

Experience and Evolution

BioSystems
BTS

Clinical chemistry analyser

Clinical analysis

human - centred biotech



The new BTS generation,
created and co-developed
together with users.



15/02 11:47

TEST

02.

ABSORBANCE TEST

04.

TEST
CONFIGURATION

05.

HISTORICAL DATA



Technological innovation



Optimise your efforts

Improve your lab resources using the latest technological advances. The optics based on our patented LED technology, together with the full operating system included in BTS and the new colour touch screen will lead users to a new experience.



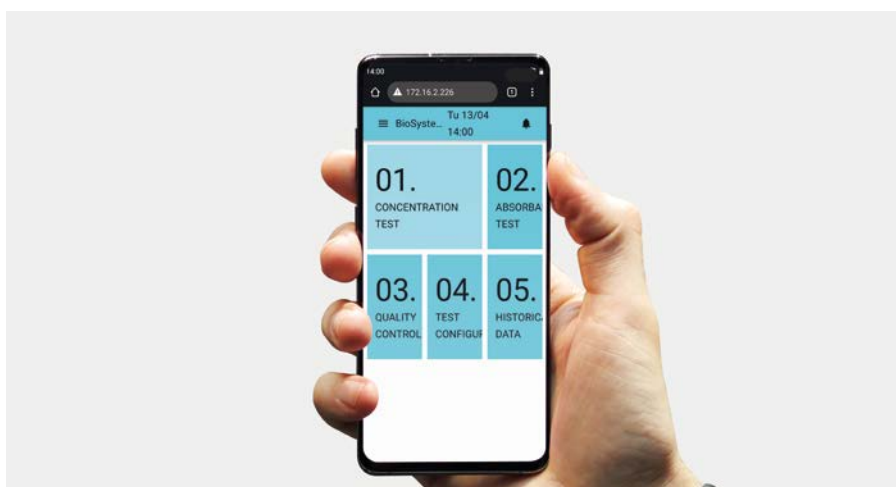
Boost your workflow

Easy to use and intuitive semi-automatic analyser, designed and developed together with users. Save time and resources thanks to low maintenance cost, with an upgradable and flexible device.



Focus on what matters

Guarantee your results due to high optical quality quartz flow cell, quality control management (up to 3 levels) and validated reagents for the new BTS.



Be connected everywhere

Connect and access all your data through any of your devices, without any intermediate software. The large data storage capacity allows you to save all results (sample and quality control), and create new applications (as many as you need).



BioSystems
BTS

BioSystems

01.
CONCENTRATION TEST

03.
QUALITY CONTROL

04.
TEST CONFIGURAT

02.
ABSORBANCE TEST

05.
HISTORICAL DATA

15/02 14:57



40 years caring about you

Since the launch of the first BioSystems photometer, more than 40 years ago, our analysers have been evolving to suit our users' needs.

Thus, the new BTS, created and co-developed together with users, is equipped with our well-known LED optics system, an upgraded and improved technology, and a new intuitive and easy-to-use software that will ease your daily work in the laboratory.

In combination with the original BioSystems reagents (full panel of clinical chemistry including special test), the BTS forms a complete system that perfectly adapts to the needs of the laboratories.

Our main focus is to satisfy our users requirements and strive to exceed their technical, economical and human expectations. We are committed to provide the best possible user experience.



Scientific
and Technical
Support



Remote
Assistance



Personalised
Support

Technical Specifications

Highlights

- Optical LED Technology (340-670 nm) for highest precision.
- Accurate and reliable results with BioSystems reagents.
- User-friendly and intuitive software interface.
- 7" Color touchscreen for rapid access to all menus.
- Comprehensive Test Panel for IVD.
- High quality Quartz flow cuvette (18 μ L).
- Full-fledged operating system – high database capacity (5GB).
- Ergonomic and modern design.
- Fully connectivity to PC and smart devices (smartphones and tablets).
- Very low maintenance; no lamp replacement and minimal energy consumption.
- *In vitro* diagnostics CE marked.

Ordering Information

Item	Code	Quantity
BTS semi-automatic analyser	83000	1 unit
Printer Paper Roll	AC17433	5 rolls
Washing Solution Bottle	AC10415	10 x 100 mL
External Barcode Reader (optional)	AC14681	1 unit
Mini UPS/Battery pack (optional)	AC17548	1 unit



System Overview

User interface	7" full colour touch screen LCD
Reading modes	Absorbance, End-point, Kinetics, Differential mode, Fixed time, Monochromatic and bichromatic, with or without reagent blank for all modes
Printer	Internal thermal printer
Database capacity	>1.000.000 results from patients, blanks, calibrations and QC (5GB of data)
Connectivity	Unidirectional connection. 2 x USB 3.0 Host, Ethernet RJ45

Optical System

Light source	LED Technology (Optical bench patented by BioSystems)
Nominal range	-0.2 to 3.5 A
Wavelengths	340, 405, 505, 535, 560, 600, 635, 670 (for all wavelengths)
Bandwidth	5 nm \pm 1 nm

Programming

Programmed tests	All Biosystems tests (>90 tests)
Additional new tests	>10.000 new tests (customized by customer)
Incubation times	From 5 to 9999 seconds
Reading times	From 1 to 60 minutes
Other functions	Formula for results adjustment / Linearity and detection limits check / Abnormal samples alarms

Calibration

Factor, Calibrator, Multipoint calibration
 Linear and non-linear
 Repetition of a single point (in multi calibration)

Quality Control

3 control levels per test
 Levey-Jennings control chart
 Graph with 6 months of data

Thermostatic System

Thermostatisation range	Peltier system from 25-40°C
Accuracy of the temperature	\pm 0.5°C
Temperature stability	\pm 0.2°C in 30 minutes

Flow Cuvette

Flow cuvette	Optical Quartz glass
Flow cuvette volume	18 μ L
Sample vessels	Removable cuvettes (macro, semi-micro and micro) and round tubes (12 mm diameter)

Fluidic System

Type of operation	Stepper motor pump
Nominal flow	10 mL/min
Aspiration volume	100 μ L - 5000 μ L
Waste bottle (included)	1L

Installation

Electrical requirements	100 V to 240 V AC, 50/60 Hz
Instrument Power Consumption	5 W performing measurements 2 W during stand-by
Temperature	10-35°C
Max. Rel. humidity	85%
Size (H x W x D)	180 mm x 245 mm x 438 mm (7.1 in x 9.6 in x 17.3 in)
Weight	4.3 kg. (9.43 lb)



BTS Reagents

Test	Code	RA	RB	mL/Kit	Comments
α1-ACID GLYCOPROTEIN <i>Immunoturbidimetric assay</i>	31928	1 x 50 mL	-	50	
α-AMYLASE DIRECT <i>Direct Substrate</i>	11583 11550	5 x 5 mL 6 x 25 mL	- -	25 150	
α-AMYLASE-EPS <i>IFCC</i>	11534	1 x 32 mL	1 x 8 mL	40	
α-AMYLASE PANCREATIC <i>IFCC</i>	11799	1 x 20 mL	1 x 5 mL	25	
α-GLUCOSIDASE NEW <i>Glucose oxidase/Peroxidase</i>	12522	2 x 20 mL	2 x 5 mL	50	Std Inc
ACID PHOSPHATASE (ACP) <i>SFBC</i>					
Manual (Total)	11548	4 x 10 mL	lyophilized	40	
Manual (Non Prostatic)	11548	2 x 10 mL	lyophilized	20	
ADENOSINE DEAMINASE (ADA) <i>Adenosine-Glutamate Dehydrogenase</i>	12754	4 x 8 mL	1 x 10 mL	40	
ALANINE AMINOTRANSFERASE (ALT/GPT) <i>IFCC</i>	11832 11533 11568 11562	1 x 40 mL 1 x 160 mL 1 x 400 mL 1 x 800 mL	1 x 10 mL 1 x 40 mL 1 x 100 mL 1 x 200 mL	50 200 500 1000	
ALBUMIN <i>Bromocresol Green</i>	11573 11547	1 x 250 mL 2 x 250 mL	- -	250 500	Std Inc Std Inc
ALBUMIN (MICROALBUMINURIA) <i>Immunoturbidimetric latex assay</i>	31324 31924	1 x 16 mL 1 x 40 mL	1 x 4 mL 1 x 10 mL	20 50	
ALKALINE PHOSPHATASE (ALP)-AMP <i>AMP Buffer (IFCC)</i>	11592 11593 11598	1 x 40 mL 1 x 160 mL 4 x 100 mL	1 x 10 mL 1 x 40 mL 2 x 50 mL	50 200 500	
ALKALINE PHOSPHATASE (ALP)-DEA <i>DEA Buffer</i>	11590 11591 11597	1 x 40 mL 4 x 40 mL 4 x 100 mL	1 x 10 mL 4 x 10 mL 2 x 50 mL	50 200 500	
AMMONIA <i>Glutamate Dehydrogenase</i>	12532	1 x 20 mL	1 x 7 mL	27	RA
ANGIOTENSIN CONVERTING ENZYME (ACE) <i>FAPGG</i>	12796	1 x 50 mL	-	50	
ANTI-STREPTOLYSIN O (ASO) <i>Immunoturbidimetric latex assay</i>	31323 31923 31031	1 x 16 mL 1 x 40 mL 2 x 160 mL	1 x 4 mL 1 x 10 mL 2 x 40 mL	20 50 400	

Test	Code	RA	RB	mL/Kit	Comments
APOLIPOPROTEIN A-1 (APO A-1) <i>Immunoturbidimetric assay</i>	31095	1 x 40 mL	1 x 10 mL	50	
APOLIPOPROTEIN B (APO B) <i>Immunoturbidimetric assay</i>	31098	1 x 40 mL	1 x 10 mL	50	
ASPARTATE AMINOTRANSFERASE (AST/GOT) <i>IFCC</i>	11830	1 x 40 mL	1 x 10 mL	50	
	11531	1 x 160 mL	1 x 40 mL	200	
	11567	1 x 400 mL	1 x 100 mL	500	
	11561	1 x 800 mL	1 x 200 mL	1000	
β2-MICROGLOBULIN <i>Immunoturbidimetric latex assay</i>	31920	1 x 800 mL	1 x 200 mL	1000	
	31925	1 x 40 mL	1 x 10 mL	50	
β-HYDROXYBUTYRATE <i>Hydroxybutyrate Dehydrogenase/Diaphorase</i>	12525	1 x 40 mL	1 x 10 mL	50	
BILIRUBIN (DIRECT) <i>Diazotized Sulfanilic</i>	11511	4 x 40 mL	4 x 10 mL	200	
	11545	2 x 400 mL	2 x 100 mL	1000	
BILIRUBIN (TOTAL) <i>Diazotized Sulfanilic</i>	11510	4 x 40 mL	4 x 10 mL	200	
	11544	2 x 400 mL	2 x 100 mL	1000	
BILIRUBIN (TOTAL AND DIRECT) <i>Diazotized Sulfanilic</i>	11515	2 x 50 mL	2 x 50 mL	200	
	11555	1 x 500 mL	1 x 500 mL	1000	
CALCIUM-ARSENAZO <i>Arsenazo III</i>	11570	1 x 200 mL	-	200	Std Inc
	11571	1 x 500 mL	-	500	Std Inc
CALCIUM-CRESOLPHTHALEIN <i>O-Cresolphthalein Complexone</i>	11811	1 x 160 mL	1 x 40 mL	200	Std Inc
	11812	1 x 400 mL	2 x 50 mL	500	Std Inc
CALCIUM-MTB <i>Metihylthymol Blue</i>	11527	2 x 50 mL	2 x 50 mL	200	Std Inc
	11507	1 x 250 mL	1 x 250 mL	500	Std Inc
CARBON DIOXIDE (CO₂) <i>Phosphoenolpyruvate Carboxylase/Malate Dehydrogenase</i>	11558	1 x 50 mL	-	50	
CHOLESTEROL <i>Cholesterol Oxidase/Peroxidase</i>	11805	1 x 50 mL	-	50	Std Inc
	11505	1 x 200 mL	-	200	Std Inc
	11506	1 x 500 mL	-	500	Std Inc
	11539	1 x 1000 mL	-	1000	Std Inc
CHOLESTEROL LDL DIRECT <i>Detergent</i>	11585	1 x 60 mL	1 x 20 mL	80	
CHOLESTEROL HDL DIRECT <i>Detergent</i>	11557	1 x 60 mL	1 x 20 mL	80	
CHOLESTEROL HDL <i>Phosphotungstate / Mg²⁺-Cholesterol Oxidase / Peroxidase Reagent + Precipitant</i>	11523	2 x 50 mL	2 x 50 mL	200	Std Inc
CHOLESTEROL HDL PRECIPITATING REAGENT <i>Phosphotungstate/ Mg²⁺ + Precipitant</i>	11648	1 x 50 mL	-	50	Std Inc

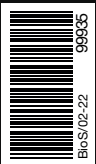
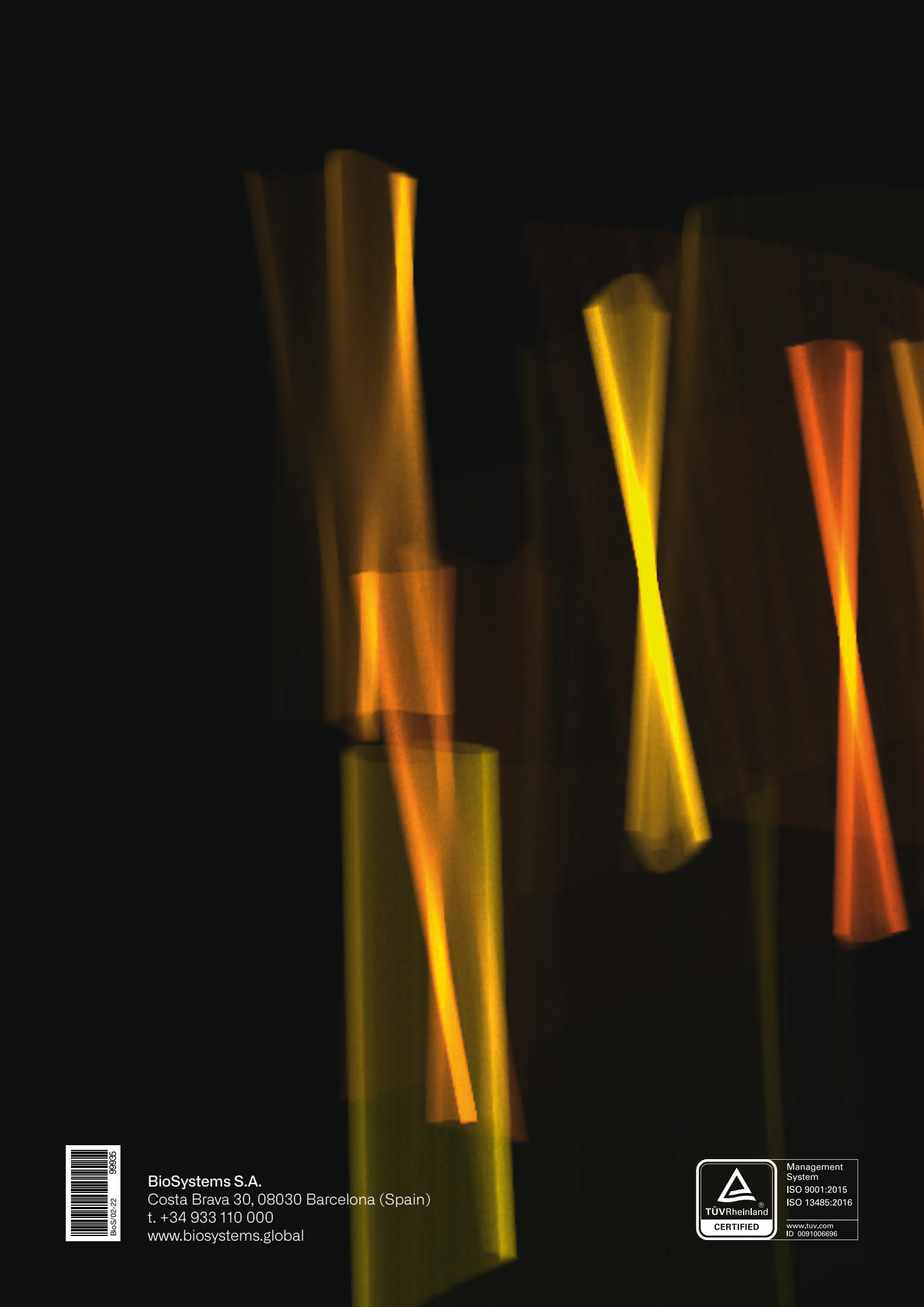
RA: Reagent A Preparation / RB: Reagent B Preparation / Std Inc: Standard Included

Test	Code	RA	RB	mL/Kit	Comments
CHOLESTEROL LDL PRECIPITATING REAGENT					
<i>Polyvinyl Sulphate/ Polyethyleneglycol Precipitant</i>	11579	1 x 20 mL	-	20	
CHOLINESTERASE (CHE)					
<i>Butyrylthiocholine</i>	11588	1 x 40 mL	1 x 10 mL	50	
	11589	4 x 40 mL	4 x 10 mL	200	
CITRATE					
<i>Citrate Lyase/ Malate Dehydrogenase</i>	11895	1 x 20 mL	1 x 5 mL	25	RB + Std Inc
	11795	2 x 20 mL	2 x 5 mL	50	RB + Std Inc
COMPLEMENT COMPONENT C3					
<i>Immunoturbidimetric assay</i>	31084	1 x 20 mL	-	20	
	31073	1 x 50 mL	-	50	
	31079	1 x 250 mL	-	250	
COMPLEMENT COMPONENT C4					
<i>Immunoturbidimetric assay</i>	31085	1 x 20 mL	-	20	
	31074	1 x 50 mL	-	50	
	31080	1 x 250 mL	-	250	
COPPER - PAESA NEW					
<i>3,5-DiBr-PAESA</i>	11837	1 x 40 mL	1 x 10 mL	50	RA + Std Inc
C-REACTIVE PROTEIN (CRP)					
<i>Immunoturbidimetric latex assay</i>	31321	1 x 16 mL	1 x 4 mL	20	
	31921	1 x 40 mL	1 x 10 mL	50	
	31029	2 x 160 mL	2 x 40 mL	400	
C-REACTIVE PROTEIN hs (CRP-hs)					
<i>Immunoturbidimetric latex assay, High Sensitivity</i>	31927	1 x 40 mL	1 x 10 mL	50	
CREATINE KINASE (CK)					
<i>IFCC</i>	11790	1 x 40 mL	1 x 10 mL	50	
	11791	4 x 40 mL	4 x 10 mL	200	
CREATINE KINASE-MB (CK-MB)					
<i>Immuno-inhibition</i>	11792	1 x 40 mL	1 x 10 mL	50	
CREATININE					
<i>Jaffé-compensated</i>	11802	1 x 50 mL	1 x 50 mL	100	Std Inc
	11502	2 x 50 mL	2 x 50 mL	200	Std Inc
	11542	1 x 500 mL	1 x 500 mL	1000	Std Inc
CREATININE ENZYMATIC					
<i>Enzymatic</i>	11734	1 x 60 mL	1 x 20 mL	80	Std Inc
D-DIMER NEW					
<i>Immunoturbidimetric</i>	13519	1 x 20 mL	1 x 10 mL	30	
ETHANOL					
<i>Alcohol Dehydrogenase</i>	12789	1 x 20 mL	1 x 7 mL	27	
FERRITIN					
<i>Immunoturbidimetric latex assay</i>	31934	1 x 10 mL	1 x 5 mL	15	
	31935	1 x 30 mL	1 x 15 mL	45	
FIBRINOGEN					
<i>Immunoturbidimetric assay</i>	31600	1 x 40 mL	1 x 10 mL	50	
FRUCTOSAMINE					
<i>NBT</i>	11046	2 x 50 mL	-	100	Std Inc

Test	Code	RA	RB	mL/Kit	Comments
FRUCTOSE					
<i>Hexokinase / Phosphoglucose Isomerase</i>	11794	1 x 40 mL	1 x 10 mL	50	Std Inc
γ-GLUTAMYL TRANSFERASE (γ-GT)					
<i>IFCC</i>	11584	1 x 40 mL	1 x 10 mL	50	
	11520	1 x 160 mL	1 x 40 mL	200	
GLUCOSE					
<i>Glucose Oxidase/ Peroxidase</i>	11803	1 x 50 mL	-	50	Std Inc
	11503	1 x 200 mL	-	200	Std Inc
	11504	1 x 500 mL	-	500	Std Inc
	11538	1 x 1000 mL	-	1000	Std Inc
GLUCOSE-6-PHOSPHATE DEHYDROGENASE NEW					
<i>Glucose-6-Phosphate</i>	12603	1 x 40 mL	1 x 10 mL	50	Std Inc
GLUCOSE-HEXOKINASE					
<i>Hexokinase</i>	11656	1 x 160 mL	1 x 40 mL	200	Std Inc
HAPTOGLOBIN NEW					
<i>Immunoturbidimetric assay</i>	13218	1 x 40 mL	1 x 10 mL	50	
HEMOGLOBIN A1C-DIRECT (HbA1C-DIR)					
<i>Immunoturbidimetric latex assay</i>	31047	1 x 50 mL	1 x 10 mL	60	
IMMUNOGLOBULIN A (IgA)					
<i>Immunoturbidimetric assay</i>	31082	1 x 20 mL	-	20	
	31071	1 x 50 mL	-	50	
	31077	1 x 250 mL	-	250	
IMMUNOGLOBULIN G (IgG)					
<i>Immunoturbidimetric assay</i>	31081	1 x 20 mL	-	20	
	31070	1 x 50 mL	-	50	
	31076	1 x 250 mL	-	250	
IMMUNOGLOBULIN M (IgM)					
<i>Immunoturbidimetric assay</i>	31083	1 x 20 mL	-	20	
	31072	1 x 50 mL	-	50	
	31078	1 x 250 mL	-	250	
IRON-CHROMAZUROL					
<i>Chromazurol B</i>	11546	4 x 50 mL	-	200	Std Inc
IRON-FERROZINE					
<i>Ferrozine</i>	11509	4 x 40 mL	4 x 10 mL	200	Std Inc
LACTATE					
<i>Lactate Oxidase/ Peroxidase</i>	11736	1 x 40 mL	1 x 10 mL	50	
LACTATE DEHYDROGENASE (LDH)					
<i>Pyruvate</i>	11580	1 x 40 mL	1 x 10 mL	50	
	11581	1 x 160 mL	1 x 40 mL	200	
LACTATE DEHYDROGENASE (LDH)-IFCC					
<i>IFCC</i>	11587	1 x 160 mL	1 x 40 mL	200	
LIPASE					
<i>Color</i>	11793	1 x 50 mL	1 x 10 mL	60	Std Inc
LIPASE NEW					
<i>DGGR</i>	11760	1 x 20 mL	1 x 10 mL	30	Std Inc
MAGNESIUM					
<i>Xylidyl Blue</i>	11797	4 x 40 mL	4 x 10 mL	200	Std Inc

RA: Reagent A Preparation / RB: Reagent B Preparation / Std Inc: Standard Included

Test	Code	RA	RB	mL/Kit	Comments
OXALATE					
<i>Oxalate Oxidase / Peroxidase</i>	12539	1 x 20 mL	1 x 5 mL	1 x 25 mL R1 + 20 tubes (pretreatment reagent)	Std Inc, RB
PHOSPHORUS					
<i>Phosphomolybdate/UV</i>	11508	3 x 40 mL	1 x 50 mL	170	Std Inc
PREALBUMIN					
<i>Immunoturbidimetric assay</i>	31929	1 x 50 mL	-	50	
PROTEIN (TOTAL)					
<i>Biuret</i>	11800	1 x 50 mL	-	50	Std Inc
	11572	1 x 250 mL	-	250	Std Inc
	11500	2 x 250 mL	-	500	Std Inc
	11553	1 x 1000 mL	-	1000	Std Inc
PROTEIN (URINE+CSF)					
<i>Pyrogallol Red</i>	11501	4 x 50 mL	-	200	Std Inc
	11559	2 x 250 mL	-	500	Std Inc
RHEUMATOID FACTORS (RF)					
<i>Immunoturbidimetric latex assay</i>	31322	1 x 16 mL	1 x 4 mL	20	
	31922	1 x 40 mL	1 x 10 mL	50	
	31030	2 x 160 mL	2 x 40 mL	400	
TOTAL BILE ACIDS					
<i>Enzymatic Cycling</i>	12551	1 x 18 mL	1 x 6 mL	24	Std Inc
TOTAL IRON BINDING CAPACITY (TIBC)					
<i>Fe³⁺ / Magnesium Hydroxide Carbonate Precipitating</i>	11554	50 mL	3 g	50	
TRANSFERRIN					
<i>Immunoturbidimetric assay</i>	31091	1 x 20 mL	-	20	
	31092	1 x 50 mL	-	50	
	31093	1 x 250 mL	-	250	
TRIGLYCERIDES					
<i>Glycerol Phosphate Oxidase/Peroxidase</i>	11828	1 x 50 mL	-	50	Std Inc
	11528	4 x 50 mL	-	200	Std Inc
	11529	2 x 250 mL	-	500	Std Inc
UNSATURATED IRON BINDING CAPACITY (UIBC)					
<i>Ferrozine</i>	11835	1 x 40 mL	1 x 10 mL	50	
UREA/ BUN-COLOR					
<i>Urease/ Salicylate</i>	11536	2 x 50 mL	2 x 50 mL	200	Std Inc
	11537	1 x 250 mL	1 x 250 mL	500	Std Inc
UREA/ BUN-UV					
<i>Urease/ Glutamate Dehydrogenase</i>	11516	4 x 40 mL	4 x 10 mL	200	Std Inc
	11517	2 x 200 mL	2 x 50 mL	500	Std Inc
	11541	1 x 800 mL	1 x 200 mL	1000	Std Inc
URIC ACID					
<i>Uricase/Peroxidase</i>	11821	1 x 50 mL	-	50	Std Inc
	11521	1 x 200 mL	-	200	Std Inc
	11522	1 x 500 mL	-	500	Std Inc
	11540	1 x 1000 mL	-	1000	Std Inc
ZINC					
<i>Bromo-PAPS</i>	12526	2 x 20 mL	1 x 10 mL	50	Std Inc, RA



BioSystems S.A.
Costa Brava 30, 08030 Barcelona (Spain)
t. +34 933 110 000
www.biosystems.global

