

ABCA2 Maintenance Report

Job Number:	SE0720		
Customer:	Viollier AG, Basel, Switzerland		
Instrument Serial #	20602/1-2018/1179	Gas Box Serial #	10602/2018/1179
ASX 7400 Serial #	101511A7400HR	Software Version	V600.0.112
Contact:	Angèle Burger		
Date of Visit:	21/07/2026	Days:	2
Engineer:	Thomas Iordanidis		
Pre Maintenance Checks			
Initial Tuning Parameters:			
HT	2200	IR	-4.0
Focus	86	eV	-85
HP	26	Trap	200
Emission	630		
Vacuum	1.0E-8 (4.9 E-6 with V10 open)		
Initial Performance Evaluation			
Peak Shape	Good	Sheet Number 1	
Stability	Okay	Sheet Number 2	
Ref Gas Precision	0.08	Sheet Number 3	
Linearity	0.51	Sheet Number 4	
Breath Precision	0.05	Sheet Number 5	

Maintenance Checklist			
Filament Change	Initial: TI	Date: 21/07/2026	
Oil Change	Initial: TI	Date: 21/07/2026	
Filament Condition	Initial: TI	Date: 21/07/2026	
Tune Optimisation	Initial: TI	Date: 22/07/2026	
Replace Syringe O Rings	Initial: TI	Date: 21/07/2026	
Gas Flow Check and Optimisation	Initial: TI	Date: 22/07/2026	
Magnet Position Optimisation (If Applicable)	Initial: N/A	Date: N/A	
System Leak Check	Initial: TI	Date: 22/07/2026	

Final Performance Evaluation			
HT	2202	IR	-7.0
Focus	86	eV	-85
HP	27	Trap	200
Emission	615.4		
Vacuum	2.4E-8 (4.9 E-6 with V10 open)		

Final Performance Evaluation		
Peak Shape	Good	Sheet Number 6
Stability	Good	Sheet Number 7
Ref Gas Precision	0.02	Sheet Number 8
In Tube Precision	0.03	Sheet number 9
Sensitivity	22nA	Sheet Number 10
Linearity	0.39	Sheet Number 11
Breath Precision	0.03	Sheet Number 12

Faults and Issues:
ABCA 2 Service:

- System in good condition with okay pre-service specifications (**HP mismatch reading 26 set, actual reading -95**), source inspected no issues seen, half plates seem fine, no sorts on bench top or flight tube only filament gives continuity as expected)
- Customer reported that **CETAC rack is unstable**, pin had come off, screwed down – all OK
- Service commenced – Changed filament, grub screws, copper gasket, sample inlet ferrule, source screws and syringe plunger & block O-rings (**small cracks found at bottom of the syringe – to be assessed during post-specs**)
- Leak found in rotary pump dripping tray – cleaned, when removing the draining seal plug it snapped in half – replaced with another one from an old rotary (seems in good condition with O-ring)
- Filament conditioned at a vacuum of $\sim 1.6\text{E-}7$ & continuity checked – all okay
- Vacuum reached $2.4\text{E-}8$ by the start of day 2
- Whilst trying to enhance system performance it was seen that beam areas were dropping, no leaks detected on needle, syringe swapped with new one as it had small cracks – all okay
- System passed all specifications (see results above) and handed back over to customer
- Customer ran batch of their own samples – good results – all okay

Follow Up:

Keep an eye at your rotary pump oil levels just in case it starts leaking. I have asked our sales team to forward you a quote for a new rotary pump plug, O-ring and a new glass syringe as this was fitted during my visit due to cracks found on the old one

HP readback went back to normal after the source maintenance but by the end of the visit it was back to -95 – this seems to be a readback issue and it does not affect system performance

Please contact us at service@sercongroup.com if you have any future questions or problems with this system going forwards

Engineer:	Thomas Iordanidis	Date:	22/07/2026
Signed:			
Customer:	A. Burger	Date:	22.07.20
Signed:			