

Dimension EXL 200

Integrated Chemistry System

Technical Specifications

Overview

The Dimension® EXL™ 200 Integrated Chemistry System offers revolutionary chemiluminescent technology and automated, productivity-enhancing features that assure unparalleled performance for the smaller-sized laboratory.

Throughput Rate	624 tests/hour: 437 tests/hour photometric, 187 tests/hour ISE 167 immunoassay tests/hour
Methods Capacity Onboard	47 including 3 ISE
Sample Handling	
Sample Tubes	5 mL, 7 mL, 10 mL tubes, 1.5 and 1.0 mL sample cups, pediatric tubes
Sample Area	60 samples in 6 x 10 tube segments, positive sample identification
Sample Integrity Check	Qualitative check for hemolysis, lipemia, and icterus
STAT Sample Loading	60, not dedicated
Bar Codes	39, Code 128, Codabar (USS) Interleaved 2 of 5 w and w/o check digit
Auto-Repeat	Automatic repeat testing from the original sample
Auto-Dilution	Automatic dilution from original sample
Auto-Reflex Testing	Automatic ability based on results of first test
Primary Probe	Liquid level sensing, clot check, short sample detection

Microvolume Technology

Method-Specific Autodilute Capability	1 – 1.6 up to 1 – 200, automatic urine dilutions
Original Sample Volume	2 – 60 mL
Average Reagent Volume	80 – 120 µL per test
Storage Capacity Onboard	12,600 tests average; 16,650 tests maximum

Reaction Area

Reaction Tray	12,000 cuvettes formed onboard
Path Length	$D1+T3 - [E1+T1+T2] = 0.5 \text{ cm} \pm 0.0125 \text{ cm}$
Photometer	The filter wheel holds the optical filters (293 nm – 700 nm) 293 nm, 340 nm, 383 nm, 405 nm, 452 nm, 510 nm, 540 nm, 577 nm, 600 nm, 700 nm
Light Source	Standard tungsten halogen lamp, operation at 6.5A (6.8v) lamp current provides >1uA of zero absorbance measurement current at any wavelength except 293 nm
Assay Methods	Endpoint, rate, multipoint, homogeneous immunoassay, turbidometric, LOCI
Reaction Times	3, 4, 5, 10, 15, and 21 minutes
Automatic Correction	Serum blank, cell blank, reagent blank, measurement point change, autodilution

Reagent Handling

Reagent Tray	1 tray, 44 positions
Reagent Capacity Onboard	44 Flex® Reagent Cartridges plus 3 electrolytes via the QuikLYTE® IMT
Dispensing System	2 probes with liquid level sensing
Reagent Wedges	Flex® Reagent Cartridges, bar coded, 15 to 240 tests/flex
Reagent Inventory Management	Tracks tests remaining, lot number, onboard stability, and expiration date
Onboard Stability	Up to 30 days

Dimension EXL 200 Integrated Chemistry System

Answers for life.

SIEMENS

Dimension EXL 200 Integrated Chemistry System

Open System Capability

Channels	10 channels, includes user-defined applications
Buyer Third-Party Applications	Varies by country, can be configured on system

ISE

ISE	Indirect simultaneous measurement of Na ⁺ , K ⁺ , Cl ⁻
Sample Volume	40 µL for all three tests
Priming	Automatic priming cycle, no user calibration, automatic urine dilution 1:10
Electrode Shelf Life	1,000 samples or 5 days
Throughput Rate	187 tests/hour; 62 tubes/hour

Calibration/QC

Calibration Interval	Up to 90 days, tracked by software
Auto-Calibration/Auto-QC	User-defined time interval or with new reagent container
View Calibration/QC Data	Graphical display of calibration curves and QC; RealTime QC

Data Management

Operating Computer	Linux Operating System, 1 GB RAM, touch screen monitor 17"
System Documentation	Operator manual and method sheets online
Host Interface	RS 232C bidirectional
Data Storage	100,000 patient tests (10 MB), 100,000 QC results (10 MB), 9,000 Calibrations (5 yrs, 18 MB)
Host Query	ASCII; system requests work order or batch of work orders from host

General Specifications

Water Requirements	- Instrument is supplied with a water purifier that provides instrument feed water - Instrument feed water system must maintain stable d02 content between 5 and 8 ppm - Consumption 1.32 gal/hr (5.0L/hr) at maximum throughput - Temperature: <35°C - Resistivity: >10 megohms cm - Bacterial content: <10 colony forming units/mL - System feed water line must not exceed 12 feet - Water system may or may not be a part of the sale. Customer may purchase their own water system. If the customer purchases the Millipore system, they must adhere to Siemens water specifications.
Drain Requirements	Maximum of 10.6 gallons (40 liters) per hour
Dimensions	56" W x 49" H x 41" D (without monitor)
Weight	770 lbs (349 kg)
Noise Specifications	<75 dBA at 1 m while operating
Average Heat Output	3,753 BTU/hr
Operating Temperature Range	64° – 86°F (18° – 30°C)

Power Requirements	
	Dimension EXL 200 System
Nominal Line Voltage vac	115
	230
Line Voltage Range vac	103 to 127
	207 to 253
Nominal Line Frequency Hz	47 to 63
	47 to 63
Maximum Continuous Current, AMPS	~11
	~5.5
Power Consumption WATTS	1265
	1265

Dimension, EXL, Flex, LOCI, QuikLYTE, and all associated marks are trademarks of Siemens Healthcare Diagnostics Inc. All other trademarks and brands are the property of their respective owners. Product availability may vary from country to country and is subject to varying regulatory requirements. Please contact your local representative for availability.

Global Siemens Headquarters

Siemens AG
Wittelsbacherplatz 2
80333 Muenchen
Germany

Global Siemens Healthcare Headquarters

Siemens AG
Healthcare Sector
Henkestrasse 127
91052 Erlangen, Germany
Phone: +49 9131 84 - 0
www.siemens.com/healthcare

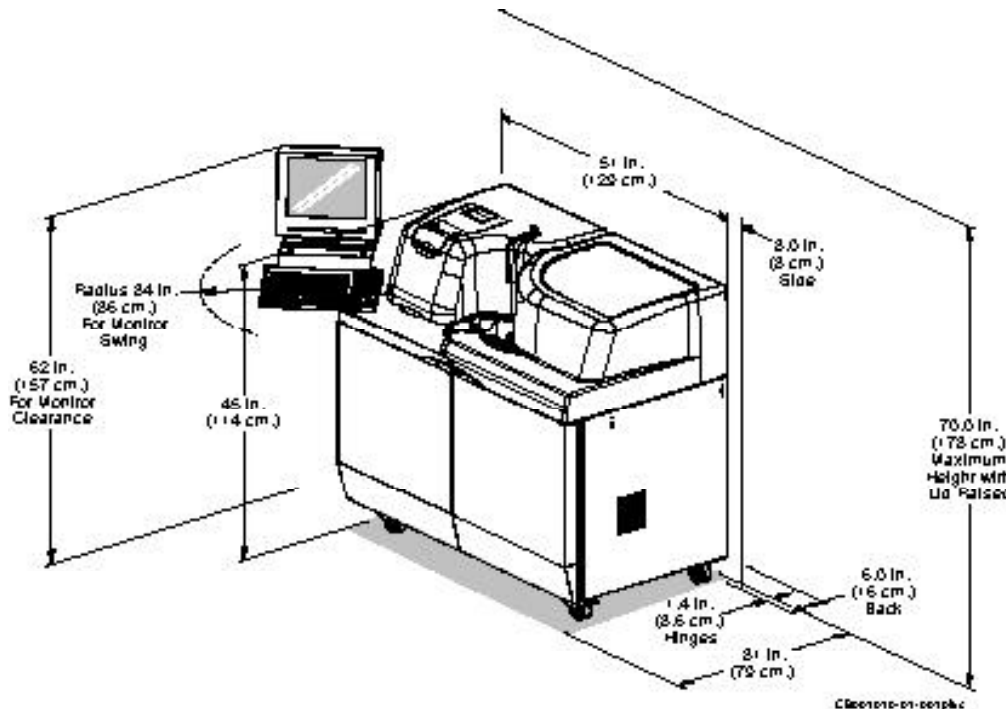
Global Division

Siemens Healthcare Diagnostics Inc.
511 Benedict Avenue
Tarrytown, NY 10591-5005
USA
www.siemens.com/diagnostics

www.siemens.com/diagnostics

Dimension® Xpand® Plus Instrument Specifications

Effective: November 2008



Instrument Weight and Dimensions

Weight

765 lb (348 kg) Basic

783 lb (356 kg) with Heterogeneous Immunoassay (HM) Module

Dimensions

51 in. wide x 45 in. high (without monitor) x 31 in. deep
(129 cm w x 114 cm h x 79 cm d)

Additional Instrument Clearances (Minimum)

- Monitor overhead clearance—62 in. (157 cm)
- Monitor left side clearance—34 in. (86 cm)
- Raised instrument lids clearance—70 in. (178 cm)
- Cooling fan clearance on right side—3 in. (8 cm)
- Ventilation clearance in back—6 in. (16 cm)
- Doorway opening for installation—32 in. (81 cm)

Notes: No leveling required; however, the two front casters should be locked during system operation.

A 360° access is needed for service. Installation and service require at least 36 in. (91 cm) of working space on each side. Access to the back of the instrument requires moving it forward.

Room Environment

Operating Temperature

Room temperature must be 65–85°F (17–30°C) with a maximum fluctuation of 5°F (2.8°C) per hour. The system requires a maximum of 120 minutes to warm up from a cold start to the incubation temperature.

Relative Humidity

Maintain between 20% and 80%

Average Thermal Output

3753 BTU/hr (1100 W)

Average Noise Output

<70 dBA at 1 m while operating

Water Requirements

- Instrument feed water: must maintain stable dO2 content between 5 and 8 ppm
- Consumption 0.53 gal/hr (2.0 L/hr) at maximum throughput
- Temperature: < 35°C
- Resistivity: ≥ 10 megohms cm
- Bacterial content: ≤ 10 colony-forming units/mL
- System feed water line must not exceed 12 feet
- System is supplied with water system

Waste Requirements

Liquid Waste Output

0.53 gal/hr (2.0 L/hr) at maximum throughput

A 50-ft (15.2-m) tubing is supplied for external waste disposal. Maintenance of the waste tubing from the instrument to the disposal point is the responsibility of the user. The disposal point should be selected in accordance with local hazardous waste guidelines.

Electrical Installation Requirements

Current/Operating Power Requirements

	Nominal Line Voltage vac	Line Voltage range vac	Nominal Line Frequency Hz	Maximum Continuous Current, AMPS	Power Consumption WATTS
Xpand® Plus system	115	103 to 127	47 to 63	~10	1150
	230	207 to 253	47 to 63	~5.0	1150
Xpand® Plus system with HM	115	103 to 127	47 to 63	~11	1265
	230	207 to 253	47 to 63	~5.5	1265

Recommended Service Outlet

115 vac, 60Hz, Single Phase, 20A (North America)
230 vac, 50Hz, Single Phase, 16A (EU)*
*230 VAC/13A for U.K.

Transient Overvoltage

Installation Category II (branch circuit)

Wire Size (North America only)

10 AWG wire is required to minimize voltage drop between the distribution panel and the receptacle when the instrument operates at full current load.

Circuit

The instrument must have a separate, dedicated line with Hot, Neutral, and Isolated Ground in its own conduit. The conduit should start at the distribution panel and be continuous to the receptacle. Three-wire distribution to the receptacle is required for each instrument. The third (green) ground wire should start at the distribution panel and be continuous to the receptacle in accordance with NEC paragraph 250.146(d) unless local codes prohibit. The ground wire should not be tied grounds from other loads.

Receptacle

Customer must provide a Hospital Grade receptacle, installed by a qualified electrician before arrival of the instrument. The receptacle must be accessible to the 9-ft (2.7-m) power cord furnished with the instrument. The U. S. A. requires NEMA #5-20R 20 amp straight blade receptacle (Hubbell receptacle No. IG-8310 or equivalent).

Electromagnetic Radiation

Do not locate the instrument within 50 ft (15 m) in any direction of an electromagnetic radiation source such as diathermy apparatus.

Leakage Current

	115 vac/60 Hz	230 vac/50 Hz
Normal Supply Connections	Under 10 μ A	Under 100 μ A
Ground Disconnected	Under 70 μ A	Under 150 μ A
Measurement Standard	UL3101-1	EN61010-1

This complies with the requirement of UL 3101-1, CSA C22.2 #1010.1 and TUVS Certification for EN61010-1 safety standards for laboratory equipment in non-patient-vicinity laboratory equipment.

Phone Line Requirement

A dedicated phone line connected to the Dimension® Xpand® Plus system is required for installation.

- Dedicated, direct line connected only to the Dimension® Xpand® Plus system (not through a switchboard)
- Full duplex, capable of two-way transmission
- Standard phone connection (not digital)
- RJ11C or RJ11W phone jack

Host Interfacing

A 25-pin female connector is required for hookup to the male connector used for host communications port.

Installation

The Dimension® Xpand® Plus clinical chemistry system will be installed by a qualified representative of Siemens Healthcare Diagnostics Inc. The installation will include checkout of all aspects necessary to ensure the equipment is fully operational.

Preventive Maintenance Frequency

Four Siemens service preventive maintenance visits per year for the Dimension® Xpand® Plus system with HM.

Three Siemens service preventive maintenance visits per year for the Dimension® Xpand® Plus system without HM.

Code Compliance

Safety Compliance

The Dimension® Xpand® Plus system has been designed and tested to comply with safety standards UL3101-1, CSA C22.2 #1010.1 and EN61010-1 under the following environmental conditions [subclause 1.4]:

Temperature	5°C (41°F) to 40°C (104°F)
Humidity	Maximum 80% at 31°C to 50% at 40°C
Altitude	Maximum 2,000 m (6,562 ft)
Main Supply	115±10% vac or 230±10% vac, 50/60Hz
Overvoltage Category	Category II, connected to a branch circuit
Pollution degree	Degree 2, normal indoor laboratory environment. Air contains only non-conductive pollutants with occasional condensation.

Additional *functional* environmental conditions are discussed earlier in this document.

Emission Compliance

The Dimension® Xpand® Plus system has been designed and tested to EN55022 Class A. In a domestic environment it may cause radio interference, in which case you may need to take measures to mitigate the interference.

The Dimension® Xpand® Plus system should not be used next to any Industrial Scientific and Medical (ISM) equipment that must functionally produce RF energy (e. g., diathermy equipment).

Barcode Scanner

The barcode scanner uses Class I LEDs (light-emitting diodes) and is not hazardous to your eyes.

Dimension EXL 200

Integrated Chemistry System

Technical Specifications

Overview

The Dimension® EXL™ 200 Integrated Chemistry System offers revolutionary chemiluminescent technology and automated, productivity-enhancing features that assure unparalleled performance for the smaller-sized laboratory.

Throughput Rate	624 tests/hour: 437 tests/hour photometric, 187 tests/hour ISE 167 immunoassay tests/hour
Methods Capacity Onboard	47 including 3 ISE
Sample Handling	
Sample Tubes	5 mL, 7 mL, 10 mL tubes, 1.5 and 1.0 mL sample cups, pediatric tubes
Sample Area	60 samples in 6 x 10 tube segments, positive sample identification
Sample Integrity Check	Qualitative check for hemolysis, lipemia, and icterus
STAT Sample Loading	60, not dedicated
Bar Codes	39, Code 128, Codabar (USS) Interleaved 2 of 5 w and w/o check digit
Auto-Repeat	Automatic repeat testing from the original sample
Auto-Dilution	Automatic dilution from original sample
Auto-Reflex Testing	Automatic ability based on results of first test
Primary Probe	Liquid level sensing, clot check, short sample detection
Microvolume Technology	
Method-Specific Autodilute Capability	1 – 1.6 up to 1 – 200, automatic urine dilutions
Original Sample Volume	2 – 60 mL
Average Reagent Volume	80 – 120 µL per test
Storage Capacity Onboard	12,600 tests average; 16,650 tests maximum
Reaction Area	
Reaction Tray	12,000 cuvettes formed onboard
Path Length	$D1+T3 - [E1+T1+T2] = 0.5 \text{ cm} \pm 0.0125 \text{ cm}$
Photometer	The filter wheel holds the optical filters (293 nm – 700 nm) 293 nm, 340 nm, 383 nm, 405 nm, 452 nm, 510 nm, 540 nm, 577 nm, 600 nm, 700 nm
Light Source	Standard tungsten halogen lamp, operation at 6.5A (6.8v) lamp current provides >1uA of zero absorbance measurement current at any wavelength except 293 nm
Assay Methods	Endpoint, rate, multipoint, homogeneous immunoassay, turbidometric, LOCI
Reaction Times	3, 4, 5, 10, 15, and 21 minutes
Automatic Correction	Serum blank, cell blank, reagent blank, measurement point change, autodilution
Reagent Handling	
Reagent Tray	1 tray, 44 positions
Reagent Capacity Onboard	44 Flex® Reagent Cartridges plus 3 electrolytes via the QuikLYTE® IMT
Dispensing System	2 probes with liquid level sensing
Reagent Wedges	Flex® Reagent Cartridges, bar coded, 15 to 240 tests/flex
Reagent Inventory Management	Tracks tests remaining, lot number, onboard stability, and expiration date
Onboard Stability	Up to 30 days

Dimension EXL 200 Integrated Chemistry System

Answers for life.

SIEMENS

Dimension EXL 200 Integrated Chemistry System

Open System Capability

Channels	10 channels, includes user-defined applications
Buyer Third-Party Applications	Varies by country, can be configured on system

ISE

ISE	Indirect simultaneous measurement of Na ⁺ , K ⁺ , Cl ⁻
Sample Volume	40 µL for all three tests
Priming	Automatic priming cycle, no user calibration, automatic urine dilution 1:10
Electrode Shelf Life	1,000 samples or 5 days
Throughput Rate	187 tests/hour; 62 tubes/hour

Calibration/QC

Calibration Interval	Up to 90 days, tracked by software
Auto-Calibration/Auto-QC	User-defined time interval or with new reagent container
View Calibration/QC Data	Graphical display of calibration curves and QC; RealTime QC

Data Management

Operating Computer	Linux Operating System, 1 GB RAM, touch screen monitor 17"
System Documentation	Operator manual and method sheets online
Host Interface	RS 232C bidirectional
Data Storage	100,000 patient tests (10 MB), 100,000 QC results (10 MB), 9,000 Calibrations (5 yrs, 18 MB)
Host Query	ASCII; system requests work order or batch of work orders from host

General Specifications

Water Requirements	- Instrument is supplied with a water purifier that provides instrument feed water - Instrument feed water system must maintain stable d02 content between 5 and 8 ppm - Consumption 1.32 gal/hr (5.0L/hr) at maximum throughput - Temperature: <35°C - Resistivity: >10 megohms cm - Bacterial content: <10 colony forming units/mL - System feed water line must not exceed 12 feet - Water system may or may not be a part of the sale. Customer may purchase their own water system. If the customer purchases the Millipore system, they must adhere to Siemens water specifications.
Drain Requirements	Maximum of 10.6 gallons (40 liters) per hour
Dimensions	56" W x 49" H x 41" D (without monitor)
Weight	770 lbs (349 kg)
Noise Specifications	<75 dBA at 1 m while operating
Average Heat Output	3,753 BTU/hr
Operating Temperature Range	64° – 86°F (18° – 30°C)

Power Requirements	
	Dimension EXL 200 System
Nominal Line Voltage vac	115
	230
Line Voltage Range vac	103 to 127
	207 to 253
Nominal Line Frequency Hz	47 to 63
	47 to 63
Maximum Continuous Current, AMPS	~11
	~5.5
Power Consumption WATTS	1265
	1265

Dimension, EXL, Flex, LOCI, QuikLYTE, and all associated marks are trademarks of Siemens Healthcare Diagnostics Inc. All other trademarks and brands are the property of their respective owners. Product availability may vary from country to country and is subject to varying regulatory requirements. Please contact your local representative for availability.

Global Siemens Headquarters

Siemens AG
Wittelsbacherplatz 2
80333 Muenchen
Germany

Global Siemens Healthcare Headquarters

Siemens AG
Healthcare Sector
Henkestrasse 127
91052 Erlangen, Germany
Phone: +49 9131 84 - 0
www.siemens.com/healthcare

Global Division

Siemens Healthcare Diagnostics Inc.
511 Benedict Avenue
Tarrytown, NY 10591-5005
USA
www.siemens.com/diagnostics

www.siemens.com/diagnostics