

Product Fact Sheet

CA-650/CA-660



Product name

Automated Blood Coagulation Analyser CA-650/CA-660

Manufacture information

Sysmex Corporation

www.sysmex-europe.com

Summary

The Sysmex® CA-650/CA-660 is a compact, fully automated blood coagulation analyser for *in vitro* diagnostics. It incorporates latest technology, thus enabling analysis of multiple parameters with increased flexibility.

The CA-650/CA-660 enables to measure coagulation samples with three different methods:

- clotting method
- chromogenic method
- immunological method

It is able to measure up to five parameters simultaneously. The combination of *Scattered Light Detection Method* and *End Point Detection Method* for clotting tests ensures highly reliable test results. There are separate channels for the measurement of chromogenic and immunology tests.

An integrated barcode scanner enables positive sample identification and guarantees the exact assignment of results and patients. The analyser also comes standard with a reagent cooling unit.

Article numbers

Article no.	Item	Description	Qty
Instruments			
CK978289	Coag Analyser CA-660	Measuring unit	1
AR822623	Coag Analyser CA-650, 800 nm	Measuring unit with 800 nm	1
BT559640	CA-600 supply part (EXP)		1
Accessories			
CT904571	2D barcode reader (1900GSR-1)	2D barcode reader (1900GSR-1)	1
BV088995	Kit No. 191 (CA-600 series Serial cable)	Connection cable of 2D barcode reader	1
AH492483	Kit No. 189 (CA-600 SNCS kit)		1
073-2752-0	Sample Rack (White)		1
Consumables			
90407219	Reaction Tube (SU-40)	Reaction tubes for CA analysers	3.000 pcs
42411608	Sample Cup Conical	Conical sample cups, 4 ml	100 pcs
CW742798	Thermal Paper CL5840	Paper roles for integrated thermal printer	5 rolls
96406313	CA Clean I	Detergent	50 mL
BT565104	CA Clean II	Detergent	45 mL
54113521	Push Vial PV-10	Reagent vial	10 pcs
01317714	SLD Vial Assy	Reagent vial	10 pcs
AJ046225	Reaction Tube Trash Box		1

Spare Parts			
BC963426	Fuse 250V 4.0A		1
BX177453	Label No.966 (Reagent Indication Mark)		1
AS244534	Filter No.598		2
043-3581-4	Trap Chamber Complete		1
BP577416	Rinse Bottle Assy (5L)		1
AS977096	Waste Bottle Assy (5L)		1
AJ387179	Reagent Rack Assy		1

Technical Specifications

Feature	Description
Data Storage Capacity	
Results	3000 test (600 samples)
Reaction Curves	600
Electrical specification	
Power Requirement	100-240 V AC
Frequency	50 or 60 Hz
Power consumption	300 VA or less
Display	4.5 in x 3.4 in liquid crystal display (with color LCD backlight) Touch panel type
External Input/Output	RS-232C for Host Computer RS-232C for external barcode reader LAN port for SNCS connection
Printer	Built-in thermal printer for analysis data and graphic prints
Environmental specification	
Operating temperature	15°...35 °C
Humidity	30 % - 85 %
Temperature Compensation Required	Approx. 1.365 BUT/h (344 kcal/h)

Feature	Description
Dimension	
Width	566 mm
Height	490 mm
Depth	490 mm
Weight	Approx. 43 kg
Temperature Control	
Detector	37 °C ±1 °C
Sample Incubator	37 °C ±1 °C
Reagent Pipette	37 °C ±1 °C
Cooling Unit	15 °C ±2 °C
Start up	Within 30 min after switch on
Protection Type	Class I Equipment
EMC (Electro-magnetic compatibility)	This equipment is in conformity to the IEC (EN) standard: IEC61326-2: 2005 (EN 61326-2-6: 2006) Electrical equipment for measurement, control, and laboratory use (EMI requirements) - EMI (Class B) - EMS (Immunity test requirements for equipment intended for use in industrial locations)

Analytical Specifications

Feature	Description
Analysis Parameters	Prothrombin Time (PT): sec.
	Activated Partial Thromboplastin Time (APTT): sec.
	Fibrinogen (Fbg): sec.
	Thrombin Time (TT): sec.
	Extrinsic Factors (II, V, VII, X): sec.
	Intrinsic Factors (VIII, IX, XI, XII): sec.
	Protein C, clotting: sec.
	Batroxobin (BTX): sec.
	Lupus Anticoagulant (Screening & Confirmation): sec.
	Antithrombin III (AT-III): ΔOD/min.
	Protein C, chromogenic: ΔOD/min.
	Heparin (Hep, LMW, U) : ΔOD/min.
	D-Dimer (DD) : ΔOD
	Von Willebrand Factor (Ag, Ac): ΔOD
Calculated Parameters	Prothrombin Time (PT): %, PT Ratio, INR, Derived Fbg (dFbg)
	Fibrinogen (Fbg): mg/dL or g/L
	Extrinsic Factors (II, V, VII, X): %
	Intrinsic Factors (VIII, IX, XI, XII): %
	Protein C, clotting: %
	Antithrombin III (AT-III): %
	Protein C, chromogenic: %
	Heparin (Hep, LMW, U): IU/mL
	D-Dimer (DD): μg/L or mg/L
	Von Willebrand Factor (Ag, Ac): %
Analysis Principle	Coagulation Reaction Detecting Method (Scattered Light Detection Method)
	Coagulation Point Detection Method (Percent Detection Method)
	Chromogenic Method (Colorimetric Method /Rate Method)
	Immunoassay Method
Random Analysis	Simultaneous random analysis of 5 parameters

Feature	Description
Detection time	Typical maximum detection time
	100 sec. for PT
	100 sec. for Fbg
	190 sec. for others (Clotting Method)
	30 sec. for AT3
	180 sec. for D-Dimer
	Maximum detection time can be set 600 sec. for each parameter
STAT Sample	1 dedicated position. The routine analysis can be interrupted for preferential processing of a specified sample contained in a sample collection tube on a specific STAT sample rack.
Light Source	LED, 660 nm The light-emitting diode for photodetection is ON only during analysis.
Positions	1 rack holding 10 sample tubes
	4 clotting channels (660 nm)
	1 chromogenic channel (405 nm)
	1 immunological channel (575 nm or 800 nm)
	6 sample incubation wells
	60 Reaction tube (30 tube rack x 2)
	10 reagents position with 4 Reagent Cooling Positions (15°C±2°C)
3 Buffer position	
Required sample volume ¹⁾	PT 50 μL
	APTT 50 μL
	Fbg 10 μL
	TT 50 μL
	Extrinsic & Intrinsic factors 5 μL
	Protein C coagulometric 5 μL
	Batroxobin Time 50 μL
	Lupus Anticoagulant 100 μL
	Antithrombin III 10 μL
	Protein C Chromogenic 20 μL
	Heparin 20 μL
	D-Dimer 8 μL
	von Willebrand Factor Ag 15 μL
	von Willebrand Factor Ac 12 μL

Feature	Description
Quality Control	X control and L-J control
	180 data points x 6 files; 14 parameters
Standard curve	6 Points, 14 parameters
Throughput ²⁾	
Maximum (PT only)	60 tests/hour
PT/PTT/Fbg	Approx. 40 tests/hour
PT/PTT/Fbg/AT3	Approx. 32 tests/hour
PT/PTT/Fbg/DDi	Approx. 20 tests/hour
AT single	Approx. 18 tests/hour
D-Dimer single	Approx. 13 tests/hour
Analysis Range ³⁾	
Fibrinogen Concentration	With an applicable reagent, the range between 50 mg/dL and 1000 mg/dL can be analyzed However, over 500 mg/dL is analyzed via dilution in high concentration mode (+Fbg: 1:20 dilution). Under 90 mg/dL is analyzed via dilution in low concentration mode (-Fbg: 1:5 dilution).
D-Dimer Concentration	With an applicable reagent, the range between 0.19 mg/L and 35.20 mg/L can be analyzed. However, over 4.40 mg/L is analyzed via dilution in high concentration mode (+DDi: 1:8 dilution compared to the standard dilution).
von Willebrand Factor % (Ag)	With an applicable reagent, the range between 6.0% and 600.0% can be analyzed. However, over 200.0% is analyzed via dilution in high concentration mode (+vWF: 1:3 dilution compared to the standard dilution). Under 12.5% is analyzed via dilution in low concentration mode (-vWF: 2:1 dilution compared to the standard dilution).
von Willebrand Factor % (Ac)	With an applicable reagent, the range between 6.0% and 500.0% can be analyzed. However, over 125.0% is analyzed via dilution in high concentration mode (+WfA: 1:4 dilution compared to the standard dilution). Under 25.0% is analyzed via dilution in low concentration mode (-WfA: 4:1 dilution compared to the standard dilution).

¹⁾ : The required sample volume might depend on the type of reagent used for the estimation; here Siemens reagents were used.

²⁾ : The throughput might depend on the type of reagent used for the estimation; here Siemens reagents were used.

³⁾ : The analysis range might depend on the type of reagent used for the estimation; here Siemens reagents were used.