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Quotation Number:	15788	Date:	22/11/2021
Job Number:	IN1293	Date:	26/09/2022

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NA
NA Agent
Install

ADDITIONAL:

Payment Terms:
50% / 40% / 10%
Other: please specify

Penalty Clause Yes / No
Please specify:

Blue Book Completion:

Signed	<i>S. Meier</i>	Date	17/7/23
Verified	<i>G. O'Connor</i>	Date	17/7/23

3 - MACHINE SPECIFICATION

Client:	EIYOKEN C/O: Taiyo Nippon Sanso		
Quotation Number:	15788	Date:	22/11/2021
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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	Y
20501	Hd Collector Assy	***
50101/2	Trapping Loop Assy	
70201-1	70201-1 Analyser spares kit – Included	
EA Units		Y

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	Y
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)	
71801-2	Aqua start up kit	Y

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 Analitica 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	

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21802/2	GEO 20-22 + E-Mag	
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	
30202/2	System Controller Upgrade (Emag) installation not included	Edwards Or Pfeiffer
10202/7	Preparation PCB Upgrade	Edwards Or Pfeiffer
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	Y
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	Y
WARR2	2 year warranty	
TRAIN	Training in UK for one person for 3 days	Y
SCONTRACT	Maintenance Service Contract - 1 year	

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SPECIFICATION REQUIREMENTS		
Voltage	100 Volts 50/60Hzs	Y
Plug Type	SI2510 3 Metre USA/Japan plug to IEC C 13	Y
	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	Y
	Complies with all Export Requirements	

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Quotation Number:	15788	Date:	22/11/2021
Job Number:	11111		

Job Number:	IN1293	Date:	26/09/2022
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SPECIAL REQUIREMENTS (DETAILED SPECIFICATION)

Approved by Sales: <i>Garry Armstrong</i>	Date: 30/09/2022
Approved by Tech.: <i>Mark O'Connor</i>	Date: 30/09/2022

Approved by Tech.: <i>Mark O'Connor</i>	Date: 30/09/2022
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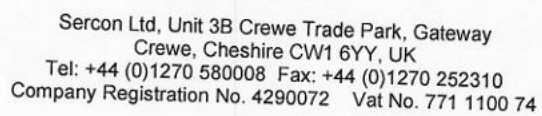
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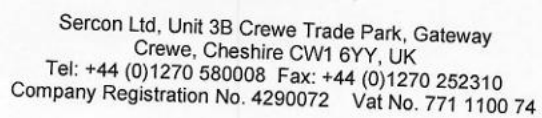
Log sheet - 4

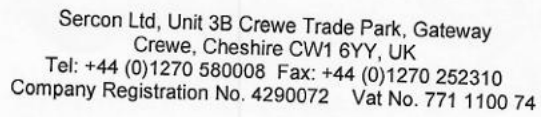
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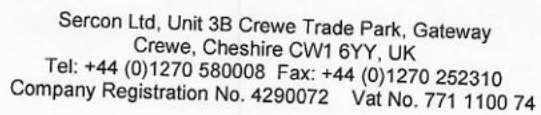
Client:	EIYOKEN C/O: Taiyo Nippon Sanso		
Quotation Number:	15788	Date:	22/11/2021
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Date:			

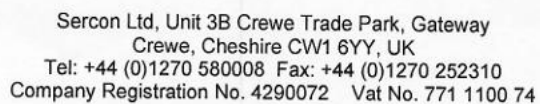
Date	Action Taken	By Whom
30-1-23	Flows set on Ref/gas injection system turned up for both O_2 & N_2 EMag taking too much current and had to be switched off. Ref/gas precision for O_2 completed	SB
31-1-23	Continued Ref/gas specs. O_2 + N_2 in spec - H_2 in spec ✓ A head amp faulty changed for Zenning HA	SB
1-2-23	Switched EMag back to 1350p and reset both the O_2 & N_2 peak shapes.	SB
8-2-23	All testing. Finished	SB.

[illegible]

[illegible]



[illegible]

[illegible]

6 - TEST / ACCEPTANCE SPECIFICATION

Customer:	EIYOKEN C/O: Taiyo Nippon Sanso		
Quotation Number:	15788	Date:	22/11/2021
Job Number:	IN1293	Date:	26/09/2022

HS20-22

Reference Gas Precision (n=5)

¹³ C	(CO ₂)	0.06	0.015	✓
¹⁵ N		0.06	0.022	✓
¹⁸ O	(CO ₂)	0.06		
³⁴ S	(SO ₂)	0.1		
² H		0.4	0.23	✓

Reference Gas Linearity

¹³ C	≤0.02‰/nA	0.12	✓
¹⁵ N	≤0.02‰/nA	0.05	✓

IsoEarth & IsoEarth+

Combustion (n=5)

¹³ C	100 µg C	0.1		10 µg C	0.8	
¹⁵ N	100 µg N	0.15		10 µg N	1.5	
³⁴ S	25 µg S	0.3		10 µg S	1.0	
Dual	400 µg C	0.1		100 µg N	0.15	

Integra2

¹³ C	100 µg C	0.2	
¹⁵ N	100 µg N	0.3	
Dual	100 µg N & 400 µg C	0.4 & 0.15	
³⁴ S	30 µg S	0.5	
¹⁸ O	100 µg O	0.5	

6 - TEST / ACCEPTANCE SPECIFICATION

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Quotation Number:	15788	Date:	22/11/2021
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HT-EA			
Pyrolysis (n=5)			
¹⁸ O	100 µg O or 1 µl water	0.3	
² H	200 µg H or 1 µl water	1.0	

Aqua, µCarbs & GasBox					
Equilibrations (n=5)					
¹⁸ O	0.2 ml water	0.1			
² H	0.2 ml water	2.0			
Carbonates (n=5)					
¹³ C	100 µg CaCO ₃	0.08			
¹⁸ O	100 µg CaCO ₃	0.1			
Gas Analysis (n=5)					
¹³ C	5% CO ₂	0.1	0.01 ✓	Air CO ₂	0.1
¹⁸ O	5% CO ₂	0.1	0.03 ✓	Air CO ₂	0.2
² H	0.5 ml H ₂	1.5			
¹⁵ N	0.5 ml N ₂	0.1		100 ppm N ₂ O	0.5
¹³ C	Breath (12 ml)	0.1	0.06 ✓		
DIC (n=5)					
¹³ C	15ppm (0.5ml)	0.15			

LC-I			
(n=5)			
¹³ C		0.2	

6 - TEST / ACCEPTANCE SPECIFICATION

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Quotation Number:	15788	Date:	22/11/2021
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GC Orchid

Combustion (n=3 for each analyte)

¹³ C	3 Alkanes	100 ng C	0.2		10 ng C	0.5	
¹⁵ N	2 Amines	100 ng N	0.5		14 ng N	1.5	

Pyrolysis (n=3 for each analyte)

² H	3 Alkanes	250 ng H	3.0		25 ng H	10.0	
¹⁸ O	3 FAMES	100 ng O	0.5		20 ng O	2.0	

Water pyrolysis (n=5)

² H	0.1 µl water	3.0					
¹⁸ O	0.1 µl water	0.4					

CryoRange

(n=5)

¹³ C	Air CO ₂ (12ml)	0.1		Air CH ₄ (125ml)	0.2	
¹⁵ N	Air N ₂ (1ml)	0.1		Air N ₂ O (125ml)	0.4	
¹⁸ O	Air CO ₂ (12ml)	0.15		Air N ₂ O (125ml)	0.7	
¹⁸ O	Air O ₂ (1ml)	0.1				
² H	Air CH ₄	3.0				
¹³ C	TOC (5ppm)	0.4				
¹³ C	Laser					

6 - TEST / ACCEPTANCE SPECIFICATION

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Quotation Number:	15788	Date:	22/11/2021
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Geo2			
Internal precision (no change overs)			
² H	200 Bar µl	0.15	
¹³ C	100 Bar µl	0.01	
¹⁵ N	100 Bar µl	0.01	
¹⁸ O	100 Bar µl	0.015	
³⁴ S	100 Bar µl	0.015	
Single cold finger volumes (10 change overs)			
¹³ C	20 Bar µl	0.01	
¹⁸ O	20 Bar µl	0.015	
¹³ C	3 Bar µl	0.02	
¹⁸ O	3 Bar µl	0.03	
CAPS (n=5)			
¹³ C	50 µg CaCO ₃	0.03	
¹⁸ O	50 µg CaCO ₃	0.06	
WES (n=5)			
² H		1.0	
¹⁸ O		0.05	
Manifold (10 tubes)			
² H		0.5	
¹³ C		0.02	
¹⁵ N		0.02	
¹⁸ O		0.03	
³⁴ S		0.03	

6 - TEST / ACCEPTANCE SPECIFICATION

Customer:	EIYOKEN C/O: Taiyo Nippon Sanso		
Quotation Number:	15788	Date:	22/11/2021
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Special tests

Sales Signature: <i>Jo Connor</i>	Date: <i>6/2/23</i>
Test Signature: <i>S. Mara</i>	Date: <i>6/2/23</i>

7: ASSEMBLY AND TEST RECORD

Client:	EIYOKEN C/O: Taiyo Nippon Sanso		
Quotation Number:	15788	Date:	22/11/2021
Job Number:	IN1293	Date:	26/09/2022

PRODUCT:

HS2022

SERIAL NUMBER:

20402/3-2023/1293

 ASSEMBLED:
 (Name)

 P. Hayes James Hume
 wiring plumbing

Date:

20/1/23

 PRE-TEST
 INSPECTION:
 (Production name)

 James Hume P. Hayes
 wiring plumbing

Date:

20/1/23

 PRE-TEST
 INSPECTION:
 (Test name)

S. Bennett

Date:

20/1/23

 SYSTEM TEST:
 (Name)

S. Bennett

Date:

6/2/23

 PRE-DESPATCH
 INSPECTION:
 (Name)

James Hume

Date:

17/2/23

P.A.T. Test results

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

Earth Continuity

0.078

Ω

Insulation

>300

MΩ

Earth Leakage Current

0.025

mA. @

0.05

kVA.

Tested by:

P. Hayes

Date:

7: ASSEMBLY AND TEST RECORD

Client:	EIYOKEN C/O: Taiyo Nippon Sanso		
Quotation Number:	15788	Date:	22/11/2021
Job Number:	IN1293	Date:	26/09/2022

PRODUCT: AQUA UNIT
 SERIAL NUMBER: 10302/1-2023/1293
 ASSEMBLED: [Signature] Date: 19/1/22
 (Name)
 PRE-TEST INSPECTION: P. Hayes Date: 19/1/22
 (Production name)
 PRE-TEST INSPECTION: [Signature] Date: 19/1/23
 (Test name)
 SYSTEM TEST: [Signature] Date: 6/2/23
 (Name)
 PRE-DESPATCH INSPECTION: [Signature] Date: 17/2/23
 (Name)

P.A.T. Test results

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

Earth Continuity 0.076 Ω
 Insulation >300 M Ω
 Earth Leakage Current 0.75 mA. @ 0.05 kVA.
 Tested by: P. Hayes
 Date: 19/1/22

7: ASSEMBLY AND TEST RECORD

Client:	EIYOKEN C/O: Taiyo Nippon Sanso		
Quotation Number:	15788	Date:	22/11/2021
Job Number:	IN1293	Date:	26/09/2022

PRODUCT:

HEATER BLOCK

SERIAL NUMBER:

11601/2023/1293

ASSEMBLED:
(Name)

James Han

Date:

25/1/23

PRE-TEST
INSPECTION:
(Production name)

P. Houp

Date:

25/1/23

PRE-TEST
INSPECTION:
(Test name)

S. Bennett

Date:

25/1/23

SYSTEM TEST:
(Name)

S. Bennett

Date:

6/2/23

PRE-DESPATCH
INSPECTION:
(Name)

James Han

Date:

17/2/23

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:

7: ASSEMBLY AND TEST RECORD

Client:	EIYOKEN C/O: Taiyo Nippon Sanso		
Quotation Number:	15788	Date:	22/11/2021
Job Number:	IN1293	Date:	26/09/2022

PRODUCT:

VENZA 4

SERIAL NUMBER:

60101/4-2023/1293

ASSEMBLED:

(Name)



Date:

25/1/23

PRE-TEST

INSPECTION:

(Production name)

P. Hayes

Date:

25/1/23

PRE-TEST

INSPECTION:

(Test name)

S. Bennett

Date:

25/1/23

SYSTEM TEST:

(Name)

S. Bennett

Date:

6/2/23

PRE-DESPATCH

INSPECTION:

(Name)

J. H.

Date:

17/2/23

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

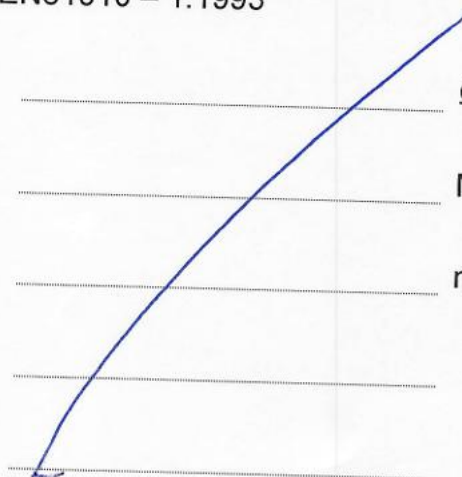
Earth Leakage Current

mA. @

kVA.

Tested by:

Date:



8 - Serial Numbers Record Document

Client:	EIYOKEN C/O: Taiyo Nippon Sanso		
Quotation Number:	15788	Date:	22/11/2021
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Units	S/N
MS/ABGA	20402/3-2023/1293
Integra 2	
Prep Unit 1	
Prep Unit 2/Misc	
Electronics Upgrade	
CETAC	
Gas Box	
Autosampler	
BCR	
Dual Heater Block	

Pump Kit and Optics	S/N
Turbo pump S	220791823
Turbo pump A	220791827
Rotary Pump	220694961
Voltage	110 / 240
Gauge S	220778474
Gauge A	220857783
Source	20102MS-204
Collector 1	20301-125
Collector 2	20501-050
Magnet	123

Parts	S/N
Fan PSU	
24V PSU	

Additional System Info:

AQUA - 10302/17023/1293

PCBs	S/N
Electronics Box	2023 0003
Prep PCB	
VFC PCB	22009
Watchdog PCB	
Head Amp PCB 1	22025
Head Amp PCB 2	1918
Electromagnet RP	

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

PC	S/N
PC	1W2DQ23
Monitor	CN-φWV53-WSLφφ-23H-CUBW
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