

Fully Automated Coagulation Analyser

CS-2400 / CS-2500

The Analyser you know
becomes better





Successor of the CS-Series, based on proven track record of CS-2000/2100i and CS-5100 and even more...

With the release of the IVD industry's first coagulation analyser having a multi-wavelength analysis technology, Sysmex aims to help improve operational efficiency and the quality of coagulation testing.

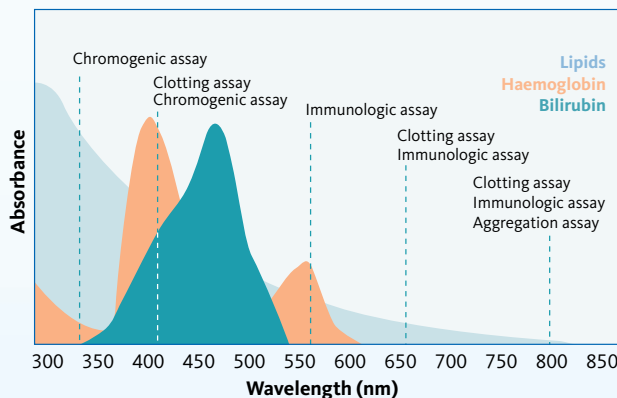
The CS-2400/CS-2500 is equipped with an optical fiber that supplies light at 5 different wavelengths, and a detector capable of receiving light in multiple wavelengths.

Having this multi-wavelength capability, the system is not only able to care of your analysis results, but also your pre-analytical check function.



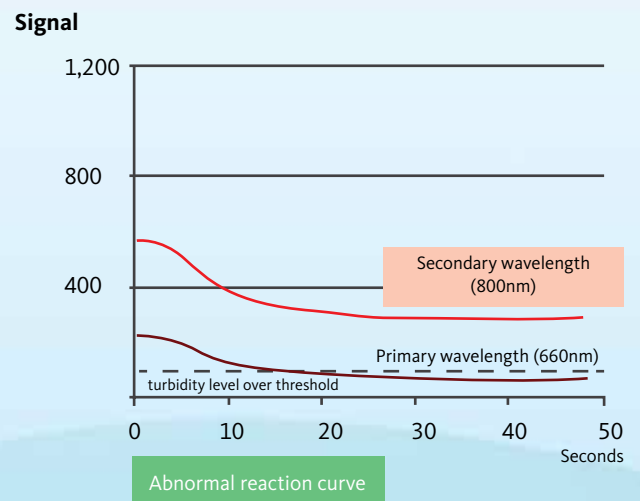
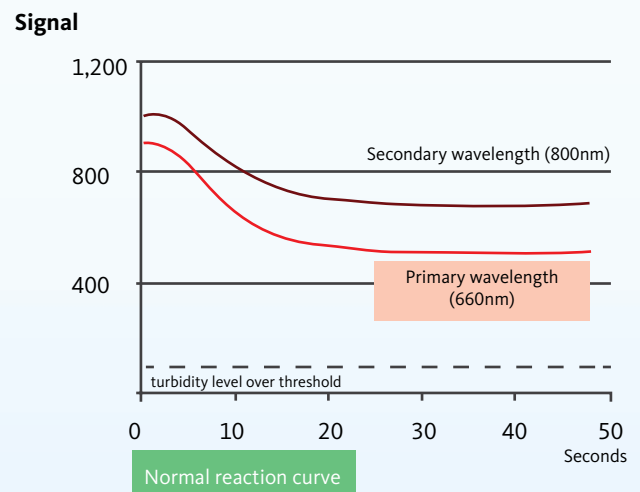
Multi-wavelength detection system

The power of multi-wavelength technology



Spectra of interfering substances

- Measure multiple parameters with varying methodologies simultaneously. Throughput is improved as the time to measure a single sample is reduced.
- Reduce the effect of interfering substances on the absorbance spectra by utilising optimal wavelengths. Optimal wavelength is automatically selected based on sample characteristics (wavelength switching) for more accurate results.
- The system automatically switches to the secondary wavelength when the coagulation reaction shows only a small change at the primary wavelength. Such as in the case of a severely lipemic or low fibrinogen sample.



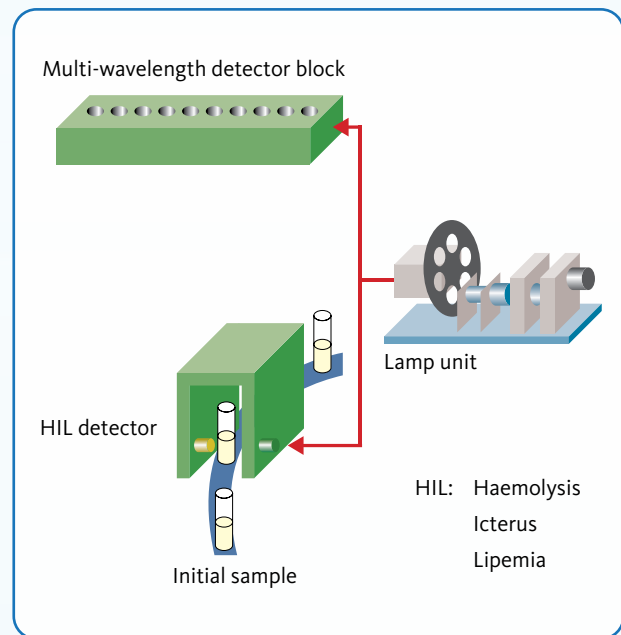
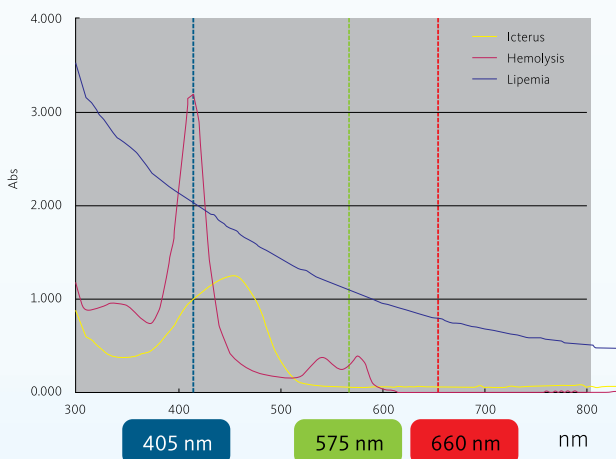
Wavelength switching during PT measurement

Delivering high quality results on every test run

Haemolysis and inappropriate filling of tubes are 2 of the most common pre-analytical problems in coagulation testing¹. The CS-2400/CS-2500 are the first coagulation analyser to incorporate the pre-analytical check function to minimise pre-analytical errors by automatically detecting and managing unsuitable samples prior to any testing.

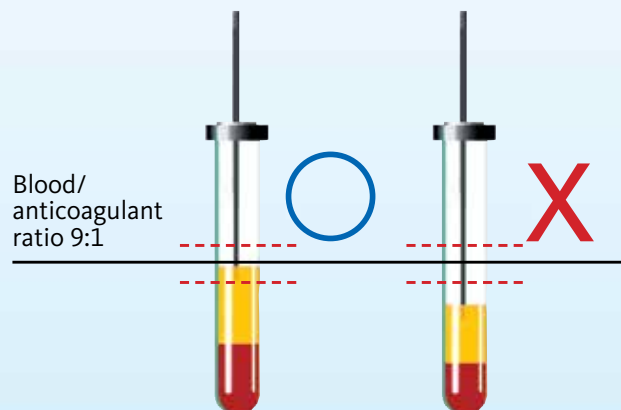
HIL check for interfering substances

- Utilising the multi-wavelength technology, the system measures the level of Haemolysis (H), Icterus (I), and Lipemia (L) in the sample with a HIL detector at 3 wavelengths - 405, 575 and 660 nm.
- The level of HIL can be displayed as a flag, based on user-defined criteria for each parameter, to ensure appropriate interpretation of results.



Primary sample volume check

- When aspirating a sample for the first time, the system detects the level of liquid in the sample tube. It then determines whether or not it contains an appropriate volume of blood according to the CLSI guideline of 9:1 ratio.
- Sample tubes with volumes outside the acceptable range are flagged to avoid reporting of erroneous results.





Designed with you in mind

Intuitive cap-piercing technology

- Sysmex has accumulated more than 20 years of experience in developing cap-piercing systems.
- The system can handle various types of blood collection tubes. It automatically detects the presence of a cap enabling measurement, even when capped and uncapped collection tubes are placed on the same rack.



Cap-piercing on CS-2500
*CS-2400 is a non cap-piercing model

Enhanced reagent management functions

- Can load up to 40 reagents.
- An in-built barcode reader automatically identifies and registers the reagent, no matter where the reagent is placed.
- Advance software that:
 - displays reagent information (name, lot number, expiry date, etc.) on the reagent screen;
 - offers real-time tracking of remaining volume, or number of tests;
 - displays reagent on-board time.



Reagent screen

Convenient reagent loading

Reagents can be replaced or added without interrupting the current measurement.



Reagent tables

Comprehensive QC program

- Automatically manage QC measurement by placing QC material in a rack that is registered as a QC rack.
- Automatic QC performed at regular intervals.
- QC vial enables QC checking before a new vial of reagent is used for testing.
- Following the setting guide allows for easy registration of a new lot of QC.

Complete measurement information

- The job list screen display the:
 - sample information;
 - estimated measurement completion time;
 - measurement status;
 - measurement results for each order, allowing measure information to be checked at a glance.
- Measurement results, reagent lot number, calibration curve used in testing, and the date/time of the recent QC measurement can all be traced easily.

Extended on-board reagent stability

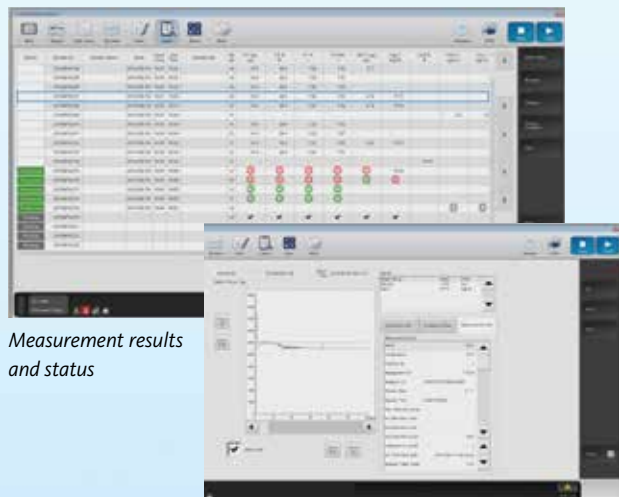
- Reagent racks are designed so that reagent vials are tilted to reduce dead volume and maximise the number of tests per vial.
- The reagent table is cooled at 10°C to allow longer on-board stability and support 24-hr laboratory operations.



Tilted reagent rack



QC registration



Measurement results and status

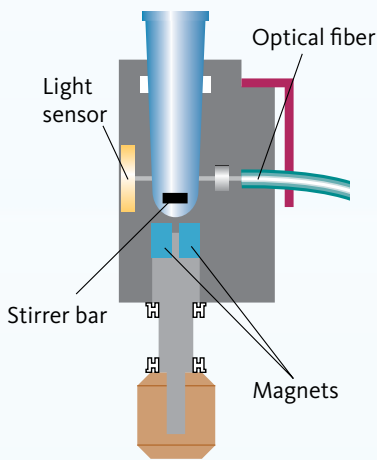
Sample information



Meeting all your hemostasis needs in one platform

We recognised the needs of today's progressive laboratories. As such the CS-2400/CS-2500 is designed to perform a broad range of routine and specialised assays. It supports specialised tests such as labor intensive platelet aggregation assays as well as improve efficiency of routine tests such as cross mixing tests.

Automated platelet aggregation assay



Supports aggregation method in 4 channels

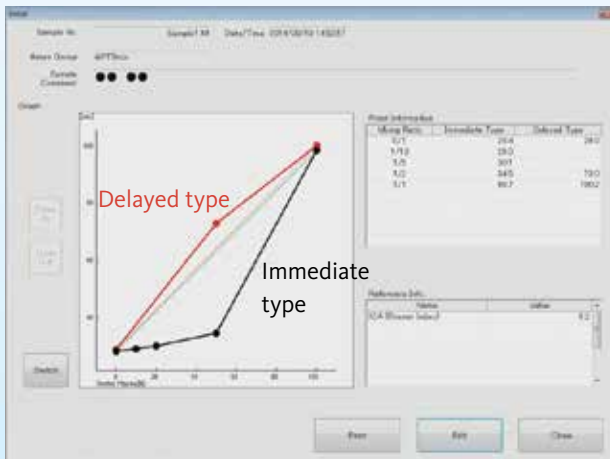


Holder for sample tubes containing stirrer bars

Sample tubes containing stirrer bars

Provide assessment of platelet-based ristocetin cofactor activity (vWF:RCo) and platelet aggregation to ADP, epinephrine, collagen, arachidonic acid and ristocetin².

Cross-mixing testing



ICA (Rosner Index) = Index of circulating anticoagulant

$$ICA = (b-c) / a \times 100$$

a = Coagulation time of 100% patient serum

b = Coagulation time of 50% patient serum

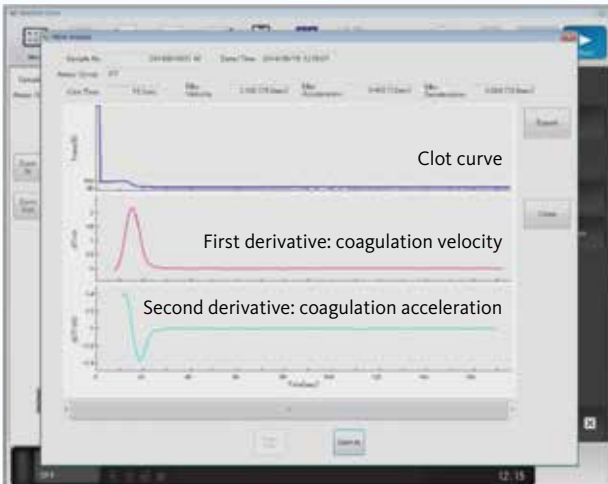
c = Coagulation time of normal serum

Browser details screen (cross mixing test results)

Simplify cumbersome procedures

- Automatic dilution
- Graph creation
- Index calculation
- Overlay of immediate and delayed type of graphs

Clot waveform analysis (for research)



Wave analysis screen

Potential clinical utility for evaluating coagulation function in various bleeding disorders, especially Haemophilia A, B, and monitoring bypass therapy³.

References

1. Lippi G, Salvagno GL, Montagnana M, Lima-Oliveira G, Guidi GC, Favaloro EJ. Quality standards for sample collection in coagulation testing. *Semin Thromb Hemost.* 2012; 38:565–75.
2. Lawrie AS, Kobayashi K, Lane PJ, Mackie IJ, Machin SJ. The automation of routine light transmission platelet aggregation. *Int J Lab Hematol.* 2014; 36(4):431-8.
3. Shima M, Thachil J, Nair SC, Srivastava A. Towards standardization of clot waveform analysis and recommendations for its clinical applications. *J Thromb Hemost.* 2013; 11:1417-20.

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