and reports clots in specimen | yes/yes | yes/yes |
| • Detects and reports quantity not sufficient specimens/Maintenance required | yes/daily, monthly, annually | yes/daily, monthly, annually |
| **Instrument (analyzer) interfaces** | | |
| • Rules-based instrument interface control subsystem | no | no |
| • Process control of instrument via control subsystem | no | no |
| **Physical/hardware (instrument/specimen) interface** | | |
| • Hematology/Chemistry/Coagulation | Sysmex HST | Sysmex HST |
| • Immunoassay/Urinalysis | — | — |
| **Instruments to which your system or product is interfaced** | Sysmex hematology automation | — |
| **Other robotic products/components to which system or product is linked** | MDS (now Innotek) single-specimen carrier transportation system | ILAS, MDS (now Innotek) single-specimen carrier transportation system |
| **Automated recapper or sealer available** | yes (recapper) | planned |
| • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput* | AutoSorter II/6 × 5 × 5 feet/yes/>1,800 | AutoSorter III/to be determined/yes/800 |
| • Recaps-seals multiple size tubes simult./Containers device accommodates | yes/16, 13 × 100; 16, 13 × 75 | yes/16, 13 × 100; 16, 13 × 75 |
| • Maintenance required | daily, monthly, annually | daily, monthly, annually |
| **Automated storage and retrieval available** | yes | yes |
| • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput* | — | — |
| • Containers device accommodates/Connects to the track | — | — |
| • Room temperature/Minimum and maximum number of tubes stored per module | — | — |
| • Multiple size tubes can be stored in the same module/Maintenance required | — | — |
| • Refrigerated storage and retrieval capability | — | — |
| **Longitudinal upgrade pathway or plan to protect users' investments** | flexible, open design permits change of tubes/racks as instrumentation changes; connectivity and functionality upgrades | flexible, open design permits change of tubes/racks as instrumentation changes; connectivity and functionality upgrades |
| **Average time to install/Who provides service, support/Hours support is available** | <1–2 weeks, more for complex systems/Motoman/24–7 | <1 week/Motoman/24–7 |
| **On-site biomedical engineer required/User group meets regularly** | no/no | no/no |
| **List price** | $250,000 | $195,000 |
| **Individual list prices for components** | | |
| • Process control SW/Transportation systems/Auto. centrifugation | included/configuration-dependent/— | included/configuration dependent/$39,500 |
| • Auto. input, accession/Auto. decap/Auto. sort/Auto. storage and retrieval | included/configuration-dependent/included/— | included/included/included/— |
| • Specimen integrity monitor/Automated aliquot | —/configuration-dependent | —/to be determined |
| • Instrument (analyzer) interfaces/Automated recap | —/configuration-dependent | —/to be determined |
| **Distinguishing features (supplied by company)** | customization-friendly; designed and built in the U.S.; independent of IVD instrument manufacturers; free-standing, high-throughput instruments or integrated lines | customization-friendly; designed and built in the U.S.; independent of IVD instrument manufacturers; free-standing, small footprint, modular automation |

** For basic bulding 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*

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