Part 1 of 3	**ARKRAY** **Mariann Amador** corelab@arkrayusa.com **Minneapolis, MN** **855-646-3108** www.arkrayusa.com	**ARKRAY** **Mariann Amador** corelab@arkrayusa.com **Minneapolis, MN** **855-646-3108** www.arkrayusa.com	**ARKRAY** **Mariann Amador** corelab@arkrayusa.com **Minneapolis, MN** **855-646-3108** www.arkrayusa.com
Name of urinalysis instrument	AUTION Eleven AE-40222†	AUTION Eye AI-4510 & AUTION Max AX-4060†	AUTION Max AX-4030†
Type of instrument	urine chemistry	urine chemistry and microscopy/sediment combined	urine chemistry
Instrument list price	— (available via purchase)	— (available via purchase)	— (available via purchase)
First year instrument sold in the U.S.	2017	2025	2011
Approximate No. of units in clinical use in the U.S./outside the U.S.	700/7,200 (worldwide)	—/200 (worldwide)	1,600/3,600 (worldwide)
Foreign countries where company markets instrument	worldwide	worldwide	worldwide
Country where instrument is designed/manufactured	Japan/Japan	Japan/Japan	Japan/Japan
Human languages (other than English) supported	—	—	—
Intended urine sample volume per day	—	>50	>50
Dimensions (H×W×D)	6.5 × 8.3 × 12.9 in.	26 × 42 × 24 in.	21 × 21 × 21 in.
Weight fully loaded with reagents/without reagents	—/7.9 lbs.††	—/154 lbs.††	—/82 lbs.††
Power requirements	100–240 VAC (50–60 Hz)	100–240 VAC (50–60 Hz)	100–240 VAC (50–60 Hz)
Mean time between failure of instrument	600 days	—	364 days
Events that cause instrument to lock or stop analysis	user ID failure, result error	QC failure, short sample, barcode/sample ID misread, result error, sampling error, consumables replacement/expiration	QC failure, short sample, barcode/sample ID misread, result error, sampling error, consumables replacement/expiration
Urine chemistry: *(Information in this box is specific to urine chemistry)*			
• Testing methodology: specific gravity/color/clarity	test strip/wavelength of absorbance within an analyzer well/turbidity entered manually	refractometer/wavelength of absorbance within an analyzer well/turbidity within an analyzer well	refractometer/wavelength of absorbance within an analyzer well/turbidity within an analyzer well
• Urine chemistry tests available on instrument in the U.S.	bilirubin (0.5–14.0 mg/dL), hemoglobin (0.03–1.0 mg/dL), glucose (30–1,000 mg/dL), ketone (5–150 mg/dL), leukocyte esterase (25–500 leukocytes/µL), nitrite (0.08–0.5 mg/dL), pH (5–9), protein (10–1,000 mg/dL), specific gravity (1.005–1.030), urobilinogen (2–16 mg/dL)	bilirubin (0.5–10.0 mg/dL), hemoglobin (0.03–1.0 mg/dL), glucose (30–1,000 mg/dL), ketone (5–150 mg/dL), leukocyte esterase (25–500 leukocytes/µL), nitrite (0.08–0.5 mg/dL), pH (5–9), protein (10–600 mg/dL), specific gravity (1.000–>1.030), urobilinogen (2–12 mg/dL)	bilirubin (0.5–10.0 mg/dL), hemoglobin (0.03–1.0 mg/dL), glucose (30–1,000 mg/dL), ketone (5–150 mg/dL), leukocyte esterase (25–500 leukocytes/µL), nitrite (0.08–0.5 mg/dL), pH (5–9), protein (10–600 mg/dL), specific gravity (1.000–>1.030), urobilinogen (2–12 mg/dL)
• Color compensation pad included/Flagging thresholds customizable	yes/—	yes/no	yes/no
• Test strip configuration	loosely packed in bottles	loosely packed in bottles	loosely packed in bottles
• Calibration required after each test strip lot No. change	no	no	no
• Frequency of customer-performed calibration/Form of calibration	—	—	—
• How results are displayed for urine chemistry	semiquantitative	semiquantitative	semiquantitative
• Reporting format customizable	no	—	no
• No. of results that can be held in internal memory	520 sample and control results combined	2,500 sample results/200 control results	2,500 sample results/200 control results
• Specific gravity correction for protein/glucose	no/no	yes/yes	yes/yes
Microscopy/sediment: *(Information in this box is specific to microscopy/sediment)*			
• Microscopy/sediment technology	—	digital flow morphology	—
• Microscopy/sediment analysis parameters	—	flagged and quantitative: pathological casts, crystals, small round cells, yeast-like cells, mucus, sperm, RBCs, WBCs, epithelial cells, bacteria, hyaline casts	—
• Flagging thresholds customizable	—	yes	—
• Instrument eliminates amorphous crystal interference before sample analysis	—	no	—
• How results are displayed for microscopy/sediment	—	numeric values	—
• Reporting format customizable	—	yes	—
• No. of results that can be held in internal memory	—	10,000 sample results/1,000 control results	—
Reagent shelf life/storage temp. for unopened containers of calibrator	—	365 days/2–8°C	365 days/2–8°C
Reagent shelf life/storage temp. for opened containers of calibrator	—	1 day/2–8°C	1 day/2–8°C
Reagent shelf life/storage temp. for unopened containers of control reagent	547 days/2–8°C	365 days/2–8°C	547 days/2–8°C
Reagent shelf life/storage temp. for opened containers of control reagent	31 days/2–8°C	1 day/2–8°C	31 days/2–8°C
Reagent barcode-reading capability	yes, for all tests (can read Codabar [NW-7], Code 39, Code 128, PDF 417, ITF)	yes, for all tests (can read Codabar [NW-7], Code 39, Code 128, ITF)	yes, for all tests (can read Codabar [NW-7], Code 39, Code 128, PDF 417, ITF)
How often quality control samples are run	daily	—	daily
Sample throughput per hour/Time to first result for chemistry	514/1 min.	225/—	225/1 min.
Sample throughput per hour/Time to first result for microscopy/sediment	—	100/—	—
Analyzer has stat mode	no	yes (minimum sample volume, 2 mL for chemistry and 1 mL for microscopy/sediment)	yes (minimum sample volume, 2 mL)
FDA approved for body fluid analysis	no	no	no
Sample dilutions required for urinalysis/body fluid analysis	no/not applicable	no/not applicable	no/not applicable
Minimum width of sample tube/Minimum length of sample tube	—	14–15.8 mm/95–110 mm	14–15.8 mm/95–110 mm
Conditions or substances that prevent a sample from being run	blood, visible turbidity	blood, visible turbidity	blood, visible turbidity
Means of sample ID entry	barcode scan, manual entry	barcode scan, manual entry	barcode scan, manual entry
Built-in liquid-level sensing for samples	no	yes	yes
Information that can be barcode scanned on instrument	operator identifier, specimen identifier, reagent lot No.	specimen identifier, reagent lot No.	specimen identifier, reagent lot No.
Supports QR codes/Supports radio-frequency identification	no/no	no/no	no/no
Compatible with laboratory automation systems	no	planned for future	planned for future
How LOINC codes for results are made available	e-mail query	e-mail query	e-mail query
Software includes reflex testing/cross-check functionality	—	yes/yes	—
Instrument automatically generates consolidated report*	—	yes	—
Instrument archives patient data	no	yes (test results, ID, name)	—
Instrument connections to transfer information	directly to LIS or via commercial middleware (Data Innovations)	data-management system that connects to LIS, directly to LIS, or via commercial middleware (Data Innovations)	directly to LIS or via commercial middleware (Data Innovations)
Interface standards or formats supported	ASTM 1394-91, ASTM 1381	ASTM 1394-91, ASTM 1381	ASTM 1394-91, ASTM 1381
Bidirectional interface	no	yes, to other companies' LISs (no third-party tool or software required for interface)	yes, to other companies' LISs (no third-party tool or software required for interface)
Test results can be transmitted to LIS as soon as tests completed	yes	yes	yes
Connection to LIS/EHR to upload patient and QC results	LIS: direct serial, hospital network/EHR: option not available	LIS: direct serial, hospital network/EHR: option not available	LIS: direct serial, hospital network/EHR: option not available
Information included in transmission to data-management system	patient ID, specimen ID, result	patient ID, specimen ID, result	patient ID, specimen ID, result
Training included with instrument purchase	no	yes (3–4 days at customer site)	yes (1–2 days at customer site)
Approximate scheduled maintenance time required	5 min. daily	10 min. daily; 15 min. weekly; 20 min. monthly (maintenance records kept onboard instrument)	5 min. daily; 5 min. weekly; 10 min. monthly
Onboard diagnostics for troubleshooting	no	yes	yes
Provide list of client sites to potential customers on request	no (information is confidential)	no (information is confidential)	yes (partial list of comparable sites but prospective client must sign a nondisclosure agreement)
Clients restricted from sharing their experience with company or software	no	no	no
Distinguishing instrument features (supplied by company)	• proven reliability with less than one unscheduled service event per year • small semiautomated footprint	• images have three focal depths, similar to focusing up/down on a microscope • small footprint for a complete urinalysis system	• easy to use; strips easy to load; does not require calibration • abnormal color detection alerts operators to potential false-positive results
**chemistry and microscopy results in one report*			
Note: a dash in lieu of an answer means company did not answer question or question is not applicable	*†also sold via distribution partners* *††reagents not kept onboard*	*†also sold via distribution partners* *††urine strips kept onboard, not reagents*	*†also sold via distribution partners* *††urine strips kept onboard, not reagents*

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

URINALYSIS INSTRUMENTATION

Part 2 of 3	**Beckman Coulter** **Kanochia Johnson** kjohnson05@beckman.com **Brea, CA** www.beckmancoulter.com/urinalysis	**Beckman Coulter** **Kanochia Johnson** kjohnson05@beckman.com **Brea, CA** www.beckmancoulter.com/urinalysis	**Sciteck Diagnostics** **Kerstin Lanier** kerstinlanier@sciteck.org **Fletcher, NC** **800-749-4537** myautoua.com
Name of urinalysis instrument	DxU Iris Workcell: DxU 850 Iris, DxU 840 Iris†	DxU Microscopy Series: DxU 850m Iris, DxU 840m Iris†	AUA-450 Clinical Chemistry Analyzer
Type of instrument	urine chemistry and microscopy/sediment combined	microscopy/sediment	urine chemistry
Instrument list price	—	— (available via purchase or lease)	$40,000–$45,000 (price based on location; available via purchase or lease)
First year instrument sold in the U.S.	2021 (also sold by McKesson, Henry Schein in U.S.)	2021 (also sold by McKesson, Henry Schein in U.S.)	2022
Approximate No. of units in clinical use in the U.S./outside the U.S.	>800/>120 (worldwide)	>800/>150 (worldwide)	26/2,400 (in Japan)
Foreign countries where company markets instrument	worldwide	worldwide	none
Country where instrument is designed/manufactured	U.S./U.S. and Japan	U.S./U.S.	Japan/Japan
Human languages (other than English) supported	French, German, Spanish, Portuguese, Italian, many more	French, German, Spanish, Portuguese, Italian, many more	Japanese
Intended urine sample volume per day	50–600+	50–600+	50–1,000
Dimensions (H×W×D)	23 × 21 × 60 in.	23 × 21 × 25 in.	24 × 34 × 26 in.
Weight fully loaded with reagents/without reagents	238 lbs./214 lbs.	100 lbs./85 lbs.	255 lbs./250 lbs.
Power requirements	100–240 VAC (50–60 Hz)	100–240 VAC (50–60 Hz)	120 VAC
Mean time between failure of instrument	305 days	305 days	0 days
Events that cause instrument to lock or stop analysis	QC failure, short sample, barcode/sample ID misread, result error, sampling error, consumables replacement/expiration	QC failure, short sample, barcode/sample ID misread, result error, sampling error, consumables replacement/expiration	user ID failure, QC failure, sampling error, consumables replacement/expiration
Urine chemistry: *(Information in this box is specific to urine chemistry)*			
• Testing methodology: specific gravity/color/clarity	refractometer/wavelength of absorbance within an analyzer well/turbidity within an analyzer well	—	colorimetric/wavelength of absorbance within an analyzer well/turbidity within an analyzer well
• Urine chemistry tests available on instrument in the U.S.	bilirubin (0–>10 mg/dL), hemoglobin (0–>1 mg/dL), glucose (0–>1,000 mg/dL), ketone (0–>150 mg/dL), leukocyte esterase (0–500 leukocytes/µL), nitrite (–, 1+, 2+), pH (5–9), protein (0–>600 mg/dL), specific gravity (1.0–1.5), urobilinogen (0–≥12 mg/dL)	—	albumin/microalbumin (0.5–100 mg/dL), creatinine (0–1,000 mg/dL), albumin/creatinine ratio (<30 mg/g), protein/creatinine ratio (<150 mg/g), bilirubin (0–300 mg/dL), hemoglobin (0–5,000 µg/dL), glucose (0–1,000 mg/dL), ketone (0–200 mg/dL), leukocyte esterase (0–200 leukocytes/L), nitrite (0–200 mg/dL), pH (3–11), protein (0–30 mg/dL), specific gravity (1.00–1.07), urobilinogen (0–30 mg/dL)
• Color compensation pad included/Flagging thresholds customizable	yes/no	—	no/yes
• Test strip configuration	loosely packed in bottles	—	no test strip
• Calibration required after each test strip lot No. change	no	—	—
• Frequency of customer-performed calibration/Form of calibration	monthly/liquid	—	daily/liquid
• How results are displayed for urine chemistry	semiquantitative	—	true values, calculated values
• Reporting format customizable	no	—	yes
• No. of results that can be held in internal memory	2,500 sample results/200 control results	—	1,000 sample results/1,000 control results
• Specific gravity correction for protein/glucose	yes/yes	—	yes/yes
Microscopy/sediment: *(Information in this box is specific to microscopy/sediment)*			
• Microscopy/sediment technology	digital flow morphology using auto particle-recognition software	digital flow morphology using auto particle-recognition software	—
• Microscopy/sediment analysis parameters	qualitative and quantitative: pathological casts, crystals, yeast-like cells, mucus, sperm, RBCs, WBCs, epithelial cells, bacteria, hyaline casts, WBC clumps	qualitative and quantitative: pathological casts, crystals, yeast-like cells, mucus, sperm, RBCs, WBCs, epithelial cells, bacteria, hyaline casts, WBC clumps	—
• Flagging thresholds customizable	yes	yes	—
• Instrument eliminates amorphous crystal interference before sample analysis	no	no	—
• How results are displayed for microscopy/sediment	numeric values	numeric values	—
• Reporting format customizable	yes	yes	—
• No. of results that can be held in internal memory	10,000 sample results/200 control results	10,000 sample results/200 control results	—
Reagent shelf life/storage temp. for unopened containers of calibrator	both vary based on reagent type	240 days/2–8°C	720 days/8°C
Reagent shelf life/storage temp. for opened containers of calibrator	both vary based on reagent type	1 day/2–8°C	30 days/8°C
Reagent shelf life/storage temp. for unopened containers of control reagent	both vary based on reagent type	240 days/2–8°C (focus and positive); 28°C (negative)	720 days/8°C
Reagent shelf life/storage temp. for opened containers of control reagent	both vary based on reagent type	30 days/2–8°C	30 days/8°C
Reagent barcode-reading capability	yes, for some tests (can read Code 39, Code 128, more)	yes, for some tests (can read Code 39, Code 128, more)	yes, for all tests (can read Code 39, Code 128, more)
How often quality control samples are run	daily	daily	daily
Sample throughput per hour/Time to first result for chemistry	225/1 min.	—	22/13 min.
Sample throughput per hour/Time to first result for microscopy/sediment	DxU 840: 70/<2 min.; DxU 850: 101/<2 min.	DxU 840m: 70/<2 min.; DxU 850m: 101/<2 min.	—
Analyzer has stat mode	no (min. sample volume for sampler or track mode, 2 mL for chemistry and 3 mL for microscopy/sediment)	no (minimum sample volume for sampler or track mode, 3 mL)	yes (minimum sample volume, 0.25 mL)
FDA approved for body fluid analysis	yes (for CSF, pleural, peritoneal, synovial, more)	yes (for CSF, pleural, peritoneal, synovial, more)	yes (for urine)
Sample dilutions required for urinalysis/body fluid analysis	no/yes (lyse reagent required)	no/yes (lyse reagent required)	no/no
Minimum width of sample tube/Minimum length of sample tube	16 mm/100 mm	16 mm/100 mm	14 mm/25 mm
Conditions or substances that prevent a sample from being run	grossly visible turbidity	grossly visible turbidity	none
Means of sample ID entry	barcode scan, manual entry	barcode scan, manual entry	barcode scan, manual entry, worklist download from host
Built-in liquid-level sensing for samples	yes	yes	yes
Information that can be barcode scanned on instrument	specimen identifier, reagent lot No., reagent expiration, dilution barcodes	specimen identifier, reagent lot No., reagent expiration, dilution barcodes	operator identifier, specimen identifier, reagent lot No.
Supports QR codes/Supports radio-frequency identification	no/no	no/no	no/no
Compatible with laboratory automation systems	no	no	no
How LOINC codes for results are made available	website	website	e-mail query, transmitted to LIS with each result
Software includes reflex testing/cross-check functionality	yes/no	yes/no	no/no
Instrument automatically generates consolidated report*	yes	yes	no
Instrument archives patient data	yes (patient results)	yes (up to 10,000 patient results)	yes
Instrument connections to transfer information	directly to LIS	directly to LIS	directly to LIS, EHR
Interface standards or formats supported	ASTM 1381, ASTM 1238-95, Iris-defined XML	ASTM 1381, ASTM 1238-95, Iris-defined XML	ASTM 1394-91, ASTM 1381, ASTM 1238-95, HL7 version 2, HL7 version 3
Bidirectional interface	yes, to other companies' LISs	yes, to other companies' LISs	yes, to other companies' LISs and EHRs (requires interface engine with LIS)
Test results can be transmitted to LIS as soon as tests completed	yes	yes	yes
Connection to LIS/EHR to upload patient and QC results	LIS: direct serial/EHR: —	LIS: direct serial/EHR: —	LIS and EHR: direct serial, hospital network
Information included in transmission to data-management system	device unique identifier, operator ID, patient ID, specimen ID, result, QC identifier	device unique identifier, operator ID, patient ID, specimen ID, result, QC identifier	device unique identifier, operator ID, patient ID, specimen ID, result, LOINC codes
Training included with instrument purchase	yes (1 day at customer site, 3 days of e-learning; follow-up training available for an extra charge)	yes (1 day at customer site, 3 days of e-learning; follow-up training available for an extra charge)	yes (2.5 days at customer or vendor site [optional]; follow-up training available for an extra charge)
Approximate scheduled maintenance time required	— (maintenance records kept onboard instrument)	— (maintenance records kept onboard instrument)	30 min. monthly
Onboard diagnostics for troubleshooting	yes	yes	yes (can perform diagnostics via remote access)
Provide list of client sites to potential customers on request	yes (complete list with no restrictions regarding its use)	yes (complete list with no restrictions regarding its use)	yes (partial list of comparable sites but prospective client must sign a nondisclosure agreement)
Clients restricted from sharing their experience with company or software	no	no	no
Distinguishing instrument features (supplied by company)	• auto-classifies 12 urine particles based on size, shape, contrast, texture to provide digital images for all samples • iQ Body Fluids Module analyzes RBC count and nucleated cell count in cerebrospinal, synovial, and serous fluids	• auto-classifies 12 urine particles based on size, shape, contrast, texture to provide digital images for all samples • iQ Body Fluids Module analyzes RBC count and nucleated cell count in cerebrospinal, synovial, and serous fluids	• AutoUA is an FDA-cleared quantitative urinalysis system; superior test results • sample size of 2–3 µL provides stoichiometric advantages, reducing interferents that affect test strips

**chemistry and microscopy results in one report*

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

†formerly iQ Workcell; all answers apply to DxU 850 Iris and 840 Iris systems unless otherwise indicated

†formerly iQ200 series; all answers apply to DxU 850m Iris and 840m Iris systems unless otherwise indicated

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Part 3 of 3	Siemens Healthcare Diagnostics **Aohua Sang** aohua.sang@siemens-healthineers.com **Tarrytown, NY** **914-631-8000** www.siemens-healthineers.com	Sysmex America **Pinak Patel** patelpi@sysmex.com **Lincolnshire, IL** **888-879-7639** www.sysmex.com/us	Sysmex America **Pinak Patel** patelpi@sysmex.com **Lincolnshire, IL** **888-879-7639** www.sysmex.com/us
Name of urinalysis instrument	CLINITEK Advantus Analyzer†	Clinitek Novus Automated Urine Chemistry Analyzer†	UN-Series Automated Urinalysis Solution (UN-2000, UN-3000, UN-9000)†
Type of instrument	urine chemistry	urine chemistry	urine chemistry and microscopy/sediment combined
Instrument list price	$7,392 (avail. via purchase or reagent rental agreement)	— (available via purchase or lease)	based on configuration (avail. via purchase or lease)
First year instrument sold in the U.S.	2006	2015	UN-2000: 2019; UN-3000 and UN-9000: 2020
Approximate No. of units in clinical use in the U.S./outside the U.S.	3,000/2,000 (in Europe, Asia–Pacific, Latin America, Canada)	>600/>57 (in Canada)	>600/— (in Canada)
Foreign countries where company markets instrument	Europe, Asia–Pacific, Latin America, Canada	Canada	Canada
Country where instrument is designed/manufactured	U.S. and United Kingdom/Poland	U.S. and United Kingdom/U.S. and United Kingdom	Japan/Japan
Human languages (other than English) supported	French, German, Italian, Japanese, Spanish, more	—	—
Intended urine sample volume per day	36–50	>50	>80
Dimensions (H×W×D)	12.75 × 15.75 × 13.75 in.	21 × 25 × 27 in.	varies based on configuration
Weight fully loaded with reagents/without reagents	17 lbs./16 lbs.	—/93 lbs.	both vary based on configuration
Power requirements	100–240 VAC (50–60 Hz)	100–240 VAC	varies based on configuration
Mean time between failure of instrument	81 days	120 days	90 days
Events that cause instrument to lock or stop analysis	QC failure, short sample, barcode/sample ID misread, result error, sampling error, hardware failure, more	user ID failure, sampling error, consumables replacement/expiration, calibration failure	user ID failure, consumables replacement/expiration
Urine chemistry: *(Information in this box is specific to urine chemistry)*			
• Testing methodology: specific gravity/color/clarity	test strip/test strip/test strip	refractometer/wavelength of absorbance within an analyzer well/turbidity within an analyzer well	refractometer/wavelength of absorbance within an analyzer well/turbidity within an analyzer well
• Urine chemistry tests available on instrument in the U.S.	bilirubin (negative–large), hemoglobin (negative–large), glucose (negative–≥1,000 mg/dL), ketone (negative–≥80 mg/dL), leukocyte esterase (negative–large), nitrite (positive/negative), pH (5.0–≥9.0), protein (negative–300 mg/dL), specific gravity (≤1.005–≥1.030), urobilinogen (0.2–≥8.0 EU/dL)	bilirubin (0.5–2.7 mg/dL), red blood cells (trace level), hemoglobin (0.013–0.3 mg/dL), glucose (36–820 mg/dL), ketone (3.6–156 mg/dL), leukocyte esterase (6–91 cells/µL), nitrite (positive/negative), pH (5.3–8.7), protein (10.8–1,000 mg/dL), specific gravity (1.000–1.099), urobilinogen (0.24–6.24 mg/dL)	bilirubin (0.5–2.7 mg/dL), red blood cells (trace levels), hemoglobin (0.013–0.3 mg/dL), glucose (36–820 mg/dL), ketone (3.6–156 mg/dL), leukocyte esterase (6–91 cells/µL), nitrite (positive/negative), pH (5.3–8.7), protein (10.8–1,000 mg/dL), specific gravity (1.000–1.099), urobilinogen (0.24–6.24 mg/dL)
• Color compensation pad included/Flagging thresholds customizable	yes/yes	yes/yes	yes/yes
• Test strip configuration	loosely packed in bottles	cartridge	cartridge
• Calibration required after each test strip lot No. change	no	yes	yes
• Frequency of customer-performed calibration/Form of calibration	instrument self-calibrates for every strip/dry	with every new lot No. of Novus cassette loaded or same lot No. loaded and calibration is > 24 hours old/liquid	with every new lot No. of Novus cassette loaded or same lot No. loaded and calibration is > 24 hours old/liquid
• How results are displayed for urine chemistry	semiquantitative	semiquantitative	semiquantitative
• Reporting format customizable	yes	yes	yes
• No. of results that can be held in internal memory	500 sample results/200 control results	7,500 sample results/400 control results	7,500 sample results/400 control results
• Specific gravity correction for protein/glucose	no/no	no/no	no/no
Microscopy/sediment: *(Information in this box is specific to microscopy/sediment)*			
• Microscopy/sediment technology	—	—	flow cytometry with fluorescent stain
• Microscopy/sediment analysis parameters	—	—	flagged and qualitative: pathological casts, crystals, yeast-like cells, mucus, sperm; qualitative and quantitative: RBCs; quantitative: WBCs, epithelial cells, bacteria, casts
• Flagging thresholds customizable	—	—	yes
• Instrument eliminates amorphous crystal interference before sample analysis	—	—	yes
• How results are displayed for microscopy/sediment	—	—	numeric values or scattergrams
• Reporting format customizable	—	—	yes
• No. of results that can be held in internal memory	—	—	100,000 sample results (in the urinalysis data manager)/2 concentrations × 3 lots (120 plots/lot) for control results
Reagent shelf life/storage temp. for unopened containers of calibrator	— (no calibrator needed)	—/2–8°C	—
Reagent shelf life/storage temp. for opened containers of calibrator	— (no calibrator needed)	—	—
Reagent shelf life/storage temp. for unopened containers of control reagent	730 days/2–8°C	—/QC: 2–8°C; cassette: 15–30°C	—/2–8°C
Reagent shelf life/storage temp. for opened containers of control reagent	30 days/20–25°C	—	—
Reagent barcode-reading capability	yes, for all tests (can read Data Matrix, more)	yes, for all tests (can read Code 39, Code 128, more)	yes, for all tests (can read Code 39, Code 128, more)
How often quality control samples are run	configurable: 1 hour to 99 days (can use other companies' QC products)	follow government regulations or accreditation requirements (can use other companies' QC products)	daily
Sample throughput per hour/Time to first result for chemistry	500/62 seconds, then every 7 seconds	240/—	240/—
Sample throughput per hour/Time to first result for microscopy/sediment	—	—	varies based on configuration/—
Analyzer has stat mode	yes	no	yes (min. sample vol., 1.6 mL for microscopy/sediment)
FDA approved for body fluid analysis	yes (for urine)	no	no
Sample dilutions required for urinalysis/body fluid analysis	no/not applicable	no/not applicable	no/not applicable
Minimum width of sample tube/Minimum length of sample tube	7 mm/76 mm	16 mm/95 mm	16 mm/95 mm
Conditions or substances that prevent a sample from being run	none	—	—
Means of sample ID entry	barcode scan, manual entry, worklist download from host	barcode scan, manual entry, worklist download from host, RFID for authentic entry of cassette lot	barcode scan, manual entry, worklist download from host, RFID for authentic entry of cassette lot
Built-in liquid-level sensing for samples	no	yes	yes
Information that can be barcode scanned on instrument	operator and specimen identifier, reagent lot No., more	operator identifier, specimen identifier, reagent lot No.	operator identifier, specimen identifier, reagent lot No.
Supports QR codes/Supports radio-frequency identification	no/no	no/yes	no/yes
Compatible with laboratory automation systems	no	yes (Siemens Aptio, Abbott Accelerator a3600)	yes (Siemens Aptio, Abbott Accelerator a3600)
How LOINC codes for results are made available	functionality not provided	website, e-mail query	website, e-mail query
Software includes reflex testing/cross-check functionality	no/no	yes/yes	yes/yes
Instrument automatically generates consolidated report*	yes	no	yes
Instrument archives patient data	no	yes (sample ID, test results)	yes (patient demographics, test results, sample ID)
Instrument connections to transfer information	data-management system that connects to LIS or EHR, directly to LIS or EHR, via commercial middleware, more	data-management system that connects to LIS or EHR, or directly to LIS, EHR, or lab automation system	data-management system that connects to LIS or EHR, or directly to LIS or EHR
Interface standards or formats supported	ASTM 1394-91, Siemens proprietary protocol	ASTM 1394-91, ASTM 1381, HL7 version 3	ASTM 1394-91, ASTM 1381, HL7 version 3
Bidirectional interface	yes, to other companies' LISs (no third-party tool or software required for interface)	yes, to other companies' LISs and EHRs	yes, to other companies' LISs and EHRs
Test results can be transmitted to LIS as soon as tests completed	yes	yes	yes
Connection to LIS/EHR to upload patient and QC results	LIS and EHR: direct serial, hospital network	LIS and EHR: direct serial, hospital network	LIS and EHR: hospital network
Information included in transmission to data-management system	device unique identifier, operator ID, specimen ID, result, QC identifier, strip type, reagent lot and expiration	device unique identifier, operator ID, patient ID, specimen ID, result, QC identifier	device unique identifier, operator ID, patient ID, specimen ID, result, QC identifier
Training included with instrument purchase	yes (4 hours at choice of customer or vendor site; follow-up training available for no extra charge)	yes (virtual instructor-led training at customer site)	yes (7 hours of virtual instructor-led training at customer site)
Approximate scheduled maintenance time required	30 min. per shift; 30 min. daily; 90 min. weekly; 270 min. monthly	5–10 min. daily	20 min. daily; 10 min. weekly (maintenance records kept onboard instrument)
Onboard diagnostics for troubleshooting	yes	yes	yes (can perform diagnostics via remote access)
Provide list of client sites to potential customers on request	yes (partial list of comparable sites but prospective client must sign a nondisclosure agreement)	yes (partial list of comparable sites with no restrictions regarding its use)	yes (partial list of comparable sites with no restrictions regarding its use)
Clients restricted from sharing their experience with company or software	no	no	no
Distinguishing instrument features (supplied by company)	• broad test menu: routine UA testing for kidney functions, CKD, AKI, UTI, diabetes mellitus, more • auto-checks proprietary technology for humidity exposure, sample interference, auto. strip ID	• reagent cassette format with RFID that provides complete traceability and 14-day onboard stability • digital color camera that takes images of full light spectrum	• combines urine chemistry, fluorescence flow cytometry, and digital image analysis for rapid urine screening • BeyondCare quality monitor for urinalysis provides a streamlined and automated QC experience
**chemistry and microscopy results in one report* *Note: a dash in lieu of an answer means company did not answer question or question is not applicable*	*†also sold via distribution partners*	*†marketed in the U.S. and Canada by Sysmex; marketed in other countries by Siemens Healthineers*	*†modular systems: UN-2000, two modules; UN-3000, three modules; UN-9000, four or more modules*

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