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Quotation Number:	15746	Date:	07/03/2023
Job Number:	IN1309	Date:	29/03/2023

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ADDITIONAL:

Payment Terms:

50% / 40% / 10%

Other: please specify

Penalty Clause Yes / No

Please specify: _____

Blue Book Completion:

Signed	<i>S. Meyer</i>	Date	<i>24/4/23</i>
Verified	<i>Go. Connor</i>	Date	<i>24/4/23</i>

3 - MACHINE SPECIFICATION

Client:	Minerva Foundation Institute for Medical Research		
Quotation Number:	15746	Date:	07/03/2023
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Ref No.	Product Description	Required
HS2022 (continuous flow)		
20402/1	HS2022 Ref Gas + P Mag	
20402/2	HS2022 Ref Gas + E-Mag	
20402/3	HS2022 Ref Gas + Hd Collector + E-Mag	
20402/4	HS2022 Ref Gas + Hd Collector+E-Mag+Trap Loop	
20501	Hd Collector Assy ***	
50101/2	Trapping Loop Assy	
70201-1	70201-1 Analyser spares kit – Included	
EA Units		
10202/11	iso-EArth	
10202/13	iso-EArth+	
10202/14	iso-Earth HT Furnace Upgrade	
10202/15	Iso-Earth (Without Autosampler)	
11802/1	Earth+PC	
11802/2	EArth+Clarity+PC	
70501-1	Consumables for C and N for Combustion Only	
70501-11	Simultaneous CNS Consumables Kit (approx. 10000 analysis)	
70501-3	Sample Prep Kit (Inc.)	
70501-4	GSL Combustion and Gas C & N Start Up Kit	
70501-5	Simultaneous NCS Consumables Kit	
70501-6	C&N Combustion Only Consumables Kit (approx. 5000 samples)	
70501-8	Simultaneous CNS Consumables Kit (approx. 5000 samples)	
70601-1	Sulphur Start Up Kit (Inc. with Sercon EA Systems)	
70601-2	Sulphur Consumables Kit for 1000 Samples	
70601-4	Sulphur Consumables Kit (approx. 5000 Samples)	
70801-2	Pyrolysis Consumables Kit-Low temp for Solids	
71701-1	Sub Microgram Nitrogen Analysis Start Up Kit	
SI2040	PN150 Pneumatic Autosampler with one no.50 pos, carousel	
SI2345	ME Micro Balance	
SI2737/A	Sercon 50 Position Autosampler Assy	
SI2789	Extra 50 Position Carousel	
SI2744	Automatic Liquid Sampler 15 Position	
SI2743	Liquid Sampler Mounting Plate	
Headspace Equilibration		
10202/10	XYZ Gas Sampling Control Box	
10302/1	Aqua System	
11103	µCarbs for CF	
11103-1	µCarbs for DI	
11601	200 Place Dual Heated Block 240 Volt	
11801	Sercon XYZ Gas Autosampler	
71107-1	CF oxygen-18 equilibration kit	
71107-2	DI Oxygen-18 Equilibration kit	
71201-1	CF deuterium equilibration kit	
71201-2	DI Deuterium Equilibration kit	
71801-1	WES-DI start up kit (Inc. with WES-DI)	
GC Units		
10402/2	Orchid module 1500C (Will run Hd 70901-1 C Spares Kit Inc)	
10901	Nitrogen Option (71301-1 N Spares kit Included)	
HP7890/1	Agilent 7890B GC System	
HP7890/2	Agilent 7890B GC with Auto Injector	
HP7890/3	Agilent 7890B GC + Auto Injector + 150 Vial Sample Tray	
SI2561	Nexis GC 2010 Plus	

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Ref No.	Product Description	Required
GC Units <i>continued</i>		
SI2564	Nexis GC-2030	
70901-3	GC Pyrolysis H and O Start Up Kit	
70901-4	GC Pyrolysis H Spares Kit	
70901-5	GC Combustion C Spares Kit (approx. 5000 samples)	
70901-6	GC Pyrolysis h Start Up Kit (approx. 5000 samples)	
71301-1	GC N Spares kit	
ABCA2 Units		
10502/1	ABCA2 Sercon XYZ Autosampler	
10602	ABCA2 Gas Box	
20602	Complete Sercon ABCA2 system	
20603	ABCA IR Analyser	
70101-1	ABCA2 spares kit (Inc. With ABCA2)	
70101-2	ABCA2 Spares Kit for AB Analytica Systems	
70101-3	ABCA2 Autosampler Upgrade Kit	
SI1767	CVL505 – Barcode Reader	
SC9973	13C Urea breath test kit for Helicobacter pylori infection	
SC9974	Helicobacter Test kit for children age 3-11 (45mg)	
Integra2 Units		
20802/4	Integra2	
70201-2	Integra2 analyser spares kit - Included	
70401-1	Integra-2 consumables (Inc. With Integra2)	
Trace Gas Systems		
10802/4	CryoPrep	
10802/5	Automated LN refiller	
10802/6	CryoFlex (TOC)	
10802/7	CryoGas	
10802/8	CryoFlex (LA)	
SI2533	Silicon Carbide Vertical Furnace	
SI2731	213nm Laser Ablation System	
SI2733	isoScell 100 sampler chamber	
71001-1	Cryoprep Spares Kit	
71001-5	CryoGas Consumables Kit	
TOC Units		
14001	Thermalox Environmental TOC-IRMS	
14002	Thermalox Environmental TOC-Standalone	
14003	Thermalox Environmental TOC-Standalone No Sampler	
SI2772	CO2 Detector, High sensitivity Option	
SI2773	NOx detector Option	
SI2774	Vacuum pump Option	
SI2775	Stirred Vial rack Option	
72101-1	TOC Start Up Kit	
72101-2	TOC Chem Pack	
72101-3	TOC & TN Instrument with heavy usage - one year	
72101-4	TOC only - economy holding	
GEO 20-22 (dual inlet)		
10702	GEO 20-22 Water Equilibration System (D & 18O)	
21802/1	GEO 20-22	
21802/2	GEO 20-22 + E-Mag	

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21802/3	GEO 20-22 + E-Mag +Hd	
21802/4	GEO 20-22 Inlet	
70301-1	GEO start up kit - Included	
70301-3E	Comprehensive GEO 20-22 spares kit for 5 years operation	
HT-EA		
11501/4	HT-EA (With Autosampler)	
11501/5	HT-EA With Liquid Option	
11501/6	HT-EA Stand Alone	
11501/7	HT-EA (Without Autosampler)	
SI2622	CTC PAL3-LSI-L-S	
SI2624	CTC PAL3-Kit-Standalone	
70801-1	Pyrolysis Consumables Kit-High Temp for Solids	
71501-1	HT-EA Pyrolysis Start Up kit O and H	
71501-2	HT-EA Pyrolysis Kit for Water injections	
71501-3	HT-EA Sensitivity Start Up Kit for O & H in small samples	
71501-4	HT-EA Sensitivity Consumables Kit for O & H in small samples	
71501-5	HT-EA Sensitivity Kit for O&H in Small Samples (5000 samples)	
71501-7	HT-EA Kit for Room Temp Equilibration	
71501-8	HT-EA Pyrolysis Kit for Water injections (approx. 1 year kit)	

Ref No.	Product Description	Required
Upgrades		
12101	Evacuation System ***	
12102	2 Ref Gas+ Dilutor Box ***	
20101	Standard Source Assy ***	
20102	HS Source Assy ***	
20301	Standard Collector Assy ***	
30202/1	System Control Upgrade (Pmag) installation not included	Edwards Or Pfeiffer
30202/2	System Controller Upgrade (Emag) installation not included	Edwards Or Pfeiffer
10202/7	Preparation PCB Upgrade	
30202/3	Hijack Box ***	
30302/4	nEXT85 Edwards Pumping System Upgrade Single - installation not included	
30302/5	nEXT85 Edwards Pumping System Upgrade Dual - installation not included	
30302/6	nEXT85 Edwards Pumping System Upgrade Triple- installation not included	
SI2542	ABCA2 Upgrade Kit	
CALLISTOW	Callisto software upgrade ***	
Specials		
11702	LC-I interface	
12202	Leco Interface Unit	
SI2320	Agilent 1260 Series Refractive Index Detection HPLC System	
71401-1	ABCA-G Start Up/Spares Kit	
71401-2	ABCA-G Equilibration Spares Kit - Room temp O only	
71401-3	ABCA-G Equilibration Spares Kit - Room Temp O & H	
71601-1	LC Interface Spares Kit	
ADDITIONS		
PC	Windows 7 based PC System with Callisto Software	
Printer	Printer	
INST1	Installation and start up training at customer's site by Sercon Engineer	
INST2	Installation and start up training at customer's site by Agents Engineer	
WARR	1 year warranty	
WARR2	2 year warranty	
TRAIN	Training in UK for one person for 3 days	
SCONTRACT	Maintenance Service Contract – 1 year	

3 - MACHINE SPECIFICATION

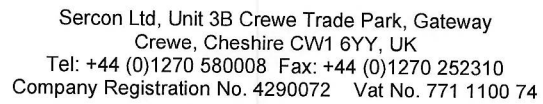
Client:	Minerva Foundation Institute for Medical Research		
Quotation Number:	15746	Date:	07/03/2023
Job Number:	IN1309	Date:	29/03/2023

SPECIFICATION REQUIREMENTS			
Voltage	Volts 50/60Hzs		
Plug Type	SI2510	3 Metre USA/Japan plug to IEC C 13	
	SI2511	2.5 Metre Australian plug to IEC C 13	
	SI2512	3 Metre UK 13 amp Fused plug to IEC C 13	
	SI2523	3metre Schuko (Euro) Plug to IEC C13 Socket	
	SI2514	2.5 metre Chinese mains to IEC C13	
Pallet	Stamped for export heat treated for 30 min @ 56 °C		
	Complies with all Export Requirements		



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S028 v3



5 - FAULT REPORTING

Client:	Minerva Foundation Institute for Medical Research		
Quotation Number:	15746	Date:	07/03/2023
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[illegible]

6 - ABCA2 TEST / ACCEPTANCE SPECIFICATION

Customer:	Minerva Foundation Institute for Medical Research		
Quotation Number:	15746	Date:	07/03/2023
Job Number:	IN1309	Date:	29/03/2023
Unit Serial Number			
Gas Box Serial Number			
Autosampler Serial Number			

¹³C					
Ref Gas Injection Precision	100% CO ₂ (n=5)	≤0.1‰ <i>0.05</i> RECORD VALUE HERE	Test ☒	Install ☐	
			Sheet ☐	Sheet ☐	
Ref gas in tubes precision	10ml 5% CO ₂ (n=5)	≤0.1‰ <i>0.08</i> RECORD VALUE HERE	Test ☐	Install ☐	
			Sheet ☐	Sheet ☐	
Breath Precision	Breath in Exetainer (n=5)	≤0.2‰ <i>0.19</i> RECORD VALUE HERE	Test ☐	Install ☐	
			Sheet ☐	Sheet ☐	
Sensitivity	10ml 5% CO ₂ in Exetainer	Major beam 5e-9 with trap of 150 <i>1.80E-08</i> RECORD VALUE HERE	Test ☒	Install ☐	
			Sheet ☐	Sheet ☐	
Linearity	0.5% - 8.0% CO ₂ in Exetainer	≤0.3 ‰ change <i>0.27</i> RECORD VALUE HERE	Test ☐	Install ☐	
			Sheet ☐	Sheet ☐	
Peak Shape	Beam 1,2 and 2/1	Minimum 5V wide 2/1. Gradient acceptable due to single turbo pump	Test ☒	Install ☐	
			Sheet ☐	Sheet ☐	
Stability	2/1 ratio over 600 seconds	Flat, no spikes or variations. Slight gradient acceptable	Test ☒	Install ☐	
			Sheet ☐	Sheet ☐	
Software Test	All read backs Valves function Autosampler bed CETAC Firmware Version No.:	☒ ☒ ☒ 	Date	Initial	
Flow Meter S/N	<i>102792</i>	Leak Detector S/N	<i>118444</i>		
Multi-Meter S/N	<i>DVM1</i>				
Special Tests					
Linearity to be better than 0.3‰ and recorded					
Sales Signature: <i>[Signature]</i> (Required)			Date: <i>12/7/23</i>		
Test Signature: <i>[Signature]</i> (Completed)			Date: <i>7/12/23</i>		
Install Signature: <i>[Signature]</i> (Completed)			Date: <i>16/11/23</i>		

Data to be transferred to:

\\CENTRAL-SERVER\CentralFiles\SER_SPREADSHEETS\Instrument Performance Spreadsheet.xls

7: ASSEMBLY AND TEST RECORD

Client:	Minerva Foundation Institute for Medical Research		
Quotation Number:	15746	Date:	07/03/2023
Job Number:	IN1309	Date:	29/03/2023

 PRODUCT: ABCA

 SERIAL NUMBER: 20602/2023/1309

 ASSEMBLED:
 (Name) [Signature]

 Date: 28/6/23

 PRE-TEST
 INSPECTION:
 (Production name) P. Hays

 Date: 28/6/23

 PRE-TEST
 INSPECTION:
 (Test name) S. Masch

 Date: 28/6/23

 SYSTEM TEST:
 (Name) S. Masch

 Date: 12/7/23

 PRE-DESPATCH
 INSPECTION:
 (Name) [Signature]

 Date: 27/07/23

P.A.T. Test results

 In compliance with Low Voltage directive 73/23/EEC
 To Low Voltage standard EN61010 – 1:1993

 Earth Continuity 0.082 Ω

 Insulation >300 M Ω

 Earth Leakage Current 1.05 mA. @ 0.05 kVA.

 Tested by: P. Hays

 Date: 28/6/23

7: ASSEMBLY AND TEST RECORD

Client:	Minerva Foundation Institute for Medical Research		
Quotation Number:	15746	Date:	07/03/2023
Job Number:	IN1309	Date:	29/03/2023

PRODUCT:

ABCA GAS Box.

SERIAL NUMBER:

601011-2023/1309

ASSEMBLED:

(Name)

Date:

28/6/23

PRE-TEST

INSPECTION:

(Production name)

Date:

28/6/23

PRE-TEST

INSPECTION:

(Test name)

Date:

28/6/23

SYSTEM TEST:

(Name)

Date:

12/7/23

PRE-DESPATCH

INSPECTION:

(Name)

Date:

27/07/23

P.A.T. Test results

 In compliance with Low Voltage directive 73/23/EEC
 To Low Voltage standard EN61010 – 1:1993

Earth Continuity

Ω

Insulation

MΩ

Earth Leakage Current

mA. @

kVA.

Tested by:

Date:

8 - Serial Numbers Record Document

Client:	Minerva Foundation Institute for Medical Research		
Quotation Number:	15746	Date:	07/03/2023
Job Number:	IN1309	Date:	29/03/2023

Units	S/N
MS/ABCA	20602 / 2023 / 1309
Integra 2	
Prep Unit 1	
Prep Unit 2/Misc	
Electronics Upgrade	
CETAC	
Gas Box	
Autosampler	60101 / 1-2023 / 1309
BCR	
Dual Heater Block	

Pump Kit and Optics	S/N
Turbo pump S	1T23216048
Turbo pump A	
Rotary Pump	JP22380036
Voltage	110 / 240
Gauge S	L12307F038
Gauge A	
Source	20101-218
Collector 1	20301-139
Collector 2	
Magnet	21/12/22 (N10)

Parts	S/N
Fan PSU	
24V PSU	

Additional System Info:

Power Supply - U20520042
 Bar code Reader - 10250055

PCBs	S/N
Electronics Box	20230015
Prep PCB	
VFC PCB	
Watchdog PCB	
Head Amp PCB 1	23011
Head Amp PCB 2	
Electromagnet RP	

Furnaces	S/N
Combustion	
Reduction	
HT-EA	
GC Oven	
Furnace 1	
Furnace 2	

PC	S/N
PC	FRC06Q3
Monitor	7K581P3
Printer	

Key

Pumps:	E: Edwards P: Pfeiffer
Furnaces:	V/S: Vecstar E: Elite
Magnet:	E: Electromagnet S: Standard
Turbos & Gauges:	S: Source A: Analyser
Collectors:	Std: Standard S: Sulphur HD: Hydrogen Deuterium