Part 1 of 7

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	Bio/Data Corp. **Robert F. Wheaton III** rob.wheaton@biodatacorp.com **Horsham, PA** **215-441-4000** or **800-257-3282** www.biodatacorp.com	**Chrono-log Corp.** **Kathy Jacobs** jacobs@chronolog.com **Havertown, PA** **610-853-1130** or **800-247-6665** www.chronolog.com	**Chrono-log Corp.** **Kathy Jacobs** jacobs@chronolog.com **Havertown, PA** **610-853-1130** or **800-247-6665** www.chronolog.com
Instrument name/First year sold	Platelet Aggregation Profiler PAP 8E/2005	Optical Aggregation Systems Models 490 4+, 490 4+4/2017	Whole Blood Optical Lumi-Aggregation System 700-2, 700-4/2006
Number of units installed in U.S./Outside U.S.	401/267	—	160/205
Number of contracts signed between 1/1/18 and 11/15/18	—	—	—
Country where analyzer designed/Manufactured	U.S./U.S.	U.S./U.S.	U.S./U.S.
Operational type	batch, random access	batch, random access	batch, random access
Reagent type	open reagent system (liquid, lyophilized, reconstituted manually)	open reagent system (lyophilized, reconstituted manually)	open reagent system, assay kits, reference plasmas, controls (lyophilized, reconstituted manually)
Operates on whole blood or spun plasma	spun plasma	spun plasma	whole blood, spun plasma
Sample handling system	electronic pipette with presets and memory	manual	manual
Model type	benchtop	benchtop	benchtop
Dimensions (H × W × D)/Weight/Instrument footprint	21.5 × 27.5 × 21.7 in./40 lbs./4 sq. ft.	for each 4-channel module: 8.5 × 14 × 15 in./19.3 lbs./1.5 sq. ft.	8.5 × 14 × 18 in./40 lbs./M700-2: 1.75 sq. ft.; M700-4: 3.5 sq. ft.
FDA-cleared clotting-based tests	—	—	—
FDA-cleared chromogenic tests	—	—	—
FDA-cleared immunologic tests	ristocetin cofactor assay, RIPA, agglutination; open system for other Ab-Ag tests	—	—
Other FDA-cleared tests	platelet activation: spontaneous platelet aggregation, sticky platelet syndrome, compound and vehicle tests; platelet aggregation: PRP, PPP, PFP washed platelet samples, multiple agonists and RUO agents, WBC aggregation	LTA aggregation, ristocetin cofactor assay	platelet-dense granule secretion, whole blood impedance aggregation, LTA aggregation, ristocetin cofactor assay
User-defined tests in clinical use	>99 active	LTA aggregation, ristocetin cofactor assay	platelet-dense granule secretion, whole blood impedance aggregation, LTA aggregation with all standard reagents, ristocetin cofactor assay
Tests submitted for 510(k) clearance	—	—	—
Tests in development but not yet submitted	proprietary	—	—
Methodologies supported	turbidimetric, immunologic (agglutination)	turbidimetric; LTA aggreg., ristocetin cofactor assay	turbidimetric, platelet-dense granule secretion, whole blood impedance aggreg., LTA aggreg., ristocetin cofactor assay
Operator must load sep. reagent pack per specimen/Test run	no/no	no/no	no/—
Number of different measured assays onboard simultaneously	99	4–8	2–4
Number of different assays programmed and calib. at one time	99	4–8	4–8
Number of user-definable (open) channels	8	4–8	2–4
Of those defined, number active simultaneously	8	4–8	2–4
Factor assays require manual manipulation or dilutions	yes (von Willebrand factor activity)	—	yes
Number of reagent containers onboard at once/Tests per container/Reagents refrigerated onboard	2, with inserts for various sizes/varies/no	—/—/no	no/—/no
Multiple reagent configurations supported	yes	yes	yes
Reagents, consumables loaded without interrupting testing	yes	yes	yes
Same capabilities when third-party reagent used	no	yes	no
Maximum time same lot number of reagents can be used	1 year, extended periods may be available for projects	12–30 months	12–30 months
Walkaway capacity: Number of specimens/Number of tests	8/9	4–8/4–8	2–4/4–8
Minimum sample volume aspirated precisely at one time	25 µL	250 µL	—
Standard specimen volume required to run PT or PTT/Factor VIII activity	—	—	225 µL PRP-lumi aggregation 450 µL; 450 µL whole blood-lumi aggregation 450 µL/25 µL ristocetin cofactor 50 µL
Disposables used/Price of each	siliconized microtubes: 100 @ $36.25; plastic-coated microstir bars: 50 @ $21; pipette tips: 960 @ $48; MagneTubes: 50 @ $50	cuvettes: 144 @ $45; stir bars: 144 @ $35; pipette tips: $85, $67, and $73	cuvettes: 144 @ $34; stir bars: 144 @ $30; impedance probes: 25 @ $130; pipette tips: 1,000 @ $73, $55, and $60
Supports direct-from-track sampling	no	no	no
Primary tube sampling supported/Pierces caps on primary tubes	no/no	no/no	no/no
Sample/Reagent barcode reading capability	yes/yes	no/no	no/no
Onboard test automatic inventory	no	no	no
Measures No. of tests remaining/Short sample detection	no/no	no/no	no/no
Clot detection as preanalytical variable in plasma sample	no	no	no
Auto. detects adequate reagents for aspiration and analysis	no	no	no
Hemolysis/Turbidity detection-quantitation	yes/yes	no/—	no/no
Dilution of patient samples onboard	no	no	no
Automatic rerun capability/Auto reflex testing capability	no/no	yes/no	yes/no
Lag time during which hypercoagulable sample not detected	—	—	—
Read time extended for prolonged clotting times	—	yes	yes
User can set different-than-standard:			
• Reagent volumes/Sample volumes	yes/yes	yes/yes	yes/yes
• No. and sources of reagent	yes	yes	yes
• Incubation times/Reading times	yes/yes	yes/yes	yes/yes
Autocalib. or autocalib. alert/Multipoint calib. supported	yes/yes	yes/yes	yes/—
Auto shutdown/Auto startup programmable	yes/no	no/no	no/no
Stat time to complete all analytes/Throughput per hour for:			
• PT alone	—	—	—
• PT, PTT	—	—	—
• Fibrinogen	—	—	—
• Factor VIII activity assay	—	—	—
Time delay from ordering stat to aspiration of sample	—	—	—
Automatic transfer of QC results to LIS	no	no	no
Data-management capability	onboard (includes QC: L-J plots, Westgard multirules for low-volume tests); optional add-on ($275, Bio/Data)	onboard	onboard
Interface supplied by instrument vendor	—	yes	yes
Interfaces in active user sites for:	—	—	—
Bidirectional interface capability	no	no	no
Results transferred to LIS as soon as test time complete	no	no	no
LOINC codes transmitted with all results	no	no	no
How labs get LOINC codes for reagent kits	email query	email query	—
Electronic interface available (or will be) to automated (or robotic) specimen handling system	no	no	no
Modem servicing	no	no	no
Time required for maintenance by lab personnel	weekly: 15 minutes; monthly: 30 minutes	30 minutes when optical calibration required	30 minutes when optical calibration required
Onboard maintenance records	no	yes	yes
Training provided with purchase	1.5 days on site; at vendor offices on special request	—	1.5 days on site
Approximate number of training hours needed per tech	4–6	—	8
List price	$21,990	M490 4+: $11,800; M490 4+4: $20,700	M700-2: $19,500; M700-4: $32,000
Annual service contract cost (24/7)/Warranty with purchase	$2,050 (during business hours)/2 yrs., includes in-lab PC service	M490 4+: $1,804; M490 4+4: $3,008 for 3 years/1 year	M700-2: $1,804; M700-4: $3,008 for 3 years/1 year
Distinguishing features (supplied by company)	patented electro-optical circuitry sensitive to microaggregates and compromised samples; no moving parts in analyzer; 2-year warranty, incl. 2-year in-lab service on PC so patient data never leave the lab; TeleCheck calibration verification service performed in lab with telephone guidance	continuously monitors temperature and stirring with warning messages; optical calibration by laboratory personnel; Windows-based software provides customized color-coding options	tests platelet aggregation; measures ATP release in 4 samples simultaneously using whole blood, PRP, washed, or gel-filtered platelets; continuously monitors temp. and stirring speed; optical calibration by lab personnel; dedicated software packages calculate amplitude, slope, lag time, and more

Note: a dash in lieu of an answer means company did not answer question or question is not applicable

All information is supplied by the companies listed. The tabulation does not represent an endorsement by the CAP.

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Instrument name/First year sold	STA Compact Max/2013	STA Satellite/2010	STA-R Max/2015
Number of units installed in U.S./Outside U.S.	~1,300/~5,200	~550/~1,300	~220/2,000
Number of contracts signed between 1/1/18 and 11/15/18	—	—	—
Country where analyzer designed/Manufactured	France/France	France/France	France/France
Operational type	continuous random access	random access	continuous random access
Reagent type	open reagent system	open reagent system	open reagent system, complete line of routine and specialty assays
Operates on whole blood or spun plasma	spun plasma	spun plasma	spun plasma
Sample handling system	continuous load sample drawer	carousel	rack with continuous specimen access
Model type	benchtop	benchtop	floor standing
Dimensions (H × W × D)/Weight/Instrument footprint	27.75 × 38.18 × 28.73 in./309 lbs./7 sq. ft.	27.4 × 21.1 × 25.5 in./72 lbs./4 sq. ft.	49.2 × 50.3 × 32.2 in./564 lbs./26.8 sq. ft.
FDA-cleared clotting-based tests	PT, APTT, TT, fibrinogen, reptilase, factors, proteins C and S, lupus anticoagulant, DRVVT (screen and confirm)	PT, APTT, fibrinogen	PT, APTT, TT, fibrinogen, reptilase, factors, proteins C and S, lupus anticoagulant, DRVVT (screen and confirm)
FDA-cleared chromogenic tests	heparin (UFH and LMWH), protein C, AT, plasminogen, antiplasmin	heparin (UFH and LMWH), AT	heparin (UFH and LMWH), protein C, AT, plasminogen, antiplasmin
FDA-cleared immunologic tests	D-dimer, VWF, total and free protein S, AT antigen	D-dimer	D-dimer, VWF, total and free protein S, AT antigen
Other FDA-cleared tests	—	—	—
User-defined tests in clinical use	—	—	APCR, other clotting chromogenic and immunological tests with user-defined applications
Tests submitted for 510(k) clearance	—	—	—
Tests in development but not yet submitted	—	—	—
Methodologies supported	exclusive mechanical clot detection, chromogenic, immunologic	exclusive mechanical clot detection, chromogenic, immunologic	exclusive mechanical clot detection, chromogenic, immunologic
Operator must load sep. reagent pack per specimen/Test run	no/no	no/no	no/no
Number of different measured assays onboard simultaneously	80	80	200
Number of different assays programmed and calib. at one time	80	80	200
Number of user-definable (open) channels	80	80	200
Of those defined, number active simultaneously	80	80	200
Factor assays require manual manipulation or dilutions	no	—	no
Number of reagent containers onboard at once/Tests per container/Reagents refrigerated onboard	45/varies/yes (15°–19°C)	16/varies/yes (15°–19°C)	70/varies/yes (15°–19°C)
Multiple reagent configurations supported	yes	yes	yes
Reagents, consumables loaded without interrupting testing	consumables: yes; reagents: no	consumables: yes; reagents: no	consumables: yes; reagents: no
Same capabilities when third-party reagent used	yes	yes	yes
Maximum time same lot number of reagents can be used	18 months	18 months	18 months
Walkaway capacity: Number of specimens/Number of tests	96/12	20/12 per specimen	215/32
Minimum sample volume aspirated precisely at one time	5 µL	5 µL	5 µL
Standard specimen volume required to run PT or PTT/Factor VIII activity	50 µL/5 µL	50 µL/—	50 µL/5 µL
Disposables used/Price of each	cuvettes, cleaner solution/varies	cuvettes, cleaner solution/varies	cuvettes, cleaner solution/varies
Supports direct-from-track sampling	no	no	yes (Beckman Coulter, Siemens, Roche, Abbott, Ortho, Labotix, Inpeco)
Primary tube sampling supported/Pierces caps on primary tubes	yes/yes	yes/no	yes/yes
Sample/Reagent barcode reading capability	yes/yes	yes/yes	yes/yes
Onboard test automatic inventory	yes	yes	yes
Measures No. of tests remaining/Short sample detection	no/yes	no/yes	no/yes
Clot detection as preanalytical variable in plasma sample	no	no	no
Auto. detects adequate reagents for aspiration and analysis	yes	yes	yes
Hemolysis/Turbidity detection-quantitation	no (not necessary)/no (not necessary)	no (not necessary)/no (not necessary)	no/no (not necessary for mechanical detection technology)
Dilution of patient samples onboard	yes	yes	yes
Automatic rerun capability/Auto reflex testing capability	yes/yes	yes/no	yes/yes
Lag time during which hypercoagulable sample not detected	no	no	no
Read time extended for prolonged clotting times	yes	yes	yes (selectable on menus)
User can set different-than-standard:			
• Reagent volumes/Sample volumes	yes/yes	yes/yes	yes/yes
• No. and sources of reagent	yes	yes	yes
• Incubation times/Reading times	yes/yes	yes/yes	yes/yes
Autocalib. or autocalib. alert/Multipoint calib. supported	yes/yes	yes/yes	yes/yes
Auto shutdown/Auto startup programmable	no (not necessary)/no (not necessary)	no (not necessary)/no (not necessary)	no (not necessary)/no (not necessary)
Stat time to complete all analytes/Throughput per hour for:			
• PT alone	<6 minutes/~150 specimens	<6 minutes/~50 specimens	<6 minutes/~300 specimens
• PT, PTT	<6 minutes/~100 specimens	<6 minutes/~40 specimens	<6 minutes/~200 specimens
• Fibrinogen	<6 minutes/~100 specimens	<6 minutes/~40 specimens	<6 minutes/~180 specimens
• Factor VIII activity assay	<6 minutes/~50 specimens	—	<6 minutes/~180 specimens
Time delay from ordering stat to aspiration of sample	<15 seconds	<15 seconds	<15 seconds
Automatic transfer of QC results to LIS	yes	yes	yes
Data-management capability	onboard (includes QC: L-J plots, Westgard rules)	onboard (includes QC: L-J plots)	onboard (includes QC: L-J plots, Westgard rules)
Interface supplied by instrument vendor	no	no	no
Interfaces in active user sites for:	all major LIS vendors	all major LIS vendors	all major LIS vendors
Bidirectional interface capability	yes (broadcast download, host query)	yes (host query)	yes (broadcast download, host query)
Results transferred to LIS as soon as test time complete	yes	yes	yes
LOINC codes transmitted with all results	yes	no	yes
How labs get LOINC codes for reagent kits	—	—	—
Electronic interface available (or will be) to automated (or robotic) specimen handling system	no	no	yes (Beckman Coulter, Siemens, Roche, Abbott, Ortho, Labotix, Inpeco)
Modem servicing	yes	no	yes
Time required for maintenance by lab personnel	weekly: <15 minutes; monthly: <15 minutes	weekly: <15 minutes; monthly: <15 minutes	weekly: <15 minutes; monthly: <15 minutes
Onboard maintenance records	yes	yes	yes
Training provided with purchase	3.5 days at Stago headquarters	2.5 days at Stago headquarters	3.5 days at Stago headquarters
Approximate number of training hours needed per tech	24	12	24
List price	$150,000	$55,000	$241,000
Annual service contract cost (24/7)/Warranty with purchase	—/1 year	—/1 year	—/1 year
Distinguishing features (supplied by company)	viscosity-based, mechanical clot detection; integrated STA Coag Expert (enhanced software) delivers full autoverification, repeat/reflex testing, expert rules to simplify complex factor assays and LA tests, comprehensive patient/QC management; online, customizable Quality Control peer program; standardized with all STA analyzers	viscosity-based, mechanical clot detection; integrated STA Coag Expert (enhanced software) delivers full autoverification, repeat/reflex testing, expert rules to simplify complex factor assays and LA tests, comprehensive patient/QC management; online, customizable Quality Control peer program; standardized with all STA analyzers	viscosity-based, mechanical clot detection; integrated STA Coag Expert (enhanced software) delivers full autoverification, repeat/reflex testing, expert rules to simplify complex factor assays and LA tests, comprehensive patient/QC management; online, customizable Quality Control peer program; standardized with all STA analyzers

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COAGULATION ANALYZERS

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	Diagnostica Stago **Nichole Howard** nichole.howard@us.stago.com **Parsippany, NJ** **800-222-2624** www.stago-us.com	**Helena Laboratories** **David Pearman** dpearman@helena.com **Beaumont, TX** **409-842-3714 ext. 265** www.helena.com	**Helena Laboratories** **David Pearman** dpearman@helena.com **Beaumont, TX** **409-842-3714 ext. 265** www.helena.com
Instrument name/First year sold	STart Hemostasis Analyzer/1998	AggRAM/2005	Cascade M-4/1992
Number of units installed in U.S./Outside U.S.	~750/>9,000	100+/500+	200+/40
Number of contracts signed between 1/1/18 and 11/15/18	—	8	5
Country where analyzer designed/Manufactured	France/France	U.S./U.S.	U.S./U.S.
Operational type	batch	batch, random access	random access
Reagent type	open reagent system	open reagent system	open reagent system
Operates on whole blood or spun plasma	spun plasma	spun plasma, platelet rich plasma	spun plasma
Sample handling system	manual	manual	manual
Model type	benchtop	benchtop	benchtop
Dimensions (H × W × D)/Weight/Instrument footprint	4.7 × 16.1 × 16.5 in./12.5 lbs./1.8 sq. ft.	6 × 10 × 17 in./15 lbs./—	8 × 15 × 13 in./25 lbs./1.4 sq. ft.
FDA-cleared clotting-based tests	PT, APTT, TT, fibrinogen, reptilase, factors, proteins C and S, lupus anticoagulant, DRVV (screen and confirm)	—	PT, APTT, fibrinogen, TCT, factor assays II, V, VII–XII
FDA-cleared chromogenic tests	—	—	—
FDA-cleared immunologic tests	—	—	—
Other FDA-cleared tests	—	ristocetin cofactor and platelet aggregation	—
User-defined tests in clinical use	—	ristocetin cofactor, platelet aggregation (ADP, EPI, COL, ristocetin, arachidonic acid)	PT, APTT, fibrinogen, TCT, factor assays II, V, VII–XII
Tests submitted for 510(k) clearance	—	—	—
Tests in development but not yet submitted	—	lumi, chromogenics, HIT	DRVVT
Methodologies supported	exclusive mechanical clot detection	ristocetin cofactor, platelet aggregation	clot detection, optical; turbidimetric
Operator must load sep. reagent pack per specimen/Test run	no/no	no/no	no/no
Number of different measured assays onboard simultaneously	1	4–8	4
Number of different assays programmed and calib. at one time	20	4–8	4
Number of user-definable (open) channels	4	12	4
Of those defined, number active simultaneously	1	4–8	2
Factor assays require manual manipulation or dilutions	yes	yes	yes
Number of reagent containers onboard at once/Tests per container/Reagents refrigerated onboard	2/varies/no	—/—/no	0/—/no
Multiple reagent configurations supported	yes	no	no
Reagents, consumables loaded without interrupting testing	no	no	no
Same capabilities when third-party reagent used	yes	—	yes
Maximum time same lot number of reagents can be used	18 months	12 months	12 months
Walkaway capacity: Number of specimens/Number of tests	— (semiautomated)/—	—	—
Minimum sample volume aspirated precisely at one time	—	—	manual, 50 µL
Standard specimen volume required to run PT or PTT/Factor VIII activity	50 µL/50 µL	platelet aggregation: 225 µL PRP; ristocetin cofactor: 50 µL/ platelet aggregation: 225 µL PRP; ristocetin cofactor: 50 µL	100 µL, minimum 50 µL/100 µL (diluted), minimum 50 µL (diluted)
Disposables used/Price of each	cuvettes, balls/varies	cuvettes: 200 @ $55.65; pipette tips: 1,000 @ $82; stir bars: 30 @ $62.25	cuvettes: 500 @ $54; pipette tips: 1,000 @ $82
Supports direct-from-track sampling	no	no	no
Primary tube sampling supported/Pierces caps on primary tubes	no/—	no/—	no/—
Sample/Reagent barcode reading capability	no/no	no/no	no/no
Onboard test automatic inventory	no	no	no
Measures No. of tests remaining/Short sample detection	no/—	no/no	no/no
Clot detection as preanalytical variable in plasma sample	no	—	—
Auto. detects adequate reagents for aspiration and analysis	no	no	no
Hemolysis/Turbidity detection-quantitation	no/no (not necessary)	no/no	no/no
Dilution of patient samples onboard	no	no	no
Automatic rerun capability/Auto reflex testing capability	no/—	no/no	no/no
Lag time during which hypercoagulable sample not detected	yes (selectable on menus)	—	yes (PT: 4 seconds; PTT: 14 seconds)
Read time extended for prolonged clotting times	—	—	yes (selectable on menus)
User can set different-than-standard:			
• Reagent volumes/Sample volumes	yes/—	yes/yes	yes/yes
• No. and sources of reagent	yes	yes	yes
• Incubation times/Reading times	no/yes	yes/yes	yes/yes
Autocalib. or autocalib. alert/Multipoint calib. supported	—	no/yes	no/yes
Auto shutdown/Auto startup programmable	—	no/no	no/no
Stat time to complete all analytes/Throughput per hour for:			
• PT alone	<6 minutes/up to 120 specimens	—	3 minutes/140 specimens
• PT, PTT	—	—	7 minutes/80 specimens
• Fibrinogen	<6 minutes/up to 120 specimens	—	3 minutes/160 specimens
• Factor VIII activity assay	<6 minutes/up to 60 specimens	—	7 minutes/80 specimens
Time delay from ordering stat to aspiration of sample	—	—	—
Automatic transfer of QC results to LIS	no	yes	yes
Data-management capability	no	onboard (includes QC: L-J plots, Westgard multirules)	no
Interface supplied by instrument vendor	no	no	no
Interfaces in active user sites for:	—	—	—
Bidirectional interface capability	no (unidirectional only)	no	no
Results transferred to LIS as soon as test time complete	yes	yes	yes
LOINC codes transmitted with all results	no	no	no
How labs get LOINC codes for reagent kits	—	—	—
Electronic interface available (or will be) to automated (or robotic) specimen handling system	no	no	no
Modem servicing	no	—	no
Time required for maintenance by lab personnel	weekly: <5 minutes; monthly: <5 minutes	daily: 15 minutes; weekly: 15 minutes; monthly: 1 hour	daily: 10 minutes; weekly: 10 minutes; monthly: 30 minutes
Onboard maintenance records	no	yes	no
Training provided with purchase	1 day on site	2 days on site	1 day on site
Approximate number of training hours needed per tech	1	4–8	2
List price	$12,000	$15,744	$10,115
Annual service contract cost (24/7)/Warranty with purchase	—/1 year	$1,984/1 year	$1,291/1 year
Distinguishing features (supplied by company)	viscosity-based detection system; ideal for low-volume testing or backup for optical system; programmable and preprogrammed assays with curve storage plus 4 independently timed measurement wells	specialized coagulation instrument intended for platelet aggregation and ristocetin cofactor	4-channel manual analyzer, QC program onboard, singles or duplicates

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COAGULATION ANALYZERS

Part 4 of 7 See **captodayonline.com/productguides** for an interactive version of guide	**Instrumentation Laboratory** **Venita Shirley** vshirley@ilww.com **Bedford, MA** **800-955-9525** www.instrumentationlaboratory.com	**Instrumentation Laboratory** **Venita Shirley** vshirley@ilww.com **Bedford, MA** **800-955-9525** www.instrumentationlaboratory.com	**Instrumentation Laboratory** **Venita Shirley** vshirley@ilww.com **Bedford, MA** **800-955-9525** www.instrumentationlaboratory.com
Instrument name/First year sold	ACL TOP 750 Series/2016	ACL TOP 550 CTS/2016	ACL TOP 350/300 CTS/2012
Number of units installed in U.S./Outside U.S.	4,000+/8,000+ (all ACL models combined)	4,000+/8,000+ (all ACL models combined)	4,000+/8,000+ (all ACL models combined)
Number of contracts signed between 1/1/18 and 11/15/18	—	—	—
Country where analyzer designed/Manufactured	U.S./U.S.	U.S./U.S.	U.S./U.S.
Operational type	continuous random access	continuous random access	continuous random access
Reagent type	open reagent system	open reagent system	open reagent system
Operates on whole blood or spun plasma	spun plasma	spun plasma	spun plasma
Sample handling system	racks, continuous loading of primary tubes	racks, continuous loading of primary tubes	racks, continuous loading of primary tubes
Model type	benchtop	benchtop	benchtop
Dimensions (H × W × D)/Weight/Instrument footprint	29 × 60 × 35 in./331 lbs./21 sq. ft.	29 × 43 × 35 in./312 lbs./14 sq. ft.	29 × 32 × 33 in./200 lbs./8 sq. ft.
FDA-cleared clotting-based tests	PT, APTT, fibrinogen, TT, factors, lupus (SCT and DRVVT), APCR-V, proteins C and S, FVIII (with VWF)	PT, APTT, fibrinogen, TT, factors, lupus (SCT and DRVVT), APCR-V, proteins C and S, FVIII (with VWF)	PT, APTT, fibrinogen, TT, factors, FVIII (with VWF)
FDA-cleared chromogenic tests	anti-Xa, protein C, AT, plasminogen, plasmin inhibitor	anti-Xa, protein C, AT, plasminogen, plasmin inhibitor	anti-Xa, AT
FDA-cleared immunologic tests	D-Dimer, D-Dimer HS, VWF (Act. and Ag.), free protein S, factor XIII Ag., homocysteine, heparin-induced thrombocytopenia	D-Dimer, D-Dimer HS, VWF (Act. and Ag.), free protein S, factor XIII Ag., homocysteine, heparin-induced thrombocytopenia	Domain 1, D-Dimer, D-Dimer HS, heparin-induced thrombocytopenia
Other FDA-cleared tests	—	—	—
User-defined tests in clinical use	—	—	—
Tests submitted for 510(k) clearance	—	—	—
Tests in development but not yet submitted	VWF (RCo), direct oral anticoagulants (dabigatran, rivaroxaban, apixaban)	VWF (RCo), direct oral anticoagulants (dabigatran, rivaroxaban, apixaban)	VWF (RCo), direct oral anticoagulants (dabigatran, rivaroxaban, apixaban)
Methodologies supported	LED optical detection: clotting, chromogenic, and immunologic	LED optical detection: clotting, chromogenic, and immunologic	LED optical detection: clotting, chromogenic, and immunologic
Operator must load sep. reagent pack per specimen/Test run	no/no	no/no	no/no
Number of different measured assays onboard simultaneously	500	500	500
Number of different assays programmed and calib. at one time	500	500	500
Number of user-definable (open) channels	250	250	250
Of those defined, number active simultaneously	30	30	30
Factor assays require manual manipulation or dilutions	no	no	no
Number of reagent containers onboard at once/Tests per container/Reagents refrigerated onboard	60/varies/yes	40/varies/yes	24/varies/yes
Multiple reagent configurations supported	yes	yes	yes
Reagents, consumables loaded without interrupting testing	yes	yes	yes
Same capabilities when third-party reagent used	yes	yes	yes
Maximum time same lot number of reagents can be used	18 months	18 months	18 months
Walkaway capacity: Number of specimens/Number of tests	120/800	80/800	40/800
Minimum sample volume aspirated precisely at one time	4 µL	4 µL	4 µL
Standard specimen volume required to run PT or PTT/Factor VIII activity	50 µL/25 µL	50 µL/25 µL	50 µL/—
Disposables used/Price of each	cuvettes/varies	cuvettes/varies	cuvettes/varies
Supports direct-from-track sampling	yes (model available)	no	no
Primary tube sampling supported/Pierces caps on primary tubes	yes/yes (optional)	yes/yes	yes/yes
Sample/Reagent barcode reading capability	yes/yes	yes/yes	yes/yes
Onboard test automatic inventory	yes	yes	yes
Measures No. of tests remaining/Short sample detection	yes/yes	yes/yes	yes/yes
Clot detection as preanalytical variable in plasma sample	optional	optional	optional
Auto. detects adequate reagents for aspiration and analysis	yes	yes	yes
Hemolysis/Turbidity detection-quantitation	optional/optional	optional/optional	optional/optional
Dilution of patient samples onboard	yes	yes	yes
Automatic rerun capability/Auto reflex testing capability	yes/yes	yes/yes	yes/yes
Lag time during which hypercoagulable sample not detected	no	no	no
Read time extended for prolonged clotting times	yes	yes	yes
User can set different-than-standard:			
• Reagent volumes/Sample volumes	yes/yes	yes/yes	yes/yes
• No. and sources of reagent	yes	yes	yes
• Incubation times/Reading times	yes/yes	yes/yes	yes/yes
Autocalib. or autocalib. alert/Multipoint calib. supported	yes/yes	yes/yes	yes/yes
Auto shutdown/Auto startup programmable	not needed/not needed	not needed/not needed	not needed/not needed
Stat time to complete all analytes/Throughput per hour for:			
• PT alone	<3 minutes/360 specimens	<3 minutes/240 specimens	<3 minutes/110 specimens
• PT, PTT	<6 minutes/165 specimens	<6 minutes/90 specimens	<6 minutes/55 specimens
• Fibrinogen	<3 minutes/108 specimens	<3 minutes/78 specimens	<6 minutes/60 specimens
• Factor VIII activity assay	8 minutes/100 specimens	8 minutes/77 specimens	<11 minutes/38 specimens
Time delay from ordering stat to aspiration of sample	0 seconds	0 seconds	0 seconds
Automatic transfer of QC results to LIS	yes	yes	yes
Data-management capability	yes	yes	yes
Interface supplied by instrument vendor	no	no	no
Interfaces in active user sites for:	most major vendors	most major vendors	most major vendors
Bidirectional interface capability	yes (broadcast download and host query)	yes (broadcast download and host query)	yes (broadcast download and host query)
Results transferred to LIS as soon as test time complete	yes	yes	yes
LOINC codes transmitted with all results	no	no	no
How labs get LOINC codes for reagent kits	—	—	—
Electronic interface available (or will be) to automated (or robotic) specimen handling system	yes	no	no
Modem servicing	in development	in development	in development
Time required for maintenance by lab personnel	daily: <10 minutes; weekly: 10 minutes; monthly: none	daily: <10 minutes; weekly: 10 minutes; monthly: none	daily: <10 minutes; weekly: 10 minutes; monthly: none
Onboard maintenance records	yes	yes	yes
Training provided with purchase	4 days at vendor offices	4 days at vendor offices	4 days at vendor offices
Approximate number of training hours needed per tech	24–40	24–40	24–40
List price	—	—	—
Annual service contract cost (24/7)/Warranty with purchase	—/1 year	—/1 year	—/1 year
Distinguishing features (supplied by company) *Note: a dash in lieu of an answer means company did not answer question or question is not applicable*	complete standardization solution; on-demand HIT testing; detects underfilled samples; 671-nm LED detection minimizes interferences from HIL, samples with HIL levels exceeding assay threshold are flagged; complete HemosIL assay menu, including D-Dimer HS with VTE exclusion; HemosIL plasma sets for validation of INR test system; HemosIL liquid anti-Xa with universal calibration curve for UFH and LMWH	complete standardization solution; on-demand HIT testing; detects underfilled samples; 671-nm LED detection minimizes interferences from HIL, samples with HIL levels exceeding assay threshold are flagged; complete HemosIL assay menu, including D-Dimer HS with VTE exclusion; HemosIL plasma sets for validation of INR test system; HemosIL liquid anti-Xa with universal calibration curve for UFH and LMWH	complete standardization solution; on-demand HIT testing; detects underfilled samples; 671-nm LED detection minimizes interferences from HIL, samples with HIL levels exceeding assay threshold are flagged; complete HemosIL assay menu, including D-Dimer HS with VTE exclusion; HemosIL plasma sets for validation of INR test system; HemosIL liquid anti-Xa with universal calibration curve for UFH and LMWH

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COAGULATION ANALYZERS

Part 5 of 7 See **captodayonline.com/productguides** for an interactive version of guide	**Instrumentation Laboratory** **Venita Shirley** vshirley@ilww.com **Bedford, MA** **800-955-9525** www.instrumentationlaboratory.com	**Instrumentation Laboratory** **Venita Shirley** vshirley@ilww.com **Bedford, MA** **800-955-9525** www.instrumentationlaboratory.com	**LABiTec GmbH** **Matthias Schramm** matthias.schramm@labitec.de **Ahrensburg, Germany** **011-49-4102-47950** www.labitec.com
Instrument name/First year sold	ACL ELITE Series/2006	ACL AcuStar/2010	CoaLAB 1000/2009
Number of units installed in U.S./Outside U.S.	4,000+/8,000+ (all ACL models combined)	4,000+/8,000+ (all ACL models combined)	—/>500
Number of contracts signed between 1/1/18 and 11/15/18	—	—	—
Country where analyzer designed/Manufactured	U.S./U.S.	U.S./U.S.	Germany/Germany
Operational type	modified random access	random access	batch, random access
Reagent type	open reagent system	multiuse reagent cartridges (liquid)	open reagent system (reconstituted manually)
Operates on whole blood or spun plasma	spun plasma	spun plasma	spun plasma
Sample handling system	tray, primary tubes	rack	two fixed racks of 11 samples each plus 3 stat
Model type	benchtop	benchtop	benchtop
Dimensions (H × W × D)/Weight/Instrument footprint	24 × 37 × 24 in./139 lbs./6 sq. ft.	21 × 34 × 24 in./170 lbs./15 sq. ft.	30.7 × 22.9 × 19.6 in./55.1 lbs./—
FDA-cleared clotting-based tests	PT, APTT, fibrinogen, TT, factors	—	—
FDA-cleared chromogenic tests	anti-Xa	—	—
FDA-cleared immunologic tests	D-Dimer, VWF (Act. and Ag.), free protein S, factor XIII Ag., homocysteine	Domain 1, HIT IgG, anticardiolipin IgG, anticardiolipin IgM, B2GPI IgG, B2GPI IgM	—
Other FDA-cleared tests	—	—	—
User-defined tests in clinical use	—	—	—
Tests submitted for 510(k) clearance	—	—	—
Tests in development but not yet submitted	—	VWF (RCo), VWF (Ag.), HIT total ab, ADAMTS13	—
Methodologies supported	clot detection, LED optical (nephelometric), chromogenic, immunologic	immunologic (chemiluminescent)	LED optical, turbidimetric for clot detection, immunologic, chromogenic, and aggregation tests
Operator must load sep. reagent pack per specimen/Test run	no/no	no/no	no/no
Number of different measured assays onboard simultaneously	22	20	15 maximum
Number of different assays programmed and calib. at one time	300	20	50
Number of user-definable (open) channels	100	0	2
Of those defined, number active simultaneously	20	—	2
Factor assays require manual manipulation or dilutions	no	—	no
Number of reagent containers onboard at once/Tests per container/Reagents refrigerated onboard	22/varies/yes	20/varies/yes (4°C)	15/200 maximum/no
Multiple reagent configurations supported	yes	no	yes
Reagents, consumables loaded without interrupting testing	yes	no	no
Same capabilities when third-party reagent used	yes	no	yes
Maximum time same lot number of reagents can be used	18 months	—	1 year
Walkaway capacity: Number of specimens/Number of tests	40/260	30/280	25 maximum/>10
Minimum sample volume aspirated precisely at one time	5 µL	—	2 µL
Standard specimen volume required to run PT or PTT/Factor VIII activity	60 µL/18 µL	—	PT: 100 µL reagent, 50 µL sample; APTT: 50 µL reagent, 50 µL sample, 50 µL CACl2/50 µL APTT, 50 µL deficient plasma, 50 µL sample, 50 µL CACl2
Disposables used/Price of each	cuvettes/varies	cuvettes/varies	cuvette ring (32 single cuvettes per ring), sample cups/—
Supports direct-from-track sampling	no	no	no
Primary tube sampling supported/Pierces caps on primary tubes	yes/no	yes/no	yes (1.7–4 mL)/no
Sample/Reagent barcode reading capability	yes/yes	yes/yes	yes/no
Onboard test automatic inventory	yes	yes	yes
Measures No. of tests remaining/Short sample detection	yes/yes	yes/yes	yes/yes
Clot detection as preanalytical variable in plasma sample	no	yes	yes
Auto. detects adequate reagents for aspiration and analysis	yes	yes	yes
Hemolysis/Turbidity detection-quantitation	no/no	no/no	no/yes
Dilution of patient samples onboard	yes	yes	yes
Automatic rerun capability/Auto reflex testing capability	yes/yes	yes/yes	yes/no
Lag time during which hypercoagulable sample not detected	yes (PT and PTT: 3 seconds)	—	yes (PT: <10 seconds; PTT: <20 seconds)
Read time extended for prolonged clotting times	yes	—	yes
User can set different-than-standard:			
• Reagent volumes/Sample volumes	yes/yes	no/no	yes/yes
• No. and sources of reagent	yes	no	yes
• Incubation times/Reading times	yes/yes	no/no	yes/yes
Autocalib. or autocalib. alert/Multipoint calib. supported	no/yes	yes/yes	yes/yes
Auto shutdown/Auto startup programmable	not needed/not needed	not needed/not needed	no/no
Stat time to complete all analytes/Throughput per hour for:			
• PT alone	4 minutes/175 specimens	—	<2 minutes/120 specimens
• PT, PTT	8 minutes/270 specimens	—	<5 minutes/71 specimens
• Fibrinogen	4 minutes/175 specimens	—	<5 minutes/50 specimens
• Factor VIII activity assay	8 minutes/125 specimens	—	depends on assay
Time delay from ordering stat to aspiration of sample	15 seconds	<1 minute	3 minutes
Automatic transfer of QC results to LIS	yes	yes	yes
Data-management capability	yes	onboard (includes QC: L-J plots and Westgard multirules)	onboard (includes QC: L-J plots and Westgard multirules)
Interface supplied by instrument vendor	no	no	yes (included)
Interfaces in active user sites for:	most major vendors	—	via LAN, Windows OS, Linux OS
Bidirectional interface capability	yes (broadcast download and host query)	yes (host query)	yes (host query)
Results transferred to LIS as soon as test time complete	yes	yes	yes
LOINC codes transmitted with all results	no	no	no
How labs get LOINC codes for reagent kits	—	—	—
Electronic interface available (or will be) to automated (or robotic) specimen handling system	no	no	no
Modem servicing	no	no	no
Time required for maintenance by lab personnel	daily: <5 minutes; weekly: 10 minutes; monthly: 5 minutes	daily: 5 minutes; weekly: 5 minutes	per shift: <1 minute; daily: 3 minutes; weekly: 5 minutes; monthly: calibration 15 minutes
Onboard maintenance records	yes	no	no
Training provided with purchase	4 days at vendor offices	—	3 days at vendor offices, on site on request
Approximate number of training hours needed per tech	24	6 on site	—
List price	—	—	—
Annual service contract cost (24/7)/Warranty with purchase	various options available/1 year	—	—/1 year
Distinguishing features (supplied by company)	test menu featuring D-Dimer; barcoded reagent management; ACL family harmonization; HemosIL INR plasma sets for INR test system validation or calibration, or both; HemosIL liquid anti-Xa with universal calibration curve for UFH and LMWH	easy to use; uses sensitive chemiluminescent technology; throughput of 60 tests per hour (<30 minutes to first test result); reagent cartridges stable up to 12 weeks onboard; reagents are precalibrated; replaces the need to run manual, time-consuming ELISA assays	standalone device, requires no additional PC monitor to control, onboard software, only external printer; flexible and extendable by software add-ons; different wavelength available; optimized for small to mid-size labs; special hemostasis of diagnostic assays

Note: a dash in lieu of an answer means company did not answer question or question is not applicable

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Part 6 of 7 See **captodayonline.com/productguides** for an interactive version of guide	**LABiTec GmbH** **Matthias Schramm** matthias.schramm@labitec.de **Ahrensburg, Germany** **011-49-4102-47950** www.labitec.com	**Siemens Healthineers** **Jason Lam** jason.lam@siemens-healthineers.com **Tarrytown, NY** https://usa.healthcare.siemens.com/hemostasis	**Siemens Healthineers** **Jason Lam** jason.lam@siemens-healthineers.com **Tarrytown, NY** https://usa.healthcare.siemens.com/hemostasis
Instrument name/First year sold	CoaDATA 2004 and 4004/—	Sysmex CS-2500 System/2016	Sysmex CS-5100 System/2016
Number of units installed in U.S./Outside U.S.	—/>500	>500/>2,000	75/1,000
Number of contracts signed between 1/1/18 and 11/15/18	—	—	—
Country where analyzer designed/Manufactured	Germany/Germany	Japan/Japan	Japan/Japan
Operational type	discrete	continuous random access	continuous random access
Reagent type	open reagent system	open reagent system (liquid, lyophilized, reconstituted manually)	open reagent system (liquid, lyophilized, reconstituted manually)
Operates on whole blood or spun plasma	spun plasma	spun plasma	spun plasma
Sample handling system	semiautomated manual pipette, auto start	continuous loading capped and uncapped 10-tube position primary sample rack × 5	continuous loading capped and uncapped 10-tube position primary sample rack × 10
Model type	benchtop	benchtop	floor standing
Dimensions (H × W × D)/Weight/Instrument footprint	3.54 × 10.24 × 12.99 in./8.6 lbs./2 sq. ft.	27 × 30.6 × 35.2 in./242.5 lbs./7.5 sq. ft.	50.4 × 40.6 × 45.3 in./612.9 lbs./12.8 sq. ft.
FDA-cleared clotting-based tests	—	PT, APTT, fibrinogen, factors II, V, VII, VIII, IX, X, XI, XII, protein C, lupus, factor V Leiden, TT, batroxobin time	PT, APTT, fibrinogen, factors II, V, VII, VIII, IX, X, XI, XII, protein C, lupus, factor V Leiden, TT, batroxobin time
FDA-cleared chromogenic tests	—	Innovance Antithrombin, protein C, Innovance Heparin	Innovance Antithrombin, protein C, Innovance Heparin
FDA-cleared immunologic tests	—	Innovance D-Dimer, Innovance free protein S antigen, factor VIII, chromogenic, plasminogen	Innovance D-Dimer, Innovance free protein S antigen, factor VIII chromogenic, plasminogen
Other FDA-cleared tests	—	—	—
User-defined tests in clinical use	—	—	—
Tests submitted for 510(k) clearance	—	—	—
Tests in development but not yet submitted	—	von Willebrand factor, a2-antiplasmin	von Willebrand factor, a2-antiplasmin
Methodologies supported	LED photometer (2 wavelengths per channel) incl. mixing; supports coagulation, chromogenic, and immunologic assays	clot detection, optical; turbidimetric; clot detection, simultaneous multiwavelength scanning and PSI checks; chromogenic; immunologic	clot detection, optical; turbidimetric; clot detection, simultaneous multiwavelength scanning and PSI checks; chromogenic; immunologic
Operator must load sep. reagent pack per specimen/Test run	no/no	no/no	no/no
Number of different measured assays onboard simultaneously	1	60	60
Number of different assays programmed and calib. at one time	15	60	60
Number of user-definable (open) channels	8	80,000	80,000
Of those defined, number active simultaneously	1	60	60
Factor assays require manual manipulation or dilutions	yes	no	no
Number of reagent containers onboard at once/Tests per container/Reagents refrigerated onboard	4/reagent manufacturer defined/no	40/up to 200/yes (10°C ± 2°C)	40/up to 200/yes (10°C ± 2°C)
Multiple reagent configurations supported	yes	yes	yes
Reagents, consumables loaded without interrupting testing	yes	yes	yes
Same capabilities when third-party reagent used	yes	yes	yes
Maximum time same lot number of reagents can be used	reagent manufacturer defined	1 year	1 year
Walkaway capacity: Number of specimens/Number of tests	16/18 incubational positions	50/up to 500	100/up to 1,000
Minimum sample volume aspirated precisely at one time	50 µL (150 µL total volume)	5 µL	5 µL
Standard specimen volume required to run PT or PTT/Factor VIII activity	50 µL/—	50 µL/—	50 µL/—
Disposables used/Price of each	micro single cuvette, printer paper/—	reaction tubes, CA clean I and II/—	reaction tubes, CA clean I and II/—
Supports direct-from-track sampling	no	no	yes (Siemens Aptio Automation)
Primary tube sampling supported/Pierces caps on primary tubes	no/no	yes (1–4.5 mL)/yes	yes (1–4.5 mL)/yes
Sample/Reagent barcode reading capability	optional/no	yes/yes	yes/yes
Onboard test automatic inventory	no	yes	yes
Measures No. of tests remaining/Short sample detection	no/no	yes/yes	yes/yes
Clot detection as preanalytical variable in plasma sample	no	yes	yes
Auto. detects adequate reagents for aspiration and analysis	no	yes	yes
Hemolysis/Turbidity detection-quantitation	no/no	yes/yes	yes/yes
Dilution of patient samples onboard	no	yes	yes
Automatic rerun capability/Auto reflex testing capability	no/no	yes/yes	yes/yes
Lag time during which hypercoagulable sample not detected	no	yes (PT: 7 seconds; PTT: 15 seconds)	yes (PT: 7 seconds; PTT: 15 seconds)
Read time extended for prolonged clotting times	yes (selectable on menus)	yes (selectable on menus)	yes (selectable on menus)
User can set different-than-standard:			
• Reagent volumes/Sample volumes	yes/yes	yes/yes	yes/yes
• No. and sources of reagent	yes	yes	yes
• Incubation times/Reading times	yes/yes	yes/yes	yes/yes
Autocalib. or autocalib. alert/Multipoint calib. supported	no/yes	yes/yes	yes/yes
Auto shutdown/Auto startup programmable	no/no	no/no	no/no
Stat time to complete all analytes/Throughput per hour for:			
• PT alone	—	6.5 minutes/180 results	6.5 minutes/400 results
• PT, PTT	—	6.5 minutes/180 results	6.5 minutes/400 results
• Fibrinogen	—	6.5 minutes/—	6.5 minutes/—
• Factor VIII activity assay	—	—	—
Time delay from ordering stat to aspiration of sample	—	1 minute	1 minute
Automatic transfer of QC results to LIS	no	yes	yes
Data-management capability	no	onboard (includes QC: L-J plots and Westgard multirules)	onboard (includes QC: L-J plots and Westgard multirules)
Interface supplied by instrument vendor	no	no	no
Interfaces in active user sites for:	—	most major vendors	most major vendors
Bidirectional interface capability	no	yes (broadcast download and host query)	yes (broadcast download and host query)
Results transferred to LIS as soon as test time complete	yes (unidirectional interface)	yes	yes
LOINC codes transmitted with all results	no	no	no
How labs get LOINC codes for reagent kits	—	—	—
Electronic interface available (or will be) to automated (or robotic) specimen handling system	no	no	no
Modem servicing	no	no	no
Time required for maintenance by lab personnel	per shift: <1 minute (cleaning housing); daily: <1 minute (cleaning housing); weekly: <5 minutes (cleaning housing and incubating block)	daily: <6 minutes; weekly: 1 minute; monthly: <1 minute	daily: <6 minutes; weekly: 1 minute; monthly: <1 minute
Onboard maintenance records	no	yes	yes
Training provided with purchase	1 day, on request	3 days at vendor offices; varies on site	3 days at vendor offices; varies on site
Approximate number of training hours needed per tech	4	6	6
List price	—	$155,000	$205,000
Annual service contract cost (24/7)/Warranty with purchase	—/1 year	—/1 year	—/1 year
Distinguishing features (supplied by company)	price-competitive 2-channel (CoaDATA 2004) and 4-channel (CoaDATA 4004) new generation; photometer optics provide 2 wavelengths on each measuring channel including mechanical stirring (HIL optimized); low maintenance and repair costs	confidence: simultaneous multiwavelength detection and PSI technology designed to ensure high-quality first-run results; operational efficiency: user-friendly software on Windows 7 and tilted reagent vials for maximum efficiency; consistency: for multisite patient monitoring, with sample result traceability for in-depth audit capabilities	confidence: simultaneous multiwavelength detection and PSI technology designed to ensure high-quality first-run results; operational efficiency: user-friendly software on Windows 7, tilted reagent vials and point-in-space automation ready; consistency: for multisite patient monitoring, with sample result traceability for in-depth audit capabilities

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COAGULATION ANALYZERS

Part 7 of 7 See **captodayonline.com/productguides** for an interactive version of guide	**Siemens Healthineers** **Jason Lam** jason.lam@siemens-healthineers.com **Tarrytown, NY** https://usa.healthcare.siemens.com/hemostasis	**Siemens Healthineers** **Jason Lam** jason.lam@siemens-healthineers.com **Tarrytown, NY** https://usa.healthcare.siemens.com/hemostasis	**Siemens Healthineers** **Jason Lam** jason.lam@siemens-healthineers.com **Tarrytown, NY** https://usa.healthcare.siemens.com/hemostasis
Instrument name/First year sold	Sysmex CA-600 Systems/2012	BFT II/1999	BCS XP/2006
Number of units installed in U.S./Outside U.S.	>2,500/>5,000	—	—
Number of contracts signed between 1/1/18 and 11/15/18	—	—	—
Country where analyzer designed/Manufactured	Japan/Japan	Germany/Germany	Germany/Germany
Operational type	continuous random access	batch	batch, continuous random access
Reagent type	open reagent system (reconstituted manually)	open reagent system (reconstituted manually)	open reagent system (liquid, lyophilized, reconstituted manually), optimized for Siemens instruments
Operates on whole blood or spun plasma	spun plasma	spun plasma	spun plasma
Sample handling system	10-tube position sample rack	manual	10-tube position sample rack
Model type	benchtop	benchtop	benchtop
Dimensions (H × W × D)/Weight/Instrument footprint	22.5 × 19.5 × 19.5 in./~94.6 lbs./~3.05 sq. ft.	3.9 × 7.9 × 11.8 in./8.4 lbs./0.65 sq. ft.	37 × 49 × 25 in./330 lbs./8.5 sq. ft.
FDA-cleared clotting-based tests	PT, APTT, fibrinogen, TT, reptilase time, protein C clot, factor assays	PT, APTT, fibrinogen	PT, APTT, fibrinogen, TT, reptilase time, factor assays, DRVVT (screen and confirm), factor V Leiden, protein C clot, protein S activity
FDA-cleared chromogenic tests	Innovance AT, Berichrom AT, protein C chromo, heparin	—	Innovance AT, Innovance free protein S antigen, Berichrom AT, plasminogen, factor VIII chromo, alpha-2 antiplasmin, protein C chromo, heparin
FDA-cleared immunologic tests	Innovance D-Dimer	—	Innovance D-Dimer
Other FDA-cleared tests	—	—	BC VWF-ristocetin cofactor assay (agglutination of fixed platelets)
User-defined tests in clinical use	—	—	—
Tests submitted for 510(k) clearance	—	—	—
Tests in development but not yet submitted	—	—	ETP (for research use only)
Methodologies supported	clot detection, optical; turbidimetric, chromogenic, immunologic	turbodensitometric	clot detection, optical (xenon flasher lamp); chromogenic, immunologic
Operator must load sep. reagent pack per specimen/Test run	no/no	no/no	no/no
Number of different measured assays onboard simultaneously	5	1	>100 tests, samples
Number of different assays programmed and calib. at one time	7	3	99
Number of user-definable (open) channels	7	—	7,999
Of those defined, number active simultaneously	5	1	>100
Factor assays require manual manipulation or dilutions	no	—	no
Number of reagent containers onboard at once/Tests per container/Reagents refrigerated onboard	11/up to 200/yes (15°C)	4/up to 200/no	90/up to 200/yes (<15°C)
Multiple reagent configurations supported	yes	yes	yes
Reagents, consumables loaded without interrupting testing	yes	yes	yes
Same capabilities when third-party reagent used	yes	yes	yes
Maximum time same lot number of reagents can be used	12 months	12 months	1 year
Walkaway capacity: Number of specimens/Number of tests	10/50	1/1	100 samples/400 cuvettes
Minimum sample volume aspirated precisely at one time	5 µL	50 µL	3 µL
Standard specimen volume required to run PT or PTT/Factor VIII activity	50 µL/5 µL	50 µL/—	50 µL/20 µL, minimum 100 µL (includes dead volume); 50 µL, minimum 100 µL
Disposables used/Price of each	reaction tubes, CA clean I, CA clean II, thermal paper/varies with volume	cuvettes, printer paper/varies with volume	cuvette rotors, washing solution, terralin disinfectant, BC validation kit/varies with volume
Supports direct-from-track sampling	no	no	no
Primary tube sampling supported/Pierces caps on primary tubes	yes (2.7–5.0 mL)/no	no/no	yes (all up to 100 mm long, ext. diameter 11–16 mm)/no
Sample/Reagent barcode reading capability	yes/no	no/no	yes/yes
Onboard test automatic inventory	yes	no	yes
Measures No. of tests remaining/Short sample detection	yes/yes	no/no	yes/yes
Clot detection as preanalytical variable in plasma sample	no	no	no
Auto. detects adequate reagents for aspiration and analysis	yes	no	yes
Hemolysis/Turbidity detection-quantitation	no/yes	no/no	yes/no
Dilution of patient samples onboard	yes	no	yes
Automatic rerun capability/Auto reflex testing capability	no/no	no/no	yes/yes
Lag time during which hypercoagulable sample not detected	yes (PT: <7 seconds; PTT: <15 seconds)	yes (PT: 5 seconds; APTT: 15 seconds)	yes (7 seconds for PT and APTT)
Read time extended for prolonged clotting times	yes (selectable on menus)	no	yes
User can set different-than-standard:			
• Reagent volumes/Sample volumes	yes/yes	yes/yes	yes/yes
• No. and sources of reagent	yes	yes	yes
• Incubation times/Reading times	yes/yes	yes/yes	yes/yes
Autocalib. or autocalib. alert/Multipoint calib. supported	no/yes	yes/yes	yes/yes
Auto shutdown/Auto startup programmable	no/no	no/no	no/no
Stat time to complete all analytes/Throughput per hour for:			
• PT alone	7 minutes/60 results	1 minute/— (manual)	<5 minutes/~380 results (including abnormals)
• PT, PTT	8 minutes/48 results	<5 minutes/— (manual)	<5 minutes/~325 results (including abnormals)
• Fibrinogen	7 minutes/60 results	<1 minute/— (manual)	<5 minutes (if curve available)/~315 results
• Factor VIII activity assay	—	—	<5 minutes (if curve available)/~280 results
Time delay from ordering stat to aspiration of sample	2 minutes	—	varies by test in progress, ~>5 minutes
Automatic transfer of QC results to LIS	yes	no	yes
Data-management capability	onboard (includes QC: L-J plots)	no	onboard (includes QC: L-J plots)
Interface supplied by instrument vendor	no	—	no
Interfaces in active user sites for:	all major LIS vendors	—	all major LIS vendors
Bidirectional interface capability	yes (host query)	no	yes (host query)
Results transferred to LIS as soon as test time complete	yes	no	yes
LOINC codes transmitted with all results	no	no	no
How labs get LOINC codes for reagent kits	upon request	upon request	—
Electronic interface available (or will be) to automated (or robotic) specimen handling system	no	no	no
Modem servicing	no	no	yes
Time required for maintenance by lab personnel	daily: <10 minutes; quarterly: <5 minutes	daily: 1 minute	daily: <5 minutes; weekly: <10 minutes; monthly: 15 minutes
Onboard maintenance records	no	no	yes
Training provided with purchase	2 days on site, personalized education plan online training course	quick reference guide	3 days at vendor offices for 2 key operators, personalized education plan online training course
Approximate number of training hours needed per tech	2	2	8 on site
List price	CA-620: $42,000; CA-660: $55,000	$8,685	$171,921
Annual service contract cost (24/7)/Warranty with purchase	—	—	—
Distinguishing features (supplied by company) *Note: a dash in lieu of an answer means company did not answer question or question is not applicable*	maximizes counter space with compact footprint in low-volume labs; increases uptime and reduces service expenses; two models to meet individual laboratory needs: CA-620 system for routine clotting-based testing, CA-660 system for clotting, chromogenic, and immunologic testing needs	2-channel micro reagent volume clot-based technology; opto-mechanical detection accurate on lipemic, icteric samples; automatic INR calculation, curve storage, built-in thermal printer; effective for low-volume testing, backup to larger systems	user-definable calibration curve expiration and prewarning alerts; user-definable barcode utility enables customizable reagent protocols; user-friendly Windows XP software

All information is supplied by the companies listed. The tabulation does not represent an endorsement by the CAP.