SERVICE REPORT

Job Number:	SE0770 Quote: Sage:		
Customer:	University of Exeter, Falmouth, UK		
Contact:	Stephanie Walker, Walid Naciri		
Instrument:	20-22, GSL (NCS), µCarbs, HTEA + Integra 2		
Date of Visit:	28/09/2026 Days: 5		
Engineer:	Thomas Iordanidis		
Reason for Visit:			
Instrument move (10-days) – 5 remaining days will be attended by another Sercon Engineer			
Service Contract?	**Yes** / ~~No~~	Expires:	31 Mar 2027
Warranty?	~~Yes~~ / **No**	Expires:	N/A
Tick as Applicable:	~~Call Out~~ / Routine Service / ~~Warranty~~ / ~~Emergency~~ / Contract Visit		
Details of Visit:			

Sercon Ltd
Europa House, Coppicemere Drive
Crewe, Cheshire
CW1 6GZ U.K.
Company Registration No.: 4290072
Phone: +44 (0) 1270 580008
www.sercongroup.com
VAT No.: 771 1100 74

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Arrived on site and inspected both the old and new lab and systems condition – all OK

All systems are moved to the new laboratory – all OK

At the end of day 1 it was observed that the new benches provided were starting to bend and this was confirmed using a spirit level. All heavy systems were moved at the edges of the benches where there is greater support – customer contacted project manager with issue and to ask whether they were load tested as they have a noticeable flex in them

Serviced the two rotary pumps demonstrating to the customer the process of decanting, filling up, acceptable oil levels and connections

Until final decision on benches is made by customer/university systems are unable to be connected and turned on

Old PC for the 20-22 seems to not turn on – new PC required

Gases:

- New O2 piping has been added in the new laboratory however no fittings to provide a connection – customer contacted supplier – old gauge fittings found and lines established
- Old cylinders were moved and mounted on a bench – these are sat behind the 20-22 but with the isoEArth and the prep systems going on that bench it is a worry that they will be close to heating elements – I would recommend to mount them further away from the systems
- No gas regulators were provided until the morning of the third day on campus (30/09/2026) – wrong regulator provided for CO2 as it only goes up to 2.8 bars – there is one on order
- As the decision was to focus on getting the Integra2 operational, compressed air line found incomplete – N2 used instead plugged in directly into the Integra 2

Plugs:

- For the pyrolysis furnace unit (HT-EA) a 16A plug will need to be installed in the new laboratory

Bench where the Integra 2 is located seems to be able to withhold the weight so focused on get this running first until a further decision is taken for the rest of the systems and the benches

Integra 2 (S/N: 20802-201347):

Established COMs on old PC – all OK, software and reprocessor or work fine

Pump with new oil fitted at the back of the system

Removed Source, removed old filament. Fitted new filament. – All OK. Fitted new copper gasket and PTFE ferrule to inlet. – All OK.

Pumped down instrument – slow pumper. All OK 7.9e-8mBar vac achieved over night. By day 5 vac pressure of 3.1-8mBar achieved – All OK.

Conditioned filament - All OK. Emissions approx. 70µA (with Trap set to 50µA in standby) – All OK

Filament left for a few hours to degas

When on the third day gauges were provided, started connecting gases. Since compressed air line is incomplete it was decided to use nitrogen through the cylinder instead till this is resolved

Magnet placed on markings

As part of the training the customer made a new combustion and reduction tube and fitted, furnace link and connections all look in good condition

Started ramping up the furnace temperatures to 1000°C for combustion 600°C reduction and 130°C GC (baked overnight) – CAL controllers respond as expected

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Lowered GC temperature to 70°C to start running dual specifications

Checked tuning, peak shapes and stabilities via trapping loop for N2 & CO2 using AS Bet Mix samples - All OK.

After the overnight bake out a high CO2 blank was seen – ran about 10 blanks and this went away with nitrogen going down suggesting the system is leak tight – leak checked – all okay

Engineer ran AS Beet Mix samples to test Precision & Linearity via Integra2 unit.

For Precision batch AS Beet Mix (100µg N + 400µg C), n=5 and for Linearity batch AS Beet Mix (100µg N + 250µg C) samples (Linear range 10-200µg N, 25-500 µg C, n=6). Results below:

CO2 2/1 Peak Shape: PASS	13C Precision: 0.013‰ S.D.
CO2 2/1 Stability: PASS	13C Linearity: 0.174‰ S.D.
N2 2/1 Peak Shape: PASS	15N Precision: 0.074‰ S.D.
N2 2/1 Stability: PASS	15N Linearity: 0.368‰ S.D.

Training:

- System theory and Software familiarization
- Pump maintenance
- Source inspection & filament swap (customer swapped filament under supervision for the 20-22) & continuity checking
- Daily checks, tuning using trapping loop
- Making combustion and reduction tubes for the Integra2 (made by the customer)
- Leak checking

Recommendations:

Plugs – for the HT-EA a 16A plug will need to be fitted in the new laboratory

If hydrogen is of interest a gas supply will be required

Old PC for the 20-22 seems to not turn on – new PC required

Gauge for CO2 – On order

See which references have expired and whether you need to order more

If a fan for the Integra 2 is required please let us know by sending an email to our sales department for a quote to be generated

Follow Up:

The Integra2 has passed full specifications and is ready to be used by customer.

No connection to gases or prep systems from 20-22 have been made due to the issue with the benches – once this is resolved please get in contact with us to arrange your second visit

20-22 will need to be turned on by customer (possibly with new or fixed PC) prior to the next visit as the engineer wont have enough time to connect it to the prep systems and pass specifications

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Parts Used:	*Stock Number:*	*Quantity:*	*Charge:*
Service Kit	SC9001	2	N/A
Edwards Ultra 15 Pump Oil	N/A	2	N/A
		Total:	N/A

Engineer: Thomas Iordanidis Date: 02/10/2026

Signed: 

Customer: Walid Naciri Date: 02/10/2026

Signed: 

NOTES: