

Hematology analyzers

<i>Part 1 of 11</i>	Abbott Hematology Rick Gooch rick.gooch@abbott.com 5440 Patrick Henry Drive, Santa Clara, CA 95054 800-933-5535 www.abbottdiagnostics.com	Abbott Hematology Rick Gooch rick.gooch@abbott.com 5440 Patrick Henry Drive, Santa Clara, CA 95054 800-933-5535 www.abbottdiagnostics.com	Abbott Hematology Rick Gooch rick.gooch@abbott.com 5440 Patrick Henry Drive, Santa Clara, CA 95054 800-933-5535 www.abbottdiagnostics.com
See captodayonline.com/productguides for an interactive version of guide			
Name of instrument First year installed in U.S./Outside U.S./No. of units sold in 2011	CELL-DYN Sapphire* 2005/2005/—	CELL-DYN Ruby* 2006/2006/—	CELL-DYN Emerald* 2009/2008/—
No. units installed in U.S./Outside U.S./List price	>190/>800/\$250,000	>550/>2,000/\$185,000	>1,350/>2,000/\$30,000
Test menu: • Chartable (standard menu: WBC, RBC, Hb, Hct, MCV, MCH, MCHC, PLT, % neut, mono, lymph, eos, baso): • Laboratory • Flags FDA-cleared tests not clinically released Tests not available but submitted for 510(k) clearance Tests in development Tests for research use only Tests unique to analyzer	standard menu (left) plus: MPV, RDW, retic %&#, IRF, NRBC %&#, CD61, CD3T %&#, CD4T %&#, CD8T %&#, 4/8 — band, IG, blast, variant lymph, nvWBC, rstRBC, IR, PLT clmp, ASYM, FP, CD61 agglutination, clot detected during aspiration, short sample — — — — CD61 for PLTs, CD3/4, CD3/8 (immuno T-cell)	standard menu (left) plus: MPV, RDW, retic %&# percent — NRBC, FWBC, NWBC, RRBC, band, IG, blast, variant lymph, RBC morph., DFLT, MCHC, LRI, URI, LURI, ATYPDEP, high/low interp. message, WBC — — — — atypical depolarization flag	WBC, RBC, Hb, Hct, MCV, MCH, MCHC, PLT, lymph percent&#, gran percent&#, mid percent&#, RDW, MPV — dispersional data alerts, suspect measurand flags and count invalidation flags — — — —
Differential method(s) used	MAPSS (Multi-Angle Polarized Scatter Separation) and three-color fluorescence	MAPSS (Multi-Angle Polarized Scatter Separation)	impedance counting
Linearity: • WBC count/RBC count • Hemoglobin/Platelet • MCV (fL) or Hct (%)	0.4–250.0 × 10 ³ µL/ 0.22–7.50 × 10 ⁶ µL 1.0–24.8 g/dL/11.0–2,000.0 × 10 ³ µL 37.0–179 fL (MCV)	0.02–246 × 10 ³ µL/0.00–7.50 × 10 ⁶ µL 0.00–25.0 g/dL/0.00–3,000 × 10 ³ µL 58–139 fL (MCV)	0.4–96.1 K/µL/0.22–7.61 M/µL 3.3–24.6 g/dL/9–1,375 K/uL 5.3–75.6 percent (Hct)/48.8–115 fL (MCV)
Precision: • WBC count/RBC count • Hemoglobin/Platelet • MCV or Hct	≤2.7 percent/≤1.5 percent ≤1.0 percent/≤4.0 percent ≤1.0 percent (MCV)	2.4 percent/1.8 percent 1.4 percent/3.8 percent 0.8 percent (MCV)	3.5% (95% confidence limit)/2.0% (95% confid. limit) 2.1% (95% confidence limit)/6.1% (95% confid. limit) 1.7% Hct (95% confid. limit)/0.8% MCV (95% confid. limit) —
Accuracy of automated differential compared with manual differential (per CLSI H-20A2)	neut% r=0.942 slope=0.947 y=0.446; lym% r=0.936 slope=0.943 y=2.811; mono% r=0.623 slope=1.057 y=0.851; eos% r=0.446 slope=1.024 y=0.288; baso% r=0.232 slope=0.257 y=0.350	neut percent r=0.983, slope=0.97, y=-1.98; lymph r=0.921, slope=0.95, y=0.94; mono r=0.711, slope=1.10, y=1.93; eos r=0.952, slope=1.04, y=0.01; baso r=0.146, slope=0.18, y=1.22	
Interfering substances: • WBC • RBC • MCV or Hct • Platelet • Hemoglobin	PLT clumps, neutrophil aggregates, HbC crystals, lyse-resistant RBCs, cryoglobulin, cryofibrinogen, fragmented WBC, NRBCs autoagglutination, cold agglutinins, elevated WBC, giant PLTs, hemolysis, sm WBC autoagglutination, cold agglutinins, elevated WBC, giant PLT, hemolysis, hyperglycemia auto and cold agglutinins, cryoglobulins, cryofibrinogen, giant PLT, micro RBCs, PLT clumps, RBC fragments, WBC fragments, PLT satellitism lipids>700 mg/dL, WBCs>250 × 10 ⁹ /L, bilirubin>33 mg/dL, HbC crystals	fragile WBC, neutrophil aggregates, lytic-resistant RBCs, NRBCs, PLT clumps, cryofibrinogen, cryoglobulins elevated WBC, increased numbers of giant PLT, autoagglutination, in vitro hemolysis MCV: elevated WBC, hyperglycemia, in vitro hemolysis, increased number of giant PLTs WBC fragments, in vitro hemolysis, microcytic RBCs, cryofibrinogen, cryoglobulins, PLT clumping, increased number of giant PLT elevated WBC, increased plasma substances (triglycerides, bilirubin, in vivo hemolysis), lytic-resistant RBCs	cryoglobulin, cryofibrinogen, heparin, monoclonal proteins, nucleated red cells, platelet clumping, unlysed red cells, clotting, smudge cells, uremia plus immunosuppressants cryoglobulin, cryofibrinogen, giant platelets, high white cell count (>50,000 K/µL), autoagglutination, clotting, hemolysis (in vitro), microcytic red cells cryoglobulin, cryofibrinogen, giant platelets, high white cell count (>50,000 K/µL) hyperglycemia (>600 mg/dL), autoagglutination, clotting, hemolysis (in vitro), microcytic red cells, reduced red cell deformability, swollen red cells cryoglobulin, cryofibrinogen, hemolysis (in vivo and in vitro), microcytic red cells, red cell inclusions, white cell fragments, clotting, giant platelets, heparin, platelet clumping, platelet satellitosis carboxyhemoglobin (>10 percent), cryoglobulin, cryofibrinogen, hemolysis (in vivo) heparin, high white cell count (>50,000 K/µL), hyperbilirubinemia, lipemia, monoclonal proteins platelet aggregates, NRBCs, giant platelets, cryoglobulins, incomplete lysis of RBCs, small lymphocytes, fibrin clots, shift in WBC cell distrib. due to EDTA anticoagulant equilibration
Maximum CBCs per hour/Maximum CBCs and differentials per hour	105/105	84/84	60/60
Minimum specimen volume open/Closed/Sample dead volume closed	120 µL/120 µL/0.5 mL, 0.3 mL for 10.25 × 64 mm tubes	150 µL/230 µL/1.2 mL	9.8 µL/—/—
Microsample capability Prepares microscope slides automatically or flags problems for slide prep Number of automatic slidemakers available/List price	yes no —/\$125,000	no no —/\$125,000	no no —
Archives patient data/Previous patient results incl. with recent results Maximum archived data accessible when system online No. specimens for which numeric results saved in memory at once No. specimens for which histo/cytogram results saved in memory at once Performs delta checks Tags and holds results for followup, confirmatory testing, or rerun Parameters for flags for holding samples defined by user or vendor Scattergram display: cell-specific color Histogram display: color with thresholds User interface can display choice of specimen/result information	yes/yes 10,000 results 10,000 results 10,000 results yes yes user or vendor yes yes yes	yes/yes 10,000 results 10,000 results 10,000 results no yes user or vendor yes yes yes	yes/no 60,000 on USB and 1,500 results on internal memory 60,000 on USB and 1,500 results on internal memory 60,000 on USB and 1,500 results on internal memory no no no no no yes
LIS interface formats supported Information transferred on LIS interface	ASTM 1394 numeric and flag results, instrument to LIS; patient demographics, patient orders, LIS to instrument—broadcast; host query for patient demographics and orders	LIS1/LIS2 CLSI numeric and flag results, histograms and scatterplots, instrument to LIS; patient demographics, patient orders, LIS to instrument—broadcast; host query for patient demographics and orders	proprietary (instrument or vendor specific) numeric and flag results, instrument to LIS
LOINC codes transmitted with all results/Sent in message to LIS/ Listing of machine codes and corresponding LOINC for each test Interface available or planned to automated specimen-handling system Bar-code symbologies read on specimen tube	no/no/no none Codabar, codes 39 and 128, Interleaved 2 of 5	— Codabar, codes 39 and 128, Interleaved 2 of 5, ISBT	no/no/no — Codabar, codes 39 and 128, Interleaved 2 of 5, Chinese post, code 93, EAN8, EAN13, EAN128, IATA, industrial 2 of 5, Italian pharmaceutical, matrix 2 of 5, MSI/Plessey, UK/Plessey, Telepen, TriOptic, S-Code, UPC A, UPC E yes
Accommodates bar-code placement per CLSI standard Auto2A	yes	yes	yes
Time required for maintenance by lab personnel Onboard diagnostics for troubleshooting/Limited to software problems Manufacturer can perform diagnostics via modem	daily: 30 seconds; weekly: 10 minutes; monthly: 5 minutes yes/no yes	daily: 30 seconds; weekly: 5 minutes; monthly: 10 minutes yes/no yes	daily: 3 minutes; monthly: 5 minutes; bi-annually: 10 minutes no/no no
Distinguishing features (supplied by company)	four optical and three fluorescent detectors provide multiple scatterplot analysis; 2-D optical platelets prevent interferences; fluorescent analysis of reticulocytes, NRBCs, and three-color monoclonal analysis on routine hematology analyzer; OpenFlow MAb test selections	touch-sensitive screen, all optical technology; onboard maintenance videos; lyse-resistant RBC mode; rules-based result annotations	small: sample size, reagent volumes used, and physical size; reliable: system averages one service call per year; easy to use: system has touchscreen software with intuitive icons and minimal layers
<i>Note: a dash in lieu of an answer means company did not answer question or question is not applicable</i>	<i>*please see the CELL-DYN Sapphire operator's manual for product labeling, including warnings, limitations, and precautions</i>	<i>*please see the CELL-DYN Ruby operator's manual for product labeling, including warnings, limitations, and precautions</i>	<i>*please see the CELL-DYN Emerald operator's manual for product labeling, including warnings, limitations, and precautions</i>

Hematology analyzers

Part 2 of 11	Beckman Coulter Bill Bailey bdbailey@beckman.com 250 South Kraemer Blvd. Brea, CA 92821 714-961-4440 www.beckmancoulter.com	Beckman Coulter Bill Bailey bdbailey@beckman.com 250 South Kraemer Blvd. Brea, CA 92821 714-961-4440 www.beckmancoulter.com	Beckman Coulter Bill Bailey bdbailey@beckman.com 250 South Kraemer Blvd. Brea, CA 92821 714-961-4440 www.beckmancoulter.com
See captodayonline.com/productguides for an interactive version of guide			
Name of instrument First year installed in U.S./Outside U.S./No. of units sold in 2011 No. units installed in U.S./Outside U.S./List price	UniCel DxH 800 2008/2008/— >1,100/>600/\$229,000	LH 1500 Hematology Automation Series 2002/2003/— >50/30/varies	LH 780 2006/2007/— >600/>1,100/LH 780: \$214,500
Test menu: • Chartable (standard menu: WBC, RBC, Hb, Hct, MCV, MCH, MCHC, PLT, % neut, mono, lymph, eos, baso): • Laboratory • Flags	standard menu (left) plus: RDW-CV, RDW-SD, MPV, retic#, retic%, IRF, MRV, NRBC# and %, body fluids—total nucleated count, and RBC count for synovial, serous, and CSF fluids — definitive, suspect and system messages, user-definable extended decision rules, ISLH consensus rules, user-definable differential sensitivity	standard menu (left) plus: RDW, MPV, retic %&#, IRF, graded RBC morph., NRBC %&#, TNC & RBC on CSF, synovial, and serous fluids — user-definable age-, gender-, or location-based reference intervals; action and critical limits; user-definable RBC morphology; user-selectable sensitivity for differential, abnormal population suspect messages	standard menu (left) plus: RDW, RDW-SD, MPV, retic %&#, IRF, MRV, graded RBC morph., NRBC %&#, TNC and RBC on CSF, synovial, and serous fluids — user-definable age-, gender-, or location-based reference intervals; action and critical limits, user-definable RBC morphology; user-definable sensitivity for differential abnormal populations, suspect and definitive messages
FDA-cleared tests not clinically released Tests not available but submitted for 510(k) clearance Tests in development Tests for research use only	— — — high light scatter reticulocytes (HLR% and HLR#), low hemoglobin density (LHD), microcytic anemia factor (MAF), mean spheroid cell volume (MSCV), plateletcrit (PCT), platelet distribution width (PDW), reticulocyte distribution width (RDWR-CV and RDWR-SD), red cell size factor (RSF), cell population data research parameters	— — — MSCV, HLR %&#, PDW, PCT, WBC research population data (RPD); LH 780: MAF, RSF, RDWR-SD, RDWR-CV	— — — RSF, MAF, MSCV, HLR %&#, RDWR-CV, RDWR-SD, PDW, PCT, WBC research population data (RPD)
Tests unique to analyzer		IVD: NRBCs, body fluids; RUO: MSCV, WBC RPD	IVD: NRBCs, body fluids, RDW-SD; RUO: MSCV, RSF, MAF, WBC RPD
Differential method(s) used	flow cytometric digital analysis using volume, conductivity, and five angles of light scatter, digital signal processing, advanced algorithm applications, high-definition cellular resolution, DataFusion	Coulter's 3-D VCS biophysical flow cytometry with IntelliKinetics, AccuGate, and AccuFlex technologies	Coulter's 3-D VCS biophysical flow cytometry with IntelliKinetics, AccuGate, and AccuFlex technologies
Linearity: • WBC count/RBC count • Hemoglobin/Platelet • MCV (fL) or Hct (%)	0–400/0–8.5 0–25.5/0–3,000 50–150 (MCV)	0–400/0–8.0 0–25/0–3,000 50–200 (MCV)	0–400/0–8.0 0–25/0–3,000 —
Precision: • WBC count/RBC count • Hemoglobin/Platelet • MCV or Hct	≤3.0 percent/≤1.5 percent ≤1.5 percent/≤3.5 percent ≤1.0 percent	<1.7 percent/<0.8 percent <0.8 percent/<3.3 percent <0.8 percent (MCV)	≤1.7 percent/≤0.8 percent ≤0.8 percent/≤3.3 percent ≤0.8 percent (MCV)
Accuracy of automated differential compared with manual differential (per CLSI H-20A2)	NE = ±2.0; LY, MO = ±3.0; EO, BA = ±1.0 (or 10% percent, whichever is greater)	lymph% = ±3.0%, —; neut% = ±3.0%, —; mono% = ±2.0%, eos% = ±1.0%, baso% = ±1.0%	lymph% = ±3.0%, neut% = ±2.0%, mono% = ±3.0%, eos% = ±1.0%, baso% = ±1.0%
Interfering substances: • WBC • RBC • MCV or Hct • Platelet • Hemoglobin	precipitated elevated proteins, cryoglobulin, fragmented white cells, agglutinated white cells, lyse-resistant red cells, giant platelets, platelet clumps, unlysed particles >35 fL in size very high WBC count, high concentration of very large platelets, autoagglutinins very high WBC count, high concentration of very large platelets, autoagglutinins platelet clumps, white cell fragments, very small red cells, red cell fragments, giant platelets, electric noise severe lipemia, heparin, certain unusual RBC abnormalities that resist lysing elevated triglycerides, precipitated elevated proteins	unusual RBC abnormalities that resist lysing, NRBCs, fragmented WBC, unlysed particle >35 fL, giant PLT, PLT clumps very high WBC, high concentration large PLT, autoagglutinins very high WBC, high concentration large PLT, autoagglutinins very small RBCs and WBC fragments very high WBC, severe lipemia, heparin, rare lyse-resistant RBCs high triglycerides may affect lysing	unusual RBC abnormalities that resist lysing, NRBCs, fragmented WBC, unlysed particle >35 fL, giant PLT, PLT clumps very high WBC, high concentration large PLT, autoagglutinins very high WBC, high concentration large PLT, autoagglutinins (MCV) very small RBCs and WBC fragments very high WBC, severe lipemia, heparin, rare lyse-resistant RBCs high triglycerides may affect lysing
Interfering substances: Differential			
Maximum CBCs per hour/Maximum CBCs and differentials per hour	>100/>100	110 per analyzer on automation system/110 per analyzer on automation system	110/110; 105/100 with SMS
Minimum specimen volume open/Closed/Sample dead volume closed Microsample capability Prepares microscope slides automatically or flags problems for slide prep Number of automatic slidemakers available/List price	165 µL/165 µL/300–400 µL yes yes —/DxH SMS \$165,000	200 µL/300 µL, 550 µL with slidemaker/1.0 mL yes yes >850 (U.S.)/\$110,000	200 µL/300 µL (550 µL with slidemaker)/1.0 mL yes yes >500/\$110,000
Archives patient data/Previous patient results incl. with recent results Maximum archived data accessible when system online No. specimens for which numeric results saved in memory at once No. specimens for which histo/cytogram results saved in memory at once Performs delta checks Tags and holds results for followup, confirmatory testing, or rerun Parameters for flags for holding samples defined by user or vendor Scattergram display: cell-specific color Histogram display: color with thresholds User interface can display choice of specimen/result information	yes/yes 40,000 standalone 40,000 standalone 40,000 yes yes yes yes yes yes yes	yes/yes 20,000 samples per instrument 20,000 samples per instrument 20,000 samples per instrument yes yes user or vendor yes yes yes	yes/yes 20,000 samples 20,000 samples 20,000 samples yes yes user or vendor yes yes yes
LIS interface formats supported Information transferred on LIS interface	CLSI LIS01-A2 numeric and flag results, histograms and scatterplots, instrument to LIS; patient demographics, patient orders, LIS to instrument—broadcast; host query for patient demographics and orders (available with release of workcell) no/no/no	— numeric and flag results, histograms and scatterplots, instrument to LIS; patient demographics, patient orders, LIS to instrument—broadcast yes/yes/yes	proprietary numeric and flag results, histograms and scatterplots, instrument to LIS; patient demographics, patient orders, LIS to instrument—broadcast no/no/no
LOINC codes transmitted with all results/Sent in message to LIS/ Listing of machine codes and corresponding LOINC for each test Interface available or planned to automated specimen-handling system Bar-code symbologies read on specimen tube	Beckman Coulter Codabar, codes 39 and 128, interleaved 2 of 5, NW7	Beckman Coulter Codabar, codes 39 and 128, Interleaved 2 of 5, NW7	Beckman Coulter Codabar, codes 39 and 128, Interleaved 2 of 5, NW7
Accommodates bar-code placement per CLSI standard Auto2A	yes	yes	yes
Time required for maintenance by lab personnel	no routine maintenance. all maintenance procedures are on as-needed basis	daily, weekly, monthly and as needed maintenance procedures, however time varies by automation line	no routine maintenance; only as needed
Onboard diagnostics for troubleshooting/Limited to software problems Manufacturer can perform diagnostics via modem	yes/no yes	yes/no yes	yes/no yes
Distinguishing features (supplied by company)	integrated automation with auto repeat-reflex testing based on extended onboard user-defined decision rules; single aspiration pathway negates mode-to-mode comparisons; flow cytometric digital morphology with five angles of light scatter; separate channel for WBC, NRBC, reticulocyte analysis; digital signal processing, DataFusion; future scalability	system automatically loads and unloads cassettes, performs reflex and repeat testing, sorts tubes for off-line tests, stores tubes with availability for retrieval for any test type; multiple configurations available; RUO: WBC research population data	extensive onboard user-defined decision support; extended linearity for WBC and PLT using AccuCount technology; enumeration of NRBCs with every differential; random access-automation ready; integrated slidemaker-slidestainer options; proservice; electronic IQAP; expanded QC module; RUO: WBC research population data

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

Hematology analyzers

Part 3 of 11	Beckman Coulter Bill Bailey bdbailey@beckman.com 250 South Kraemer Blvd. Brea, CA 92821 714-961-4440 www.beckmancoulter.com	Beckman Coulter Bill Bailey bdbailey@beckman.com 250 South Kraemer Blvd. Brea, CA 92821 714-961-4440 www.beckmancoulter.com	Beckman Coulter Bill Bailey bdbailey@beckman.com 250 South Kraemer Blvd. Brea, CA 92821 714-961-4440 www.beckmancoulter.com
See captodayonline.com/productguides for an interactive version of guide			
Name of instrument First year installed in U.S./Outside U.S./No. of units sold in 2011	Coulter LH 750 2001/2001/261	Coulter LH 500 2003/2003/198	Coulter HmX 1999 HmX AL/—/— 268 Forecast
No. units installed in U.S./Outside U.S./List price	>2,300/>1,900/\$195,000	>1,500/>1,200/\$145,000	>1,400/>1,800/\$135,000
Test menu: • Chartable (standard menu: WBC, RBC, Hb, Hct, MCV, MCH, MCHC, PLT, %&# neut, mono, lymph, eos, baso): • Laboratory • Flags	standard menu (left) plus: RDW, MPV, retic #&%, IRF, MRV, graded RBC morph., NRBC %&#, TNC & RBC on CSF, synovial, and serous fluids — user-definable age-, gender-, or location-based reference intervals; action and critical limits; user-definable RBC morphology; gradient messages (=+, ++, +++); user-selectable sensitivity for differential abnormal population suspect messages — MSCV, HLR %&#, PDW, PCT, WBC research population data (RPD) IVD: NRBC, body fluids; RUO: MSCV, WBC RPD	standard menu (left) plus: retic #, retic %, MRV, IRF, RDW, MPV — user-definable age-, gender-, or location-based reference intervals, action and critical limits; user-definable RBC morphology; gradient messages — PCT, PDW, WBC RPD	standard menu (left) plus: RDW, MPV, retic #&%, graded RBC morph., IRF, MRV — comprehensive high/low, definitive and suspect messages — PCT, PDW
FDA-cleared tests not clinically released Tests not available but submitted for 510(k) clearance Tests in development Tests for research use only	— — — —	— — — —	— — — —
Tests unique to analyzer	IVD: NRBC, body fluids; RUO: MSCV, WBC RPD	—	—
Differential method(s) used	Coulter's 3-D VCS biophysical flow cytometry with IntelliKinetics, AccuGate, and AccuFlex technologies	Coulter's 3-D biophysical flow cytometry with AccuGate 500, Reaction Manager technologies	Coulter's 3-D VCS technology
Linearity: • WBC count/RBC count • Hemoglobin/Platelet • MCV (fL) or Hct (%)	0–400/0–8.0 0–25/0–3,000 —	0–200/0–7.0 0–25/0–2,000 50–150 (MCV)	0–99.9/0–7.0 0–25/0–999 50–150 (MCV)
Precision: • WBC count/RBC count • Hemoglobin/Platelet • MCV or Hct	≤1.7 percent/≤0.8 percent ≤0.8 percent/≤3.3 percent ≤0.8 percent (MCV)	≤2.5 percent/≤2.0 percent ≤1.5 percent/≤5.0 percent ≤2 percent (MCV)	<2.5 percent/<2.0 percent <1.5 percent/<5.0 percent <2.0 percent (MCV)
Accuracy of automated differential compared with manual differential (per CLSI H-20A2)	lymph% = ±3.0%, neut% = ±2.0%, mono% = ±3.0%, eos% = ±1.0%, baso% = ±1.0%	lymph= ±1.5 % mean diff., mono= ±1.5 % mean diff., neut= ±2.0% mean diff., eos= ±0.5 % mean diff., baso= ±0.5 % mean differential	lymph%= ±3.0%, —; mono%= ±2.0%, —; neut%= ±3.0%, —; eos%= ±1.0%, —; baso%= ±1.0%, —
Interfering substances: • WBC • RBC • MCV or Hct • Platelet • Hemoglobin	unusual RBC abnormalities that resist lysing, NRBC, fragmented WBC, unlysed particle >35 fL, giant PLT, PLT clumps very high WBC, high concentration large PLT, autoagglutinins MCV and Hct: very high WBC, high concentration large PLT, autoagglutinins very small RBCs and WBC fragments may interfere very high WBC, severe lipemia, heparin, rare lyse-resistant RBCs	very high WBC count, many very large PLTs, agglutinin RBCs, RBCs <36 fL, fibrin, cell fragments, or other debris MCV: very high WBC count, high concentration of very large PLTs, agglutinin RBCs, RBC fragments <36 fL, rigid RBCs very small red cells near the upper threshold, cell fragments, clumped PLTs, PLT fragments or cellular debris near the lower PLT threshold, giant PLTs, PLT clumps, red and white cell fragments, electronic noise, very small red cells very high WBC count, severe lipemia, heparin, lyse-resistant RBCs, turbidity such as elevated triglycerides factors that affect WBC count above or high triglycerides that affect lysing, hypogranular granulocytes, agranular granulocytes, lyse-resistant red cells, very small or multi-population lymphocytes, elevated triglycerides, precipitated elevated proteins	unusual RBC abnormalities that resist lysing, NRBC, fragmented WBC, unlysed particle >35 fL, large PLT very high WBC, high concentration of very large PLT, autoagglutinins MCV and Hct: very high WBC, high concentration of large PLT, autoagglutinins very small RBCs and WBC fragments may cause no fit very high WBC, severe lipemia, heparin, rare lyse-resistant RBCs
Interfering substances: Differential	high triglycerides may affect lysing	high triglycerides may affect lysing	high triglycerides may affect lysing
Maximum CBCs per hour/Maximum CBCs and differentials per hour	110/110	75/75	75/75
Minimum specimen volume open/Closed/Sample dead volume closed Microsample capability Prepares microscope slides automatically or flags problems for slide prep	200 µL/300 µL, 550 µL with slidemaker/1.0 mL yes yes, both	125 µL/185 µL/tube dependent yes no	125 µL/185 µL/50 µL predilute/0.5 mL yes no
Number of automatic slidemakers available/List price	>1,000 (U.S.)/\$110,000	—	—
Archives patient data/Previous patient results incl. with recent results Maximum archived data accessible when system online No. specimens for which numeric results saved in memory at once No. specimens for which histo/cytogram results saved in memory at once Performs delta checks Tags and holds results for followup, confirmatory testing, or rerun Parameters for flags for holding samples defined by user or vendor Scattergram display: cell-specific color Histogram display: color with thresholds User interface can display choice of specimen/result information	yes/yes 20,000 samples 20,000 samples 20,000 samples yes yes user or vendor yes yes yes	yes/yes 20,000 samples 20,000 samples 20,000 samples yes yes user yes yes yes	yes 5,000 samples 5,000 samples 5,000 samples no yes user or vendor four colors-cell types colors without thresholds no
LIS interface formats supported Information transferred on LIS interface	RS-232, proprietary numeric and flag results, histograms and scatterplots, instrument to LIS; patient demographics, orders, LIS to instrument—broadcast no/no/no	RS-232, proprietary numeric and flag results, histograms and scatterplots, instrument to LIS; patient demographics, orders, LIS to instrument—broadcast no/no/no	RS-232, proprietary numeric and flag results, histograms and scatterplots, instrument to LIS; patient demographics, orders, LIS to instrument—broadcast no/no/no
LOINC codes transmitted with all results/Sent in message to LIS/ Listing of machine codes and corresponding LOINC for each test Interface available or planned to automated specimen-handling system Bar-code symbologies read on specimen tube	Beckman Coulter Codabar, codes 39 and 128, Interleaved 2 of 5, NW7	— Codabar, codes 39 and 128, Interleaved 2 of 5, NW7	— Codabar, codes 39 and 128, Interleaved 2 of 5, NW7
Accommodates bar-code placement per CLSI standard Auto2A	yes	yes	no
Time required for maintenance by lab personnel	no routine maintenance; only as needed	no routine maintenance; only as needed	none
Onboard diagnostics for troubleshooting/Limited to software problems Manufacturer can perform diagnostics via modem	yes/no yes	yes/no yes	yes/no no
Distinguishing features (supplied by company)	extensive decision support; enumeration of NRBCs with every differential; random access; automation ready; extended linearity for WBC and PLTs; RUO: WBC RPD	extensive decision support, extended linearity for WBC and PLT, low review rate, small footprint, superior reliability, ProService, electronic IQAP	VCS technology; low review rate; no routine daily maintenance; triplicate counting; aperture burn circuit; sweepflow; SmartStart system; autoloader and single-sample models

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

Hematology analyzers

Part 4 of 11	Beckman Coulter Bill Bailey bdbailey@beckman.com 250 South Kraemer Blvd. Brea, CA 92821 714-961-4440 www.beckmancoulter.com	CellaVision Ron Hagner ron.hagner@cellavision.com 4107 Burns Road Beach Gardens, FL 33410 919-619-3909 cellavision.com	HORIBA Medical Jim Knowles jimknowles@horiba.com 34 Bunsen Irvine, CA 92618 888-903-5001 ext. 4553 www.horiba.com/us/en/medical
See captodayonline.com/productguides for an interactive version of guide			
Name of instrument First year installed in U.S./Outside U.S./No. of units sold in 2011 No. units installed in U.S./Outside U.S./List price	Coulter Ac•T 5diff Family; Ac•T 5diff AL 2001/2000; 2003/2003/— >1,300/>2,800 combined in and out US \$38,500 (CP)/54,500 (AL)	CellaVision DM96 and CellaVision DM1200 2004/2003/— ~400/~700/~\$135,000–\$175,000	Pentra 60C+ Hematology Analyzer 2000/2000/85 >350/>600/\$47,313
Test menu: • Chartable (standard menu: WBC, RBC, Hb, Hct, MCV, MCH, MCHC, PLT, %&# neut, mono, lymph, eos, baso):	standard menu (left) plus: RDW, MPV	%&# neut, mono, lymph, eos, baso, segmented, bands, blast, promyelocytes, myelocytes, metamyelocytes, variant lymphocytes, plasma cells, giant platelets, platelet clumps, erythroblasts RBC morphology pre-characterizations include anisocytosis, poikilocytosis, polychromasia, microcytosis, macrocytosis, hypochromia	standard menu (left) plus: RDW, MPV
• Laboratory	atypical lymphocytes # (ATL#), atypical lymphocytes % (ATL%), immature cells # (IMM#), immature cells % (IMM%), PCT, PDW	—	atypical lymphocytes, atypical lymphocytes %, LIC, LIC %
• Flags	complete operator selectable flagging	—	operator selectable flagging
FDA-cleared tests not clinically released	—	—	—
Tests not available but submitted for 510(k) clearance	—	—	—
Tests in development	—	—	—
Tests for research use only	PCT, PDW, IMM, ATL	—	PCT, PDW, ATL, LIC
Tests unique to analyzer	—	analysis of cytocentrifuged samples, body fluids (Reported parameters: neutrophils, eosinophils, lymphocytes, macrophages (including monocytes), other (basophils, lymphoma cells, atypical lymphocytes, blast cells, and tumor cells)	—
Differential method(s) used	ACV technology combining cytochemistry, focused flow impedance, and light absorbance principles of measurement	light microscopy, image analysis and artificial neural networks	DHSS technology combining cytochemistry, focused flow impedance, and light absorbance principles of measurement
Linearity: • WBC count/RBC count	0.4–91.3/23-7.7; AL: 0.4–120.0/0.3–8.0	—	0–120/0–8
• Hemoglobin/Platelet	0–22/4-1000; AL: 1.3–24.0/10.0–1,000	—	0–24/0–1,900
• MCV (fL) or Hct (%)	1.8–63.8 (Hct)*	—	0–67 (Hct)
Precision: • WBC count/RBC count	<2 percent/<2 percent	—	<2 percent/<2 percent
• Hemoglobin/Platelet	<1 percent/<5 percent	—	<1 percent/<5 percent
• MCV or Hct	<2.0 percent (Hct); AL: <2.0% (Hct)	—	<2 percent (Hct)
Accuracy of automated differential compared with manual differential (per CLSI H-20A2)	not available in NCCLS H-20A format	seg neut% y=0.97x + 1.3 r= 0.987, lymph% y=0.97x + 1.2 r= 0.979, eos% y=1.01+0.1, r=0.960, mono% y=0.97+0.2, r=0.941, band neut% y=0.87x+0.1, r=0.917	neut% r=0.99, —; lymph% r=0.98, —; mono% r=0.96, —; eos% r=0.89, —; baso% r=0.54, —
Interfering substances: • WBC	NRBCs, PLT clumps, large PLTs, lyse-resistant RBCs	—	NRBCs, PLT clumps, lyse-resistant RBCs
• RBC	cold agglutinins, PLT clumps, WBC overlinearity	—	cold agglutinins
• MCV or Hct	Hct: lipemic samples, high WBC, cold agglutinins	—	Hct: extreme leukocytosis
• Platelet	RBC and WBC fragments	—	microcytes, PLT clumps
• Hemoglobin	elevated WBC, lipemia	—	extreme lipemia/leukocytosis
Interfering substances: Differential	lyse-resistant RBCs, NRBCs, lipemia	—	NRBC, lyse-resistant RBCs, extreme hyperbilirubinemia
Maximum CBCs per hour/Maximum CBCs and differentials per hour	60/60; 80/80	—/35 differentials	60/60
Minimum specimen volume open/Closed/Sample dead volume closed	30 µL for CBC/30 µL/varies by tube size; 53 µL for CBC differential/53 µL for CBC differential/varies by tube size	—	30 µL for CBC and 53 µL for CBC and differential/30 µL for CBC and 53 µL for CBC and differential/—
Microsample capability	yes	—	yes
Prepares microscope slides automatically or flags problems for slide prep	no	—	yes
Number of automatic slidemakers available/List price	—	—	—
Archives patient data/Previous patient results incl. with recent results	yes	yes/no	yes/yes, with MultiLink Data Manager
Maximum archived data accessible when system online	10,000 samples	unlimited	100,000
No. specimens for which numeric results saved in memory at once	10,000 samples	~4,000	unlimited with backup
No. specimens for which histo/cytogram results saved in memory at once	10,000 samples	—	unlimited with backup
Performs delta checks	no	no	yes
Tags and holds results for followup, confirmatory testing, or rerun	yes	—	yes
Parameters for flags for holding samples defined by user or vendor	user or vendor	—	user
Scattergram display: cell-specific color	no	—	yes
Histogram display: color with thresholds	yes	—	yes
User interface can display choice of specimen/result information	yes	—	yes
LIS interface formats supported	proprietary; proprietary ASTM	ASTM 1394	ASTM 1394 and 1238, HL7, IEEE MIB
Information transferred on LIS interface	numeric and flag results, histograms and differential plots, instrument to LIS; patient demographics, orders, LIS to instrument—broadcast	numeric and flag results, instrument to LIS; patient demographics, orders, LIS to instrument—broadcast; host query for patient demographics and orders (when bar code is read, host is queried for orders)	numeric and flag results, histograms and scatterplots, instrument to LIS; patient demographics, LIS to instrument—broadcast
LOINC codes transmitted with all results/Sent in message to LIS/ Listing of machine codes and corresponding LOINC for each test	no/no/no	no/no/no	yes/yes/yes
Interface available or planned to automated specimen-handling system	no	—	no
Bar-code symbologies read on specimen tube	Codabar, codes 39 and 128, Interleaved 2 of 5, EAN 8 and 13	Codabar, codes 39 and 128, Interleaved 2 of 5, QR, DataMatrix	Codabar, codes 39 and 128, ASTM, Interleaved 2 of 5
Accommodates bar-code placement per CLSI standard Auto2A	yes	—	yes
Time required for maintenance by lab personnel	none	daily: none; weekly: 5 minutes	weekly: 15 minutes
Onboard diagnostics for troubleshooting/Limited to software problems	yes/no	yes/no	yes/yes
Manufacturer can perform diagnostics via modem	no	no	yes, with Data Manager
Distinguishing features (supplied by company)	quantitative five-part WBC differential; aspirates only 30 µL of sample; requires small space footprint and runs quietly; AL has auto repeat based on decision rules	fully automated slide handling and oiling available in two models for medium and large laboratories; performs peripheral blood and body fluid differentials; WBC and other nucleated cells classified into 18 different categories; RBC morphology characterized for six categories; network use allows remote review of blood smears and linking of multiple analyzers in multiple locations	reliable five-part WBC differential technology—MTBF more than 200 days; small footprint; small sample size of 53 µL

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

Hematology analyzers

Part 5 of 11	HORIBA Medical Jim Knowles jimknowles@horiba.com 34 Bunsen Irvine, CA 92618 888-903-5001 ext. 4553 www.horiba.com/us/en/medical	HORIBA Medical Jim Knowles jimknowles@horiba.com 34 Bunsen Irvine, CA 92618 888-903-5001 ext. 4553 www.horiba.com/us/en/medical	Medica Corporation Ray Morrill rmorrill@mediacorp.com 5 Oak Park Drive Bedford, MA 01730 781-541-7413 www.medicacorp.com
See captodayonline.com/productguides for an interactive version of guide			
Name of instrument First year installed in U.S./Outside U.S./No. of units sold in 2011 No. units installed in U.S./Outside U.S./List price	Pentra XL 80 2004/2003/31 >250/>900/\$76,808	Pentra DX120 2005/2004/6 >20/>400/\$207,560	EasyCell assistant 2010/2012/— —/—/\$55,000
Test menu: • Chartable (standard menu: WBC, RBC, Hb, Hct, MCV, MCH, MCHC, PLT, % neut, mono, lymph, eos, baso):	standard menu (left) plus: automatic dilution of overrange results (WBC × 3, RBC/Hgb/PLT × 2), RDW, MPV	standard menu (left) plus: NRBCs, reticulocytes, IRF, MRV	WBC, RBC, Pit, % neut, mono, lymph, eos, baso, % & # of segmented neutrophils, band neutrophils, lymphocytes, monocytes, eosinophils, basophils, variant lymphocytes, NRBCs, smudge cells, more
• Laboratory	atypical lymphocytes, atypical lymphocytes%, LIC, LIC%	LIC%#, atypical lymphocytes %&#, IMG %&#, IML %&#, IMM %&#, RETL%, RETM%, RETH%, IMR%, MRU, MFI%, CRC%	—
• Flags	operator selectable flagging	—	—
FDA-cleared tests not clinically released	—	—	—
Tests not available but submitted for 510(k) clearance	—	—	—
Tests in development	—	—	—
Tests for research use only	PCT, PDW, ATL, LIC	PCT, PDW, ATL, LIC, IMG, IML, IMM	—
Tests unique to analyzer	automatic dilution protocol	—	competency assessment program
Differential method(s) used	DHSS technology combining cytochemistry, focused flow impedance, and light absorbance	cytochemistry (chlorazol black E) and absorbance	light microscopy, image analysis by neural network software, images reviewed by technologist
Linearity: • WBC count/RBC count	0–120/0–8	0–150/0.5–8.1	—
• Hemoglobin/Platelet	0–24/0–1,900 (>2 g/dL Hb)	2–25/0–2,000	—
• MCV (fL) or Hct (%)	0–67 (Hct)/0–2,800 (<2 g/dL Hb)	0–80 (Hct)	—
Precision: • WBC count/RBC count	<2 percent/<2 percent	<2 percent/<2 percent	—
• Hemoglobin/Platelet	<1 percent/<5 percent	<1 percent/<5 percent	—
• MCV or Hct	<2 percent (Hct)	<2 percent (Hct)	—
Accuracy of automated differential compared with manual differential (per CLSI H-20A2)	neut% r=0.99, —; lymph% r=0.98, —; mono% r=0.96, —; eos% r=0.89, —; baso% r=0.54, —	neut% r=0.99, —; lymph% r=0.98, —; mono% r=0.92, —; eos% r=0.97, —; baso% r=0.71, —	neutrophil r=0.99; lymphocyte r=0.98; monocyte r=0.93; eosinophil r=0.97
Interfering substances: • WBC	NRBCs, PLT clumps, lyse-resistant RBCs	NRBCs, PLT clumps, lyse-resistant RBCs	—
• RBC	cold agglutinins	cold agglutinins	—
• MCV or Hct	Hct: extreme leukocytosis	Hct: extreme leukocytosis	—
• Platelet	microcytes, PLT clumps	microcytes, PLT clumps	—
• Hemoglobin	extreme lipemia, leukocytosis	extreme lipemia, leukocytosis	—
Interfering substances: Differential	NRBCs, lyse-resistant RBCs, extreme hyperbilirubinemia	NRBCs, lyse-resistant RBCs, extreme hyperbilirubinemia	—
Maximum CBCs per hour/Maximum CBCs and differentials per hour	80/80	120/120	—/12
Minimum specimen volume open/Closed/Sample dead volume closed	30 µL for CBC/53 µL for CBC and differential/0.5 mL	130 µL/200 µL/1 mL	—
Microsample capability	yes	yes, open mode	—
Prepares microscope slides automatically or flags problems for slide prep	yes	yes	no
Number of automatic slidemakers available/List price	—	—	—
Archives patient data/Previous patient results incl. with recent results	yes/yes, with MultiLink Data Manager	yes/yes, with MultiLink Data Manager	yes/no
Maximum archived data accessible when system online	100,000	100,000	unlimited
No. specimens for which numeric results saved in memory at once	unlimited with backup	unlimited with backup	10,000
No. specimens for which histo/cytogram results saved in memory at once	unlimited with backup	unlimited with backup	—
Performs delta checks	yes	yes	no
Tags and holds results for followup, confirmatory testing, or rerun	yes	yes	—
Parameters for flags for holding samples defined by user or vendor	user	user	—
Scattergram display: cell-specific color	yes	yes	—
Histogram display: color with thresholds	yes	yes	—
User interface can display choice of specimen/result information	—	yes	—
LIS interface formats supported	proprietary, ASTM 1394 and 1238, HL7, IEEE MIB	proprietary, ASTM 1394 and 1238, HL7, IEEE MIB	ASTM 1394, LAN connection allows remote review of all slide images
Information transferred on LIS interface	numeric and flag results, histograms and scatterplots, instrument to LIS; patient demographics, orders, LIS to instrument— broadcast	numeric and flag results, histograms and scatterplots, instrument to LIS; patient demographics, orders, LIS to instrument— broadcast	numeric and flag results, instrument to LIS; patient demographics, orders, LIS to instrument— broadcast; host query for demographics and orders
LOINC codes transmitted with all results/Sent in message to LIS/ Listing of machine codes and corresponding LOINC for each test	yes/yes/yes	no/no/no	yes/yes/yes
Interface available or planned to automated specimen-handling system	yes	yes	—
Bar-code symbologies read on specimen tube	Codabar, codes 39 and 128, ASTM, Interleaved 2 of 5	Codabar, codes 39 and 128, ASTM, Interleaved 2 of 5	Codabar, codes 39 and 128, ASTM, Interleaved 2 of 5, PDF-417 (two dimensional)
Accommodates bar-code placement per CLSI standard Auto2A	yes	yes	—
Time required for maintenance by lab personnel	weekly: 15 minutes	weekly: 15 minutes	daily: 5 minutes; weekly: 10 minutes
Onboard diagnostics for troubleshooting/Limited to software problems	no/yes	no/yes	yes/no
Manufacturer can perform diagnostics via modem	yes	yes	no
Distinguishing features (supplied by company)	compact five-part differential instrument with autoloader and autodilution capability, auto rerun feature, autovalidation	high-throughput cell counter with integrated reticulocyte methodology and slidemaker-stainer; fluorescent NRBC counting, auto rerun and reflex testing, autovalidation	30-position slide autosampler for walkaway operation and separate stat position to allow immediate analysis of stat sample; remote review software creates additional workstations, which improves workflow efficiency; allows easy collaboration on difficult slides from alternate locations outside the laboratory; slides without bar codes are imaged for review by technician and entry of slide ID

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

Hematology analyzers

Part 6 of 11	Siemens Healthcare Diagnostics Lois Brisben lois.brisben@siemens.com 1717 Deerfield Road Deerfield, IL 60015-0778 800-948-3234 www.usa.siemens.com/diagnostics	Siemens Healthcare Diagnostics Lois Brisben lois.brisben@siemens.com 1717 Deerfield Road Deerfield, IL 60015-0778 800-948-3234 www.usa.siemens.com/diagnostics	Siemens Healthcare Diagnostics Lois Brisben lois.brisben@siemens.com 1717 Deerfield Road Deerfield, IL 60015-0778 800-948-3234 www.usa.siemens.com/diagnostics
See captodayonline.com/productguides for an interactive version of guide			
Name of instrument First year installed in U.S./Outside U.S./No. of units sold in 2011 No. units installed in U.S./Outside U.S./List price	Advia 120 Hematology System 1998/1998/— >750/3,500/\$169,000–\$189,000	Advia 2120 Hematology System 2004/2004/— >200/>900/\$225,000	Advia 2120i 2008/2008/130 >150/>400/\$225,000
Test menu: • Chartable (standard menu: WBC, RBC, Hb, Hct, MCV, MCH, MCHC, PLT, % neut, mono, lymph, eos, baso): • Laboratory • Flags	standard menu (left) plus: CHCM, MPV, RDW, HDW, LUC %&#, retic %&#, Chr, CHCMr, MCVR; CSF: WBC, RBC, PMN, MN, neut, lymph, mono; cellular Hgb %: hypo, hyper, macro, micro; calc. Hb, MPXI; %: blasts, PMN, MN; large PLT count; RBC fragment count; RBC ghost count; CSF: WBC, RBC, three-part differential; body fluids: TNC, RBC left shift, atyp. lymph, blasts, immature grans, myeloperoxidase deficiency, aniso, micro, macro, Hb variation, hypo, hyper, NRBC, RBC fragments, RBC ghost, large PLT, PLT clumps	standard menu (left) plus: CHCM, MPV, RDW, HDW, LUC %&#, retic %&#, Chr, CHCMr, cellular Hgb, MCVR; CSF: WBC, RBC, PMN, MN, neut, lymph, mono % hypo, hyper, macro, micro; MPXI, %: blast, MPXI, MN, large PLT count, RBC fragment count; RBC ghost count; NRBC; CSF: WBC, RBC, three-part differential; body fluids: TNC, RBC left shift, atyp. lymph, blasts, immature grans, myeloperoxidase deficiency, aniso, micro, macro, Hb variation, hypo, hyper, NRBC, RBC fragments, RBC ghost, large PLT, PLT clumps	standard menu (left) plus: CHCM, MPV, RDW, HDW, LUC %&#, retic %&#, Chr, CHCMr, cellular Hgb, MCVR; CSF: WBC, RBC, PMN, MN, neut, lymph, mono %hypo, hyper, macro, micro, MPXI, %blast, PMN, MN, large PLT count, RBC fragment count, RBC ghost count, NRBC; CSF: WBC, RBC, three-part differential; body fluids: TNC, RBC left shift, atypical lymphocytes, blasts, immature grans, myeloperoxidase deficiency, aniso, micro, macro, Hgb variation, hypo, hyper, NRBC, RBC fragments, RBC ghost, large PLT, PLT clumps
FDA-cleared tests not clinically released Tests not available but submitted for 510(k) clearance Tests in development Tests for research use only Tests unique to analyzer	— — IRF, MPC, MPM CSF, eos CHCM, HDW, Chr, CHCMr, MPC, MPM; CSF: WBC, RBC, MN, PMN, neut, lymph, mono	— — MPC, MPM IRF, eos CHCM, HDW, Chr, CHCMr, cellular Hgb, MPC, MPM, CSF: WBC, RBC, PMN, MN, neut, lymph, mono	— — MPC, MPM IRF, CSF eos CHCM, HDW, Chr, CHCMr, cellular Hgb, MPC, MPM, CSF: WBC, RBC, PMN, MN, neut, lymph, mono
Differential method(s) used	perox–peroxidase cytochemistry staining with light scatter and absorption; baso–cytochemistry stripping with two-angle laser light scatter 0.02–400/0–7.0; CSF WBC 0–5,000/ μ L; CSF RBC 0–1,500/ μ L 0–22.5 /5–3,500 30–180 (MCV) 2.7 percent/1.2 percent 0.93 percent/2.93 percent 0.78 percent (MCV) neut% r=0.997, y=1.02x–0.6; lymph% r=0.997, y=1.00x+0.8; mono% r=0.943, y=0.85x–0.3; eos% r=0.979, y=0.87x+0.2; baso% r=0.772, y=0.67x+0.0; luc% r=0.994, y=0.92x+0.6 incomplete RBC lysis (peroxidase only)	peroxidase WBC—peroxidase cytochem. staining with light scatter and absorption; baso—cytochem. stripping with two-angle laser light scatter 0.02–400; CSF WBC 0–5,000/0–7.0; CSF RBC 0–1,500 0–22.5/5–3,500 30–180 (MCV) 2.7 percent/1.2 percent 0.93 percent/2.93 percent 0.78 percent (MCV) neut% r=0.997, y=1.02x–0.6; lymph% r=0.997, y=1.00x+0.8; mono% r=0.943, y=0.85x–0.3; eos% r=0.979, y=0.87x+0.2; baso% r=0.772, y=0.67x+0.0; luc% r=0.994, y=0.92x+0.6 incomplete RBC lysis (peroxidase only)	peroxidase WBC: peroxidase cytochem. staining with light scatter and absorption; baso: cytochem. stripping with two-angle laser light scatter 0.02–400 CSF: 0–5,000/0–7.0 CSF: 0–1,500 0–22.5/5–3,500 30–180 (MCV) 2.7 percent/1.2 percent 0.93 percent/2.93 percent 0.78 percent (MCV) neut% r=0.997, y=1.02x–0.6; lymph% r=0.997, y=1.00x+0.8; mono% r=0.943, y=0.85x–0.3; eos% r=0.979, y=0.87x+0.2; baso% r=0.772, y=0.67x+0.0; luc% r=0.994, y=0.92+0.6 incomplete RBC lysis (peroxidase only)
Linearity: • WBC count/RBC count			
Precision: • Hemoglobin/Platelet • MCV (fL) or Hct (%) • WBC count/RBC count • Hemoglobin/Platelet • MCV or Hct			
Accuracy of automated differential compared with manual differential (per CLSI H-20A2)			
Interfering substances: • WBC • RBC • MCV or Hct • Platelet • Hemoglobin	cold agglutinins, extreme sickle cell none none high WBC, lipemina, extremely high bilirubin, interfere with cyanmethemoglobin only, none with direct cellular Hb (CHCM) incomplete lysis of RBCs, complete myeloperoxidase deficiency	cold agglutinins, extreme sickle cell — — extreme lipemia, high WBC, extremely high bilirubin interference with colorimetric Hb only, none with cellular Hb incomplete RBC lysis, complete myeloperoxidase deficiency	cold agglutinins, extreme sickle cell none none extreme lipemia, high WBC, extremely high bilirubin—interference with colorimetric Hgb only, none with cellular Hgb incomplete RBC lysis, complete myeloperoxidase deficiency
Interfering substances: Differential			
Maximum CBCs per hour/Maximum CBCs and differentials per hour Minimum specimen volume open/Closed/Sample dead volume closed	120/120 157 μ L/157 μ L/<300 μ L (tube size dependent)	120/120 175 μ L/175 μ L/<300 (tube size dependent)	120/120 175 μ L/175 μ L/<300 (tube size dependent)
Microsample capability Prepares microscope slides automatically or flags problems for slide prep	yes yes	yes if integrated to Advia Autoslide	yes yes
Number of automatic slidemakers available/List price	—	Advia Autoslide, —/\$98,000	Advia Autoslide, —/\$98,000
Archives patient data/Previous patient results incl. with recent results Maximum archived data accessible when system online No. specimens for which numeric results saved in memory at once No. specimens for which histo/cytogram results saved in memory at once Performs delta checks Tags and holds results for followup, confirmatory testing, or rerun Parameters for flags for holding samples defined by user or vendor Scattergram display: cell-specific color Histogram display: color with thresholds User interface can display choice of specimen/result information	yes/no 10,000 samples 10,000 samples 10,000 samples yes yes user or vendor yes yes yes yes	yes/no 10,000 10,000 10,000 yes yes user or vendor yes yes yes yes	yes/no 10,000 samples 10,000 samples 10,000 samples yes yes yes yes yes yes
LIS interface formats supported Information transferred on LIS interface	proprietary (Spec 79) numeric and flag results, histograms and scatterplots, instrument to LIS; patient demographics, orders, LIS to instrument—broadcast; host query for demographics and orders	proprietary numeric and flag results, histograms and scatterplots, instrument to LIS; patient demographics, patient orders, LIS to instrument—broadcast; host query for patient demographics and orders (when bar code is read, host is queried for orders)	proprietary (instrument or vendor specific) numeric and flag results, histograms and scatterplots, instrument to LIS; patient demographics, orders, LIS to instrument—broadcast; host query for demographics and orders
LOINC codes transmitted with all results/Sent in message to LIS/ Listing of machine codes and corresponding LOINC for each test Interface available or planned to automated specimen-handling system Bar-code symbologies read on specimen tube	no/no/yes LabCell (Siemens) Codabar, codes 39 and 128, ASTM, Interleaved 2 of 5	no/no/yes LabCell (Siemens) Codabar, codes 39 and 128, Interleaved 2 of 5	no/no/yes LabCell (Siemens) Codabar, codes 39 and 128, ASTM, Interleaved 2 of 5
Accommodates bar-code placement per CLSI standard Auto2A	yes	—	yes
Time required for maintenance by lab personnel Onboard diagnostics for troubleshooting/Limited to software problems Manufacturer can perform diagnostics via modem	daily: 10 minutes; weekly: 15 minutes; monthly: 15 minutes yes/no yes	weekly: 15 minutes; monthly: 15 minutes yes/no yes	daily: 10 minutes; weekly: 15 minutes; monthly: 15 minutes yes/no yes
Distinguishing features (supplied by company)	laser technology provides cellular Hb for RBCs and retics; 2-D PLT analysis eliminates interference from RBC fragments and inclusion of large PLTs; dual WBC counts with a linearity of up to 400,000; CSF assay	laser technology provides direct cellular Hb for RBCs and reticulocytes; 2-D PLT analysis eliminates interference from RBC fragments and inclusion of large PLTs; dual WBC counts with a linearity of up to 400,000; CSF assay	laser technology provides direct cellular Hgb for RBCs and reticulocytes; 2-D PLT analysis eliminates interference from RBC fragments and inclusion of large PLTs; dual WBC counts with a linearity of up to 400,000; CSF assay

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

Hematology analyzers

Part 7 of 11	Sysmex America Tammy Kutz communications@sysmex.com 577 Aptakistic Road Lincolnshire, IL 60069 800-379-7639 www.sysmex.com/us	Sysmex America Tammy Kutz communications@sysmex.com 577 Aptakistic Road Lincolnshire, IL 60069 800-379-7639 www.sysmex.com/us	Sysmex America Tammy Kutz communications@sysmex.com 577 Aptakistic Road Lincolnshire, IL 60069 800-379-7639 www.sysmex.com/us
See captodayonline.com/productguides for an interactive version of guide			
Name of instrument	Sysmex pochH-100i	Sysmex KX-21N	XS-1000i and XS-1000i AutoLoader (20-sample autoloader option)
First year installed in U.S./Outside U.S./No. of units sold in 2011	2004/2003/>130	2001/1999/125	2006/2005/>340
No. units installed in U.S./Outside U.S./List price	>1,100/>4,400/\$19,094	>1,200/>4,800/\$28,408	>1,800/>7,000/\$91,052 (XS-1000i) \$101,764 (AutoLoader)
Test menu: • Chartable (standard menu: WBC, RBC, Hb, Hct, MCV, MCH, MCHC, PLT, %&# neut, mono, lymph, eos, baso):	WBC, RBCs, Hb, Hct, MCV, MCH, MCHC, PLT, %&# neut, lymph, MXD (mono, eos, baso), RDW-SD, RDW-CV, MPV	WBC, RBC, Hb, Hct, MCV, MCH, MCHC, PLT, %&# neut, lymph, MXD (mono, eos, baso), RDW-SD, RDW-CV, MPV	standard menu (left) plus: MPV, RDW-SD, RDW-CV
• Laboratory	—	—	—
• Flags	histogram error flags; WBC, RBC, PLT	histogram error flags; WBC, RBC, PLT	PLT clumps, PLT ABN distribution, WBC ABN scattergram, blast immature granulocytes, left shift, atypical lymphocytes, abnormal lymphocytes/blasts, RBC ABN distribution, RBC lyse resistance, RBC agglutinins, turbidity, NRBC
FDA-cleared tests not clinically released	—	—	—
Tests not available but submitted for 510(k) clearance	—	—	—
Tests in development	—	—	IG%
Tests for research use only	—	—	research screen
Tests unique to analyzer	absolute neutrophil count	absolute neutrophil count	—
Differential method(s) used	direct current	direct current	fluorescent flow cytometry
Linearity: • WBC count/RBC count	1.0–99.9/0.3–7.0	1.0–99.9/0.3–7.0	0–400/0–8
• Hemoglobin/Platelet	0.1–25.0/10–999	0.1–25.0/10–999	0–25/0–5,000
• MCV (fL) or Hct (%)	10–60 Hct	10–60 Hct	0–60 (Hct)
Precision: • WBC count/RBC count	<=3.5 percent/<=2.0 percent	<=3.5 percent/<=2.0 percent	—
• Hemoglobin/Platelet	<=1.5 percent/<=6.0 percent	<=1.5 percent/<=6.0 percent	—
• MCV or Hct	<=2.0 percent Hct	<=2.0 percent Hct	—
Accuracy of automated differential compared with manual differential (per CLSI H-20A2)	NEUT% R=0.98, LYM% R=0.99, MXD % R=0.75, NEUT# R=1.00, LYM# R=1.00, MXD# R=0.90	NEUT% R=0.98, LYM% R=0.99, MXD % R=0.75, NEUT# R=1.00, LYM# R=1.00, MXD# R=0.90	neut% r=0.96, y=0.9074x+3.8948; lymph% r=0.97, y=0.9017x+2.4817; mono% r=0.78, y=0.8626x+3.5938; eos% r=0.94, y=0.9076x+0.3651; baso% r=0.29, y=0.1538x+0.298
Interfering substances: • WBC	lyse-resistant RBCs, cold agglutinins, cryoglobulins, PLT aggregation, NRBCs	cold agglutinins, PLT aggregation, erythroblastosis, NRBCs, cryoglobulins	cold agglutinins, PLT aggregation, cryoglobulins, lyse-resistant RBCs, NRBCs
• RBC	cold agglutinins, microcytosis (severe), fragmented RBCs	cold agglutinin, severe microcytosis, fragmented RBCs, leukocytosis (>100,000/μL)	cold agglutinins, severe microcytosis, fragmented RBCs, leukocytosis
• MCV or Hct	cold agglutinins, fragmented RBCs, leukocytosis (>100,000/uL)	Hct: cold agglutinin, leukocytosis (>100,000/μL), abnormal red cell fragility, spherocytosis	Hct: cold agglutinins, ABN red cell fragility, spherocytosis, leukocytosis (>100,000/μL)
• Platelet	PLT aggregation, giant PLTs, microcytic RBCs, fragmented RBCs	pseudothrombocytopenia, PLT aggregation, increased microcytosis, megalocytic PLTs	pseudothrombocytopenia, PLT aggregation, increased microcytosis, megaloblasts
• Hemoglobin	lipemia (severe), abnormal protein, leukocytosis (>100,000/uL)	leukocytosis (>100,000/μL), lipemia, abnormal proteins	lipemia, ABN proteins, leukocytosis (>100,000/μL)
Interfering substances: Differential	—	—	lyse-resistant RBCs
Maximum CBCs per hour/Maximum CBCs and differentials per hour	30/30	60/60	60/60
Minimum specimen volume open/Closed/Sample dead volume closed	15 μL/15 μL/15 μL	50 μL/—/—	20 μL/20 μL/1.0 mL
Microsample capability	yes	yes	yes
Prepares microscope slides automatically or flags problems for slide prep	no	no	no
Number of automatic slidemakers available/List price	—	—	—
Archives patient data/Previous patient results incl. with recent results	yes/yes	yes/yes	yes/yes
Maximum archived data accessible when system online	100 samples	300 samples	10,000 samples
No. specimens for which numeric results saved in memory at once	100 samples	300 samples	10,000 samples
No. specimens for which histo/cytogram results saved in memory at once	100 samples	300 samples	10,000 samples
Performs delta checks	yes	yes	yes
Tags and holds results for followup, confirmatory testing, or rerun	no	yes	yes
Parameters for flags for holding samples defined by user or vendor	yes	yes	user or vendor
Scattergram display: cell-specific color	no	no	yes
Histogram display: color with thresholds	yes	yes	yes
User interface can display choice of specimen/result information	yes	yes	yes
LIS interface formats supported	RS-232C	RS-232C	proprietary, ASTM 1394, TCP-IP
Information transferred on LIS interface	numeric and flag results, histograms and scatterplots, patient demographics, patient orders, host query for patient demographics and orders	numeric and flag results, histograms and scatterplots, host query for patient demographics and orders	numeric and flag results, histograms and scatterplots, patient demographics, orders
LOINC codes transmitted with all results/Sent in message to LIS/ Listing of machine codes and corresponding LOINC for each test	no/no/yes	no/no/yes	no/no/yes
Interface available or planned to automated specimen-handling system	—	—	—
Bar-code symbologies read on specimen tube	codes 39 and 128, ASTM, ITF, NW7, JAN-8 and 13	codes 39 and 128, ITF, NW-7, JAN, UPC-A, UPC-E, EAN13, EAN8	Codabar, codes 39 and 128, ASTM, Interleaved 2 of 5, NW7, EAN 8 and 13, ITF
Accommodates bar-code placement per CLSI standard Auto2A	yes	yes	yes
Time required for maintenance by lab personnel	daily: <2 minutes; weekly: <2 minutes; monthly: <2 minutes	daily: <2 minutes; weekly: <2 minutes; monthly: <2 minutes	daily: 3 minutes; monthly: 9 minutes
Onboard diagnostics for troubleshooting/Limited to software problems	yes/no	yes/no	yes/no
Manufacturer can perform diagnostics via modem	yes	yes	yes, also via Internet
Distinguishing features (supplied by company)	hydrodynamic focusing, automatic floating discriminators, ISBT-compliant, data masking software for blood donor centers	automatic floating discriminators	standardized technology, reagents, controls, and operations to other X series analyzers; small sample volume requirements for CBC and five-part differential; remote diagnostics, online QC, discrete analysis, reagent monitoring, chartable report; remote calibration verification

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

Hematology analyzers

Part 8 of 11	Sysmex America Tammy Kutz communications@sysmex.com 577 Aptakistic Road Lincolnshire, IL 60069 800-379-7639 www.sysmex.com/us	Sysmex America Tammy Kutz communications@sysmex.com 577 Aptakistic Road Lincolnshire, IL 60069 800-379-7639 www.sysmex.com/us	Sysmex America Tammy Kutz communications@sysmex.com 577 Aptakistic Road Lincolnshire, IL 60069 800-379-7639 www.sysmex.com/us
See captodayonline.com/productguides for an interactive version of guide			
Name of instrument	Sysmex XT-1800i	Sysmex XT-2000i	Sysmex XT-4000i
First year installed in U.S./Outside U.S./No. of units sold in 2011	2002/2001/>70	2002/2001/>70	2010/2009/>120
No. units installed in U.S./Outside U.S./List price	>420/4,600/\$137,917	>980/>5,200/\$158,430	>250/>900/\$195,700
Test menu: • Chartable (standard menu: WBC, RBC, Hb, Hct, MCV, MCH, MCHC, PLT, %&# neut, mono, lymph, eos, baso): • Laboratory • Flags FDA-cleared tests not clinically released Tests not available but submitted for 510(k) clearance Tests in development Tests for research use only Tests unique to analyzer	standard menu (left) plus: MPV, RDW-SD, RDW-CV, immature granulocytes %&# — PLT clumps, PLT ABN distribution, WBC ABN scattergram, blast immature granulocytes, left shift, atypical lymphocytes, abnormal lymphocytes/blasts, RBC ABN distribution, RBC lyse resistance, RBC agglutinins, turbidity, NRBC, body fluids — — — — immature granulocytes (IG)%&#	standard menu (left) plus: retic %&#, IRF, PLT-0, MPV, RDW-SD, RDW-CV, reticulocyte hemoglobin, immature granulocytes %&# — PLT clumps, PLT ABN distribution, WBC ABN scattergram, blast immature granulocytes, left shift, atypical lymphocytes, abnormal lymphocytes/blasts, RBC ABN distribution, RBC lyse resistance, RBC agglutinins, turbidity, NRBC, body fluids — — — — PLT-0, immature granulocytes (IG) %&#, reticulocyte hemoglobin (RET-He)	standard menu (left) plus: IG% and #, retic % and #, IRF, RET-He, PLT-0, BF: RBC/WBC/TC/two-part differential — PLT clumps, PLT abnormal distribution, blast, imm grans, left shift, atypical lymphocytes, abnormal lymphocytes/blasts, NRBC, RBC lyse resistance, RBC ABN distribution, RBC agglutinins, turbidity — — — — reticulocyte hemoglobin, immature reticulocyte fraction, reportable immature granulocyte # and %, PLT-0, BF: RBC, WBC, TC, two-part differential
Differential method(s) used Linearity: • WBC count/RBC count • Hemoglobin/Platelet • MCV (fL) or Hct (%) Precision: • WBC count/RBC count • Hemoglobin/Platelet • MCV or Hct Accuracy of automated differential compared with manual differential (per CLSI H-20A2)	fluorescent flow cytometry 0-310/0-8 0-25/0-5,000 0-60 (Hct) ≤3.0 percent/≤1.5 percent ≤1.5 percent/≤4.0 percent ≤1.5 percent (Hct) neut% r=0.95, y=0.95x+3.38; lymph% r=0.96, y=0.85x+1.67; mono% r=0.90, y=11.37x+1.89; eos% r=0.94, y=0.87x+0.04; baso% r=0.76, y=0.48x+0.24	fluorescent flow cytometry 0-310/0-8 0-25/0-5,000 0-60 (Hct) ≤3.0 percent/≤1.5 percent ≤1.5 percent/≤4.0 percent ≤1.5 percent (Hct) neut% r=0.95, y=0.95x+3.38; lymph% r=0.96, y=0.85x+1.67; mono% r=0.90, y=11.37x+1.89; eos% r=0.94, y=0.87x+0.04; baso% r=0.76, y=0.48x+0.24	fluorescent flow cytometry 0-440/0-8 0-25/0-5,000 0-60 (Hct) ≤3.0 percent/≤1.5 percent ≤1.5 percent/≤4.0 percent ≤1.5 percent (Hct) neut % r=0.95, lymph% r=0.96, mono% r=0.90, eos% r=0.94, baso% r=0.76; neut % y=0.95x+3.38, lymph % y=0.85x+1.67, mono % y=11.37x+1.89, eos% y=0.87x+0.04, baso% y=0.48x+0.24
Interfering substances: • WBC • RBC • MCV or Hct • Platelet • Hemoglobin	cold agglutinins, PLT aggregation, cryoglobulins, lyse-resistant RBCs, NRBCs cold agglutinins, severe microcytosis, fragmented RBCs, leukocytosis Hct: cold agglutinins, ABN red cell fragility, spherocytosis, leukocytosis (>100,000/μL) pseudothrombocytopenia, PLT aggregations, increased microcytosis, megaloblasts lipemia, ABN proteins, leukocytosis (>100,000/μL)	cold agglutinins, PLT aggregation, cryoglobulins, lyse-resistant RBCs, NRBCs cold agglutinins, severe microcytosis, fragmented RBCs, leukocytosis Hct: cold agglutinins, ABN red cell fragility, spherocytosis, leukocytosis (>100,000/μL) pseudothrombocytopenia, PLT aggregation, increased microcytosis, megaloblasts lipemia, ABN proteins, leukocytosis (>100,000/μL)	cold agglutinins, PLT aggregation, cryoglobulins, lyse resistant erythrocytes, NRBCs cold agglutinins, severe microcytosis, fragmented RBCs, leukocytosis Hct: cold agglutinins, fragmented RBCs, spherocytosis, leukocytosis (lymphocytes>100,000/μL) PLT aggregation, pseudothrombocytopenia, giant platelets, microcytosis, cryoglobulins leukocytosis (lymphocytes >100,000/μL), lipemia, abnormal protein
Interfering substances: Differential	lyse-resistant RBCs	lyse-resistant RBCs	lyse-resistant RBCs
Maximum CBCs per hour/Maximum CBCs and differentials per hour Minimum specimen volume open/Closed/Sample dead volume closed	80/80 85 μL/150 μL/1 mL	80/80 85 μL/150 μL/1 mL	100/100 85 μL/150 μL/1 mL
Microsample capability Prepares microscope slides automatically or flags problems for slide prep Number of automatic slidemakers available/List price	yes no —	yes no —	yes no —
Archives patient data/Previous patient results incl. with recent results Maximum archived data accessible when system online No. specimens for which numeric results saved in memory at once No. specimens for which histo/cytogram results saved in memory at once	yes/yes 10,000 samples 10,000 samples 10,000 samples	yes/yes 10,000 samples 10,000 samples 10,000 samples	yes/yes 10,000 samples 10,000 samples 10,000 samples
Performs delta checks Tags and holds results for followup, confirmatory testing, or rerun Parameters for flags for holding samples defined by user or vendor Scattergram display: cell-specific color Histogram display: color with thresholds User interface can display choice of specimen/result information	yes yes user or vendor yes yes yes	yes yes user or vendor yes yes yes	yes yes user or vendor yes yes yes
LIS interface formats supported Information transferred on LIS interface	RS-232C/TCP-IP, ASTM numeric and flag results, histograms and scatterplots, patient demographics, orders	RS-232/TCP-IP, ASTM numeric and flag results, histograms and scatterplots, patient demographics, orders	ASTM numeric and flag results, histograms and scatterplots, instrument to LIS; patient demographics, orders, LIS to instrument—broadcast; host query for demographics and orders
LOINC codes transmitted with all results/Sent in message to LIS/ Listing of machine codes and corresponding LOINC for each test Interface available or planned to automated specimen-handling system Bar-code symbologies read on specimen tube	no/no/yes — Codabar, codes 39 and 128, Interleaved 2 of 5, ITF, NW7, EAN 8 and 13	no/no/yes — Codabar, codes 39 and 128, Interleaved 2 of 5, ITF, NW7, EAN 8 and 13	no/no/yes — Codabar, codes 39 and 128, ASTM, Interleaved 2 of 5, ITF, NW7
Accommodates bar-code placement per CLSI standard Auto2A	yes	yes	yes
Time required for maintenance by lab personnel	daily: <3 minutes	daily: <3 minutes	daily: <3 minutes
Onboard diagnostics for troubleshooting/Limited to software problems Manufacturer can perform diagnostics via modem	yes/no yes, also via Internet	yes/no yes, also via Internet	yes/no yes
Distinguishing features (supplied by company)	remote diagnostics; online QC; random access; discrete testing; reagent monitoring; chartable report formats; unique specimen-gating, software is FDA Part II compliant; body fluids now FDA cleared; standardized technology, reagents, controls, and operations with other X series analyzers; XT-V for use in toxicology, research, and veterinary reference labs	high throughput, remote diagnostics; online QC; random access; fluorescent optical platelets; discrete testing; reagent monitoring; customized chartable report formats; body fluids, standardized technology, reagents, controls, and operations with other X series analyzers; IG # & %, RET-He; XT-V unit for use in toxicology, research, and veterinary reference labs	unique testing parameters: fluorescent optical platelets, IG #&%, RET-He, body fluids (CSF, serous, synovial), WBC/RBC/TC and two-part differential; standardized technology, reagents, controls, and operations with other X series analyzers; simplified operations with extended linearities, high-throughput, remote monitoring capabilities

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

Hematology analyzers

Part 9 of 11	Sysmex America Tammy Kutz communications@sysmex.com 577 Aptakistic Road Lincolnshire, IL 60069 800-379-7639 www.sysmex.com/us	Sysmex America Tammy Kutz communications@sysmex.com 577 Aptakistic Road Lincolnshire, IL 60069 800-379-7639 www.sysmex.com/us	Sysmex America Tammy Kutz communications@sysmex.com 577 Aptakistic Road Lincolnshire, IL 60069 800-379-7639 www.sysmex.com/us
See captodayonline.com/productguides for an interactive version of guide			
Name of instrument	Sysmex XE-2100D	Sysmex XE-2100	Sysmex XE-5000
First year installed in U.S./Outside U.S./No. of units sold in 2011	2004/2004/>15	1999/—/~65	2008/2008/>80
No. units installed in U.S./Outside U.S./List price	>200/>205/\$235,640	1,325/>5,000/\$248,251	>1,000/>3,500/\$270,424
Test menu: • Chartable (standard menu: WBC, RBC, Hb, Hct, MCV, MCH, MCHC, PLT, % neut, mono, lymph, eos, baso): • Laboratory • Flags	standard menu (left) plus: RDW-SD, RDW-CV — PLT clumps, PLT abnormal distribution, WBC abnormal scattergram, blast, left shift, atypical lymphocytes, abnormal lymphocytes/blast, RBC abnormal distribution, RBC lyse resistance, RBC agglutinins, turbidity — — — P-LCR, PCT, PDW optional: IG% & IG#	standard menu (left) plus: NRBC %&#, retic %&#, RDW-SD, RDW-CV, IRF, PLT-O, HPC#, MPV, IG%, IG#, RET-He, IPF — PLT clumps, RBC agglut, turbidity, WBC abnormal scattergram, RBC abnormal distribution, PLT abnormal distribution, RBC lyse resistance, blasts, left shift, atypical lymphocytes, abnormal lymphocytes/blast., reticulocyte ABN scattergram — — — P-LCR, PCT, PDW HPC#, IG%, IG#, RET He, IPF	standard menu (left) plus: NRBC %&#, retic %&#, RDW-SD, RDW-CV, IRF, PLT-O, HPC#, MPV, IG%, IG#, RET-He, IPF — PLT clumps, PLT ABN distribution, WBC ABN scattergram, blast, left shift, atypical lymphocytes, abnormal lymphocytes/blast, RBC ABN distribution, RBC lyse resistance, RBC agglutinins, turbidity — — — — reticulocyte hemoglobin, immature platelet fraction, hematopoietic progenitor cell, immature reticulocyte fraction, reportable immature granulocyte %&#, RBC/WBC/TC/two-part differential
Differential method(s) used	fluorescent flow cytometry	fluorescent flow cytometry, RF/DC detecting method	fluorescent flow cytometry, RF/DC detection method
Linearity: • WBC count/RBC count • Hemoglobin/Platelet • MCV (fL) or Hct (%)	0-440/0-8 0-25/0-5,000 0-75 (Hct)	0-440/0-8 0-25/0-5,000 0-75 (Hct)	0-440/0-8 0-25/0-5,000 0-75 (Hct)
Precision: • WBC count/RBC count • Hemoglobin/Platelet • MCV or Hct	≤3 percent/≤1.5 percent ≤1.0 percent/≤4.0 percent ≤1.5 percent (Hct)	<3 percent/<1.5 percent <1.0 percent/<4.0 percent <1.5 percent (Hct)	<3 percent/<1.5 percent <1.0 percent/<4.0 percent <1.5 percent (Hct)
Accuracy of automated differential compared with manual differential (per CLSI H-20A2)	neut% r=0.95, y=0.92x+5.46; lymph% r=0.95, y=0.88x+2.46; mono% r=0.79, y=0.77x+1.88; eos% r=0.92, y=0.97x+0.29; baso% r=0.82, y=1.01x+0.01; NRBC% r=0.96, y=1.12x+0.11; IG% r=0.83, y=0.9332x+0.0922	neut% r=0.95, y=0.92x+5.46; lymph% r=0.95, y=0.88x+2.46; mono% r=0.79, y=0.77x+1.88; eos% r=0.92, y=0.97x+0.29; baso% r=0.82, y=1.01x+0.01; NRBC% r=0.96, y=1.12x+0.11; IG% r=0.83, y=0.9332x+0.0922	neut% r=0.95, y=0.92x+5.46; lymph% r=0.95, y=0.88x+2.46; mono% r=0.79, y=0.77x+1.88; eos% r=0.92, y=0.97x+0.29; baso% r=0.82, y=1.01x+0.01; NRBC% r=0.96, y=1.12x+0.11; IG% r=0.83, y=0.9332x+0.0922
Interfering substances: • WBC	cold agglutinins, PLT aggregation, cryoglobulin, lyse-resistant RBCs, NRBCs	cold agglutinin, PLT aggregation, nucleated RBCs, cryoglobulin, lyse-resistant RBCs	cold agglutinins, PLT aggregation, nucleated RBCs, cryoglobulin, lyse-resistant RBCs
• RBC	cold agglutinins, severe microcytosis, fragmented RBCs, leukocytosis	cold agglutinins, severe microcytosis, fragmented RBCs, large No. giant PLTs, in vitro hemolysis	cold agglutinins, severe microcytosis, fragmented RBCs, large number giant PLTs, in vitro hemolysis
• MCV or Hct	Hct: cold agglutinins, ABN red cell fragility, spherocytosis, leukocytosis	Hct: cold agglutinins, leukocytosis, ABN red cell fragility, spherocytosis	Hct: cold agglutinins, leukocytosis, ABN red cell fragility, spherocytosis
• Platelet	pseudothrombocytopenia, PLT aggregation, increased microcytosis, megaloblasts	pseudothrombocytopenia, PLT aggregation, increased microcytosis, megalocytic PLTs	pseudothrombocytopenia, PLT aggregation, increased microcytosis, megalocytic PLTs
• Hemoglobin	lipemia, ABN proteins, leukocytosis (>100,000/μL)	lipemia, ABN proteins, leukocytosis (>100,000/μL)	lipemia, ABN proteins, leukocytosis (>100,000/μL)
Interfering substances: Differential	lyse-resistant RBCs	lyse-resistant RBCs	lyse-resistant RBCs
Maximum CBCs per hour/Maximum CBCs and differentials per hour	150/150	150/150	150/150
Minimum specimen volume open/Closed/Sample dead volume closed	130 μL/200 μL/1 mL	130 μL/200 μL/1 mL	130 μL/200 μL/1 mL
Microsample capability	yes	yes	yes
Prepares microscope slides automatically or flags problems for slide prep	yes (with Alpha or HST upgrade)	yes (with Alpha or HST upgrade)	yes (with Alpha or HST upgrade)
Number of automatic slidemakers available/List price	>1,000/—	>1,000/—	>1,200/—
Archives patient data/Previous patient results incl. with recent results	yes/yes	yes/yes	yes/yes
Maximum archived data accessible when system online	10,000 samples	10,000 samples	10,000 samples
No. specimens for which numeric results saved in memory at once	10,000 samples	10,000 samples	10,000 samples
No. specimens for which histo/cytogram results saved in memory at once	10,000 samples	10,000 samples	10,000 samples
Performs delta checks	yes	yes	yes
Tags and holds results for followup, confirmatory testing, or rerun	yes	yes	yes
Parameters for flags for holding samples defined by user or vendor	user or vendor	user or vendor	user or vendor
Scattergram display: cell-specific color	yes	yes	yes
Histogram display: color with thresholds	yes	yes	yes
User interface can display choice of specimen/result information	yes	yes	yes
LIS interface formats supported	RS-232C/TCP IP	RS-232C/TCP IP	ASTM 1394, TCP-IP, ASTM E1381
Information transferred on LIS interface	numeric and flag results, histograms and scatterplots, patient demographics, orders	numeric and flag results, histograms and scatterplots, patient demographics, orders	numeric and flag results, histograms and scatterplots, instrument to LIS; patient demographics, orders, LIS to instrument—broadcast; host query for demographics and orders no/no/yes
LOINC codes transmitted with all results/Sent in message to LIS/ Listing of machine codes and corresponding LOINC for each test	no/no/yes	no/no/yes	no/no/yes
Interface available or planned to automated specimen-handling system	on automation platform	on automation platform	Roche Diagnostics, and Labotix, A & T, Thermo, IDS
Bar-code symbologies read on specimen tube	Codabar, codes 39 and 128, ASTM, Interleaved 2 of 5, ITF, NW7, EAN 8 and 13, ISBT	Codabar, codes 39 and 128, Interleaved 2 of 5, ITF, NW7, EAN 8 and 13	Codabar, codes 39 and 128, ASTM, Interleaved 2 of 5, ITF, NW7, EAN 8 and 13
Accommodates bar-code placement per CLSI standard Auto2A	yes	yes	—
Time required for maintenance by lab personnel	daily: <3 minutes	daily: <3 minutes	daily: <3 minutes
Onboard diagnostics for troubleshooting/Limited to software problems	yes/no	yes/no	yes/no
Manufacturer can perform diagnostics via modem	yes, also via Internet	yes, also via Internet	yes, also via Internet
Distinguishing features (supplied by company)	150 CBCs per hour; platelet linearity to 5 million, hematocrit extended to 75 percent; standardized technology, reagents, controls and operations; ISBT-compliant; FDA-cleared application for blood component products in specified anticoagulants	throughput of 150 CBCs per hour; random access; discrete testing; online QC; remote diagnostics, body fluid analysis; platelet linearity to 5 million, hematocrit linear to 75 percent; hematopoietic progenitor cell testing; immature granulocyte enumeration; immature platelet fraction; reticulocyte hemoglobin equivalent; standardized reagents, controls, and operations with other Sysmex X series analyzers	low-end linearity for all body fluids; two-part differential (mono nuclear % + # and polymorphonuclear % + # or body fluid; reticulocyte hemoglobin content; immature platelet fractions; throughput of 150 CBCs per hour; random access; discrete testing; online QC; remote diagnostics, body fluid analysis; platelet linearity to 5 million, hematocrit linear to 75 percent; hematopoietic progenitor cell testing; immature granulocyte enumeration; immature platelet fraction; reticulocyte hemoglobin equivalent; standardized reagents, controls, and operations with other X series analyzers

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

Hematology analyzers

Part 10 of 11	Sysmex America Tammy Kutz communications@sysmex.com 577 Aptakistic Road Lincolnshire, IL 60069 800-379-7639 www.sysmex.com/us	Sysmex America Tammy Kutz communications@sysmex.com 577 Aptakistic Road Lincolnshire, IL 60069 800-379-7639 www.sysmex.com/us	Sysmex America Tammy Kutz communications@sysmex.com 577 Aptakistic Road Lincolnshire, IL 60069 800-379-7639 www.sysmex.com/us
See captodayonline.com/productguides for an interactive version of guide			
Name of instrument	Sysmex XE-Alpha N/HST-N	Sysmex XN-1000	Sysmex XN-2000
First year installed in U.S./Outside U.S./No. of units sold in 2011	2000/—/>>100	2012/2011/—	2012/2011/—
No. units installed in U.S./Outside U.S./List price	>1,000/1,400/\$360,000–\$1,000,000	0/80/\$202,667	0/44/\$402,667
Test menu: • Chartable (standard menu: WBC, RBC, Hb, Hct, MCV, MCH, MCHC, PLT, % neut, mono, lymph, eos, baso):	standard menu (left) plus: NRBC%&#, retic%&#, RDW-SD, RDW-CV, IRF, PLT-O, HPC#, MPV, IG%, IG#, RET-He, IPF	standard menu (left) plus: NRBC%, NRBC#, IG%, IG#, MPV, PLT-F, IPF, RDW-CV, RDW-SD, Retic#, Retic%, IRF, RET-He; body fluids: RBC-BF, TC-BF, WBC-BF, MN%, MN#, PMN%, PMN#	standard menu (left) plus: NRBC%, NRBC#, IG%, IG#, MPV, PLT-F, IPF, RDW-CV, RDW-SD, Retic#, Retic%, IRF, RET-He; body fluids: RBC-BF, TC-BF, WBC-BF, MN%, MN#, PMN%, PMN#
• Laboratory	—	—	—
• Flags	user-defined, all-inclusive	blasts/abnormal lymphocytes, left shift, atypical lymphocytes, RBC agglutination, turbidity/HGB interf, iron deficiency, HGB defect, fragments, PLT clumps	blasts/abnormal lymphocytes, left shift, atypical lymphocytes, RBC agglutination, turbidity/HGB interf, iron deficiency, HGB defect, fragments, PLT clumps
FDA-cleared tests not clinically released	—	—	—
Tests not available but submitted for 510(k) clearance	—	—	—
Tests in development	—	—	—
Tests for research use only	P-LCR, PCT, PDW	—	—
Tests unique to analyzer	NRBC, HPC#, IG%, IG#, RET-He, immature platelet function	IG%, IG#, PLT-F, IPF, RET-He; body fluids: two-part differential MN%, MN#, PMN%, PMN#	IG%, IG#, PLT-F, IPF, RET-He; body fluids: two-part differential MN%, MN#, PMN%, PMN#
Differential method(s) used	fluorescent flow cytometry, RF/DC detecting method	fluorescent flow cytometry with side fluorescent light, forward-scattered light and side-scattered light	fluorescent flow cytometry with side fluorescent light, forward-scattered and side-scattered light
Linearity: • WBC count/RBC count	0–440/0–8	0.00–440.00/0.00–8.60	0.00–440.00/0.00–8.60
• Hemoglobin/Platelet	0–25/0–5,000	0.0–26.0/0–5,000	0.0–26.0/0–5,000
• MCV (fL) or Hct (%)	0–75 (Hct)	0.0–75.0% (HCT)	0.0–75.0% (HCT)
Precision: • WBC count/RBC count	<3 percent/<1.5 percent	< 3.0%/< 1.5%	< 3.0%/< 1.5%
• Hemoglobin/Platelet	<1.0 percent/<4.0 percent	< 1.0%/< 4.0%	< 1.0%/< 4.0%
• MCV or Hct	<1.0 percent (Hct)	HCT < 1.5%	HCT < 1.5%
Accuracy of automated differential compared with manual differential (per CLSI H-20A2)	neut% r=0.95, y=0.92x+5.46; lymph% r=0.95, y=0.88x+2.46; mono% r=0.79, y=0.77x+1.88; eos% r=0.92, y=0.97x+0.29; baso% r=0.82, y=1.01x+0.01; NRBC% r=0.96, y=1.12x+0.11; IG% r=0.83, y=0.9332x+0.0922	—	—
Interfering substances: • WBC	cold agglutinins, PLT aggregation, nucleated RBCs, cryoglobulins, lyse-resistant RBCs	no significant interference up to: 39.4 mg/dL for bilirubin C, 37.4 mg/dL for bilirubin F, 996 mg/dL for hemolysis, 30.320 OD for intralipid, 2880 OD for chyle	no significant interference up to: 39.4 mg/dL for bilirubin C, 37.4 mg/dL for bilirubin F, 996 mg/dL for hemolysis, 30.320 OD for intralipid, 2880 OD for chyle
• RBC	cold agglutinins, severe microcytosis, fragmented RBCs, large No. giant PLTs, in vitro hemolysis	no significant interference up to: 39.4 mg/dL for bilirubin C, 37.4 mg/dL for bilirubin F, 996 mg/dL for hemolysis, 55.980 OD for intralipid, 2880 OD for chyle	no significant interference up to: 39.4 mg/dL for bilirubin C, 37.4 mg/dL for bilirubin F, 996 mg/dL for hemolysis, 55.980 OD for intralipid, 2880 OD for chyle
• MCV or Hct	Hct: cold agglutinins, leukocytosis, ABN red cell fragility, spherocytosis	no significant interference up to: 39.4 mg/dL for bilirubin C, 37.4 mg/dL for bilirubin F, 996 mg/dL for hemolysis, 55.980 OD for intralipid, 2880 OD for chyle	no significant interference up to: 39.4 mg/dL for bilirubin C, 37.4 mg/dL for bilirubin F, 996 mg/dL for hemolysis, 55.980 OD for intralipid, 2880 OD for chyle
• Platelet	pseudothrombocytopenia, PLT aggregation, increased microcytosis, megalocytic PLTs	no significant interference up to: 39.4 mg/dL for bilirubin C, 37.4 mg/dL for bilirubin F, 996 mg/dL for hemolysis, 55.980 OD for intralipid, 2880 OD for chyle	no significant interference up to: 39.4 mg/dL for bilirubin C, 37.4 mg/dL for bilirubin F, 996 mg/dL for hemolysis, 55.980 OD for intralipid, 2880 OD for chyle
• Hemoglobin	lipemia, ABN proteins, leukocytosis (>100,000/μL)	no significant interference up to: 39.4 mg/dL for bilirubin C, 37.4 mg/dL for bilirubin F, 199 mg/dL for hemolysis	no significant interference up to: 39.4 mg/dL for bilirubin C, 37.4 mg/dL for bilirubin F, 199 mg/dL for hemolysis
Interfering substances: Differential	lyse-resistant RBCs	—	—
Maximum CBCs per hour/Maximum CBCs and differentials per hour	150/150 per analyzer on automation system	100/100	200/200
Minimum specimen volume open/Closed/Sample dead volume closed	130 μL/200 μL/1 mL	88 μL/88 μL/1 mL	88 μL/88 μL/1 mL
Microsample capability	yes	yes	yes
Prepares microscope slides automatically or flags problems for slide prep	yes	yes	yes
Number of automatic slidemakers available/List price	>1,700/\$250,000	—	—
Archives patient data/Previous patient results incl. with recent results	yes/yes	yes/yes	yes/yes
Maximum archived data accessible when system online	10,000 samples	100,000	100,000
No. specimens for which numeric results saved in memory at once	10,000 samples; 20,000 orders	100,000	100,000
No. specimens for which histo/cytogram results saved in memory at once	10,000 samples; two years plus, with optional decision logic software	100,000	100,000
Performs delta checks	yes	yes	yes
Tags and holds results for followup, confirmatory testing, or rerun	yes	yes	yes
Parameters for flags for holding samples defined by user or vendor	user and vendor	yes	yes
Scattergram display: cell-specific color	yes	yes	yes
Histogram display: color with thresholds	yes	yes	yes
User interface can display choice of specimen/result information	yes	yes	yes
LIS interface formats supported	RS-232C/TCP IP	[XN series ASTM1381-95/ASTM1894-97] or [XN series ASTM1381-02/ASTM1894-97]	[XN series ASTM1381-95/ASTM1894-97] or [XN series ASTM1381-02/ASTM1894-97]
Information transferred on LIS interface	numeric and flag results, histograms and scatterplots, patient demographics, orders	numeric and flag results, histograms and scatterplots, instrument to LIS; patient demographics, orders, LIS to instrument—broadcast; host query for demographics and orders	numeric and flag results, histograms and scatterplots, instrument to LIS; patient demographics, orders, LIS to instrument—broadcast; host query for demographics and orders
LOINC codes transmitted with all results/Sent in message to LIS/ Listing of machine codes and corresponding LOINC for each test	no/no/yes	no/no/yes	no/no/yes
Interface available or planned to automated specimen-handling system	Roche, Labotix, IDS, A&T, Thermo engen	none	none
Bar-code symbologies read on specimen tube	Codabar, codes 39 and 128, Interleaved 2 of 5, ITF, NW7, EAN 8 and 13	Codabar, codes 39 and 128, ITF, NW7, ISBT 128, JAN/ EAN/UPC	Codabar, codes 39 and 128, ITF, NW7, ISBT 128, JAN/ EAN/UPC
Accommodates bar-code placement per CLSI standard Auto2A	yes	yes	yes
Time required for maintenance by lab personnel	daily: <3 minutes (operator time)	daily: <1 minute (operator time)	daily: <1 minute (operator time)
Onboard diagnostics for troubleshooting/Limited to software problems	yes/no	yes/no	yes/no
Manufacturer can perform diagnostics via modem	yes, also via Internet	yes	yes
Distinguishing features (supplied by company)	high-throughput, flexible, scalable configurations (>125 standard configurations available); platelet linearity—5 million; new parameters for platelet monitoring—IPF and reticulocyte Hb measurement and RET-He, hematopoietic progenitor cell analysis, lavender top management, standardized technology, reagents, controls, and operations; broad clinical reportable ranges; enhanced clinical parameters to support preventive care and disease management	reportable parameters include IG %/#, RET-He, fluorescent PLT, body fluid with two-part differential; onboard pre-loaded decision rules including automated rerun-reflex capabilities; optional wagons for complete reagent management and option of using a concentrated reagent	fully integrated co-primary hematology solution consisting of two analytical modules connected with a single sampler, providing maximum productivity and efficiency with workload balancing; reportable parameters, include IG %/#, RET-He, fluorescent PLT, body fluid with two-part differential, onboard pre-loaded decision rules including automated rerun-reflex capabilities; optional wagons for complete reagent management and option of using a concentrated reagent

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

Hematology analyzers

Part 11 of 11	Sysmex America Tammy Kutz communications@sysmex.com 577 Aptakasic, Lincolnshire, IL 60069 800-379-7639 www.sysmex.com/usa	Sysmex America Tammy Kutz communications@sysmex.com 577 Aptakasic, Lincolnshire, IL 60069 800-379-7639 www.sysmex.com/usa
See captodayonline.com/productguides for an interactive version of guide		
Name of instrument First year installed in U.S./Outside U.S./No. of units sold in 2011 No. units installed in U.S./Outside U.S./List price	Sysmex XN-3000 2012/2011/— 0/32/\$562,667	Sysmex XN-9000 2012/2011/— 0/38/varies based on configuration
Test menu: • Chartable (standard menu: WBC, RBC, Hb, Hct, MCV, MCH, MCHC, PLT, %&# neut, mono, lymph, eos, baso): • Laboratory • Flags	standard menu (left) plus: NRBC%, NRBC#, IG%, IG#, MPV, PLT-F, IPF, RDW-CV, RDW-SD, Retic#, Retic%, IRF, RET-He; body fluids: RBC-BF, TC-BF, WBC-BF, MN%, MN#, PMN%, PMN# — blasts/abnormal lymphocytes, left shift, atypical lymphocytes, RBC agglutination, turbidity/HGB interf, iron deficiency, HGB defect, fragments, PLT clumps — — — IG%, IG#, PLT-F, IPF, RET-He; body fluids: two-part differential MN%, MN#, PMN%, PMN#	standard menu (left) plus: NRBC%, NRBC#, IG%, IG#, MPV, PLT-F, IPF, RDW-CV, RDW-SD, Retic#, Retic%, IRF, RET-He; body fluids: RBC-BF, TC-BF, WBC-BF, MN%, MN#, PMN%, PMN# — blasts/abnormal lymphocytes, left shift, atypical lymphocytes, RBC agglutination, turbidity/HGB interf, iron deficiency, HGB defect, fragments, PLT clumps — — — IG%, IG#, PLT-F, IPF, RET-He; body fluids: two-part differential MN%, MN#, PMN%, PMN#
FDA-cleared tests not clinically released Tests not available but submitted for 510(k) clearance Tests in development Tests for research use only Tests unique to analyzer	— — — —	— — — —
Differential method(s) used	fluorescent flow cytometry with side fluorescent light, forward-scattered and side-scattered light	fluorescent flow cytometry with side fluorescent light, forward-scattered and side-scattered light
Linearity: • WBC count/RBC count • Hemoglobin/Platelet • MCV (fL) or Hct (%)	0.00-440.00/0.00-8.60 0.0-26.0/0-5,000 0.0-75.0% (HCT)	0.00-440.00/0.00-8.60 0.0-26.0/0-5,000 0.0-75.0% (HCT)
Precision: • WBC count/RBC count • Hemoglobin/Platelet • MCV or Hct	< 3.0%/ < 1.5% < 1.0%/ < 4.0% HCT < 1.5%	< 3.0%/ < 1.5% < 1.0%/ < 4.0% HCT < 1.5%
Accuracy of automated differential compared with manual differential (per CLSI H-20A2)	—	—
Interfering substances: • WBC • RBC • MCV or Hct • Platelet • Hemoglobin	no significant interference up to: 39.4 mg/dL for bilirubin C, 37.4 mg/dL for bilirubin F, 996 mg/dL for hemolysis, 30.320 OD for intralipid, 2880 OD for chyle no significant interference up to: 39.4 mg/dL for bilirubin C, 37.4 mg/dL for bilirubin F, 996 mg/dL for hemolysis, 55.980 OD for intralipid, 2880 OD for chyle no significant interference up to: 39.4 mg/dL for bilirubin C, 37.4 mg/dL for bilirubin F, 996 mg/dL for hemolysis, 55.980 OD for intralipid, 2880 OD for chyle no significant interference up to: 39.4 mg/dL for bilirubin C, 37.4 mg/dL for bilirubin F, 996 mg/dL for hemolysis, 55.980 OD for intralipid, 2880 OD for chyle no significant interference up to: 39.4 mg/dL for bilirubin C, 37.4 mg/dL for bilirubin F, 199 mg/dL for hemolysis	no significant interference up to: 39.4 mg/dL for bilirubin C, 37.4 mg/dL for bilirubin F, 996 mg/dL for hemolysis, 30.320 OD for intralipid, 2880 OD for chyle no significant interference up to: 39.4 mg/dL for bilirubin C, 37.4 mg/dL for bilirubin F, 996 mg/dL for hemolysis, 55.980 OD for intralipid, 2880 OD for chyle no significant interference up to: 39.4 mg/dL for bilirubin C, 37.4 mg/dL for bilirubin F, 996 mg/dL for hemolysis, 55.980 OD for intralipid, 2880 OD for chyle no significant interference up to: 39.4 mg/dL for bilirubin C, 37.4 mg/dL for bilirubin F, 996 mg/dL for hemolysis, 55.980 OD for intralipid, 2880 OD for chyle no significant interference up to: 39.4 mg/dL for bilirubin C, 37.4 mg/dL for bilirubin F, 996 mg/dL for hemolysis, 55.980 OD for intralipid, 2880 OD for chyle no significant interference up to: 39.4 mg/dL for bilirubin C, 37.4 mg/dL for bilirubin F, 199 mg/dL for hemolysis
Interfering substances: Differential	—	—
Maximum CBCs per hour/Maximum CBCs and differentials per hour	200/200	200/200
Minimum specimen volume open/Closed/Sample dead volume closed	88 µL/88 µL/1 mL	88 µL/88 µL/1 mL
Microsample capability	yes	yes
Prepares microscope slides automatically or flags problems for slide prep	yes	yes
Number of automatic slidemakers available/List price	—/included	—/included
Archives patient data/Previous patient results incl. with recent results	yes/yes	yes/yes
Maximum archived data accessible when system online	100,000	100,000
No. specimens for which numeric results saved in memory at once	100,000	100,000
No. specimens for which histo/cytogram results saved in memory at once	100,000	100,000
Performs delta checks	yes	yes
Tags and holds results for followup, confirmatory testing, or rerun	yes	yes
Parameters for flags for holding samples defined by user or vendor	yes	yes
Scattergram display: cell-specific color	yes	yes
Histogram display: color with thresholds	yes	yes
User interface can display choice of specimen/result information	yes	yes
LIS interface formats supported	[XN series ASTM1381-95/ASTM1894-97] or [XN series ASTM1381-02/ASTM1894-97]	[XN series ASTM1381-95/ASTM1894-97] or [XN series ASTM1381-02/ASTM1894-97]
Information transferred on LIS interface	numeric and flag results, histograms and scatterplots, instrument to LIS; patient demographics, orders, LIS to instrument—broadcast; host query for demographics and orders	numeric and flag results, histograms and scatterplots, instrument to LIS; patient demographics, orders, LIS to instrument—broadcast; host query for demographics and orders
LOINC codes transmitted with all results/Sent in message to LIS/ Listing of machine codes and corresponding LOINC for each test	no/no/yes	no/no/yes
Interface available or planned to automated specimen-handling system	none	none
Bar-code symbologies read on specimen tube	Codabar, codes 39 and 128, ITF, NW7, ISBT 128, JAN/EAN/UPC	Codabar, codes 39 and 128, ITF, NW7, ISBT 128, JAN/EAN/UPC
Accommodates bar-code placement per CLSI standard Auto2A	yes	yes
Time required for maintenance by lab personnel	daily: <3 minutes (operator time)	daily: <3 minutes (operator time)
Onboard diagnostics for troubleshooting/Limited to software problems	yes/no	yes/no
Manufacturer can perform diagnostics via modem	yes	yes
Distinguishing features (supplied by company)	fully integrated co-primary hematology solution consisting of two analytical modules connected with a single sampler, plus a fully integrated slidemaker-stainer (SP-10) providing maximum productivity and efficiency with workload balancing; reportable parameters include IG %/#, RET-He, fluorescent PLT, body fluid with two-part differential, onboard pre-loaded decision rules including automated rerun-reflex capabilities; optional wagons for complete reagent management and option of using a concentrated reagent	fully integrated, scalable automation, configures up to nine modules including up to two SP-10 slidemaker/stainers; when coupled with tube sorting and archiving, HbA1c automation and powered by Intelligent Automation from the Sysmex WAM, carries the Lavender Top Management capabilities, which manages more than 90 percent of lavender top tubes; concentrated reagents are standard, saving space and reagent changes with a 25x concentrated Cellpack DST diluent; reportable parameters include IG %/#, RET-He, fluorescent PLT, body fluid with two-part differential; onboard pre-loaded decision rules, including automated rerun/reflex capabilities

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