

ABCA2 Maintenance Report

Job Number:	SE0759		
Customer:	CHU Liege		
Instrument Serial #	20602/1-2016/1130	Gas Box Serial #	10602-2016/1130
ASX 7400 Serial #	061604A7400HR	Software Version	V600.0.112
Contact:	Sorina Floriana Kone		
Date of Visit:	08 June 2026	Days	5
Engineer:	Henry Connell Cooke		

Pre-Maintenance Checks

No Pre specs ran since the gases had already been moved to the new hospital

Maintenance Checklist

Filament Change	Initial: HC	Date: 08 Jun 2026
Oil Change	Initial: HC	Date: 09 Jun 2026
Filament Condition	Initial: HC	Date: 09 Jun 2026
Tune Optimisation	Initial: HC	Date: 12 Jun 2026
Replace Syringe O Rings	Initial: HC	Date: 09 Jun 2026
Gas Flow Check and Optimisation	Initial: HC	Date: 11 Jun 2026
Magnet Position Optimisation	Initial: HC	Date: 10 Jun 2026
System Leak Check	Initial: HC	Date: 11 Jun 2026

Final Source Conditions

HT	2385
Focus	81
HP	-10
IR	-3.5
eV	-86
Trap	240
Emissions	585 (240 trap)
Vacuum	1.0e ⁻⁸

Final Performance Evaluation

Test	Result	Sheet Number
Peak Shape	Pass	1
Stability	Pass	2
Ref Gas Precision (std dev ‰)	0.03	3
Linearity, 1% - 8% CO ₂ , n=5 (std dev ‰)	0.47	4
Breath Precision (std dev ‰)	0.04	5
5% CO ₂ in Tube Precision (std dev ‰)	0.05	6
Sensitivity (peak height from 5% CO ₂ , amps)	1.3e ⁻⁸	7

Notes

Day 1

- Arrive to hospital site. Gases have already been moved to new hospital so no chance for pre specs
- PC and monitor are already packed by customer. All cables/gas lines removed and packed ready for the move on day 2



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- Source removed from flight tube. Continuity detected between half plate and HT. Continuity disappears when the barrel connected to the wire inside the HP ceramic is unscrewed, suggesting that the barrel was touching the body of the source. Barrel repositioned so nothing is touching
- Filament changed. Old filament had a hole in the thoria coating, very well worn.
- Multiple barrels/screws were replaced since they would not adequately tighten. New magnet grub screws and gasket given, before source put back in place

Day 2

- System moved by truck to new site, CHU Liege Andre Bernard
- System placed onto new desk. New ABCA location has adequate width, but desk is lacking depth, so getting into the back of the CETAC is difficult
- New monitor is supplied since the old one was not packed with its correct cables and does not have a HDMI port
- System switched on and started pumping down
- Magnet put on its markings
- Syringe removed and O-rings changed, system leak checked and pressure tested
- Filament conditioning started once vacuum reached $1.6\text{E-}7$ after ~2.5 hours. Filament fired after ~10 switches

Day 3

- System switched to CO2 mode, on peak straight away
- Many tunings tried with a variety of HP and IR settings. Tuning parameters with best linearity have low sense, so Trap kept at 250, as it was upon arrival
- Best tuning of the day achieved 0.52 linearity
- A problem arose where the system would freeze when trying to apply drift correction. This was fixed by unticking all of the 'print' parameters

Day 4

- Tuning carried on to improve linearity
- Customer trained in how to get the system ready to run, make a sample list, what to look for as the samples are running etc.
- Linearity not improved by days end, but ref gas improved to 0.01

Day 5

- Linearity improved to 0.47, final specs can be seen above
- Customer trained on troubleshooting tips

Follow Up

Please email henry.cooke@sercongroup.com or service@sercongroup.com if you have any questions

Engineer:	Henry Connell Cooke	Date:	12 Jun. 26
Signed:			
Customer:	Dr. Sorina-Floriana CONE Médecin biologiste O.M. 1-69294-68-860 Clinique André Renard	Date:	12/06/2026
Signed:	Rue A. Renard 1 - 4040 Herstal 		