CS-2500 System

↗ **siemens-healthineers.us**

Advance with Confidence

The CS-2500 System leverages PSI™ technology with primary-tube sample-volume checks and double aspiration clog detection to identify and automatically manage potentially problematic test samples prior to analysis, minimizing repeat testing. Designed for labs that run fewer than 300 hemostasis samples per day, the CS-2500 System provides lab-to-lab consistency for multisite patient monitoring, with sample result traceability for in-depth audit capabilties and sophisticated cap-piercing technology for dependable throughput under all conditions. With low maintenance, onboard consolidation of a variety of test methods, and flexible reagent management, the CS-2500 System is an affordable and efficient solution for your lab.

Reagent Test Menu

PT	Dade® Innovin,® Thromborel® S
APTT	Dade Actin FS,® Dade Actin FSL
Fibrinogen	Dade Thrombin
Thrombin time	Test Thrombin
Batroxobin time	Batroxobin
Factor deficiency	Factor II, V, VII, VIII, IX, X, XI, XII
Lupus anticoagulant	LA1 screening, LA2 confirmation
Protein C pathway	Protein C, F V Leiden, INNOVANCE® Free Protein S
Anti-Xa	INNOVANCE Anti-Xa, INNOVANCE Apixaban
Antithrombin III	INNOVANCE Antithrombin
D-dimer	INNOVANCE D-Dimer
Von Willebrand factor	INNOVANCE VWF Ac, INNOVANCE VWF Ag
Chromogenic	Berichrom® Factor VIII Chromogenic, Berichrom α2-Antiplasmin, Berichrom Plasminogen, Berichrom Protein C

SIEMENS Healthineers

CS-2500

System Specifications

Measurement

Principle	Photo-optical based on change in the transmitted light emitted from the sample with added reagent
Method/channels	Clotting (10 single channels); chromogenic, immunoassay, and aggregation methods†
Measurement channels	10 wells (mixing function using stir bars, possible for 4 wells)
Source lamp	Halogen lamp for measurements at 340, 405, 575, 660, and 800 nm wavelengths
Analysis mode	Normal and microsample modes
Analysis method	Dilution analysis; automatic reanalysis (redilution analysis, reanalysis, reflex testing)
Time resolution	Sampling can be performed at intervals of 0.1 seconds
Measuring time	Up to 1800 seconds for each parameter
Incubation	10 wells
Number of user-definable (open) channels	80,000

Sample Handling

Type of sample	Primary tubes and/or sample cups
Sampling mechanism	Automated sample and standard predilution
Sample integrity check (PSI)	Tube fill vol check, hemolysis and lipemia check by assay
Traceability of results	Operator name, test date and time, reagent lot information, test reaction position, testing and reagent table temperatures, test protocol number, dilution ratio, QC performed date, calibration curve identification, and maintenance logs
Carrier system	Continuous-access sample racks with 10-tube capacity
Maximum load	50 samples; 5 racks with 10 samples per rack
STAT sample loading	Five priority positions
Storage temperature	Room temperature
Racks various	Five sample racks, continuous loading; tube holders and adapters available
Handling	Flexible mix of capped and/or uncapped sample tubes and 4 mL conical sample cups
Primary sample probe	Liquid-level sensing, crash protection, clog detection, liquid surface verification
Cap piercing	Pierces caps on primary tubes

Reagent Handling

Reagent recognition	Internal reagent bar-code identification
Dispensing mechanism	Two probes: one heated for reagents and one for samples, controls, and calibrators Two catchers
Reagents onboard	40 reagent/control positions and 5 buffer/rinse solution positions
Storage temperature	40 cooled reagent positions onboard at 10°C ±2°C
Handling	Flexible mix of reagent positions within the reagent table; various adapters available
Mixing position	Up to 10 positions available on the reagent table
Reagent inventory management	Tracks number of tests remaining, lot number, onboard stability, vial type, set date and time, and expiration date

Throughput‡ (tests/hour, approx.)

PT	180 (single-parameter analysis)
APTT	180 (single-parameter analysis)
PT/APTT	180 (simultaneous analysis)
PT/APTT/AT/DD	95 (simultaneous results for normal mode processing)

Operation

Access mode	Continuous random access (samples, reaction tubes)
Calibration	Two 12-point calibration curves with maximum of 5 repeated analyses per point and up to 10 calibration curves; one reagent lot group
Calibration curve	250 user-defined parameters
View calibration	Graphical display of calibration curves from up to 10 different reagent lots/parameters
Auto calibration/auto QC	User-defined time interval or with new reagent vial
Temperature control	Measuring channels 37°C ±0.5°C, incubation area 37°C ±1.0°C, reagent probe 37.5°C ±0.5°C

Reaction Tubes

Type	Single reaction tubes
Loading	Automatic continuous access, 500 reaction tubes onboard
Reaction tube stirring	Yes

System Fluid

Cleaning and rinsing	Washing solutions onboard
System containers	20 L containers for water (rinse) and waste (optional) Rinse may be direct-filled with house water by optional water controller module Waste may be direct-plumbed to drain

Computer/Printer

Workstation	PC
Display	24" touchscreen
Printer	Graphic printer
Input devices	Touchscreen, keyboard, and mouse, 2-D bar-code reader
Data storage	About 10,000 samples with a maximum of 60 results per sample
Onboard maintenance logs	Scheduled and automatically monitored routine maintenance activities via software

Software

Anti-virus Protection	McAfee Embedded Control
LIS interface	CA-1000/1500 System: ASTM CS-2000*i* System: ASTM1381-95/1394-95, ASTM1381-02/1394-97
Host connection	Bidirectional RS-232C serial port or via Ethernet-TCP/IP
Operating system	Microsoft Windows 10

Power Supply

Operating voltage	Main unit: 100–240 V Pneumatic unit: 100–117 V/220–240 V
Power consumption	Main unit: ≤800 VA Pneumatic unit (processing): ≤280 VA
Main frequency	50–60 Hz

Environmental Conditions

Operating temperature	15–30°C
Environmental humidity	30–85% (no condensation except on the reagent table)
Atmospheric pressure	70–106 kPa
Waste heat	Approx. 4000 BTU/h (1040 Kcal/h)
Noise level	60 dB or below (excluding sudden noise that stops within 5 seconds and alarms)

Dimensions

Main unit and cabinet	Approx. 775 (W) × 895 (D) × 685 (H) mm 30.6 (W) × 35.2 (D) × 27.0 (H) in.
Pneumatic unit	Approx. 280 (W) x 355 (D) x 400 (H) mm 11.1 (W) x 14.1 (D) x 15.7 (H) in.
Terminal (PC)	Approx. 338 (W) x 381 (D) x 100 (H) mm 13.3 (W) x 15.0 (D) x 3.95 (H) in.
Terminal (monitor)	Approx. 558 (W) x 122.5 (D) x 403.5 (H) mm 21.8 (W) x 4.8 (D) x 15.8 (H) in.

Weight

Main unit	Approx. 110 kg 242.5 lb
Pneumatic unit	Approx. 17 kg 37.5 lb
Terminal (PC)	Approx. 6.84 kg 15.08 lb
Terminal (monitor)	Approx. 5.6 kg 12.3 lb

Quality Control

X-control, Levey-Jennings control
Multi-rule monitoring (Westgard rule)
Maximum of 1200 plots × 750 files can be saved

Compliance

Safety standards (main unit)	IEC 61010-1:2001 (2nd Edition) IEC 61010-2-081:2001 + A1:2003 IEC 61010-2-101:2002 IEC 60825-1:1993 + A1:1997 + A2:2001 EN 61010-1:2001 (2nd Edition) EN 61010-2-081:2002 + A1:2003 EN 61010-2-101:2002 EN 60825-1:1994 + A2:2001 + A1:2002 UL 61010-1:2004 (2nd Edition) CAN/CSA-C22.2 No. 6101 0-1:2004 (2nd Edition) CAN/CSA-C22.2 No. 61010-2-081-04 (R09) CAN/CSA-C22.2 No. 61010-2-101-04 (R09) CAN/CSA-E60825-1-03
EMC standards	IEC 61326-1:2005 IEC 61326-2-6:2005 CISPR 11:2009/A1:2010 Group 1 Class A IEC 61000-3-2:2006/A1:2009/A2:2009 IEC 61000-3-3:2008 IEC 61326-1:2005 (Table 1) IEC 61326-2-6:2005 IEC 61000-4-2:2008 IEC 61000-4-3:2006/A1:2007/A2:2010 IEC 61000-4-4:2004/A1:2010 IEC 61000-4-5:2005 IEC 61000-4-6:2009 IEC 61000-4-8:2009 IEC 61000-4-11:2004

For more information, please contact your representative from Siemens Healthineers or visit our website.

↗ **siemens-healthineers.us**

†Aggregation methods under development.

‡Throughput values were determined by the time to first result; processing capability varies depending on the reagent used. Throughput values stated above were determined using Siemens' study protocol with PT (Thromborel S Reagent), APTT (Pathromtin® SL Reagent), INNOVANCE D-Dimer Reagent, and AT (INNOVANCE AT Reagent) test applications.

Siemens Healthineers pioneers breakthroughs in healthcare. For everyone. Everywhere. Sustainably. The company is a global provider of healthcare equipment, solutions and services, with activities in more than 180 countries and direct representation in more than 70. The group comprises Siemens Healthineers AG, listed as SHL in Frankfurt, Germany, and its subsidiaries. As a leading medical technology company, Siemens Healthineers is committed to improving access to healthcare for underserved communities worldwide and is striving to overcome the most threatening diseases. The company is principally active in the areas of imaging, diagnostics, cancer care and minimally invasive therapies, augmented by digital technology and artificial intelligence. In fiscal 2024, which ended on September 30, 2024, Siemens Healthineers had approximately 72,000 employees worldwide and generated revenue of around €22.4 billion.

Further information is available at www.siemens-healthineers.com.

The outcomes and statements provided by customers of Siemens Healthineers are unique to each customer's setting. Since there is no "typical" hospital and many variables exist (e.g., hospital size, case mix, and level of service/technology adoption), there can be no guarantee that others will achieve the same results.

On account of certain regional limitations of sales rights and service availability, we cannot guarantee that all products included in this brochure are available through the Siemens Healthineers sales organization worldwide. Availability and packaging may vary by country and is subject to change without prior notice. Some/All of the features and products described herein may not be available in the United States.

The information in this document contains general technical descriptions of specifications and options as well as standard and optional features, which do not always have to be present in individual cases.

Siemens Healthineers reserves the right to modify the design, packaging, specifications, and options described herein without prior notice. For the most current information, please contact your local sales representative from Siemens Healthineers.

Note: Any technical data contained in this document may vary within defined tolerances. Original images always lose a certain amount of detail when reproduced.

Siemens Healthineers Headquarters
Siemens Healthineers AG
Siemensstr. 3
91301 Forchheim, Germany
siemens-healthineers.com

USA
Siemens Healthcare Diagnostics Inc.
Laboratory Diagnostics
511 Benedict Avenue
Tarrytown, NY 10591-5005, USA
siemens-healthineers.us

Published by Siemens Healthcare Diagnostics Inc. · LD-25-NAM-6988 · QR700021643 · 04.2025 ·