SIEMENS

Meet expanding needs with a proven, integrated system.

The Dimension EXL family of systems offers you a choice of solutions with our patented LOCI technology inside.

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Answers for life.

Versatile, Fast, Accurate, and Easy-to-use—the Dimension EXL Family of Integrated Systems

Dimension EXL Integrated Chemistry Systems can be found in laboratories running 50,000 tests per year and supporting high-volume Siemens automation solutions in laboratories running millions more.

Dimension EXL with LM Integrated Chemistry System

Dimension EXL 200 Integrated Chemistry System

The Multifaceted Dimension EXL Family of Integrated Systems

Siemens Healthcare Diagnostics was the first to integrate chemistry and immunoassay testing on a single platform, and has increased immunoassay efficiency on the Dimension® EXL™ family of systems with our patented LOCI® advanced chemiluminescent technology. This technology processes immunoassay tests more quickly, while increasing the reliability and sensitivity of test results.

"The Dimension EXL system with the LOCI module helps us contribute to better patient care because it's faster and it's more accurate," says Donna Hartsell, Section Head of Chemistry at Caldwell Memorial Hospital in Lenoir, North Carolina. "I feel very confident about the results that we send out. I trust the instrument explicitly."

The Dimension EXL family of systems can be found in thousands of low-volume, mid-volume and STAT laboratories worldwide. Dimension EXL systems are also used in satellite laboratories partnered with a Siemens automation solution in the core laboratory.

The Dimension EXL family of integrated systems reduces process pre-analytics associated with splitting sample tubes in order to run samples concurrently on dedicated stand-alone chemistry and immunoassay systems. Dimension EXL systems also feature a comprehensive menu that covers the majority of critical laboratory assays and simultaneous processing capabilities with:

• One sample area

• A common reagent area

• Common reagent packaging

"The Dimension EXL system performed great," says Tim Schroeder, Laboratory Manager at Marengo Memorial Hospital in Marengo, Iowa. "This is a 21st century instrument that will allow us to expand our test menu and outreach services."

Implement LOCI Technology—
Only from Siemens

LOCI® advanced chemiluminescent technology, featured on the Dimension EXL family of systems, combines small sample sizes, high-performance assays, and just three processing steps to quickly deliver patient results.

- **Improved Assay Performance**
  LOCI advanced chemiluminescent technology is the first and only homogeneous chemiluminescent immunoassay technology with direct measurement available on a commercial automated system. This patented technology provides rapid turnaround times (TATs) with excellent reliability and reproducibility.

- **Reduced Process Steps**
  The unique oxygen channeling technology of LOCI streamlines the process of running an assay into three simple steps: mix, incubate, and read. This eliminates extra steps of separating, washing, and adding amplification reagents that are necessary with standard heterogeneous immunoassays.

- **Reliable Results with Low-sample Volumes**
  LOCI methods use low sample volumes (all analyte tests can be performed with just 8 to 20 μL of sample) because of the sensitivity of the technology and elimination of washing/ separation steps. Low sample volumes reduce the risk of nonspecific binding (NSB). This, along with method-specific NSB-suppressing agents, increases the reliability of LOCI test results.
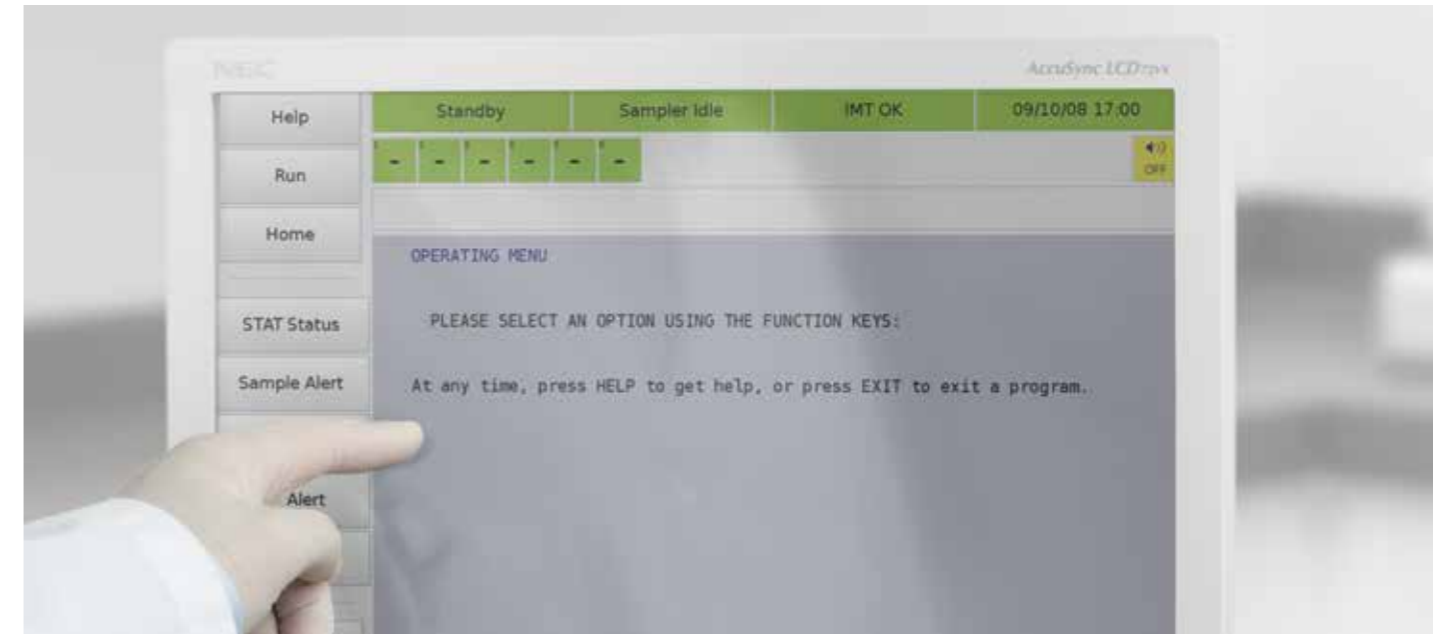
- **Rapid TAT with LOCI Cardiac Troponin I (TNI) Assay**
  The TNI assay on the Dimension EXL family of integrated systems meets the standard of performance for accurate

and rapid results required for timely diagnosis of acute myocardial infarction (AMI). It allows for early detection by meeting the guidelines criterion of ≤10% CV at the 99th percentile population, supports the rapid triage of chest-pain patients, and improves acute-care workflow between serial measurements (6h reduced to 3h protocols) with an 11-minute time to first result, utilizing either a plasma or a serum sample.
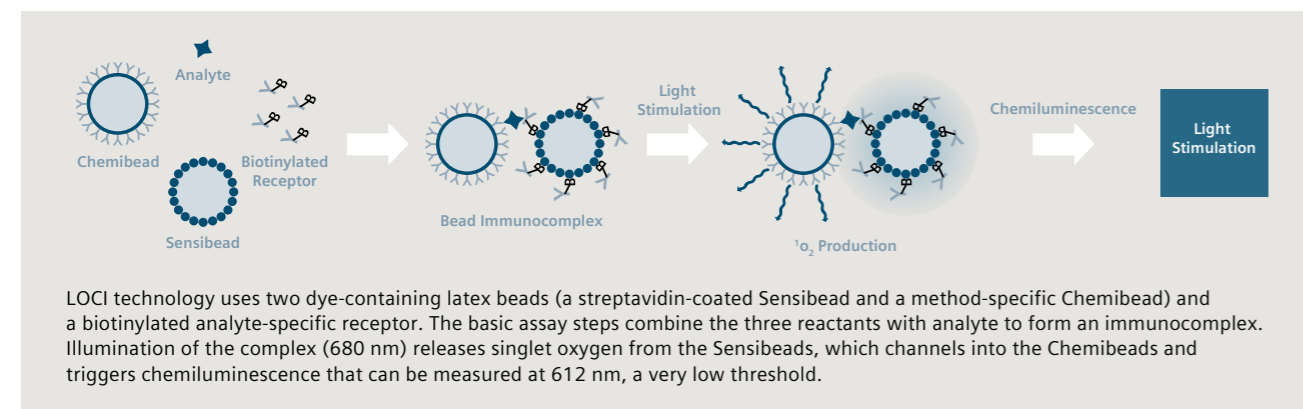

TNI Functional Sensitivity
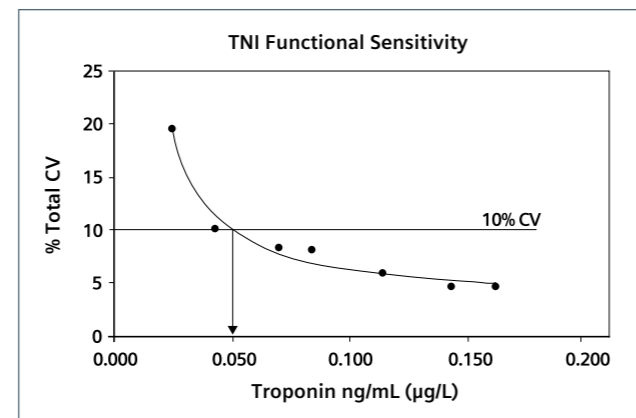
The Joint European Society of Cardiology/American College of Cardiology Committee recommends an imprecision level (coefficient of variation, CV) for troponin assays of ≤10% at the 99th percentile of normal.

How LOCI chemiluminescent technology works:

LOCI technology uses two dye-containing latex beads (a streptavidin-coated Sensibead and a method-specific Chemibead) and a biotinylated analyte-specific receptor. The basic assay steps combine the three reactants with analyte to form an immunocomplex. Illumination of the complex (680 nm) releases singlet oxygen from the Sensibeads, which channels into the Chemibeads and triggers chemiluminescence that can be measured at 612 nm, a very low threshold.

"The advent of LOCI technology has enabled a breakthrough in the measurable levels of functional sensitivity and precision of various assays, specifically the cardiac tests such as troponin I, where sensitivity at the 99th percentile of the reference control population is crucial. Siemens has hit a home run with these assays."

Robert H. Christenson, PhD, DABCC, FACB
Professor of Pathology, University of Maryland School of Medicine

Deliver Fully Integrated Chemistry and Immunoassay Testing from Your Laboratory

Which Dimension EXL system is right for your laboratory?

Siemens has the right solution for your laboratory. With the Dimension EXL family of systems, you can increase your efficiency and productivity while taking advantage of the latest technology in an integrated system. Both the Dimension EXL with LM Integrated Chemistry System and the Dimension EXL 200 Integrated Chemistry System offer:

• Continuous loading

  – No need to pause the systems to load samples, reagents or consumables

• Ready-to-use operation

  – No reagent preparation with Flex® cartridges
  – No manual pretreatment of whole-blood samples
  – No cuvette carryover with disposable reaction cuvettes

• Workflow excellence

  – Validated calibration of up to 90 days
  – Automated onboard calibration for IMT
  – Low daily, weekly, and monthly maintenance

• Universal STAT positions

Throughput

Samples per hour (up to)	200*
Photometric tests per hour (up to)	440
IMT tests per hour (up to)	187
HM tests per hour (up to)	167

*On the VersaCell X3 Solution/Dimension Suite.

Completing the integration of technologies on the Dimension EXL Integrated Chemistry Systems are:

• Heterogeneous immunoassay menu, including immunosuppressive, oncology, and reproductive endocrinology

• QuikLYTE® IMT for Na, K, and Cl results in 58 seconds

• Flexible photometry: routine and specialty chemistry tests, therapeutic drug monitoring, and drugs-of-abuse and toxicology testing with Syva® Emit® reagents

Choose the right system for your laboratory based on reagent capacity and footprint

	Dimension EXL with LM System	Dimension EXL 200 System
Reagent capacity	88 Flex + 3 IMT = 91	44 Flex + 3 IMT = 47
Footprint	2.2 sq m (23.3 sq ft)	1.5 sq m (16.2 sq ft)

Discover How High-level Productivity Can Improve Your Laboratory Today

Siemens provides customers with the technical expertise and guidance they need 24 hours a day, 7 days a week.

Dimension Suite provides one-touch sample management and STAT prioritization for an extensive mix of analytics.

CentraLink Data Management System delivers quality laboratory results faster for better patient care.

Work with Siemens as Your Trusted Partner

Working closely with laboratorians, clinicians, and hospital administrators, Siemens Healthcare Diagnostics creates innovative solutions that transform diagnostics by enhancing operational efficiencies and helping to improve patient care. Committed to being your single source for diagnostic instruments, service, and support, Siemens offers a Personalized Education Program (PEP) to help your staff maximize their productivity. Siemens representatives will give your laboratory dedicated technical support online or in person, wherever and whenever service is needed. You can be confident in the workflow resources Siemens offers to enhance the operations of your laboratory.

"Service and support from Siemens is excellent. It always has been," says Hartsell. "The call center gets back to us within 30 minutes and 9 out of 10 times, the service rep does too."

Siemens Remote Service for Diagnostics (SRS), part of the Siemens Customer Care program, is a real-time remote service that connects your instruments with continuous access to global technical support from Siemens. Delivered through a secure network, SRS increases system uptime and efficiency by identifying issues early, resolving them remotely, and expediting on-site repair if required.

VersaCell X3 Solution/Dimension Suite and IT Solutions Available from Siemens

The VersaCell® X3 Solution/Dimension Suite delivers extensive menu coverage, excellent STAT priority management, and automation benefits that improve workflow to sustain a high level of productivity in the mid-volume laboratory.

CentraLink™ Data Management System, an integral part of Siemens' proven laboratory solutions, empowers labs to efficiently deliver timely, accurate results by customizing and streamlining workflows across automation, analyzers, and IT.

Let's get started!

Select from the Dimension EXL family of systems for the next level of proven chemistry and immunoassay integration on a single platform. Get rapid, accurate immunoassay results with the sensitivity and speed of LOCI technology.

Visit www.siemens.com/diagnostics to learn more about the Dimension EXL systems and LOCI advanced chemiluminescent technology.

NAME OF PRODUCT	Dimension ExL200 Integrated Chemistry System
Name	Dimension ExL200
SMN	10636928
AKL	AKL 20102022921
Date of Expiry	
BRAND / MANUFACTURER	Siemens Healthcare Diagnostics Inc.
MODEL / TYPE	ExL200
COUNTRY OF ORIGIN	US
FACTORY OF ORIGIN	US
OUTSOURCE EXTERNAL MANUFACTURE (OEM)	
PRODUCT'S REGISTRATION (AKL/AKD)	AKL 20102022921
PRODUCT'S CERTIFICATION	
FDA Clearance	Yes
CE Mark (MDD)	Yes
Certificate	TUV IEC 61010 Certificate
Certificate	ISO 13485:2003
WHERE MARKETED	Australia, Brazil, Canada, Costa Rica, Egypt EU Member States (including Germany, France, Spain, etc.), Guatemala, Indonesia, Japan, Mexico, Panama, Russia, Singapore, Taiwan, Thailand, Turkey, USA, Vietnam
Product Specifications	
System Description	Random-access clinical chemistry and immunoassay system with LOCI® chemiluminescence technology
Test Throughput	Up to 440 photometric tests, 187 IMT tests and 167 immunoassay tests per hour
Assay Time (From Aspiration to Result)	IMT (Na, K, Cl) <1 min; BMP (Na, K, Cl, CO2, GLU, BUN, CREA) 4 min; TNIH 10 min; HCG 14 min
Assays Onboard	47, including 3 QuikLYTE® IMT
Sample Handling	
Validated Sample Types	Serum, plasma, urine, cerebrospinal fluid, whole blood (varies by assay)
Sample Tubes	5 mL, 7 mL, 10 mL tubes; 1.5 mL sample cups; 1 mL small sample containers; pediatric tubes
Sample Bar Codes	Code 39; Code 128; Codabar (USS); Interleaved 2 of 5 with or without check digit, 12 digits maximum
Sample Wheel	60 sample positions in six 10-tube segments; positive sample identification
STAT Handling	No dedicated positions; STAT samples are processed with priority
Sample Integrity Control	Liquid-level sensing; clot, bubble and short-sample detection and management; hemolysis, icterus,and lipemia checks
Auto-Repeat	Automatic repeat testing from the original sample
Sample Volume Per Test	2–60 μL (varies by assay)
Sample Dilution	Automatic dilution: 1:1.5 up to 1:200
Auto-Reflex Testing	Will automatically perform additional tests based on results of first test
Sample Carryover Prevention	Automated wash protocols and single-use cuvettes help minimize carryover
Reaction Area	
Reaction Cuvettes	Onboard capacity of 12,000 formed cuvettes
Reaction Bath	Air; incubation temperature 37°C
Path Length	0.5 cm ±0.0125 cm
Photometer	Optical filter wheel provides wavelengths of 293, 340, 383, 405, 452, 510, 540, 577, 600, and 700 nm
Light Source	Standard tungsten halogen lamp, operation at 6.5A (6.8v)
Reaction Times	1-32 minutes (varies by assay)
Automatic Correction	Serum blank, cell blank, reagent blank, measurement point change, autodilution
Assay Technologies	LOCI, heterogeneous immunoassay, PETINIA and ACMIA, photometry, potentiometry (IMT), turbidimetric, and Emit®
Assay Result Calculations	Endpoint, rate, multipoint
Reagent Handling	
Reagent Compartment	44 positions, refrigerated between 2–8°C (36–47°F)
Reagent Capacity Onboard	
Dispensing System	2 probes with liquid-level sensing
Reagent Cartridges	Flex® Reagent Cartridges, bar coded, 15 to 360 tests/Flex (varies by assay)
Average Total Reaction Volume	350–500 μL per test (varies by assay)
Reagent Integrity Control	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
Onboard Stability	Up to 42 days (varies by assay)
Test Capacity Onboard	25,200 tests average; 33,300 tests maximum
Open-system Capability	110 assay channels; includes 15 open channels for user-defined applications
Integrated Multisensor Technology (IMT) for Na+, K+, Cl-	
QuikLYTE IMT	Indirect simultaneous measurement of Na+, K+, Cl-
Sample Volume	40 μL for all three tests
Automated Operation	Automatic priming cycle, no user calibration, automatic urine dilution 1:10
Cartridge Expected Use Life	1000 samples or 5 days, whichever comes first
Calibration/QC	
Validated Calibration Interval	Up to 90 days, tracked by software
Auto-calibration	Assay-specific time interval or with new reagent lot
Calibration Review	Graphical display of calibration curves

QC Review	Graphical display of QC plot (histogram or Levey-Jennings) with Westgard Rules; RealTime QC; QCC PowerPak™ efficiency package
User Interface/Data Management	
Monitor	17-inch touchscreen with adjustable height
Operating System	LINUX, 1 GB RAM
System Documentation	Operator manual, Quick Guide, and Online Help
Data Storage	120,000 patient tests (20 MB); 120,000 QC results (20 MB); 9000 calibrations (5 years, 18 MB)
Auto-System Check	User-defined time of day
Host Interface	RS-232C bidirectional
Host Query	System requests work order or batch of work orders from hos
Remote Access and Service	Dimension Remote Services and Smart Remote Services via 1000BASE-T Ethernet port
General Specifications	
Power Requirements System	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 consumptio
Water Specifications*	• Instrument feed pressurized water source <3.8 bar (<55 psi) • Instrument feed water system must maintain stable DO2 content between 5 and 8 ppm† • Temperature: <35°C (<95°F) • Resistivity: >10 megohms cm • Bacterial content: <10 colony forming units/mL • System feed water line must not exceed 3 m (12 feet)
Water System	• Instrument may be supplied with a water purifier that provides instrument feed water • If an alternative water system is used, water must adhere to Siemens water specifications
Maximum Water Consumption	5.0 L/hr (1.32 gal/hr)
Minimum Drain Requirements	5.0 L/hr (1.32 gal/hr)
Dimensions	143 cm W x 124 cm H x 104 cm D including LOCI module
Weight	358 kg
Compliance	Complies with international environmental, health, and safety standards including CE and RoHS
Noise Emission	<75 dB at 1 m while operating
Average Heat Output	1,100 W/hr (3753 BTU/hr)
Operating Temperature Range	18–30ºC
Ambient Humidity	20–80% (noncondensing)
Operating Altitude	Maximum 2000 m (6562 feet)
Pollution Classification	Degree 2
Removable Media	USB