

Jl. Duta Boulevard Barat
Ruko Duta Harapan Blok D.37A
Kota Bekasi 17123
Website: www.dgscientific.com
Phone/Fax: [+62-21] 88985973, 88893164
Email : info@dgscientific.com


DATE	9-Jan-23
QUOTE #	0002/Q/01/2022
VALID UNTIL	9-Feb-23
Currency	IDR
REV.	#00

CUSTOMER

Kepada Yth.
Pak Hendra
PT. Great Giant Pineapple

Prepared by:

Dinar Puspita Anggraini
dinar.puspita@dgscientific.com
Mobile : 087779315240

No	Description	Unit Price	Qty	Amount
1	Atomic Absorption Spectrometer (AAS) Model : GBC Complete Package SavantAA + SYSTEM5000 Graphite Furnace + HG3000 Automatic Hydride Generator GBC Scientific Equipment, Pty.Ltd			
a.	GBC SavantAA Atomic Absorption Spectrometer with 8 lamp turret, HYPER-PULSE background correction, double beam optics and programmable flame control. Comes standard with air-acetylene burner and software. 	1.540.700.000	1	1.540.700.000
	Specification : <u>Atomization System</u> 1. Flame system 2. Graphite furnace system 3. Hydride generator system <u>Optical Spectrometer</u> 1. Double Beam 2. <i>Assymetric modulation 2:1 of sample and references beam</i> 3. All reflective system with quartz overcoating mirror. Sealed against dust and vapour <u>Monochromator</u> 1. Ebert-Fastie design with 333 mm focal length, self-calibrating. 1800 lines/mm holographic grating with dual-blazed profile and 1.6 linear reciprocal dispersion 2. Wavelength range : 175 - 900 nm (Automatic wavelength selection and peaking) 3. Multi-alkali photomultiplier tube, selected wide range			

4. Slit widths : 0.1 - 2.0 nm in 0.1 nm increments (Choice of 20 step slit widths)

Background Correction

HYPER-PULSE background correction. The intensity deuterium arc lamp provides a 175 - 425 correction range. The GBC Hyper pulse system measures 200 (50 Hz) or 240 (60 Hz) sample measurements per second. The background correction range is up to 2.5 total absorbance

Lamp and Turret

1. 8 lamp turret capacity automatic rotation and lamp selection
2. Automatic lamp peaking selection and lamp warming up
3. Automatic optimization
4. Automatic multi - element operation
5. Coded lamp and single channel superlamp

Flame Atomization System

Premix design with solid inert polymer mixing chamber. All-titanium burner construction. The optional nitrous oxide burner is designed to reduce carbon build up. Nebuliser has platinum-iridium capillary and titanium venturi for resistance to acids attack. Adjustable sample uptake rate with locking mechanism. Inert impact bead. Interlocked nebuliser bung and pressure relief bung. Integrated liquid trap with liquid level interlock. Quick change mounting to enable easy changeover to graphite furnace. The optional nitrous oxide burner is designed to reduce carbon build up.

Gas Box System

Fully programmable. Automatic setting of flame type and gas flows from stored conditions. Programmed ignition and shutdowns sequence. Automatic change of flame conditions during automatic multi - element operation. Maybe programmed to automatically extinguish the flame at the end of an analysis. Interlocks monitor air, acetylene and nitrous oxide pressure, burner presence, burner type, liquid trap level, presence of nebulizer and pressure relief bung, oxidant flow, flame condition and mains power. Ignition is prevented or flame is shutdown if a fault is detected. Screen display of interlock status.

Safety System (Interlock System)

1. Ignition of flame is prevented if no burner is installed, or is not installed correctly
2. The flame will not change over to nitrous oxide-acetylene flame if the correct burner is not installed
3. Pressure sensor on the air, acetylene and nitrous oxide gas supplies continually monitor the pressure so that the flame will not ignite if the pressure is too low, or the flame will be shut down if the pressure drops while it is burning
4. The oxidant flow (air or nitrous oxide) is continuously monitored to ensure that the flame can be ignited or shut down in the correct manner if the flow is insufficient. Insufficient oxidant flow can result in a flashback. GBC is the only company to offer this important safety feature
5. A flame sensor shuts off the gases if the flame is extinguished for any reason. This prevent the laboratory from filling up with gas
6. An Integral liquid trap with built in liquid level sensor prevents ignition or shuts down the flame if there is insufficient liquid in the trap
7. Sensors on both the nebulizer bung and pressure relief bung ensure that they are correctly in place. Ignition is prevented or the flame is correctly shut down if either of the bungs is not correctly positioned
8. A mains power sensor shuts down the flame if the power supplied to the instrument is interrupted

	<p><u>Performance Sensitivity Guarantee</u></p> <p>Greater than 0.9 abs for 5mg/L copper solution with an RSD of less than 0.5% on the same measurement</p>		
	<p><u>Software</u></p> <p>Microsoft Windows® operating system for true multitasking. Easy to use, rapid method development, complete instrumen diagnostics, quality control or good laboratory practice. Controls SavantAA, the Electronics Records and Electronic Signature Rule (21 CFR Part 11) was established by the USA FDA.</p>		
b.	<p>SYSTEM5000 Graphite Furnace : AUTOMATED graphite furnace system for analysis where parts per billion (ppb) detection limit is required. Include the PAL AUTO SAMPLER and AUTO DILLUTOR for rapid and accurate analysis and the power supply unit and workhead</p> <div data-bbox="204 712 528 974" data-label="Image"> </div> <div data-bbox="600 719 874 976" data-label="Image"> </div> <p>Specification :</p> <p><u>Temperature Program</u></p> <p>up to 3000°C</p> <p><u>Performance Sensitivity</u></p> <p>< 3 pg for 10 ppb Cu solution with an RSD < 5% Linearity better than 0.98</p> <p><u>Graphite Tube</u></p> <p>up to 300 firings</p> <p>Automatically Two Chemical Modifier for ELIMINATING ALMOST ALL MANUAL SAMPLE PRE-TREATMENT :</p> <p><u>1. Autosampler</u></p> <p>PROGRAMABLE AUTO SAMPLER accommodates up to 40 samples, 10 pre-mixed standard and one stock solution for automatic mixing up to 10 standard. All PTFE capillary. Probe set-up controlled by computer with co-ordinates stored in memory. Program include automatic mixing of standard, automatic injection, multiple injection, heated injection</p> <p><u>2. Auto Dillution :</u></p> <p>Programmable of sample dillution or standard dillution (Pre-mixed, automatic mixing) and calculated automatically</p>	1	
c.	<p><u>Electronic Sample Viewing (ESV) Camera</u></p>	1	

To ensure the sample injection process into the graphite furnace



- d. **HG3000 Automatic Hydride Generator** : Hydride Generator to perform analysis of As, Se, Sb, Bi, Te, Sn, Ge and Hg at part per billion (ppb) concentration



Specification :

Working System

AUTOMATIC continuous flow operation of peristaltic pump, mixing and hydride formation separation. **Typically sample throughput is 60 samples/hr, measuring 3x replicates on each sample.**

Control System

Operation is fully automatic with a computer controlled spectrometer system

Absorption Cell

Material Quartz (kuarsa)

Carrier Gas

Argon

Complement Local Item Included :

1. New Hollow Cathode Single Element Lamp
2. Graphite tube, 1 pack : 10 pcs
3. Open Cell Hydride
4. Closed Cell Hydride
5. ESV Camera
6. Acetylene Gas Cylinder & Regulator
7. Argon Gas Cylinder & Regulator
8. Standard Solution
9. Compressed air : Oil free
10. Water Chiller
11. UPS 15 kVa (integrated stabilizer)

1

8

1

1

1

1

1

2

8

1

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1

12. Reductant NaBH ₄	1	
13. Installation Tubing Kit up to 10 m and gas filter	1	
14. Installation Fume extraction system : Ducting, Hood and Fan Blower	1	
15. Desktop PC : Intel Core i5, Ram: 8 GB DDR4, Harddisk 1 TB, ODD: DVD-RW, Intel HD, Support Windows® 10 Home, Monitor 21,5 Inch	1	
16. Printer : Deskjet printer included scanner	1	
17. Trafo	1	
Subtotal		1.540.700.000
Discount		381.805.000
Price Before Tax		1.158.895.000
Tax/PPN 11%		127.478.450

TERMS AND CONDITIONS

- Price is include Tax (PPN). FRANCO JABODETABEK
- Payment : DP 50%, full payment before delivery
- Delivery : Indent 4 - 12 weeks after PO received
- Warranty : - **2 year for main unit and part except consumable part**
 - Including Installation and training
 - Available Additional Contract Services 1 year after

TOTAL PRICE

1.286.373.450

If you have any questions about this price quote, please don't hesitate to contact us

Thank You For Your Business!

GBC Scientific Equipment Authorized Distributor



Manufacturer of world class scientific equipment and accessories; AAS, HPLC, ICP-OES, ICP- α TOFMS, Rheometry, UV-Vis and XRD - since 1978.

