

## Laboratory automation systems and workcells

<b>Part 1 of 17</b>	<b>Abbott Diagnostics</b> Alec Wiley alec.wiley@abbott.com 675 North Field Road, Lake Forest, IL 60045 224-358-5925 www.abbottdiagnostics.com	<b>Abbott Diagnostics</b> Alec Wiley alec.wiley@abbott.com 675 North Field Road, Lake Forest, IL 60045 224-358-5925 www.abbottdiagnostics.com
See captodayonline.com/productguides for an interactive version of guide		
<b>Name of system/First year installed/No. of 2013 contracts signed No. of live sites installed in N. America/Europe/Asia-Australia</b>	<b>Abbott ACCELERATOR a3600/2013/&gt;15 1/0/2</b>	<b>ACCELERATOR p540/—/— —</b>
<b>Automation products that are available</b> • Pre-analytical processor/Total laboratory automation • Automated functions: Accessioning/Track load/Centrifugation/Decapping • Automated functions: Rack specific sort/Aliquot/Tube relabeling/Resealing • Automated functions: Storage retrieval/Intelligent sample routing • SW: Dedicated Process Control/Middleware control using LIS/Architecture • Company has dedicated automation support team/Remote system monitoring	yes/yes yes/yes/yes/yes no/yes/yes/yes yes/yes yes/yes/closed yes/yes	yes/— —/no/no/yes yes/yes/yes/no no/no yes/—/closed yes/yes
<b>Software features/functionality</b> • Patient demographics and insurance data/Rules-based architecture • Supports data retrieval/Internet connectivity • Online real-time help system/QC/Stats and management reports • Evaluates validity and releasability of results from automated analyzers • Specimen tracking/Priority processing/Random-access spec. movement • Supports accession number redundancy (duplicate specimen ID) • Supports specimen carrier and level identification • Unique bar-code number per container required • Specimen routing/Multistop routing (one tube to multiple workstations) • Specimen scheduling/Instrument scheduling • 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	LIS feature/automation SW feature automation SW feature/automation SW feature automation SW feature/automation SW feature automation SW feature automation SW feature/automation SW feature/ LIS feature automation SW feature LIS feature automation SW feature/automation SW feature automation SW feature/automation SW feature automation SW feature/automation SW feature automation SW feature/— automation SW feature/automation SW feature	LIS feature/LIS feature LIS feature/automation SW feature automation SW feature/—/automation SW feature — automation SW feature/— — — automation SW feature automation sw feature/— — — — —
<b>LIS(s) and versions interfaced and live with LAS/How LIS(s) are interfaced with your LAS/LOINC (Logical Observation Identifiers Names and Codes) can be used to identify tests when communicating with LIS</b>	Cerner Classic and 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, SCC, Siemens, Soft/ ASTM/yes	—/HL7, Ethernet 10 base T or 100 base TX/—
<b>Transportation systems available</b> • 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	yes Abbott ACCELERATOR a3600 TM/40 × 90.5 × 17 in./yes 16, 13 × 100; 16, 13 × 75, many others/17.5 cm/s (3,600 per hour) yes yes/floor mounted/yes compressed air, electricity/monthly single specimen container per carrier/yes (connects 99 modules/nodes)	yes ACCELERATOR p540/57.8 × 65.7 × 45.5 inches/— 16, 13 × 100; 16, 13 × 75/— — —/floor mounted/— electricity/— multiple specimen container per carrier (5)/no
<b>Automated centrifugation available</b> • 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 <b>Automated input/accessioning available</b> • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates/Dedicated lanes for stat samples • Maximum No. of samples that can be loaded/Maintenance required <b>Automated decapping available</b> • 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 <b>Automated sorting available</b> • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates/Software can sort by <b>Specimen integrity monitor available</b> • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates/Maintenance required <b>Automated aliquotting available</b> • 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	yes Abbott ACCELERATOR a3600 CM (Hettich Rotanta 460 Robotic)/59 × 37.4 × 55.5 in./yes 300/16, 13 × 100; 16, 13 × 75, many others no yes yes weekly, monthly yes Abbott ACCELERATOR a3600 IOM, others/54.3 × 77.6 × 42.7 inches/yes 16, 13 × 100; 16, 13 × 75, many others/yes 780 yes Abbott ACCELERATOR a3600 DCM/46.7 × 34.7 × 17 inches/yes/800 16, 13 × 100; 16, 13 × 75, many others/daily, monthly yes/yes yes Abbott ACCELERATOR a3600 IOM/54.3 × 77.6 × 42.7 inches/yes/750 16, 13 × 100; 16, 13 × 75, many others/specimen, method, output yes Abbott ARCHITECT c8000, c16000/35.2 × 37.5 × 61.4 in./yes/1,800 per hour 16, 13 × 100; 16, 13 × 75, many others/daily, weekly, quarterly, monthly yes Abbott ACCELERATOR a3600 AQM/35.2 × 37.5 × 61.4 in./yes/500 (100 primary) 16, 13 × 100; 16, 13 × 75, many others yes/yes yes/daily, weekly, monthly	no — — — — — no — — yes ACCELERATOR p540/57.8 × 65.7 × 45.5 inches/yes/570 16, 13 × 100; 16, 13 × 75/daily, weekly yes/yes yes ACCELERATOR p540/57.8 × 65.7 × 45.5 inches/yes/1,000 —/specimen, method, output no — — yes p540/—/yes/540 16, 13 × 100; 16, 13 × 75 yes/yes yes/—
<b>Instrument (analyzer) interfaces</b> • Rules-based instrument interface control subsystem • Process control of instrument via control subsystem <b>Physical/hardware (instrument/specimen) interface</b> • Hematology/Chemistry/Coagulation • Immunoassay/Urinalysis	yes yes —/point-of-reference/point of reference point of reference/—	no no — —
<b>Instruments to which your system or product is interfaced</b> <b>Other robotic products/components to which system or product is linked</b>	ARCHITECT Immunochemistry systems, Stago STA-R Evolution, IL ACL Top —	— —
<b>Automated recapper or sealer available</b> • 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	recapper and sealer Abbott ACCELERATOR a3600 RCM/RSM/49.2 × 44.9 × 17 inches/yes/800 yes/16, 13 × 100; 16, 13 × 75, many others monthly	no — — —
<b>Automated storage and retrieval available</b> • 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 <b>Longitudinal upgrade pathway or plan to protect users' investments</b> <b>Average time to install/Who provides service, support/Hours support is available</b> <b>On-site biomedical engineer required/User group meets regularly</b>	yes Abbott ACCELERATOR a3600 TSM/101.1 × 76.7 × 70 inches/yes/800 16, 13 × 100; 16, 13 × 75, many others/yes no/15,360 yes/daily, monthly yes flexible modules and track configurability enables future expansions site dependent/Abbott Diagnostics/24-7 no/no	no — — — — — —/Abbott Diagnostics/multiple support options (24-7) no/no
<b>List price</b> <b>Individual list prices for components</b> • 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	— — — — —	— — — — —
<b>Distinguishing features (supplied by company)</b> * For basic building block unit ** Average throughput in specimen containers per hour per device Note: a dash in lieu of an answer means company did not answer question or question is not applicable.	reliable and produces consistent STAT and routine turn-around-time; standardized and common regardless of volume segment to streamline training and operational costs; drives efficiency and physician satisfaction	onboard, temperature-controlled quality control module aliquots QC samples and sorts to analyzer racks



## Laboratory automation systems and workcells

<b>Part 3 of 17</b>	<b>Aim Lab Automation Technologies Pty</b> Ralph Donaldson aimlab@aimlab.com 10-22 Hornibrook Esplanade, Clontarf, Qld, Australia 4019 +61 7 3897 1600 www.aimlab.com	<b>Beckman Coulter</b> Jorge Lana jlanalinati@beckman.com 200 S. Kraemer Boulevard, Brea, CA 92822 714-961-6385 www.beckmancoulter.com
See captodayonline.com/productguides for an interactive version of guide		
<b>Name of system/First year installed/No. of 2013 contracts signed No. of live sites installed in N. America/Europe/Asia-Australia</b>	<b>PathFinder 350A Archiver/2012/10 0/8/9</b>	<b>AutoMate 800/2006/10 39/103/17</b>
<b>Automation products that are available</b> • Pre-analytical processor/Total laboratory automation • Automated functions: Accessioning/Track load/Centrifugation/Decapping • Automated functions: Rack specific sort/Aliquot/Tube relabeling/Resealing • Automated functions: Storage retrieval/Intelligent sample routing • SW: Dedicated Process Control/Middleware control using LIS/Architecture • Company has dedicated automation support team/Remote system monitoring	yes/no yes/no/no/no yes/no/no/yes no/yes no/yes/open yes/yes	yes/no yes/no/yes/yes yes/yes/yes/no yes/yes yes/no/open yes/—
<b>Software features/functionality</b> • Patient demographics and insurance data/Rules-based architecture • Supports data retrieval/Internet connectivity • Online real-time help system/QC/Stats and management reports • Evaluates validity and releasability of results from automated analyzers • Specimen tracking/Priority processing/Random-access spec. movement • Supports accession number redundancy (duplicate specimen ID) • Supports specimen carrier and level identification • Unique bar-code number per container required • Specimen routing/Multistop routing (one tube to multiple workstations) • Specimen scheduling/Instrument scheduling • 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	—/LIS feature automation SW feature/automation SW feature automation SW feature/—/automation SW feature — automation SW feature/automation SW feature/automation SW feature automation SW feature automation SW feature LIS feature/automation SW feature LIS feature/— automation SW feature/LIS feature automation SW feature/— LIS feature/automation SW feature	LIS feature/automation SW feature LIS feature/— automation SW feature/LIS feature/automation SW feature LIS feature automation SW feature/automation SW feature/automation SW feature automation SW feature automation SW feature automation SW feature automation SW feature/automation SW feature automation SW feature/— automation SW feature/— automation SW feature/— automation SW feature/automation SW feature
<b>LIS(s) and versions interfaced and live with LAS/How LIS(s) are interfaced with your LAS/LOINC (Logical Observation Identifiers Names and Codes) can be used to identify tests when communicating with LIS</b>	Apollo/ASTM, CLSI-LIS2A, Lab-on-line/—	SCC, Siemens, Philips/ASTM, Power Processor/yes
<b>Transportation systems available</b> • 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	no — — — — —	no — — — — —
<b>Automated centrifugation available</b> • 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 <b>Automated input/accessioning available</b> • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates/Dedicated lanes for stat samples • Maximum No. of samples that can be loaded/Maintenance required <b>Automated decapping available</b> • 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 <b>Automated sorting available</b> • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates/Software can sort by <b>Specimen integrity monitor available</b> • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates/Maintenance required <b>Automated aliquotting available</b> • 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	no — — — — — yes 350A Archiver/115 × 56 × 47 cm (45 × 22 × 18.5 in)/yes/350 samples 16, 13 × 100; 16, 13 × 75; 12–16 mm OD, 63–120 mm height/yes —/annually no — — — yes 350A Archiver/115 × 56 × 47 cm (45 × 22 × 18.5 in)/yes/350 samples 16, 13 × 100; 16, 13 × 75; 12–16 mm OD, 63–120 mm ht/specimen, method, output no — — no — yes AutoMate 800/—/yes/420 16, 13 × 100; 16, 13 × 75; Sarstedt, Greiner, BD pediatric tubes/yes 600/daily, monthly yes AutoMate 800/—/yes/420 16, 13 × 100; 16, 13 × 75; Sarstedt, Greiner, BD pediatric/daily, monthly yes/yes yes AutoMate 800/—/yes/420 16, 13 × 100; 16, 13 × 75; Sarstedt, Greiner, BD pediatric/method, output no — — yes AutoMate 800/—/yes/420 16, 13 × 100; 16, 13 × 75; Sarstedt yes/yes yes/daily, monthly	
<b>Instrument (analyzer) interfaces</b> • Rules-based instrument interface control subsystem • Process control of instrument via control subsystem <b>Physical/hardware (instrument/specimen) interface</b> • Hematology/Chemistry/Coagulation • Immunoassay/Urinalysis	no no — —	no no — —
<b>Instruments to which your system or product is interfaced</b> <b>Other robotic products/components to which system or product is linked</b>	— —	— —
<b>Automated recapper or sealer available</b> • 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	sealer 350A Archiver/22 × 45 × 8.5 inches/yes/350 tubes yes/16, 13 × 100; 16, 13 × 75; 12–16 mm OD, 63–120 mm height monthly, annually	no — — —
<b>Automated storage and retrieval available</b> • 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 <b>Longitudinal upgrade pathway or plan to protect users' investments</b> <b>Average time to install/Who provides service, support/Hours support is available</b> <b>On-site biomedical engineer required/User group meets regularly</b>	storage 350A Archiver/115 × 56 × 47 cm (45 × 22 × 18.5 in)/yes/350 samples per hour 16, 13 × 100; 16, 13 × 75; 12–16 mm OD, 63–120 mm ht/no yes/— yes/annually no ability to swap out deck layout to expand application 1 day/distributor/— no/no	yes AutoMate 800/—/yes/420 16, 13 × 100; 16, 13 × 75, Sarstedt, Greiner, BD pediatric tubes/no yes/1 and 400 yes/daily, monthly no — 7 days/Beckman Coulter/24–7 no/no
<b>List price</b> <b>Individual list prices for components</b> • 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	<\$70,000 — included/—/included/included — —/included	— — — — —
<b>Distinguishing features (supplied by company)</b>	automatically caps, sorts, and archives sample tubes directly from analyzer racks; archives tubes into low-cost storage racks; runs with or without a LIS connection; accommodates multiple container types simultaneously	automatic rack layout can be reconfigured with another rack style; intelligent aliquotting; sample storage routing by duration and temperature
* For basic building block unit ** Average throughput in specimen containers per hour per device Note: a dash in lieu of an answer means company did not answer question or question is not applicable.		

## Laboratory automation systems and workcells

<b>Part 4 of 17</b>	<b>Beckman Coulter</b>	<b>Beckman Coulter</b>
See <a href="http://captodayonline.com/productguides">captodayonline.com/productguides</a> for an interactive version of guide	Simon Kasse <a href="mailto:skasse@beckman.com">skasse@beckman.com</a> 200 S. Kraemer Boulevard, Brea, CA 92822 +49 89 579589 3607 <a href="http://www.beckmancoulter.com">www.beckmancoulter.com</a>	Jorge Lana <a href="mailto:jlana@beckman.com">jlana@beckman.com</a> 200 S. Kraemer Boulevard, Brea, CA 92822 714-961-6385 <a href="http://www.beckmancoulter.com">www.beckmancoulter.com</a>
Name of system/First year installed/No. of 2013 contracts signed No. of live sites installed in N. America/Europe/Asia-Australia	AutoMate 2500 Family/2003/140 >100/>620/>60	LH 1500 Hematology Automation Series/2002/4 105/21/20
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 with LAS/How LIS(s) are interfaced with your LAS/LOINC can be used to identify tests when communicating with LIS	Cerner, Modulus, Data Innovations, SCC, Atlas, McKesson/HL7, ASTM/yes	Cerner, Sunquest, SCC, Mediatech, others/LH 1500/yes
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	—	robotic arm interface/—/—
• Immunoassay/Urinalysis	—	—
Instruments to which your system or product is interfaced	—	LH 750, 755, LH 780, and 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	—
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 building block unit		
** Average throughput in specimen containers per hour per device		
Note: a dash in lieu of an answer means company did not answer question or question is not applicable.		

## Laboratory automation systems and workcells

<p><b>Part 5 of 17</b></p> <p><i>See captodayonline.com/productguides for an interactive version of guide</i></p>	<p><b>Beckman Coulter</b>                  Jorge Lana jlanalinati@beckman.com                  200 S. Kraemer Boulevard, Brea, CA 92822                  714-961-6385 www.beckmancoulter.com</p>	<p><b>Cerner Labotix</b>                  Jennifer Walker jennifer.walker@cerner.com                  2800 Rockcreek Parkway, Kansas City, MO 64117                  816-201-2854 www.cerner.com</p>
<p><b>Name of system/First year installed/No. of 2013 contracts signed                  No. of live sites installed in N. America/Europe/Asia-Australia</b></p>	<p><b>Power Processor/1998/75                  &gt;400/&gt;100&gt;150</b></p>	<p><b>RRUSH/1994/0                  12/4/0</b></p>
<p><b>Automation products that are available</b></p> <ul style="list-style-type: none"> <li>• Pre-analytical processor/Total laboratory automation</li> <li>• Automated functions: Accessioning/Track load/Centrifugation/Decapping</li> <li>• Automated functions: Rack specific sort/Aliquot/Tube relabeling/Resealing</li> <li>• Automated functions: Storage retrieval/Intelligent sample routing</li> <li>• SW: Dedicated Process Control/Middleware control using LIS/Architecture</li> <li>• Company has dedicated automation support team/Remote system monitoring</li> </ul>	<p>yes/yes                  yes/yes/yes/yes                  yes/yes/yes/yes                  yes/yes                  yes/yes/open                  yes/yes</p>	<p>yes/yes                  yes/yes/yes/yes                  yes/yes/yes/yes                  yes/yes                  yes/yes/open                  yes/yes</p>
<p><b>Software features/functionality</b></p> <ul style="list-style-type: none"> <li>• Patient demographics and insurance data/Rules-based architecture</li> <li>• Supports data retrieval/Internet connectivity</li> <li>• Online real-time help system/QC/Stats and management reports</li> <li>• Evaluates validity and releasability of results from automated analyzers</li> <li>• Specimen tracking/Priority processing/Random-access spec. movement</li> <li>• Supports accession number redundancy (duplicate specimen ID)</li> <li>• Supports specimen carrier and level identification</li> <li>• Unique bar-code number per container required</li> <li>• Specimen routing/Multistop routing (one tube to multiple workstations)</li> <li>• Specimen scheduling/Instrument scheduling</li> <li>• Routes test to workstation/Automatic reflex, repeat, dilutions</li> <li>• Supports multiple HW configuration/Supports other proprietary transport. HW</li> <li>• Sample storage and retrieval SW/Supports approved CLSI standards</li> </ul>	<p>LIS feature/automation SW feature                  automation SW feature/automation SW feature                  automation SW feature/automation SW feature/automation SW feature                  automation SW feature                  automation SW feature/automation SW feature/automation SW feature                  —                  automation SW feature                  automation SW feature                  automation SW feature/automation SW feature                  automation SW feature/automation SW feature                  automation SW feature/automation SW feature                  automation SW feature/automation SW feature                  automation SW feature/—                  automation SW feature/automation SW feature</p>	<p>required feature of LIS/automation SW feature                  automation SW feature/—                  automation SW feature/automation SW feature/automation SW feature                  LIS feature                  automation SW feature/automation SW feature/automation SW feature                  —                  automation SW feature                  automation SW feature                  automation SW feature/automation SW feature                  automation SW feature/automation SW feature                  automation SW feature/automation SW feature                  automation SW feature/automation SW feature                  automation SW feature/automation SW feature                  automation SW feature/automation SW feature</p>
<p><b>LIS(s) and versions interfaced and live with LAS/How LIS(s) are interfaced with your                  LAS/LOINC can be used to identify tests when communicating with LIS</b></p>	<p>SCC, Siemens, Philips, Cerner, McKesson, GE, Mediatech, PerSe, Molis, MIPS, Vista, Swiss Lab/Power Processor, Direct/HL7/yes</p>	<p>Cerner, Sunquest, PGP, Triple G, Rubicon, Mediatech, Soft/HL7 or ASTM/yes</p>
<p><b>Transportation systems available</b></p> <ul style="list-style-type: none"> <li>• Model/Dimensions (H x W x D)/Conforms to CLSI Stand. Auto 1-5</li> <li>• Containers device accommodates/Average throughput in cm per second</li> <li>• Supports automatic rerouting for reflex-repeat-dilutions</li> <li>• Modular HW/Installed options/Device can operate in track and manual mode</li> <li>• Required utilities/Required maintenance/Carrier type/Scalable system</li> </ul>	<p>yes                  Power Processor II/—/yes                  16, 13 x 100; 16, 13 x 75; Sarstedt/—                  yes                  yes/floor and subfloor mounted/yes                  compressed air, electricity/monthly/single specimen container per carrier/yes</p>	<p>yes                  Flexlink/custom/yes                  16, 13 x 100; 16, 13 x 75, custom/variable                  yes                  yes/floor mounted, overhead mounted, subfloor mounted/yes                  compressed air, electricity/quarterly/single specimen container per carrier/yes</p>
<p><b>Automated centrifugation available</b></p> <ul style="list-style-type: none"> <li>• Model/Dimensions (H x W x D)/Conforms to CLSI Stand. Auto 1-5</li> <li>• Maximum throughput/Containers device accommodates</li> <li>• Can identify tube types for custom programmed rate and spin times per run</li> <li>• More than one centrifuge can be connected to track system</li> <li>• For multi-unit centrifuge, each centrifuge operates independently for rate and time</li> <li>• Maintenance required</li> </ul> <p><b>Automated input/accessioning available</b></p> <ul style="list-style-type: none"> <li>• Model/Dimen. (H x W x D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**</li> <li>• Containers device accommodates/Dedicated lanes for stat samples</li> <li>• Maximum No. of samples that can be loaded/Maintenance required</li> </ul> <p><b>Automated decapping available</b></p> <ul style="list-style-type: none"> <li>• Model/Dimen. (H x W x D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**</li> <li>• Containers device accommodates/Maintenance required</li> <li>• Removes multiple size tube caps per run/Removes screw type sample caps</li> </ul> <p><b>Automated sorting available</b></p> <ul style="list-style-type: none"> <li>• Model/Dimen. (H x W x D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**</li> <li>• Containers device accommodates/Software can sort by</li> </ul> <p><b>Specimen integrity monitor available</b></p> <ul style="list-style-type: none"> <li>• Model/Dimen. (H x W x D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**</li> <li>• Containers device accommodates/Maintenance required</li> </ul> <p><b>Automated aliquotting available</b></p> <ul style="list-style-type: none"> <li>• Model/Dimen. (H x W x D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**</li> <li>• Containers device accommodates</li> <li>• Inspects samples for bar code/Detects and reports clots in specimen</li> <li>• Detects and reports quantity not sufficient specimens/Maintenance required</li> </ul>	<p>yes                  Power Processor II/—/yes                  300-450/16, 13 x 100; 16, 13 x 75, Sarstedt                  no                  yes                  yes                  weekly                  yes                  Power Processor II/—/yes/900                  16, 13 x 100; 16, 13 x 75; Sarstedt/yes                  200/monthly                  yes                  Power Processor II/—/yes/600                  16, 13 x 100; 16, 13 x 75, Sarstedt/monthly                  yes/no                  yes                  Power Processor II/—/yes/500                  16, 13 x 100; 16, 13 x 75; Sarstedt/method, output                  yes                  Power Processor II/—/yes/90                  16, 13 x 100; 16, 13 x 75; Sarstedt/monthly                  yes                  Power Processor II/—/yes/140 primary samples                  16, 13 x 100; 16, 13 x 75; Sarstedt                  yes/yes                  yes/daily, weekly</p>	<p>yes                  Hettich/43 x 47 x 75 inches/yes                  —/16, 13 x 100; 16, 13 x 75, custom                  yes                  yes                  yes                  quarterly                  yes                  Labotix/43 x 47 x 75 inches/yes/1,200                  16, 13 x 100; 16, 13 x 75, custom/yes                  625/quarterly                  yes                  Labotix/33.5 x 20.5 x 66 inches/yes/1,200                  16, 13 x 100; 16, 13 x 75, custom/quarterly                  yes/yes                  yes                  Labotix/ 43 x 47 x 75 inches/yes/600                  16, 13 x 100; 16, 13 x 75, custom/specimen, method, output                  no                  —                  —                  yes                  Labotix/62 x 57 x 66 inches/yes/150                  16, 13 x 100; 16, 13 x 75, custom                  yes/yes                  yes/quarterly</p>
<p><b>Instrument (analyzer) interfaces</b></p> <ul style="list-style-type: none"> <li>• Rules-based instrument interface control subsystem</li> <li>• Process control of instrument via control subsystem</li> </ul> <p><b>Physical/hardware (instrument/specimen) interface</b></p> <ul style="list-style-type: none"> <li>• Hematology/Chemistry/Coagulation</li> </ul> <p>• Immunoassay/Urinalysis</p>	<p>yes                  yes                    robotic arm interface/point-of-ref. sampling, robotic arm interface/point-of-ref. sampling, robotic arm interface                  point-of-ref. sampling, robotic arm interface/point-of-ref. sampling</p>	<p>yes                  no                    point-of-ref., robotic rack/point-of-ref., robotic rack/point-of-ref., robotic rack                    point-of-ref., robotic rack/point-of-ref., robotic rack</p>
<p><b>Instruments to which your system or product is interfaced</b></p> <p><b>Other robotic products/components to which system or product is linked</b></p>	<p>AU680, 5400, 2700, 5800; Abbott Architect, Axsym; Siemens Advia, Atlas; Beckman Coulter LX 20, DxI, Dxl; Ortho 950, 250, Eci; Roche Modular; Stago Star</p> <p>—</p>	<p>Beckman Coulter Dxl, AU's, Olympus 2700 and 5400, Siemens Advia Centaur, Sysmex HST, Ortho Clinical Vitros, Roche Cobas, Stago Star Revolution, more open to third-party products</p>
<p><b>Automated recapper or sealer available</b></p> <ul style="list-style-type: none"> <li>• Model/Dimen. (H x W x D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**</li> <li>• Recaps-seals multiple size tubes simul./Containers device accommodates</li> <li>• Maintenance required</li> </ul>	<p>recapper                  Power Processor III/—/yes/500                  no/13 x 100; 13 x 75; Sarstedt                  weekly</p>	<p>recapper                  Labotix/50 x 24 x 66 inches/yes/1,440                  yes/16, 13 x 100; 16, 13 x 75                  quarterly</p>
<p><b>Automated storage and retrieval available</b></p> <ul style="list-style-type: none"> <li>• Model/Dimen. (H x W x D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**</li> <li>• Containers device accommodates/Connects to the track</li> <li>• Room temperature/Minimum and maximum number of tubes stored per module</li> <li>• Multiple size tubes can be stored in the same module/Maintenance required</li> <li>• Refrigerated storage and retrieval capability</li> </ul> <p><b>Longitudinal upgrade pathway or plan to protect users' investments</b></p>	<p>yes                  Power Processor III/—/yes/500                  13 x 100; 13 x 75; Sarstedt/yes                  yes/1 and 5,440                  no/weekly                  yes                  Power Processor is expandable for upgrades as lab needs grow</p>	<p>yes                  Labotix/66 x 57 x 126 inches/yes/720                  16, 13 x 100; 16, 13 x 75, custom/yes                  yes/5,175                  yes/quarterly                  yes                  open modular system that allows changing of analyzers and adding of components including physical track expansion                  14 days/Cerner Labotix/24-7, 365 days per year                  no/yes</p>
<p><b>Average time to install/Who provides service, support/Hours support is available                  On-site biomedical engineer required/User group meets regularly</b></p>	<p>7-21 days/Beckman Coulter/24-7                  no/yes</p>	<p>14 days/Cerner Labotix/24-7, 365 days per year                  no/yes</p>
<p><b>List price</b></p> <p><b>Individual list prices for components</b></p> <ul style="list-style-type: none"> <li>• Process control SW/Transportation systems/Auto. centrifugation</li> <li>• Auto. input, accession/Auto. decap/Auto. sort/Auto. storage and retrieval</li> <li>• Specimen integrity monitor/Automated aliquot</li> <li>• Instrument (analyzer) interfaces/Automated recap</li> </ul>	<p>—                  —                  —                  —                  —</p>	<p>—                  —                  —                  —                  —</p>
<p><b>Distinguishing features (supplied by company)</b></p> <p><i>* For basic building block unit</i></p> <p><i>** Average throughput in specimen containers per hour per device</i></p> <p><i>Note: a dash in lieu of an answer means company did not answer question or question is not applicable.</i></p>	<p>refrigerated storage with recapping and auto rerun; totally open system; intelligent aliquotting; consistent turnaround time results</p>	<p>open modular system independent of lab instrumentation; sort and deliver all specimens to any destination in the lab gives the client flexibility to change instrument vendors without incurring the cost of replacing lab automation; completely scalable, high throughput system; multi-vendor LIS integration</p>

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

## Laboratory automation systems and workcells

<b>Part 6 of 17</b>	<b>Inpeco SA</b> Giuseppe Minola info@inpeco.com Via San Gottardo 10, Lugano, CH 6900 +41 91 9118200 www.inpeco.com	<b>m-u-t America</b> Niels Häggglund nhaggglund@mut-group.com 3931 Deep Rock Road, Henrico, VA 23233 804-620-4029 www.mut-group.com
See captodayonline.com/productguides for an interactive version of guide		
<b>Name of system/First year installed/No. of 2013 contracts signed No. of live sites installed in N. America/Europe/Asia-Australia</b>	<b>FlexLab Automation/2008/43 7/119/6</b>	<b>HCTS2000 MK3 racking device/2008/— —</b>
<b>Automation products that are available</b> • Pre-analytical processor/Total laboratory automation • Automated functions: Accessioning/Track load/Centrifugation/Decapping • Automated functions: Rack specific sort/Aliquot/Tube relabeling/Resealing • Automated functions: Storage retrieval/Intelligent sample routing • SW: Dedicated Process Control/Middleware control using LIS/Architecture • Company has dedicated automation support team/Remote system monitoring	yes/yes yes/yes/yes/yes no/yes/yes/yes yes/yes yes/yes/open yes/yes	yes/no yes/yes/no/no yes/no/no/no no/yes yes/yes/closed yes/yes
<b>Software features/functionality</b> • Patient demographics and insurance data/Rules-based architecture • Supports data retrieval/Internet connectivity • Online real-time help system/QC/Stats and management reports • Evaluates validity and releasability of results from automated analyzers • Specimen tracking/Priority processing/Random-access spec. movement • Supports accession number redundancy (duplicate specimen ID) • Supports specimen carrier and level identification • Unique bar-code number per container required • Specimen routing/Multistop routing (one tube to multiple workstations) • Specimen scheduling/Instrument scheduling • 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	LIS feature/automation SW feature automation SW feature/automation SW feature automation SW feature/automation SW feature/automation SW feature automation SW feature automation SW feature/automation SW feature/automation SW feature LIS feature automation SW feature LIS feature automation SW feature/automation SW feature automation SW feature/automation SW feature automation SW feature/automation SW feature automation SW feature/— automation SW feature/automation SW feature	LIS feature/automation SW feature — automation SW feature/—/— — automation SW feature/automation SW feature/— automation SW feature — automation SW feature/automation SW feature — — automation SW feature/— —/automation SW feature
<b>LIS(s) and versions interfaced and live with LAS/How LIS(s) are interfaced with your LAS/LOINC can be used to identify tests when communicating with LIS</b>	Cerner Classic and Millennium, Cortez, Delphic, Dianoema, GE Ultra, GLMIS by MIPS, Lab Track, Meditech 5.4, Misys, ModulabGold (Izasa), OSM, Roche Omega, SCC, Siemens/ASTM/yes	McKesson, Soft, DI, VA, DHCP/ASTM/no
<b>Transportation systems available</b> • 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	yes Inpeco FlexLab Track Module/1,020 × 2,300 × 430 mm/yes 16, 13 × 100; 16, 13 × 75, some pediatric tubes with adapter/17.5 (>10,000 tubes/hour) yes yes/floor mounted/yes compressed air, electricity/monthly single specimen container per carrier/yes	no — — — — —
<b>Automated centrifugation available</b> • 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 <b>Automated input/accessioning available</b> • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates/Dedicated lanes for stat samples • Maximum No. of samples that can be loaded/Maintenance required <b>Automated decapping available</b> • 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 <b>Automated sorting available</b> • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates/Software can sort by <b>Specimen integrity monitor available</b> • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates/Maintenance required <b>Automated aliquotting available</b> • 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	yes FlexLab Centrifuge Module (Hettich Rotanta 460 Robotic)/1,500 × 950 × 1,410 mm/yes 300 tubes per hour/16, 13 × 100; 16, 13 × 75, pediatric tubes with adapter no yes yes weekly, monthly yes FlexLab IOM/ RIM/ BIM Module/—/yes/IOM 750, RIM 800, BIM 1,000 tubes/hour 16, 13 × 100; 16, 13 × 75, some pediatric tubes with adapter, others/yes IOM: 780; RIM: 288; BIM: 800/weekly, monthly yes FlexLab Decapper and Desealer Module/—/yes/Decapper: 800, Desealer: 200 16, 13 × 100; 16, 13 × 75, some pediatric tubes with adapter/daily, monthly yes/yes yes FlexLab Input-Output Module/1,380 × 1,970 × 1,085 mm/yes/750 tubes per hour 16, 13 × 100; 16, 13 × 75, some pediatric tubes with adapter/specimen, method, output no — — yes FlexLab Aliquoter Module/895 × 701 × 1,561 mm/yes/500 tubes per hour 16, 13 × 100; 16, 13 × 75, some pediatric tubes with adapter yes/yes yes/daily, weekly, monthly	no — — — — — yes HCTS2000 MK3/61 × 98 × 53 inches/yes/800–2,000 16, 13 × 100; 16, 13 × 75; 8–19 mm diameter × 75–120 mm height/no 550/daily, monthly no — — yes HCTS2000 MK3/61 × 98 × 53 inches/yes/800–2,000 16, 13 × 100; 16, 13 × 75; 8–19 mm dia. × 75–120 mm ht/specimen, method, output no — — no — — —
<b>Instrument (analyzer) interfaces</b> • Rules-based instrument interface control subsystem • Process control of instrument via control subsystem <b>Physical/hardware (instrument/specimen) interface</b> • Hematology/Chemistry/Coagulation • Immunoassay/Urinalysis	yes yes robotic arm interface, point of ref./robotic arm, point of ref./robotic arm, point of ref. robotic arm interface, point of reference/—	no no — —
<b>Instruments to which your system or product is interfaced</b> <b>Other robotic products/components to which system or product is linked</b>	>40 connections: Abbott, Siemens, Roche, Beckman, Sysmex, Ortho, Diasorin, Thermo, Biorad, Tosoh, Stago, Copan, IL, Arkray, Alifax, Diesse, Mechatronics, others —	— —
<b>Automated recapper or sealer available</b> • 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	recapper and sealer FlexLab Recapper and Sealer Module/—/yes/400 per hr; sealer module available yes/16, 13 × 100; 16, 13 × 75, some pediatric tubes with adapter, others monthly	no — — —
<b>Automated storage and retrieval available</b> • 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 <b>Longitudinal upgrade pathway or plan to protect users' investments</b> <b>Average time to install/Who provides service, support/Hours support is available</b> <b>On-site biomedical engineer required/User group meets regularly</b>	yes FlexLab Storage and Retrieval Module, others/2,570 × 1,950 × 1,778 mm/yes/800 16, 13 × 100; 16, 13 × 75, others/yes no/9,000 or 15,360 yes/daily, monthly yes initial level of automation can incrementally expand to meet growing lab needs site dependent/Inpeco with cooperation of local service agencies/24–7 no/no	no — — — — independent of analyzer company; module can be upgraded with options <2 days/m-u-t America/24–7 no/no
<b>List price</b> <b>Individual list prices for components</b> • 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	— — — — —	\$161,600 included/—/— —/—/included/— — —
<b>Distinguishing features (supplied by company)</b> * For basic building block unit ** Average throughput in specimen containers per hour per device Note: a dash in lieu of an answer means company did not answer question or question is not applicable.	open and flexible system; fully integrated data management and automation software; new innovative projects for specialties such as mass spectrometry and molecular biology	bulk loading of tubes; tubes are placed into analyzer racks; sorting to output bins and analyzer racks

## Laboratory automation systems and workcells

<p><b>Part 7 of 17</b></p> <p>See <a href="http://captodayonline.com/productguides">captodayonline.com/productguides</a> for an interactive version of guide</p>	<p>m-u-t America                  Niels Hägglund nhagglund@mut-group.com                  3931 Deep Rock Road, Henrico, VA 23233                  804-620-4029 www.mut-group.com</p>	<p>Ortho-Clinical Diagnostics                  Dominique Fuzier dfuzier2@its.jnj.com                  1001 US Route 202, Raritan, NJ 08869                  908-704-3191 www.orthoclinical.com</p>
<p>Name of system/First year installed/No. of 2013 contracts signed                  No. of live sites installed in N. America/Europe/Asia-Australia</p>	<p>HCTS2000 MK2 automated sorter/2007/—                  —</p>	<p>enGen Laboratory Automation System/2001/—                  108 worldwide</p>
<p>Automation products that are available</p> <ul style="list-style-type: none"> <li>• Pre-analytical processor/Total laboratory automation</li> <li>• Automated functions: Accessioning/Track load/Centrifugation/Decapping</li> <li>• Automated functions: Rack specific sort/Aliquot/Tube relabeling/Resealing</li> <li>• Automated functions: Storage retrieval/Intelligent sample routing</li> <li>• SW: Dedicated Process Control/Middleware control using LIS/Architecture</li> <li>• Company has dedicated automation support team/Remote system monitoring</li> </ul>	<p>yes/no                  yes/no/no/no                  yes/no/no/no                  no/yes                  yes/yes/closed                  yes/yes</p>	<p>yes/yes                  yes/yes/yes/yes                  yes/yes/no/no                  yes/yes                  yes/yes/open via value lists                  yes/yes</p>
<p>Software features/functionality</p> <ul style="list-style-type: none"> <li>• Patient demographics and insurance data/Rules-based architecture</li> <li>• Supports data retrieval/Internet connectivity</li> <li>• Online real-time help system/QC/Stats and management reports</li> <li>• Evaluates validity and releasability of results from automated analyzers</li> <li>• Specimen tracking/Priority processing/Random-access spec. movement</li> <li>• Supports accession number redundancy (duplicate specimen ID)</li> <li>• Supports specimen carrier and level identification</li> <li>• Unique bar-code number per container required</li> <li>• Specimen routing/Multistop routing (one tube to multiple workstations)</li> <li>• Specimen scheduling/Instrument scheduling</li> <li>• Routes test to workstation/Automatic reflex, repeat, dilutions</li> <li>• Supports multiple HW configuration/Supports other proprietary transport. HW</li> <li>• Sample storage and retrieval SW/Supports approved CLSI standards</li> </ul>	<p>LIS feature/automation SW feature                  —                  automation SW feature/—/—                  —                  automation SW feature/automation SW feature/—                  automation SW feature                  —                  —                  automation SW feature/automation SW feature                  —                  —                  automation SW feature/—                  —/automation SW feature</p>	<p>automation SW feature/automation SW feature                  automation SW feature/automation SW feature                  —/automation SW feature/automation SW feature                  automation SW feature                  automation SW feature/automation SW feature/automation SW feature                  —                  automation SW feature                  automation SW feature                  automation SW feature/automation SW feature                  automation SW feature/automation SW feature                  automation SW feature/automation SW feature                  automation SW feature/automation SW feature                  automation SW feature/automation SW feature                  automation SW feature/—</p>
<p>LIS(s) and versions interfaced and live with LAS/How LIS(s) are interfaced with your LAS/LOINC (Logical Observation Identifiers Names and Codes) can be used to identify tests when communicating with LIS</p>	<p>McKesson, Soft, DI, VA, DHCP/ASTM/no</p>	<p>Cerner, SCC, Sunquest, McKesson, DI, VA, CHCS, Meditech, Orchard, others/HL7, ASTM/yes</p>
<p>Transportation systems available</p> <ul style="list-style-type: none"> <li>• Model/Dimensions (H × W × D)/Conforms to CLSI Stand. Auto 1-5</li> <li>• Containers device accommodates/Average throughput in cm per second</li> <li>• Supports automatic rerouting for reflex-repeat-dilutions</li> <li>• Modular HW/Installed options/Device can operate in track and manual mode</li> <li>• Required utilities/Required maintenance</li> <li>• Carrier type/Scalable system</li> </ul>	<p>no                  —                  —                  —                  —                  —</p>	<p>yes                  Covered Conveyor/600–2,400 mm sections/yes                  16, 13 × 100; 16, 13 × 75/10                  yes                  yes/floor mounted/yes                  compressed air, electricity/annually                  single specimen container per carrier/yes</p>
<p>Automated centrifugation available</p> <ul style="list-style-type: none"> <li>• Model/Dimensions (H × W × D)/Conforms to CLSI Stand. Auto 1-5</li> <li>• Maximum throughput/Containers device accommodates</li> <li>• Can identify tube types for custom programmed rate and spin times per run</li> <li>• More than one centrifuge can be connected to track system</li> <li>• For multi-unit centrifuge, each centrifuge operates independently for rate and time</li> <li>• Maintenance required</li> </ul> <p>Automated input/accessioning available</p> <ul style="list-style-type: none"> <li>• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**</li> <li>• Containers device accommodates/Dedicated lanes for stat samples</li> <li>• Maximum No. of samples that can be loaded/Maintenance required</li> </ul> <p>Automated decapping available</p> <ul style="list-style-type: none"> <li>• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**</li> <li>• Containers device accommodates/Maintenance required</li> <li>• Removes multiple size tube caps per run/Removes screw type sample caps</li> </ul> <p>Automated sorting available</p> <ul style="list-style-type: none"> <li>• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**</li> <li>• Containers device accommodates/Software can sort by</li> </ul> <p>Specimen integrity monitor available</p> <ul style="list-style-type: none"> <li>• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**</li> <li>• Containers device accommodates/Maintenance required</li> </ul> <p>Automated aliquotting available</p> <ul style="list-style-type: none"> <li>• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**</li> <li>• Containers device accommodates</li> <li>• Inspects samples for bar code/Detects and reports clots in specimen</li> <li>• Detects and reports quantity not sufficient specimens/Maintenance required</li> </ul>	<p>no                  —                  —                  —                  —                  —                  yes                  HTS2000 MK2/48 × 56 × 31 inches/yes/2,000                  16, 13 × 100; 16, 13 × 75; 8–19 mm diameter × 75–120 mm height/no                  550/daily, monthly                  no                  —                  —                  —                  yes                  HCTS2000 MK2/48 × 56 × 31 inches/yes/2,000                  16, 13 × 100; 16, 1 × 75; others/specimen type, bar code, cap color, method, others                  no                  —                  —                  no                  —                  —                  —                  —                  —                  —</p>	<p>yes                  centrifuge module/1,900 × 1,200 × 1,375 mm/yes                  400; 96-tube capacity/13 × 100; 13 × 75                  yes                  yes                  yes                  quarterly                  yes                  rack entry-exit module/1,900 × 1,200 × 965 mm/yes/500                  16, 13 × 100; 16, 13 × 75/yes                  600/annually                  yes                  decapper module/1,600 × 600 × 965 mm/yes/600                  16, 13 × 100; 16, 13 × 75/annually                  yes/yes                  yes                  rack exit-entry module/1,900 × 1,200 × 965 mm/yes/500                  16, 13 × 100; 16, 13 × 75/specimen, method, output                  yes                  via VITROS 5,1 FS 3600, 5600/—/—/—                  16, 13 × 100; 16, 13 × 75/weekly, monthly, annually                  yes                  aliquoter and labeler module/1,900 × 1,500 × 965 mm/yes/200                  16, 13 × 100; 16, 13 × 75                  yes/yes                  yes/quarterly</p>
<p>Instrument (analyzer) interfaces</p> <ul style="list-style-type: none"> <li>• Rules-based instrument interface control subsystem</li> <li>• Process control of instrument via control subsystem</li> </ul> <p>Physical/hardware (instrument/specimen) interface</p> <ul style="list-style-type: none"> <li>• Hematology/Chemistry/Coagulation</li> <li>• Immunoassay/Urinalysis</li> </ul>	<p>no                  no                  —                  —</p>	<p>yes                  —                  —/point-of-reference sampling/—                  point-of-reference sampling/—</p>
<p>Instruments to which your system or product is interfaced</p> <p>Other robotic products/components to which system or product is linked</p>	<p>—                  —</p>	<p>VITROS 5600, 4600, 3600, 5,1 FS systems                  —</p>
<p>Automated recapper or sealer available</p> <ul style="list-style-type: none"> <li>• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**</li> <li>• Recaps-seals multiple size tubes simult./Containers device accommodates</li> <li>• Maintenance required</li> </ul>	<p>no                  —                  —                  —</p>	<p>recapper                  recapper module/1,600 × 600 × 965 mm/yes/500                  yes/16, 13 × 100; 16, 13 × 75                  annually</p>
<p>Automated storage and retrieval available</p> <ul style="list-style-type: none"> <li>• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**</li> <li>• Containers device accommodates/Connects to the track</li> <li>• Room temperature/Minimum and maximum number of tubes stored per module</li> <li>• Multiple size tubes can be stored in the same module/Maintenance required</li> <li>• Refrigerated storage and retrieval capability</li> </ul> <p>Longitudinal upgrade pathway or plan to protect users' investments</p>	<p>no                  —                  —                  —                  —                  independent of analyzer company; module can be upgraded with options</p>	<p>yes                  ES Flex module/1,900 × 1,200 × 965 mm/yes/600                  16, 13 × 100; 16, 13 × 75/yes                  yes/512–800 depending on tube diameter                  yes/annually                  no                  customized automation offering, enGen can be reconfigured or upgraded as needs change; SW configuration updates available periodically depends on configurable customizations/depends on service contract with Ortho                  no/no</p>
<p>Average time to install/Who provides service, support/Hours support is available                  On-site biomedical engineer required/User group meets regularly</p>	<p>&lt;2 days/m-u-t America/24–7                  no/no</p>	<p></p>
<p>List price</p> <p>Individual list prices for components</p> <ul style="list-style-type: none"> <li>• Process control SW/Transportation systems/Auto. centrifugation</li> <li>• Auto. input, accession/Auto. decap/Auto. sort/Auto. storage and retrieval</li> <li>• Specimen integrity monitor/Automated aliquot</li> <li>• Instrument (analyzer) interfaces/Automated recap</li> </ul>	<p>\$116,000                  included/—/—                  —/—/included/—                  —                  —</p>	<p>varies                  —                  —                  —                  —</p>
<p>Distinguishing features (supplied by company)                  * For basic building block unit                  ** Average throughput in specimen containers per hour per device</p>	<p>no robotic arms, high-throughput yields and reliability with ease of operation and installation; users can pour sample tubes into hopper, eliminating shuffling tubes in racks in lab reception areas; simple and flexible sorting rules and methods</p>	<p>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</p>

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

## Laboratory automation systems and workcells

<b>Part 8 of 17</b> <i>See captodayonline.com/productguides for an interactive version of guide</i>	<b>Roche Diagnostics</b> Jeremy Kiger jeremy.kiger@roche.com 9115 Hague Road, Indianapolis, IN 46250 317-521-4751 www.roche-diagnostics.us	<b>Roche Diagnostics</b> Jeremy Kiger jeremy.kiger@roche.com 9115 Hague Road, Indianapolis, IN 46250 317-521-4751 www.roche-diagnostics.us
<b>Name of system/First year installed/No. of 2013 contracts signed</b> <b>No. of live sites installed in N. America/Europe/Asia-Australia</b>	cobas p 312 pre-analytical system/2012/— —	cobas p612 pre-analytical system/2002/15 -43/217/102
<b>Automation products that are available</b> <ul style="list-style-type: none"> <li>• Pre-analytical processor/Total laboratory automation</li> <li>• Automated functions: Accessioning/Track load/Centrifugation/Decapping</li> <li>• Automated functions: Rack specific sort/Aliquot/Tube relabeling/Resealing</li> <li>• Automated functions: Storage retrieval/Intelligent sample routing</li> <li>• SW: Dedicated Process Control/Middleware control using LIS/Architecture</li> <li>• Company has dedicated automation support team/Remote system monitoring</li> </ul>	yes/no yes/no/no/yes yes/no/no/no no/yes yes/yes/open yes/yes	yes/yes yes/yes (as option)/yes/yes yes/yes/yes/yes yes/yes yes/yes/closed yes/yes
<b>Software features/functionality</b> <ul style="list-style-type: none"> <li>• Patient demographics and insurance data/Rules-based architecture</li> <li>• Supports data retrieval/Internet connectivity</li> <li>• Online real-time help system/QC/Stats and management reports</li> <li>• Evaluates validity and releasability of results from automated analyzers</li> <li>• Specimen tracking/Priority processing/Random-access spec. movement</li> <li>• Supports accession number redundancy (duplicate specimen ID)</li> <li>• Supports specimen carrier and level identification</li> <li>• Unique bar-code number per container required</li> <li>• Specimen routing/Multistop routing (one tube to multiple workstations)</li> <li>• Specimen scheduling/Instrument scheduling</li> <li>• Routes test to workstation/Automatic reflex, repeat, dilutions</li> <li>• Supports multiple HW configuration/Supports other proprietary transport. HW</li> <li>• Sample storage and retrieval SW/Supports approved CLSI standards</li> </ul>	automation SW feature/automation SW feature automation SW feature/— automation SW feature/—/automation SW feature — automation SW feature/automation SW feature/automation SW feature automation SW feature automation SW feature automation SW feature automation SW feature/automation SW feature automation SW feature/— automation SW feature/— automation SW feature/automation SW feature —/automation SW feature	automation SW feature/automation SW feature automation SW feature/automation SW feature automation SW feature/automation SW feature/automation SW feature — automation SW feature/automation SW feature/automation SW feature automation SW feature automation SW feature — automation SW feature/automation SW feature automation SW feature/automation SW feature automation SW feature/— automation SW feature/automation SW feature automation SW feature/automation SW feature
<b>LIS(s) and versions interfaced and live with LAS/How LIS(s) are interfaced with your LAS/LOINC (Logical Observation Identifiers Names and Codes) can be used to identify tests when communicating with LIS</b>	Cerner, MCS, Medat, Syspek, MIPS, Providens, Bayer, Molis, Omega, McKesson, Vertex, Zanacore, DI, Cirrus, SCC Soft, Nyantech, MCS Promed, Swisslab, Melos, IDAA, Syscomp, OSM, others/ASTM and system-specific dynamic interface/no	Cerner, MCS, Medat, Syspek, 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/no
<b>Transportation systems available</b> <ul style="list-style-type: none"> <li>• Model/Dimensions (H × W × D)/Conforms to CLSI Stand. Auto 1-5</li> <li>• Containers device accommodates/Average throughput in cm per second</li> <li>• Supports automatic rerouting for reflex-repeat-dilutions</li> <li>• Modular HW/Installed options/Device can operate in track and manual mode</li> <li>• Required utilities/Required maintenance</li> <li>• Carrier type/Scalable system</li> </ul>	yes cobas p 312 pre-analytical system/—/yes 16, 13 × 100; 16, 13 × 75/— yes, when recursive workflow capabilities are required no/—/— compressed air, electricity/weekly, monthly single and multiple (up to 150) specimen/no	yes transport built into the instrument/—/yes 16, 13 × 100; 16, 13 × 75; 11.5 × 65.5 mm up to 15.5 × 108 mm/— no yes/—/yes electricity/weekly, quarterly single specimen container per carrier/yes
<b>Automated centrifugation available</b> <ul style="list-style-type: none"> <li>• Model/Dimensions (H × W × D)/Conforms to CLSI Stand. Auto 1-5</li> <li>• Maximum throughput/Containers device accommodates</li> <li>• Can identify tube types for custom programmed rate and spin times per run</li> <li>• More than one centrifuge can be connected to track system</li> <li>• For multi-unit centrifuge, each centrifuge operates independently for rate and time</li> <li>• Maintenance required</li> </ul> <b>Automated input/accessioning available</b> <ul style="list-style-type: none"> <li>• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**</li> <li>• Containers device accommodates/Dedicated lanes for stat samples</li> <li>• Maximum No. of samples that can be loaded/Maintenance required</li> </ul> <b>Automated decapping available</b> <ul style="list-style-type: none"> <li>• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**</li> <li>• Containers device accommodates/Maintenance required</li> <li>• Removes multiple size tube caps per run/Removes screw type sample caps</li> </ul> <b>Automated sorting available</b> <ul style="list-style-type: none"> <li>• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**</li> <li>• Containers device accommodates/Software can sort by</li> </ul> <b>Specimen integrity monitor available</b> <ul style="list-style-type: none"> <li>• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**</li> <li>• Containers device accommodates/Maintenance required</li> </ul> <b>Automated aliquotting available</b> <ul style="list-style-type: none"> <li>• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**</li> <li>• Containers device accommodates</li> <li>• Inspects samples for bar code/Detects and reports clots in specimen</li> <li>• Detects and reports quantity not sufficient specimens/Maintenance required</li> </ul>	no — — — — — yes cobas p 312/—/yes/450 16, 13 × 100; 16, 13 × 75/yes (user) 600/monthly yes cobas p 312/—/yes/450 16, 13 × 100; 16, 13 × 75/weekly yes/yes yes cobas p 312/—/yes/450 16, 13 × 100; 16, 13 × 75/method, output priority no — — no — — — —	yes single (EC1)/61.4 × 78.3 × 83.6 inches; EC2: 85.8 × 79.3 × 78.7 inches/yes EC1: 380 tubes per hour/16, 13 × 100; 16, 13 × 75; others yes yes yes weekly, quarterly yes input unit as part of system/78.74 × 33.47 × 69.29 inches/yes/up to 1,200 16, 13 × 100; 16, 13 × 75; 11.5 × 65.5 mm up to 15.5 × 108 mm/yes 600/daily, quarterly yes decapping module as part of system/14.96 × 12.60 × 5.90 inches/yes/up to 1,200 16, 13 × 100; 16, 13 × 75; 11.5 × 65.5 to 15.5 × 108 mm/daily, quarterly yes/yes yes output sorter as part of system/71.65 × 55.90 × 55.11 inches/yes/up to 1,200 16, 13×100; 16, 13×75; 11.5×65.5 to 15.5×108 mm/specimen, method, output yes Quality Check Unit QS I/11.4 × 19.7 × 14.0 inches/yes/850 16, 13 × 100; 16, 13 × 75; 11.5 × 65.5 to 15.5 × 108 mm/daily, quarterly yes aliquoting unit as part of system/125 × 73.2 × 78.7 inches/yes/655 16, 13 × 100; 16, 13 × 75; 11.5 × 65.5 to 15.5 × 108 mm yes/yes yes/daily, quarterly
<b>Instrument (analyzer) interfaces</b> <ul style="list-style-type: none"> <li>• Rules-based instrument interface control subsystem</li> <li>• Process control of instrument via control subsystem</li> </ul> <b>Physical/hardware (instrument/specimen) interface</b> <ul style="list-style-type: none"> <li>• Hematology/Chemistry/Coagulation</li> <li>• Immunoassay/Urinalysis</li> </ul>	yes yes — —	yes no — —
<b>Instruments to which your system or product is interfaced</b> <b>Other robotic products/components to which system or product is linked</b>	— —	— —
<b>Automated recapper or sealer available</b> <ul style="list-style-type: none"> <li>• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**</li> <li>• Recaps-seals multiple size tubes simult./Containers device accommodates</li> <li>• Maintenance required</li> </ul>	no — — —	sealer recapping module as part of system/13.39 × 12.20 × 8.66 inches/yes/up to 1,200 yes/16, 13 × 100; 16, 13 × 75; 11.5 × 65.5 to 15.5 × 108 mm daily, quarterly
<b>Automated storage and retrieval available</b> <ul style="list-style-type: none"> <li>• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**</li> <li>• Containers device accommodates/Connects to the track</li> <li>• Room temperature/Minimum and maximum number of tubes stored per module</li> <li>• Multiple size tubes can be stored in the same module/Maintenance required</li> <li>• Refrigerated storage and retrieval capability</li> </ul> <b>Longitudinal upgrade pathway or plan to protect users' investments</b>	no — — — — independent of any analyzer company, Roche/PVT modules can be upgraded	yes as part of system (output sorter), up to 41 workplaces/—/yes/up to 1,200 16, 13 × 100; 16, 13 × 75; 11.5 × 65.5 to 15.5 × 108 mm/yes no/1,200 yes/daily, quarterly no independent of any analyzer company, Roche/PVT modules can be upgraded
<b>Average time to install/Who provides service, support/Hours support is available</b> <b>On-site biomedical engineer required/User group meets regularly</b>	3 days/Roche/24-7 no/—	~1-2 weeks/Roche Diagnostics/daily 8 AM-5 PM (EST) and 24-7 upon request no/no
<b>List price</b> <b>Individual list prices for components</b> <ul style="list-style-type: none"> <li>• Process control SW/Transportation systems/Auto. centrifugation</li> <li>• Auto. input, accession/Auto. decap/Auto. sort/Auto. storage and retrieval</li> <li>• Specimen integrity monitor/Automated aliquot</li> <li>• Instrument (analyzer) interfaces/Automated recap</li> </ul>	— — — —	— —/included/—/included included/included/included/— —/included —
<b>Distinguishing features (supplied by company)</b> <i>* For basic building block unit</i> <i>** Average throughput in specimen containers per hour per device</i>	decaps, sorts, and archives all sample tubes for chemistry, immunoassay, hematology, coagulation, and urinalysis testing; high level of functionality on a small compact footprint	standalone system offers advanced functionality and throughput of up to 1000 sample tubes per hour; open-system solution for automating pre-analytical steps within a lab across multiple disciplines and vendors



## Laboratory automation systems and workcells

<p><b>Part 9 of 17</b></p> <p>See <a href="http://captodayonline.com/productguides">captodayonline.com/productguides</a> for an interactive version of guide</p>	<p><b>Roche Diagnostics</b>                  Jeremy Kiger <a href="mailto:jeremy.kiger@roche.com">jeremy.kiger@roche.com</a>                  9115 Hague Road, Indianapolis, IN 46250                  317-521-4751 <a href="http://www.roche-diagnostics.us">www.roche-diagnostics.us</a></p>	<p><b>Roche Diagnostics</b>                  Jeremy Kiger <a href="mailto:jeremy.kiger@roche.com">jeremy.kiger@roche.com</a>                  9115 Hague Road, Indianapolis, IN 46250                  317-521-4751 <a href="http://www.roche-diagnostics.us">www.roche-diagnostics.us</a></p>
<p><b>Name of system/First year installed/No. of 2013 contracts signed</b>  <b>No. of live sites installed in N. America/Europe/Asia-Australia</b></p>	<p>cobas p512 pre-analytical system/2001/23                  28/137/27</p>	<p>Modular Pre-Analytics EVO/2000/72                  225/525/207</p>
<p><b>Automation products that are available</b></p> <ul style="list-style-type: none"> <li>Pre-analytical processor/Total laboratory automation</li> <li>Automated functions: Accessioning/Track load/Centrifugation/Decapping</li> <li>Automated functions: Rack specific sort/Aliquot/Tube relabeling/Resealing</li> <li>Automated functions: Storage retrieval/Intelligent sample routing</li> <li>SW: Dedicated Process Control/Middleware control using LIS/Architecture</li> <li>Company has dedicated automation support team/Remote system monitoring</li> </ul>	<p>yes/yes                  yes/yes/yes/yes                  yes/no/no/yes                  yes/yes                  yes/yes/closed                  yes/yes</p>	<p>yes/yes                  yes/yes/yes/yes                  yes/yes/yes/yes                  yes/yes                  yes/yes/open and closed                  yes/yes</p>
<p><b>Software features/functionality</b></p> <ul style="list-style-type: none"> <li>Patient demographics and insurance data/Rules-based architecture</li> <li>Supports data retrieval/Internet connectivity</li> <li>Online real-time help system/QC/Stats and management reports</li> <li>Evaluates validity and releasability of results from automated analyzers</li> <li>Specimen tracking/Priority processing/Random-access spec. movement</li> <li>Supports accession number redundancy (duplicate specimen ID)</li> <li>Supports specimen carrier and level identification</li> <li>Unique bar-code number per container</li> <li>Specimen routing/Multistop routing (one tube to multiple workstations)</li> <li>Specimen scheduling/Instrument scheduling</li> <li>Routes test to workstation/Automatic reflex, repeat, dilutions</li> <li>Supports multiple HW configuration/Supports other proprietary transport. HW</li> <li>Sample storage and retrieval SW/Supports approved CLSI standards</li> </ul>	<p>automation SW feature/automation SW feature                  automation SW feature/automation SW feature                  automation SW feature/automation SW feature/automation SW feature                  —                  automation SW feature/automation SW feature/automation SW feature                  automation SW feature                  automation SW feature                  —                  automation SW feature/automation SW feature                  automation SW feature/automation SW feature                  automation SW feature/—                  automation SW feature/automation SW feature                  automation SW feature/automation SW feature</p>	<p>automation SW feature/automation SW feature                  automation SW feature/automation SW feature                  automation SW feature/automation SW feature/automation SW feature                  automation SW feature                  automation SW feature/automation SW feature/automation SW feature                  automation SW feature                  automation SW feature                  automation SW feature                  —                  automation SW feature/automation SW feature                  automation SW feature/—                  automation SW feature/automation SW feature                  automation SW feature/automation SW feature</p>
<p><b>LIS(s) and versions interfaced and live with LAS/How LIS(s) are interfaced with your LAS/LOINC (Logical Observation Identifiers Names and Codes) can be used to identify tests when communicating with LIS</b></p>	<p>Cerner, MCS, Medat, Syspek, MIPS, Providens, Bayer, Molis, Omega, McKesson, Vertex, Zanacore, DI, Cirrus, SCC Soft, Nyantech, MCS Promed, Swisslab, Melos, IDAA, Syscomp, OSM, Star LIMS, others/ASTM and system-specific dynamic interface/no</p>	<p>Cerner, MCS, Medat, Syspek, MIPS, Providens, Bayer, Molis, Omega, McKesson, Vertex, Zanacore, DI, Cirrus, SCC Soft, Nyantech, MCS Promed, Swisslab, Melos, IDAA, Syscomp, OSM, Star LIMS, others/LIS to LAS, HL7, ASTM/no</p>
<p><b>Transportation systems available</b></p> <ul style="list-style-type: none"> <li>Model/Dimensions (H x W x D)/Conforms to CLSI Stand. Auto 1-5</li> <li>Containers device accommodates/Average throughput in cm per second</li> <li>Supports automatic rerouting for reflex-repeat-dilutions</li> <li>Modular HW/Installed options/Device can operate in track and manual mode</li> <li>Required utilities/Required maintenance</li> <li>Carrier type/Scalable system</li> </ul>	<p>yes                  transport built into the instrument/—/yes                  16, 13 x 100; 16, 13 x 75; 11.5 x 65.5 to 15.5 x 108 mm/—                  no                  yes/—/yes                  electricity/daily, quarterly                  single specimen container per carrier/yes</p>	<p>yes                  MPA (A, B, C)/A: 4.6 x 15 x 3.5 ft.; B: 4.6 x 18 x 3.5 ft.; C: 4.6 x 9 x 3.5 feet/yes                  16, 13 x 100; 16, 13 x 75; 13 x 92; Greiner FBT, others/400 tubes per hour                  no                  yes/floor mounted/yes                  electricity/daily, quarterly                  multiple specimen (5) container per carrier/yes</p>
<p><b>Automated centrifugation available</b></p> <ul style="list-style-type: none"> <li>Model/Dimensions (H x W x D)/Conforms to CLSI Stand. Auto 1-5</li> <li>Maximum throughput/Containers device accommodates</li> <li>Can identify tube types for custom programmed rate and spin times per run</li> <li>More than one centrifuge can be connected to track system</li> <li>For multi-unit centrifuge, each centrifuge operates independently for rate and time</li> <li>Maintenance required</li> </ul> <p><b>Automated input/accessioning available</b></p> <ul style="list-style-type: none"> <li>Model/Dimen. (H x W x D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**</li> <li>Containers device accommodates/Dedicated lanes for stat samples</li> <li>Maximum No. of samples that can be loaded/Maintenance required</li> </ul> <p><b>Automated decapping available</b></p> <ul style="list-style-type: none"> <li>Model/Dimen. (H x W x D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**</li> <li>Containers device accommodates/Maintenance required</li> <li>Removes multiple size tube caps per run/Removes screw type sample caps</li> </ul> <p><b>Automated sorting available</b></p> <ul style="list-style-type: none"> <li>Model/Dimen. (H x W x D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**</li> <li>Containers device accommodates/Software can sort by</li> </ul> <p><b>Specimen integrity monitor available</b></p> <ul style="list-style-type: none"> <li>Model/Dimen. (H x W x D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**</li> <li>Containers device accommodates/Maintenance required</li> </ul> <p><b>Automated aliquotting available</b></p> <ul style="list-style-type: none"> <li>Model/Dimen. (H x W x D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**</li> <li>Containers device accommodates</li> <li>Inspects samples for bar code/Detects and reports clots in specimen</li> <li>Detects and reports quantity not sufficient specimens/Maintenance required</li> </ul>	<p>yes                  single (EC1)/61.4 x 78.3 x 83.6 inches; EC2: 85.8 x 79.3 x 78.7 inches/yes                  EC1: 380 tubes per hour/16, 13 x 100; 16, 13 x 75, others                  yes                  yes                  yes                  yes                  daily, quarterly                  yes                  input unit as part of system/78.74 x 33.47 x 69.29 inches/yes/up to 1,200                  16, 13 x 100; 16, 13 x 75; 11.5 x 65.5 mm to 15.5 x 108 mm/yes                  600/daily, quarterly                  yes                  decapping module as part of system/14.96 x 12.60 x 5.90 inches/yes/up to 1,200                  16, 13 x 100; 16, 13 x 75; 11.5 x 65.5 to 15.5 x 108 mm/daily, quarterly                  yes/yes                  yes                  output sorter as part of system/71.65 x 55.90 x 55.11 inches/yes/up to 1,200                  16, 13 x 100; 16, 13 x 75; 11.5 x 65.5 to 15.5 x 108 mm/specimen, method, output                  yes                  Quality Check Unit QS I/11.4 x 19.7 x 14.0 inches/yes/850                  16, 13 x 100; 16, 13 x 75; 11.5 x 65.5 to 15.5 x 108 mm/daily, quarterly                  no                  —                  —                  —                  —</p>	<p>yes                  standard centrifuge/3 x 2.5 x 3.5 ft./yes                  250/16, 13 x 100; 16, 13 x 75                  yes                  yes                  no                  daily, quarterly                  yes                  standard input buffer/42 x 38 x 41 inches/yes/160 racks                  16, 13 x 100; 16, 13 x 75/yes                  300/daily, quarterly                  yes                  standard decapper/49 x 18 x 41 inches/yes/80 racks                  16, 13 x 100; 16, 13 x 75; rubber, Hemogard, twist-off/daily, quarterly                  yes/yes                  yes                  standard sorter/36.6 x 11.8 x 41 inches/yes/80 racks                  16, 13 x 100; 16, 13 x 75; 13 x 92, Greiner FBT, others/specimen, method, output                  yes                  standard aliquoter/53 x 42 x 41 inches/yes/80 racks                  16, 13 x 100; 16, 13 x 75; 13 x 92, Greiner FBT, Greiver, others/daily, quarterly                  yes                  standard aliquoter/53 x 42 x 41 inches/yes/80 racks                  16, 13 x 100; 16, 13 x 75; 13 x 92, Greiner FBT, others                  yes/yes                  yes/daily, quarterly</p>
<p><b>Instrument (analyzer) interfaces</b></p> <ul style="list-style-type: none"> <li>Rules-based instrument interface control subsystem</li> <li>Process control of instrument via control subsystem</li> </ul> <p><b>Physical/hardware (instrument/specimen) interface</b></p> <ul style="list-style-type: none"> <li>Hematology/Chemistry/Coagulation</li> <li>Immunoassay/Urinalysis</li> </ul>	<p>yes                  no                  no/no/no                  no/no</p>	<p>yes                  yes                  no/point-of-reference sampling/no                  point-of-reference sampling/point-of-reference sampling</p>
<p><b>Instruments to which your system or product is interfaced</b>  <b>Other robotic products/components to which system or product is linked</b></p>	<p>—                  —</p>	<p>Hitachi, Stago                  Hitachi, Stago</p>
<p><b>Automated recapper or sealer available</b></p> <ul style="list-style-type: none"> <li>Model/Dimen. (H x W x D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**</li> <li>Recaps-seals multiple size tubes simult./Containers device accommodates</li> <li>Maintenance required</li> </ul>	<p>sealer                  recapping module as part of system/13.39 x 12.20 x 8.66 inches/yes/up to 1,200                  yes/16, 13 x 100; 16, 13 x 75; 11.5 x 65.5 to 15.5 x 108 mm                  daily, quarterly</p>	<p>recapper                  standard recapper/50 x 17.5 x 41 inches/yes/80 racks                  yes/16, 13 x 100; 16, 13 x 75; 13 x 92; Greiner FBT, Greiver, others                  daily, quarterly</p>
<p><b>Automated storage and retrieval available</b></p> <ul style="list-style-type: none"> <li>Model/Dimen. (H x W x D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**</li> <li>Containers device accommodates/Connects to the track</li> <li>Room temperature/Minimum and maximum number of tubes stored per module</li> <li>Multiple size tubes can be stored in the same module/Maintenance required</li> <li>Refrigerated storage and retrieval capability</li> <li>Longitudinal upgrade pathway or plan to protect users' investments</li> <li>Average time to install/Who provides service, support/Hours support is available</li> <li>On-site biomedical engineer required/User group meets regularly</li> </ul>	<p>yes                  —/—/yes/up to 1,200                  16, 13 x 100; 16, 13 x 75; 11.5 x 65.5 mm to 15.5 x 108 mm/yes                  no/up to 1,200                  yes/daily, quarterly                  no                  independent of any analyzer company, Roche/PVT modules can be upgraded                  ~1 week/Roche Diagnostics/daily 8 AM–5 PM (EST); 24–7 upon request                  no/no</p>	<p>yes                  p501, p701/p501: 5.3 feet x 14 feet; p701: 5.3 feet x 17.6 feet/yes/80 racks                  16, 13 x 100; 16, 13 x 75, 13 x 92, Greiner FBT, Greiver pour-off tube, others/yes                  no/p501: 13,500; p701: 27,000                  yes/daily, quarterly                  yes                  support for a minimum of 10 years after production                  up to 2 weeks/Roche Diagnostics phone and engineering field support/24–7                  no/no</p>
<p><b>List price</b></p> <p><b>Individual list prices for components</b></p> <ul style="list-style-type: none"> <li>Process control SW/Transportation systems/Auto. centrifugation</li> <li>Auto. input, accession/Auto. decap/Auto. sort/Auto. storage and retrieval</li> <li>Specimen integrity monitor/Automated aliquot</li> <li>Instrument (analyzer) interfaces/Automated recap</li> </ul>	<p>—                  —/included/—                  included/included/included/—                  —                  —</p>	<p>—                  included/included/included                  included/included/included/included                  included/included                  included/included</p>
<p><b>Distinguishing features (supplied by company)</b>                  * For basic building block unit                  ** Average throughput in specimen containers per hour per device                  Note: a dash in lieu of an answer means company did not answer question or question is not applicable.</p>	<p>standalone system offers advanced functionality and throughput of up to 1000 sample tubes per hour; open-system solution for automating pre-analytical steps within a lab across multiple disciplines and vendors</p>	<p>turnkey solution offers greater consolidation by connecting with Roche integrated analytics; three different configurations with increasing functionality to ensure an optimal fit for each lab</p>

## Laboratory automation systems and workcells

<b>Part 10 of 17</b> See <a href="http://captodayonline.com/productguides">captodayonline.com/productguides</a> for an interactive version of guide	<b>Roche Diagnostics</b> Jeremy Kiger jeremy.kiger@roche.com 9115 Hague Road, Indianapolis, IN 46250 317-521-4751 www.roche-diagnostics.us	<b>Roche Diagnostics</b> Jeremy Kiger jeremy.kiger@roche.com 9115 Hague Road, Indianapolis, IN 46250 317-521-4751 www.roche-diagnostics.us
<b>Name of system/First year installed/No. of 2013 contracts signed No. of live sites installed in N. America/Europe/Asia-Australia</b>	<b>cobas p501 post-analytical unit (storage and retrieval)/2009/3 3/28/3</b>	<b>cobas p701 post-analytical unit (storage and retrieval)/2009/4 7/18/7</b>
<b>Automation products that are available</b> <ul style="list-style-type: none"> <li>• Pre-analytical processor/Total laboratory automation</li> <li>• Automated functions: Accessioning/Track load/Centrifugation/Decapping</li> <li>• Automated functions: Rack specific sort/Aliquot/Tube relabeling/Resealing</li> <li>• Automated functions: Storage retrieval/Intelligent sample routing</li> <li>• SW: Dedicated Process Control/Middleware control using LIS/Architecture</li> <li>• Company has dedicated automation support team/Remote system monitoring</li> </ul>	no/no no/no/no/yes no/no/no/yes yes/no yes/yes/closed yes/yes	no/no no/no/no/yes no/no/no/yes yes/no yes/yes/closed yes/yes
<b>Software features/functionality</b> <ul style="list-style-type: none"> <li>• Patient demographics and insurance data/Rules-based architecture</li> <li>• Supports data retrieval/Internet connectivity</li> <li>• Online real-time help system/QC/Stats and management reports</li> <li>• Evaluates validity and releasability of results from automated analyzers</li> <li>• Specimen tracking/Priority processing/Random-access spec. movement</li> <li>• Supports accession number redundancy (duplicate specimen ID)</li> <li>• Supports specimen carrier and level identification</li> <li>• Unique bar-code number per container required</li> <li>• Specimen routing/Multistop routing (one tube to multiple workstations)</li> <li>• Specimen scheduling/Instrument scheduling</li> <li>• Routes test to workstation/Automatic reflex, repeat, dilutions</li> <li>• Supports multiple HW configuration/Supports other proprietary transport. HW</li> <li>• Sample storage and retrieval SW/Supports approved CLSI standards</li> </ul>	—/automation SW feature automation SW feature/automation SW feature automation SW feature/automation SW feature/automation SW feature — automation SW feature/automation SW feature/— automation SW feature — automation SW feature — automation SW feature/— — — automation SW feature/automation SW feature	—/automation SW feature automation SW feature/automation SW feature automation SW feature/automation SW feature/automation SW feature — automation SW feature/automation SW feature/— automation SW feature — automation SW feature — automation SW feature/— — — automation SW feature/automation SW feature
<b>LIS(s) and versions interfaced and live with LAS/How LIS(s) are interfaced with your LAS/LOINC (Logical Observation Identifiers Names and Codes) can be used to identify tests when communicating with LIS</b>	<b>Cerner, McKesson, SCC Soft/HL7/no</b>	<b>Cerner, McKesson, SCC Soft/HL7/no</b>
<b>Transportation systems available</b> <ul style="list-style-type: none"> <li>• Model/Dimensions (H × W × D)/Conforms to CLSI Stand. Auto 1-5</li> <li>• Containers device accommodates/Average throughput in cm per second</li> <li>• Supports automatic rerouting for reflex-repeat-dilutions</li> <li>• Modular HW/Installed options/Device can operate in track and manual mode</li> <li>• Required utilities/Required maintenance</li> <li>• Carrier type/Scalable system</li> </ul>	no — — — — —	no — — — — —
<b>Automated centrifugation available</b> <ul style="list-style-type: none"> <li>• Model/Dimensions (H × W × D)/Conforms to CLSI Stand. Auto 1-5</li> <li>• Maximum throughput/Containers device accommodates</li> <li>• Can identify tube types for custom programmed rate and spin times per run</li> <li>• More than one centrifuge can be connected to track system</li> <li>• For multi-unit centrifuge, each centrifuge operates independently for rate and time</li> <li>• Maintenance required</li> </ul> <b>Automated input/accessioning available</b> <ul style="list-style-type: none"> <li>• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**</li> <li>• Containers device accommodates/Dedicated lanes for stat samples</li> <li>• Maximum No. of samples that can be loaded/Maintenance required</li> </ul> <b>Automated decapping available</b> <ul style="list-style-type: none"> <li>• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**</li> <li>• Containers device accommodates/Maintenance required</li> <li>• Removes multiple size tube caps per run/Removes screw type sample caps</li> </ul> <b>Automated sorting available</b> <ul style="list-style-type: none"> <li>• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**</li> <li>• Containers device accommodates/Software can sort by</li> </ul> <b>Specimen integrity monitor available</b> <ul style="list-style-type: none"> <li>• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**</li> <li>• Containers device accommodates/Maintenance required</li> </ul> <b>Automated aliquotting available</b> <ul style="list-style-type: none"> <li>• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**</li> <li>• Containers device accommodates</li> <li>• Inspects samples for bar code/Detects and reports clots in specimen</li> <li>• Detects and reports quantity not sufficient specimens/Maintenance required</li> </ul>	no — — — — — yes —/14 × 5.3 × 7.5 feet/yes/400 16, 13 × 100; 16, 13 × 75; 11.5 × 65.5 mm to 15.5 × 108 mm/— 300 manual and continuous from MPA/daily, quarterly yes decapper as part of system/—/yes/total system is 400 16, 13 × 100; 16, 13 × 75; 11.5 × 65.5 mm to 15.5 × 108 mm/daily, quarterly yes/yes yes sorter as part of system/—/yes/total system is 400 16, 13 × 100; 16, 13 × 75; 13 × 92, Greiner FBT, others/specimen, output no — — no — — — —	no — — — — — yes —/17.5 × 5.3 × 7.5 feet/yes/400 16, 13 × 100; 16, 13 × 75; 11.5 × 65.5 mm to 15.5 × 108 mm/— 300 manual and continuous from MPA/daily, quarterly yes decapper as part of system/—/yes/total system is 400 16, 13 × 100; 16, 13 × 75; 11.5 × 65.5 mm to 15.5 × 108 mm/daily, quarterly yes/yes yes sorter as part of system/—/yes/total system is 400 16, 13 × 100; 16, 13 × 75; 13 × 92; Greiner FBT, others/specimen, output no — — no — — — —
<b>Instrument (analyzer) interfaces</b> <ul style="list-style-type: none"> <li>• Rules-based instrument interface control subsystem</li> <li>• Process control of instrument via control subsystem</li> </ul> <b>Physical/hardware (instrument/specimen) interface</b> <ul style="list-style-type: none"> <li>• Hematology/Chemistry/Coagulation</li> <li>• Immunoassay/Urinalysis</li> </ul>	yes yes — —	yes yes — —
<b>Instruments to which your system or product is interfaced Other robotic products/components to which system or product is linked</b>	<b>Roche MPA</b> —	<b>Roche MPA</b> —
<b>Automated recapper or sealer available</b> <ul style="list-style-type: none"> <li>• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**</li> <li>• Recaps-seals multiple size tubes simult./Containers device accommodates</li> <li>• Maintenance required</li> </ul>	<b>recapper</b> recapper as part of system/—/yes/total system is 400 yes/16, 13 × 100; 16, 13 × 75, 13 × 92, 11.5 × 65.5 mm to 15.5 × 108 mm daily, quarterly	<b>recapper</b> recapper as part of system/—/yes/total system is 400 yes/16, 13 × 100; 16, 13 × 75, 13 × 92, 11.5 × 65.5 mm to 15.5 × 108 mm daily, quarterly
<b>Automated storage and retrieval available</b> <ul style="list-style-type: none"> <li>• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**</li> <li>• Containers device accommodates/Connects to the track</li> <li>• Room temperature/Minimum and maximum number of tubes stored per module</li> <li>• Multiple size tubes can be stored in the same module/Maintenance required</li> <li>• Refrigerated storage and retrieval capability</li> </ul> <b>Longitudinal upgrade pathway or plan to protect users' investments</b>	<b>yes</b> cobas p501/14 × 5.3 × 7.5 feet/yes/400 16, 13 × 100; 16, 13 × 75, 13 × 92, 11.5 × 65.5 mm to 15.5 × 108 mm/yes no/13,500 yes/daily, quarterly yes support for a minimum of 10 years after production; product upgrades installed as required	<b>yes</b> cobas p701/17.5 × 5.3 × 7.5 feet/yes/400 16, 13 × 100; 16, 13 × 75, 13 × 92, 11.5 × 65.5 mm to 15.5 × 108 mm/yes no/27,000 yes/daily, quarterly yes support for a minimum of 10 years after production; product upgrades installed as required
<b>Average time to install/Who provides service, support/Hours support is available On-site biomedical engineer required/User group meets regularly</b>	<b>1 week/Roche/24-7 no/no</b>	<b>1 week/Roche/24-7 no/no</b>
<b>List price</b> <b>Individual list prices for components</b> <ul style="list-style-type: none"> <li>• Process control SW/Transportation systems/Auto. centrifugation</li> <li>• Auto. input, accession/Auto. decap/Auto. sort/Auto. storage and retrieval</li> <li>• Specimen integrity monitor/Automated aliquot</li> <li>• Instrument (analyzer) interfaces/Automated recap</li> </ul>	— included/—/— included/included/included/based on system options — —/included	— included/—/— included/included/included/based on system options — —/included
<b>Distinguishing features (supplied by company)</b> <i>* For basic building block unit</i> <i>** Average throughput in specimen containers per hour per device</i> <i>Note: a dash in lieu of an answer means company did not answer question or question is not applicable.</i>	<b>delivers automated, efficient, and accurate storage, retrieval, and disposal with a capacity of 13,500 tubes</b>	<b>delivers automated, efficient, and accurate storage, retrieval, and disposal with a capacity of 27,000 tubes</b>

## Laboratory automation systems and workcells

<p><b>Part 11 of 17</b></p> <p>See <a href="http://captodayonline.com/productguides">captodayonline.com/productguides</a> for an interactive version of guide</p>	<p><b>Sarstedt</b>                  Peter Rumswinkel, VP/GM <a href="mailto:customerservice@sarstedt.us">customerservice@sarstedt.us</a>                  P. O. Box 468, Newton, NC 28658                  800-257-5101 <a href="http://www.sarstedt.com">www.sarstedt.com</a></p>	<p><b>Sarstedt</b>                  Peter Rumswinkel, VP/GM <a href="mailto:customerservice@sarstedt.us">customerservice@sarstedt.us</a>                  P. O. Box 468, Newton, NC 28658                  800-257-5101 <a href="http://www.sarstedt.com">www.sarstedt.com</a></p>
<p>Name of system/First year installed/No. of 2013 contracts signed                  No. of live sites installed in N. America/Europe/Asia-Australia</p>	<p>DC/RC 900 Flex/2009/—                  —</p>	<p>HSS High Speed Sorter 1625/2004/—                  —</p>
<p>Automation products that are available</p> <ul style="list-style-type: none"> <li>• Pre-analytical processor/Total laboratory automation</li> <li>• Automated functions: Accessioning/Track load/Centrifugation/Decapping</li> <li>• Automated functions: Rack specific sort/Aliquot/Tube relabeling/Resealing</li> <li>• Automated functions: Storage retrieval/Intelligent sample routing</li> <li>• SW: Dedicated Process Control/Middleware control using LIS/Architecture</li> <li>• Company has dedicated automation support team/Remote system monitoring</li> </ul>	<p>yes/no                  yes/no/no/yes                  yes/no/no/yes                  no/yes                  yes/yes/open                  yes/yes</p>	<p>yes/no                  yes/no/no/yes                  yes/no/no/yes                  no/yes                  yes/yes/open                  yes/yes</p>
<p>Software features/functionality</p> <ul style="list-style-type: none"> <li>• Patient demographics and insurance data/Rules-based architecture</li> <li>• Supports data retrieval/Internet connectivity</li> <li>• Online real-time help system/QC/Stats and management reports</li> <li>• Evaluates validity and releasability of results from automated analyzers</li> <li>• Specimen tracking/Priority processing/Random-access spec. movement</li> <li>• Supports accession number redundancy (duplicate specimen ID)</li> <li>• Supports specimen carrier and level identification</li> <li>• Unique bar-code number per container</li> <li>• Specimen routing/Multistop routing (one tube to multiple workstations)</li> <li>• Specimen scheduling/Instrument scheduling</li> <li>• Routes test to workstation/Automatic reflex, repeat, dilutions</li> <li>• Supports multiple HW configuration/Supports other proprietary transport. HW</li> <li>• Sample storage and retrieval SW/Supports approved CLSI standards</li> </ul>	<p>—/automation SW feature                  automation SW feature/automation SW feature                  —/—/automation SW feature                  —                  automation SW feature/automation SW feature/automation SW feature                  automation SW feature                  —                  —                  automation SW feature/automation SW feature                  automation SW feature/automation SW feature                  automation SW feature/automation SW feature                  automation SW feature/—                  —/automation SW feature</p>	<p>—/automation SW feature                  automation SW feature/automation SW feature                  —/—/automation SW feature                  —                  automation SW feature/automation SW feature/automation SW feature                  automation SW feature                  automation SW feature                  —                  automation SW feature/automation SW feature                  automation SW feature/automation SW feature                  automation SW feature/automation SW feature                  automation SW feature/automation SW feature                  automation SW feature/—                  —/automation SW feature</p>
<p>LIS(s) and versions interfaced and live with LAS/How LIS(s) are interfaced with your LAS/LOINC (Logical Observation Identifiers Names and Codes) can be used to identify tests when communicating with LIS</p>	<p>—</p>	<p>—</p>
<p>Transportation systems available</p> <ul style="list-style-type: none"> <li>• Model/Dimensions (H x W x D)/Conforms to CLSI Stand. Auto 1-5</li> <li>• Containers device accommodates/Average throughput in cm per second</li> <li>• Supports automatic rerouting for reflex-repeat-dilutions</li> <li>• Modular HW/Installed options/Device can operate in track and manual mode</li> <li>• Required utilities/Required maintenance</li> <li>• Carrier type/Scalable system</li> </ul>	<p>no                  —                  —                  —                  —                  —</p>	<p>no                  —                  —                  —                  —                  —</p>
<p>Automated centrifugation available</p> <ul style="list-style-type: none"> <li>• Model/Dimensions (H x W x D)/Conforms to CLSI Stand. Auto 1-5</li> <li>• Maximum throughput/Containers device accommodates</li> <li>• Can identify tube types for custom programmed rate and spin times per run</li> <li>• More than one centrifuge can be connected to track system</li> <li>• For multi-unit centrifuge, each centrifuge operates independently for rate and time</li> <li>• Maintenance required</li> </ul> <p>Automated input/accessioning available</p> <ul style="list-style-type: none"> <li>• Model/Dimen. (H x W x D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**</li> <li>• Containers device accommodates/Dedicated lanes for stat samples</li> <li>• Maximum No. of samples that can be loaded/Maintenance required</li> </ul> <p>Automated decapping available</p> <ul style="list-style-type: none"> <li>• Model/Dimen. (H x W x D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**</li> <li>• Containers device accommodates/Maintenance required</li> <li>• Removes multiple size tube caps per run/Removes screw type sample caps</li> </ul> <p>Automated sorting available</p> <ul style="list-style-type: none"> <li>• Model/Dimen. (H x W x D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**</li> <li>• Containers device accommodates/Software can sort by</li> </ul> <p>Specimen integrity monitor available</p> <ul style="list-style-type: none"> <li>• Model/Dimen. (H x W x D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**</li> <li>• Containers device accommodates/Maintenance required</li> </ul> <p>Automated aliquotting available</p> <ul style="list-style-type: none"> <li>• Model/Dimen. (H x W x D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**</li> <li>• Containers device accommodates</li> <li>• Inspects samples for bar code/Detects and reports clots in specimen</li> <li>• Detects and reports quantity not sufficient specimens/Maintenance required</li> </ul>	<p>no                  —                  —                  —                  —                  —                  yes                  —/—/yes/800                  16, 13 x 100; 16, 13 x 75; 13 x 65 to 16 x 100/yes                  600/daily, annually                  yes                  —/—/yes/800                  16, 13 x 100; 16, 13 x 75; 13 x 65 to 16 x 100/daily, annually                  yes/yes                  yes                  —/—/yes/800                  16, 13 x 100; 16, 13 x 75; 13 x 65 to 16 x 100/specimen, method, output                  no                  —                  —                  no                  —                  —                  —                  —</p>	<p>no                  —                  —                  —                  —                  —                  yes                  —/—/yes/1,200                  16, 13 x 100; 16, 13 x 75; 13 x 65 to 16 x 100/yes                  600/daily, annually                  yes                  —/—/yes/1,200                  16, 13 x 100; 16, 13 x 75; 13 x 65 to 16 x 100/daily, annually                  yes/yes                  yes                  —/—/yes/1,200                  16, 13 x 100; 16, 13 x 75; 13 x 65 to 16 x 100/specimen, method, output                  no                  —                  —                  no                  —                  —                  —                  —</p>
<p>Instrument (analyzer) interfaces</p> <ul style="list-style-type: none"> <li>• Rules-based instrument interface control subsystem</li> <li>• Process control of instrument via control subsystem</li> </ul> <p>Physical/hardware (instrument/specimen) interface</p> <ul style="list-style-type: none"> <li>• Hematology/Chemistry/Coagulation</li> <li>• Immunoassay/Urinalysis</li> </ul>	<p>no                  no                  —                  —</p>	<p>no                  no                  —                  —</p>
<p>Instruments to which your system or product is interfaced                  Other robotic products/components to which system or product is linked</p>	<p>—                  —</p>	<p>—                  —</p>
<p>Automated recapper or sealer available</p> <ul style="list-style-type: none"> <li>• Model/Dimen. (H x W x D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**</li> <li>• Recaps-seals multiple size tubes simult./Containers device accommodates</li> <li>• Maintenance required</li> </ul>	<p>recapper                  —/—/yes/800                  yes/16, 13 x 100; 16, 13 x 75; 13 x 65 to 16 x 100                  daily, annually</p>	<p>recapper                  —/—/yes/1,200                  yes/16, 13 x 100; 16, 13 x 75; 13 x 65 to 16 x 100                  daily, annually</p>
<p>Automated storage and retrieval available</p> <ul style="list-style-type: none"> <li>• Model/Dimen. (H x W x D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**</li> <li>• Containers device accommodates/Connects to the track</li> <li>• Room temperature/Minimum and maximum number of tubes stored per module</li> <li>• Multiple size tubes can be stored in the same module/Maintenance required</li> <li>• Refrigerated storage and retrieval capability</li> </ul> <p>Longitudinal upgrade pathway or plan to protect users' investments</p>	<p>no                  —                  —                  —                  —                  systems are upgradable</p>	<p>no                  —                  —                  —                  —                  systems are upgradable</p>
<p>Average time to install/Who provides service, support/Hours support is available                  On-site biomedical engineer required/User group meets regularly</p>	<p>3 days/Sarstedt/M-F 8:00 AM-5 PM                  no/no</p>	<p>1-2 weeks/Sarstedt/M-F 8:00 AM-5 PM                  no/no</p>
<p>List price</p> <p>Individual list prices for components</p> <ul style="list-style-type: none"> <li>• Process control SW/Transportation systems/Auto. centrifugation</li> <li>• Auto. input, accession/Auto. decap/Auto. sort/Auto. storage and retrieval</li> <li>• Specimen integrity monitor/Automated aliquot</li> <li>• Instrument (analyzer) interfaces/Automated recap</li> </ul>	<p>—                  —                  —                  —</p>	<p>—                  —                  —                  —</p>
<p>Distinguishing features (supplied by company)</p> <p>* For basic building block unit                  ** Average throughput in specimen containers per hour per device                  Note: a dash in lieu of an answer means company did not answer question or question is not applicable.</p>	<p>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</p>	<p>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</p>

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

## Laboratory automation systems and workcells

Part 12 of 17 See captodayonline.com/productguides for an interactive version of guide	Sarstedt Peter Rumswinkel, VP/GM customerservice@sarstedt.us P. O. Box 468, Newton, NC 28658 800-257-5101 www.sarstedt.com	Sarstedt Peter Rumswinkel, VP/GM customerservice@sarstedt.us P. O. Box 468, Newton, NC 28658 800-257-5101 www.sarstedt.com
Name of system/First year installed/No. of 2013 contracts signed No. of live sites installed in N. America/Europe/Asia-Australia	Sarstedt PVS/— —	BL 1200 ID/2010 —
Automation products that are available • Pre-analytical processor/Total laboratory automation • Automated functions: Accessioning/Track load/Centrifugation/Decapping • Automated functions: Rack specific sort/Aliquot/Tube relabeling/Resealing • Automated functions: Storage retrieval/Intelligent sample routing • SW: Dedicated Process Control/Middleware control using LIS/Architecture • Company has dedicated automation support team/Remote system monitoring	yes/no yes/—/no/yes yes/yes/yes/yes no/yes yes/yes/open yes/yes	yes/no yes/no/no/yes yes/yes/yes/yes no/yes yes/yes/open yes/yes
Software features/functionality • Patient demographics and insurance data/Rules-based architecture • Supports data retrieval/Internet connectivity • Online real-time help system/QC/Stats and management reports • Evaluates validity and releasability of results from automated analyzers • Specimen tracking/Priority processing/Random-access spec. movement • Supports accession number redundancy (duplicate specimen ID) • Supports specimen carrier and level identification • Unique bar-code number per container required • Specimen routing/Multistop routing (one tube to multiple workstations) • Specimen scheduling/Instrument scheduling • 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/automation SW feature/— automation SW feature automation SW feature automation SW feature/automation SW feature automation SW feature/automation SW feature automation SW feature/automation SW feature automation SW feature/— —/automation SW feature	—/automation SW feature automation SW feature/automation SW feature —/—/automation SW feature — automation SW feature/automation SW feature/automation SW feature automation SW feature — automation SW feature/automation SW feature automation SW feature/automation SW feature automation SW feature/automation SW feature automation SW feature/automation SW feature automation SW feature/— —/automation SW feature
LIS(s) and versions interfaced and live with LAS/How LIS(s) are interfaced with your LAS/LOINC can be used to identify tests when communicating with LIS	—	—
Transportation systems available • 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	no — — — — — —	no — — — — — —
Automated centrifugation available • 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 • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates/Dedicated lanes for stat samples • Maximum No. of samples that can be loaded/Maintenance required Automated decapping available • Model/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 • Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput** • Containers device accommodates/Software can sort by 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 • 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	no — — — — — yes —/—/yes/1,200 16, 13 × 100; 16, 13 × 75; 13 × 65 to 16 × 100/— up to 600/quarterly yes —/configuration-dependent/yes/1,200 16, 13 × 100; 16, 13 × 75; multiple/quarterly yes/yes yes —/configuration-dependent/yes/1,200 16, 13 × 100; 16, 13 × 75; multiple/specimen, method, output no — — yes —/configuration-dependent/yes/dependent upon number of aliquots and their volumes 16, 13 × 100; 16, 13 × 75; multiple yes/yes yes/quarterly	no — — — — — yes —/—/—/1,200 16, 13 × 100; 16, 13 × 75/yes —/daily, weekly, monthly, quarterly, annually yes —/—/—/1,200 16, 13 × 100; 16, 13 × 75/daily, annually yes/yes yes —/—/—/1,200 16, 13 × 100; 16, 13 × 75/specimen, method, output no — — yes —/—/—/depends on number of aliquots 16, 13 × 100; 16, 13 × 75 yes/yes yes/daily, quarterly, annually
Instrument (analyzer) interfaces • Rules-based instrument interface control subsystem • Process control of instrument via control subsystem Physical/hardware (instrument/specimen) interface • Hematology/Chemistry/Coagulation • Immunoassay/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 • 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	recapper —/configuration-dependent/yes/1,200 yes/16, 13 × 100; 16, 13 × 75; 13–16 mm in diameter quarterly	recapper —/—/—/1,200 yes/16, 13 × 100; 16, 13 × 75 daily, annually
Automated storage and retrieval available • 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	no — — — — — systems are upgradable	no — — — — — —
Average time to install/Who provides service, support/Hours support is available On-site biomedical engineer required/User group meets regularly	1–2 weeks/Sarstedt or authorized Sarstedt service company/contract-dependent no/no	1–2 weeks/Sarstedt or authorized Sarstedt service company/contract-dependent 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) * For basic building block unit ** 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	bulk loading module: tubes are dumped into a hopper, eliminating need for pre-racking; modular design enables configuration based on individual requirements; custom sort target and rules determined by user

## Laboratory automation systems and workcells

<b>Part 13 of 17</b>	<b>Siemens Healthcare Diagnostics</b>	<b>Siemens Healthcare Diagnostics</b>
See <a href="http://captodayonline.com/productguides">captodayonline.com/productguides</a> for an interactive version of guide	Tia Maxwell tia.k.maxwell@siemens.com 511 Benedict Avenue, Tarrytown, NY 10591 302-631-0393 www.usa.siemens.com/diagnostics	Tim Keating timothy.m.keating@siemens.com 511 Benedict Avenue, Tarrytown, NY 10591 302-631-9482 www.usa.siemens.com/diagnostics
<b>Name of system/First year installed/No. of 2013 contracts signed No. of live sites installed in N. America/Europe/Asia-Australia</b>	VersaCell Systems/VersaCell X3 Solution/2002, 2014/— >150/>800 worldwide	Aptio Automation/2011 outside U.S., 2013 U.S./— >5/>40 worldwide
<b>Automation products that are available</b>		
• Pre-analytical processor/Total laboratory automation	yes/no	yes/yes
• Automated functions: Accessioning/Track load/Centrifugation/Decapping	no/yes/no/no	yes/yes/yes/yes
• Automated functions: Rack specific sort/Aliquot/Tube relabeling/Resealing	yes/no/no/no	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/—
• Company has dedicated automation support team/Remote system monitoring	yes/yes	yes/yes
<b>Software features/functionality</b>		
• Patient demographics and insurance data/Rules-based architecture	automation SW feature/LIS feature	LIS feature/automation SW feature
• Supports data retrieval/Internet connectivity	LIS feature/LIS 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	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/LIS 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
<b>LIS(s) and versions interfaced and live with LAS/How LIS(s) are interfaced with your LAS/LOINC can be used to identify tests when communicating with LIS</b>	multiple vendors/ASTM/no	—/ASTM/yes
<b>Transportation systems available</b>		
• Model/Dimensions (H × W × D)/Conforms to CLSI Stand. Auto 1-5	yes VersaCell X3 Solution/60 × 31 × 44/yes	yes Aptio Automation/54.33 × 77.56 × 42.71 inches/yes
• Containers device accommodates/Average throughput in cm per second	16, 13 × 100; 16, 13 × 75/—	16, 13 × 100; 16, 13 × 75/17.25
• 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	electricity/—	compressed air, electricity/none
• Carrier type/Scalable system	—/yes	single specimen container per carrier/yes (accommodates up to 32 analyzers)
<b>Automated centrifugation available</b>	no	yes
• Model/Dimensions (H × W × D)/Conforms to CLSI Stand. Auto 1-5	—	Hettich 80-position refrigerated/59 × 37.4 × 55.5/yes
• Maximum throughput/Containers device accommodates	—	300 with 10-minute spin/16, 13 × 100; 16, 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	—	weekly, monthly
<b>Automated input/accessioning available</b>	yes	yes
• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**	VersaCell X3 Solution/60 × 31 × 44 inches/yes/200 samples per hour	Aptio Automation input-output module/54.33 × 77.56 × 42.71 in./yes/750
• Containers device accommodates/Dedicated lanes for stat samples	16 × 100; 16 × 75/yes	16, 13 × 100; 16, 13 × 75/yes
• Maximum No. of samples that can be loaded/Maintenance required	208/—	780/weekly, monthly
<b>Automated decapping available</b>	no	yes
• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**	—	Aptio Decapper/included in track/yes/800
• 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
<b>Automated sorting available</b>	yes	yes
• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**	VersaCell X3 Solution/60 × 31 × 44 inches/yes/200 samples per hour	Aptio Automation input-output module/54.33 × 77.56 × 42.71 in./yes/800
• Containers device accommodates/Software can sort by	16 × 100; 16 × 75/specimen, method, output	16, 13 × 100; 16, 13 × 75/specimen, method, output
<b>Specimen integrity monitor available</b>	no	yes
• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**	—	performed at analyzer/—/yes/analyzer-dependent
• Containers device accommodates/Maintenance required	—	16, 13 × 100; 16, 13 × 75/—
<b>Automated aliquotting available</b>	no	yes
• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**	—	Aptio Automation aliquotter/35.2 × 61.4 × 27.5 inches/yes/100 primary, 400 aliquot tubes
• 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, weekly
<b>Instrument (analyzer) interfaces</b>		
• Rules-based instrument interface control subsystem	yes	yes
• Process control of instrument via control subsystem	yes	yes
<b>Physical/hardware (instrument/specimen) interface</b>		
• Hematology/Chemistry/Coagulation	—/point-of-reference sampling/—	robotic arm interface/point-of-reference sampl./O.U.S.: point-of-reference sampl.
• Immunoassay/Urinalysis	point-of-reference sampling/—	point-of-reference sampling, robotic arm interface/—
<b>Instruments to which your system or product is interfaced</b>	Advia 1800 system, Immulite Immunoassay system, Advia Centaur system, Dimension EXL with LM, Dimension EXL 200 system, Dimension RxL MAX system	Advia 1800, 2400, 2120i; Dimension Vista 1500, 500; Dimension EXL LM, EXL 200; Immulite 2000, 2000 XPi; Sysmex CS-5100 (not available in U.S.)
<b>Other robotic products/components to which system or product is linked</b>	StreamLab analytical workcell, Advia automation workcells, and Aptio automation	—
<b>Automated recapper or sealer available</b>	no	recapper and sealer
• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**	—	Aptio Automation tube recapper and sealer/incorporated into the track/yes/200
• Recaps-seals multiple size tubes simult./Containers device accommodates	—	yes/16, 13 × 100; 16, 13 × 75
• Maintenance required	—	monthly
<b>Automated storage and retrieval available</b>	no	yes
• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**	—	Aptio Automation 9,000 or 15,000/85.63 × 76.77 × 70; 101.2 × 76.77 × 70 in./yes/800
• 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	—	yes/module-dependent-I/O=780
• Multiple size tubes can be stored in the same module/Maintenance required	—	yes/daily
• Refrigerated storage and retrieval capability	—	yes
Longitudinal upgrade pathway or plan to protect users' investments	—	continued commitment to module development, analyzer connectivity, and IT enhancements
<b>Average time to install/Who provides service, support/Hours support is available On-site biomedical engineer required/User group meets regularly</b>	2 days/—/— no/no	3-6 weeks/Siemens/24-7 no/yes
<b>List price</b>	—	—
<b>Individual list prices for components</b>		
• 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	—	—
<b>Distinguishing features (supplied by company)</b>	non track- or rack-based automated sample management system from pre to post analytical; single point of entry for up to three analyzers connected; choice of various analyzers to provide a large onboard menu	scalability, footprint, IT solution, multiple module options, process management
* For basic building block unit		
** Average throughput in specimen containers per hour per device		









# Laboratory automation systems and workcells

<p><b>Part 17 of 17</b></p> <p>See <a href="http://captodayonline.com/productguides">captodayonline.com/productguides</a> for an interactive version of guide</p>	<p><b>Yaskawa America, Motoman Robotics Division</b>  <b>Craig Rubenstein</b> <a href="mailto:craig.rubenstein@motoman.com">craig.rubenstein@motoman.com</a>  <b>100 Automation Way, Miamisburg, OH 45342</b>  <b>949-263-2648</b> <a href="http://www.motoman.com/labauto/">www.motoman.com/labauto/</a></p>
<p><b>Name of system/First year installed/No. of 2013 contracts signed</b>  <b>No. of live sites installed in N. America/Europe/Asia-Australia</b></p>	<p><b>Autosorter III/2008/4</b>  <b>22/—/2</b></p>
<p><b>Automation products that are available</b></p> <ul style="list-style-type: none"> <li>• Pre-analytical processor/Total laboratory automation</li> <li>• Automated functions: Accessioning/Track load/Centrifugation/Decapping</li> <li>• Automated functions: Rack specific sort/Aliquot/Tube relabeling/Resealing</li> <li>• Automated functions: Storage retrieval/Intelligent sample routing</li> <li>• SW: Dedicated Process Control/Middleware control using LIS/Architecture</li> <li>• Company has dedicated automation support team/Remote system monitoring</li> </ul>	<p>yes/no  yes/yes/yes/yes  yes/yes/no/yes (recapping)  no/yes  yes/yes/open  yes/yes</p>
<p><b>Software features/functionality</b></p> <ul style="list-style-type: none"> <li>• Patient demographics and insurance data/Rules-based architecture</li> <li>• Supports data retrieval/Internet connectivity</li> <li>• Online real-time help system/QC/Stats and management reports</li> <li>• Evaluates validity and releasability of results from automated analyzers</li> <li>• Specimen tracking/Priority processing/Random-access spec. movement</li> <li>• Supports accession number redundancy (duplicate specimen ID)</li> <li>• Supports specimen carrier and level identification</li> <li>• Unique bar-code number per container required</li> <li>• Specimen routing/Multistop routing (one tube to multiple workstations)</li> <li>• Specimen scheduling/Instrument scheduling</li> <li>• Routes test to workstation/Automatic reflex, repeat, dilutions</li> <li>• Supports multiple HW configuration/Supports other proprietary transport. HW</li> <li>• Sample storage and retrieval SW/Supports approved CLSI standards</li> </ul>	<p>—/automation SW feature  automation SW feature/automation SW feature  automation SW feature/automation SW feature/automation SW feature  —  automation SW feature/automation SW feature/automation SW feature  automation SW feature/automation SW feature  automation SW feature  automation SW feature  automation SW feature/automation SW feature  —  automation SW feature/—  automation SW feature/automation SW feature  automation SW feature/automation SW feature</p>
<p><b>LIS(s) and versions interfaced and live with LAS/How LIS(s) are interfaced with your LAS/LOINC can be used to identify tests when communicating with LIS</b></p>	<p>Cerner, Triple G, Surround/ODBC, HL7/yes</p>
<p><b>Transportation systems available</b></p> <ul style="list-style-type: none"> <li>• Model/Dimensions (H × W × D)/Conforms to CLSI Stand. Auto 1-5</li> <li>• Containers device accommodates/Average throughput in cm per second</li> <li>• Supports automatic rerouting for reflex-repeat-dilutions</li> <li>• Modular HW/Installed options/Device can operate in track and manual mode</li> <li>• Required utilities/Required maintenance</li> <li>• Carrier type/Scalable system</li> </ul>	<p>yes  —/configuration-dependent/yes  16, 13 × 100; 16, 13 × 75; 9–16 mm diameter, 75–100 mm height/50  no  no/floor mounted/yes  electricity/daily, monthly, annually  single specimen container per carrier/yes</p>
<p><b>Automated centrifugation available</b></p> <ul style="list-style-type: none"> <li>• Model/Dimensions (H × W × D)/Conforms to CLSI Stand. Auto 1-5</li> <li>• Maximum throughput/Containers device accommodates</li> <li>• Can identify tube types for custom programmed rate and spin times per run</li> <li>• More than one centrifuge can be connected to track system</li> <li>• For multi-unit centrifuge, each centrifuge operates independently for rate and time</li> <li>• Maintenance required</li> </ul> <p><b>Automated input/accessioning available</b></p> <ul style="list-style-type: none"> <li>• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**</li> <li>• Containers device accommodates/Dedicated lanes for stat samples</li> <li>• Maximum No. of samples that can be loaded/Maintenance required</li> </ul> <p><b>Automated decapping available</b></p> <ul style="list-style-type: none"> <li>• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**</li> <li>• Containers device accommodates/Maintenance required</li> <li>• Removes multiple size tube caps per run/Removes screw type sample caps</li> </ul> <p><b>Automated sorting available</b></p> <ul style="list-style-type: none"> <li>• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**</li> <li>• Containers device accommodates/Software can sort by</li> </ul> <p><b>Specimen integrity monitor available</b></p> <ul style="list-style-type: none"> <li>• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**</li> <li>• Containers device accommodates/Maintenance required</li> </ul> <p><b>Automated aliquotting available</b></p> <ul style="list-style-type: none"> <li>• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**</li> <li>• Containers device accommodates</li> <li>• Inspects samples for bar code/Detects and reports clots in specimen</li> <li>• Detects and reports quantity not sufficient specimens/Maintenance required</li> </ul>	<p>yes  Hettich Rotanta/81 × 87 × 42 inches, 9–16 mm diameter, 75–100 mm height/yes  300+/16, 13 × 100; 16, 13 × 75; 9–16 mm diameter, 75–100 mm height  no  no  —  daily, monthly, annually  yes  AutoSorter III/81 × 87 × 42 inches (enclosed within ASIII footprint)/yes/800  16, 13 × 100; 16, 13 × 75; 9–16 mm diameter, 75–100 mm height/yes  300/daily, monthly, annually  yes  AutoSorter III/81 × 87 × 42 inches (enclosed within ASIII footprint)/yes/800  16, 13 × 100; 16, 13 × 75; 9–16 mm dia., 75–100 mm ht/daily, monthly, annually  yes/yes  yes  AutoSorter III/81 × 87 × 42 inches/yes/800  16, 13 × 100; 16, 13 × 75; 9–16 mm diameter, 75–100 mm height/specimen, method, output  —  —  —  —  Aloka module/—/yes/100–200  16, 13 × 100; 16, 13 × 75  yes/yes  yes/daily, monthly, annually</p>
<p><b>Instrument (analyzer) interfaces</b></p> <ul style="list-style-type: none"> <li>• Rules-based instrument interface control subsystem</li> <li>• Process control of instrument via control subsystem</li> </ul> <p><b>Physical/hardware (instrument/specimen) interface</b></p> <ul style="list-style-type: none"> <li>• Hematology/Chemistry/Coagulation</li> <li>• Immunoassay/Urinalysis</li> </ul>	<p>no  no  —  —</p>
<p><b>Instruments to which your system or product is interfaced</b>  <b>Other robotic products/components to which system or product is linked</b></p>	<p>—  ILAS, MDS (now Innotek) single-specimen carrier transportation system</p>
<p><b>Automated recapper or sealer available</b></p> <ul style="list-style-type: none"> <li>• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**</li> <li>• Recaps-seals multiple size tubes simult./Containers device accommodates</li> <li>• Maintenance required</li> </ul>	<p>yes  AutoSorter III/to be determined/yes/800  yes/16, 13 × 100; 16, 13 × 75  daily, monthly, annually</p>
<p><b>Automated storage and retrieval available</b></p> <ul style="list-style-type: none"> <li>• Model/Dimen. (H × W × D)/Conforms to CLSI Stand. Auto 1-5/Avg. throughput**</li> <li>• Containers device accommodates/Connects to the track</li> <li>• Room temperature/Minimum and maximum number of tubes stored per module</li> <li>• Multiple size tubes can be stored in the same module/Maintenance required</li> <li>• Refrigerated storage and retrieval capability</li> </ul> <p><b>Longitudinal upgrade pathway or plan to protect users' investments</b></p> <p><b>Average time to install/Who provides service, support/Hours support is available</b>  <b>On-site biomedical engineer required/User group meets regularly</b></p>	<p>yes  —  —  —  —  flexible, open design permits change of tubes/racks as instrumentation changes; connectivity and functionality upgrades  &lt;1 week/Motoman/24–7  no/no</p>
<p><b>List price</b>  <b>Individual list prices for components</b></p> <ul style="list-style-type: none"> <li>• Process control SW/Transportation systems/Auto. centrifugation</li> <li>• Auto. input, accession/Auto. decap/Auto. sort/Auto. storage and retrieval</li> <li>• Specimen integrity monitor/Automated aliquot</li> <li>• Instrument (analyzer) interfaces/Automated recap</li> </ul>	<p>\$195,000  included/configuration-dependent/\$39,500  included/included/included/—  —  —</p>
<p><b>Distinguishing features (supplied by company)</b>  <i>* For basic building block unit</i>  <i>** Average throughput in specimen containers per hour per device</i>  <i>Note: a dash in lieu of an answer means company did not answer question or question is not applicable.</i></p>	<p>customization-friendly; designed and built in the U.S.; independent of IVD instrument manufacturers; free-standing, small footprint, modular automation</p>