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# Dimension EXL 200 Integrated Chemistry System

Technical Specifications

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# Dimension® EXL™ 200 Integrated Chemistry System

## Product Specifications

<b>System Description</b>	Random-access clinical chemistry and immunoassay system with LOCI® chemiluminescence technology
<b>Test Throughput</b>	Performs up to 440 photometric chemistry tests per hour and 187 IMT tests per hour on serum, plasma, urine, and cerebrospinal fluid; can perform up to 167 heterogeneous immunoassay tests per hour
<b>Time to First Result</b>	IMT (NA, K, CL): 1.5 min; Electrolytes (IMT + ECO2): 2.9 min; BMP-7 (Electrolytes, GLU, BUN, CREA) 4.0 min; CMP-6 (ALB, DBIL, TBIL, AST, ALT, ALP): 9.3 min; TNI: 11 min; HCG: 15.5 min
<b>Assays Onboard</b>	47, including 3 IMT
<b>Disease-state Assay Groups</b>	Anemia, Autoimmune/Rheumatoid, Bone Metabolism, Cardiovascular, Diabetes, Drugs of Abuse/Toxicology, Hepatic Diseases, Immunosuppressive Drugs/TDM, Inflammation, Nephropathies, Nutritional Assessment, Pancreatic Disease, Oncology, Reproductive Endocrinology, Thyroid
<b>Sample Handling</b>	
<b>Sample Tubes</b>	5 mL, 7 mL, 10 mL tubes; 1.5 mL sample cups; 1.0 mL small sample containers and pediatric tubes
<b>Sample Wheel</b>	60 sample positions in six 10-tube segments; positive sample identification
<b>STAT Handling</b>	Not dedicated; STAT samples are processed with priority
<b>Sample Integrity Control</b>	Qualitative check for hemolysis, lipemia, and icterus; clot detection, flagging, and management; short-sample detection, flagging, and management
<b>Auto-Repeat</b>	Automatic repeat testing from the original sample
<b>Sample Volume Per Test</b>	2–60 µL
<b>Sample Dilution</b>	Automatic dilution: 1:1.5 up to 1:200
<b>Auto-Reflex Testing</b>	Automatic reflex testing based on results of first test
<b>Primary Sample Probe</b>	Liquid-level sensing, clot detection, short-sample detection
<b>Sample Carryover Prevention</b>	Automated wash
<b>Sample Throughput</b>	Up to 200 tubes per hour as part of the VersaCell® X3 Solution – Dimension® Suite; faster on automation

## Bar Codes

<b>Sample Bar Codes</b>	Code 39; Code 128; Codabar (USS); Interleaved 2 of 5 w and w/o check digit, 12 digits maximum
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## 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>	The filter wheel holds optical filters for wavelengths of 293, 340, 383, 405, 452, 510, 540, 577, 600, 680, and 700 nm

<b>Light Source</b>	Standard tungsten halogen lamp, operation at 6.5A (6.8v)
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<b>Reaction Times</b>	1, 3, 4, 5, 10, 15, 21, and 32 minutes
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<b>Automatic Correction</b>	Serum blank, cell blank, reagent blank, measurement point change, autodilution
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<b>Assay Technologies</b>	LOCI, heterogeneous immunoassay, PETINIA and ACMIA, photometry, potentiometry (ISE), turbidimetric, and Emit®
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<b>Assay Result Calculations</b>	Endpoint, rate, multipoint
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## Reagent Handling

<b>Reagent Tray</b>	44 positions, refrigerated between 2–8°C (36–47°F)
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<b>Reagent Capacity Onboard</b>	44 Flex® Reagent Cartridges plus 3 electrolytes via the QuikLYTE® IMT
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<b>Dispensing System</b>	2 probes with liquid-level sensing
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<b>Reagent Cartridges</b>	Flex Reagent Cartridges, bar coded, 15 to 360 tests/Flex
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<b>Average Total Reaction Volume</b>	350–500 µL per test
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<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
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<b>Onboard Stability</b>	Depending on assay, up to 42 days
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<b>Test Capacity Onboard</b>	25,200 tests average; 33,300 tests maximum
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## Open-system Capability

<b>Channels</b>	110 assay channels; includes 10 channels for user-defined applications
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## IMT

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

<b>Validated Calibration Interval</b>	Up to 90 days, tracked by software, with 500 most recent calibration logs stored electronically if a system restore is required (starting with software version 10.1)
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<b>Auto-calibration</b>	Assay-specific time interval or with new reagent lot
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<b>Auto-QC</b>	User-defined time interval
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<b>View Calibration</b>	Graphical display of calibration curves
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<b>QC Data</b>	Graphical display of QC plot (histogram or Levey-Jennings) with Westgard Rules; RealTime QC; QCC PowerPak™ efficiency package
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## User Interface/Data Management

<b>Monitor</b>	17-inch diagonal touchscreen with adjustable height
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<b>Operating System</b>	Linux, 1 GB RAM
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<b>System Documentation</b>	Operator manual
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<b>Data Storage</b>	100,000 patient tests (10 MB), 100,000 QC results (10 MB), 9000 calibrations (5 yrs, 18 MB)
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<b>Auto-System Check</b>	User-defined time of day
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<b>Host Interface</b>	RS-232C bidirectional
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<b>Host Query</b>	System requests work order or batch of work orders from host
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<b>Remote Access and Service</b>	Ethernet port for remote access via Siemens Remote Service (starting with software version 10.1); modem for remote diagnostic access
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## Removable Media

<b>Removable Media</b>	CD, DVD, and USB (starting with software version 10.0)
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## General Specifications

<b>Power Requirements System</b>	115 VAC at 60 Hz (nominal); 11 amps max; 1.3 kW consumption in operating state 230 VAC at 50 Hz (nominal); 5.5 amps max; 1.3 kW consumption in operating state
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<b>Water Specifications<sup>1</sup></b>	<ul style="list-style-type: none"> <li>Instrument feed pressurized water source &lt;3.8 bar (&lt;55 psi)</li> <li>Instrument feed water system must maintain stable DO2 content between 5 and 8 ppm<sup>2</sup></li> <li>Temperature: &lt;35°C (&lt;95°F)</li> <li>Resistivity: &gt;10 megohms 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>
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<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 water specifications</li> </ul>
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<b>Maximum Water Consumption</b>	5.0 L/hr (1.32 gal/hr)
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<b>Drain Requirements</b>	40 L/hr (10.6 gal/hr)
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<b>Dimensions</b>	Normal operation: 187 cm W x 122 cm H x 132 cm D (74 in W x 48 in H x 52 in D) With monitor fully extended, lids fully open, and external UPS: 190 cm W x 191 cm H x 155 cm D (75 in. W x 75 in. H x 61 in. D)
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<b>Weight</b>	349 kg (770 lb)
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<b>Compliance</b>	Complies with international environmental, health, and safety standards
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<b>Noise Emission</b>	<75 dB at 1 m while operating
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<b>Average Heat Output</b>	1,100 W/hr (3753 BTU/hr)
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<b>Operating Temperature Range</b>	18–30°C (64–86°F)
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<b>Ambient Humidity</b>	20–80% (noncondensing)
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## References:

- 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.