



## Technical Specifications

# Dimension EXL with LM Integrated Chemistry System



Chemistry and immunoassay integration on the Dimension® EXL™ with LM Integrated System allows simultaneous processing to improve workflow.

- Simplify lab operations with an onboard capacity of 91 assays chosen from our comprehensive menu of chemistry and immunoassays.
- Improve workflow efficiency with the ability to load any tube, any place, any time, and only 5 minutes of scheduled maintenance per day.
- Gain better outcomes with fast assay times for critical results, such as High-Sensitivity Troponin I in only 10 minutes and electrolytes in <1 minute.



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# Technical Specifications

## Product Specifications

<b>System Description</b>	Random-access clinical chemistry and immunoassay system with LOCI® chemiluminescence technology
<b>Test Throughput</b>	Up to 440 photometric tests, 187 IMT tests, and 167 immunoassay tests per hour
<b>Assay Time (from Aspiration to Result)</b>	IMT (Na, K, Cl) <1 min; BMP (Na, K, Cl, CO <sub>2</sub> , GLU, BUN, CREA) 4 min; TNIH 10 min; HCG 14 min
<b>Assays Onboard</b>	91, including 3 QuikLYTE® IMT

## Sample Handling

<b>Validated Sample Types</b>	Serum, plasma, urine, cerebrospinal fluid, whole blood (varies by assay)
<b>Sample Tubes</b>	5 mL, 7 mL, 10 mL tubes; 1.5 mL sample cups; 1 mL small sample containers; pediatric tubes
<b>Sample Bar Codes</b>	Code 39; Code 128; Codabar (USS); Interleaved 2 of 5 with or without check digit, 12 digits maximum
<b>Sample Wheel</b>	60 sample positions in six 10-tube segments; positive sample identification
<b>STAT Handling</b>	No dedicated positions; STAT samples are processed with priority
<b>Sample Integrity Control</b>	Liquid-level sensing; clot, bubble and short-sample detection and management; hemolysis, icterus, and lipemia checks
<b>Auto-repeat</b>	Automatic repeat testing from the original sample
<b>Sample Volume per Test</b>	2–60 µL (varies by assay)
<b>Sample Dilution</b>	Automatic dilution: 1:1.5 up to 1:200
<b>Auto-reflex Testing</b>	Will automatically perform additional tests based on results of first test
<b>Sample Carryover Prevention</b>	Automated wash protocols and single-use cuvettes help minimize carryover

## Reaction Area

<b>Reaction Cuvettes</b>	Onboard capacity of 12,000 formed cuvettes
<b>Reaction Bath</b>	Air; incubation temperature 37°C
<b>Path Length</b>	0.5 cm ±0.0125 cm
<b>Photometer</b>	Optical filter wheel provides wavelengths of 293, 340, 383, 405, 452, 510, 540, 577, 600, and 700 nm
<b>Light Source</b>	Standard tungsten halogen lamp, operation at 6.5A (6.8v)
<b>Reaction Times</b>	1–32 minutes (varies by assay)
<b>Automatic Correction</b>	Serum blank, cell blank, reagent blank, measurement point change, autodilution
<b>Assay Technologies</b>	LOCI, heterogeneous immunoassay, PETINIA and ACMIA, photometry, potentiometry (IMT), turbidimetry, and Emit®
<b>Assay Result Calculations</b>	Endpoint, rate, multipoint

## Reagent Handling

<b>Reagent Compartment</b>	2 trays, 44 positions each, refrigerated between 2–8°C (36–47°F); one tray on the Reagent Management System (RMS)
<b>Dispensing System</b>	3 probes with liquid-level sensing
<b>Reagent Cartridges</b>	Flex® Reagent Cartridges, bar-coded, 15 to 360 tests/Flex (varies by assay)
<b>Average Total Reaction Volume</b>	350–500 µL per test (varies by assay)
<b>Reagent Integrity Control</b>	Bar-code reagent identification; automatic inventory tracking and flagging; calibration and control validity tracking and flagging; reagent onboard tracking of tests remaining, lot number, onboard stability, and expiration date
<b>Onboard Stability</b>	Up to 42 days (varies by assay)
<b>Test Capacity Onboard</b>	25,200 tests average; 33,300 tests maximum

## Open-system Capability

<b>Channels</b>	110 assay channels; includes 15 open channels for user-defined applications
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## Integrated Multisensor Technology (IMT) for Na<sup>+</sup>, K<sup>+</sup>, Cl<sup>-</sup>

<b>QuikLYTE IMT</b>	Indirect simultaneous measurement of Na <sup>+</sup> , K <sup>+</sup> , Cl <sup>-</sup>
<b>Sample Volume</b>	40 µL for all three tests
<b>Automated Operation</b>	Automatic priming cycle, no user calibration, automatic urine dilution 1:10
<b>Cartridge Expected Use Life</b>	1000 samples or 5 days, whichever comes first

## Calibration/QC

<b>Validated Calibration Interval</b>	Up to 90 days, tracked by software
<b>Auto-calibration</b>	Assay-specific time interval or with new reagent lot
<b>Auto-QC</b>	User-defined time interval
<b>Calibration Review</b>	Graphical display of calibration curves
<b>QC Review</b>	Graphical display of QC plot (histogram or Levey-Jennings) with Westgard rules; real-time QC; QCC PowerPak™ efficiency package

## User Interface/Data Management

<b>Monitor</b>	17-inch touchscreen with adjustable height
<b>Operating System</b>	LINUX, 1 GB RAM
<b>System Documentation</b>	Operator Manual, Quick Guide, and Online Help
<b>Data Storage</b>	120,000 patient tests (20 MB); 120,000 QC results (20 MB); 9000 calibrations (5 years, 18 MB)
<b>System Auto-check</b>	User-defined time of day
<b>Host Interface</b>	RS-232C bidirectional
<b>Host Query</b>	System requests work order or batch of work orders from host
<b>Remote Access and Service</b>	Dimension Remote Services and Smart Remote Services via 1000BASE-T Ethernet port

## General Specifications

<b>Power Requirements System</b>	100 VAC at 50/60 Hz, 13.5 amps max; 115 VAC at 60 Hz, 11 amps max; 230 VAC at 50 Hz, 5.5 amps max; 1.9 kW max power consumption
<b>Power Requirements RMS</b>	100 VAC at 50/60 Hz, 5.5 amps max; 115 VAC at 60 Hz, 4 amps max; 230 VAC at 50 Hz, 2.4 amps max; 0.55 kW max power consumption
<b>Water Specifications*</b>	<ul style="list-style-type: none"><li>• Pressurized water source for instrument feed &lt;3.8 bar (&lt;55 psi)</li><li>• Instrument feed water system must maintain stable DO<sub>2</sub> content between 5 and 8 ppm†</li><li>• Temperature: &lt;35°C (&lt;95°F)</li><li>• Resistivity: &gt;10 megaohm-cm</li><li>• Bacterial content: &lt;10 colony-forming units/mL</li><li>• System feed water line must not exceed 3 m (12 feet)</li></ul>
<b>Water System</b>	<ul style="list-style-type: none"><li>• Instrument may be supplied with a water purifier that provides instrument feed water</li><li>• If an alternative water system is used, water must adhere to Siemens Healthineers water specifications</li></ul>
<b>Maximum Water Consumption</b>	5.0 L/hr (1.32 gal/hr)
<b>Minimum Drain Requirements</b>	5.0 L/hr (1.32 gal/hr)
<b>Dimensions</b>	208 cm W x 124 cm H x 104 cm D (82 in. W x 49 in. H x 41 in. D) including LOCI module
<b>Weight</b>	496 kg (1095 lb)
<b>Compliance</b>	Complies with international environmental, health, and safety standards, including CE and RoHS
<b>Noise Emission</b>	<75 dB at 1 m while operating
<b>Average Heat Output</b>	1551 W/hr (5293 BTU/hr)
<b>Operating Temperature Range</b>	18–30°C (64–86°F)
<b>Ambient Humidity</b>	20–80% (noncondensing)
<b>Operating Altitude</b>	Maximum 2000 m (6562 feet)
<b>Pollution Classification</b>	Degree 2
<b>Removable Media</b>	USB

\*Meets the definition of CLSI Clinical Laboratory Reagent Water (Clinical Laboratory Standards Institute, C3-A4, Vol. 26, No. 22).

†Not applicable to CLSI Clinical Laboratory Reagent Water (CLRW), but required for proper instrument performance.

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An estimated 5 million patients globally benefit every day from our innovative technologies and services in the areas of diagnostic and therapeutic imaging, laboratory diagnostics, and molecular medicine, as well as digital health and enterprise services.

We are a leading medical technology company with over 120 years of experience and 18,000 patents globally. Through the dedication of more than 50,000 colleagues in 75 countries, we will continue to innovate and shape the future of healthcare.

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