



ANASPEC C.C.

SUPPORT AND SUPPLY OF ANALYTICAL EQUIPMENT

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Raith 150 (1500, Supra, Ultra) Series Service Schedule

Company:	Tel. Number:
Contact Person:	Email:
Date:	Service Report No:
SEM Serial No:	SEM Software & Op Sys Version:
Raith Software & Op Sys Version:	Other Accessories:

System Performance

Discuss current performance with Customer

Initial System Checks

Current Configuration

Filament I = A	CURRENT TIP DATA
Extractor Voltage = KV	Tip Type =
Filament Age = hours	Date =
Extractor I = μ A, Beam off	Serial No =
Extractor I = μ A, Beam on @ 10KV	Filament I = A
Gun Vacuum = torr	Extractor Voltage = KV
System Vacuum =	Total I = μ A

CHECK CONDITION OF	COMMENTS
SEM Log file	Note down error messages
SEM Water Cooling Temp Table Tools/go to panel/water temperature	Temp = C°
Column Suspension	NB: The chamber must not touch the table top
Stage Initialisation – X, Y, Z, R, T	
Image Resolution on Inlens SE @ 300K x Mag image at 6mm WD	NB: Image must be saved in Anaspec directory
Resolution (Vibration/noise)	NB: Image must be saved in Anaspec directory
Gun Alignment	
Gun Centre Position	Gun Shift - % Gun Tilt - %
Condition of Inlens Detector	
Note Astigmatism (Stigmator Values)	X = % Y = %
IGP condition	Is the IGP hot? IGP age = years
Confirm all Detector connections	PL13 – SE, PL14 – BSE, PL17 – TV
Column Isolation Valve Condition	Leaking Valve?
Primary Pump condition (scroll/rotary)	Noise level/oil colour
Back Up SEM Config Files (emserver file to service directory)	

CHECKS & CALIBRATIONS

CHECK CONDITION OF	COMMENTS
Aperture Size and Specimen Current (Faraday cup @ 10Kv, 6mm WD)	Size and Specimen Current
Aperture 1	Size: _____ μ Value: _____
Aperture 2	Size: _____ μ Value: _____
Aperture 3	Size: _____ μ Value: _____
Aperture 4	Size: _____ μ Value: _____
Aperture 5	Size: _____ μ Value: _____
Aperture 6	Size: _____ μ Value: _____
Column Alignment Shift and Tilt	Course Shift and Tilt
Aperture 1	Aper X: _____ Y: _____ Gun X: _____ Y: _____
Aperture 2	Aper X: _____ Y: _____ Gun X: _____ Y: _____
Aperture 3	Aper X: _____ Y: _____ Gun X: _____ Y: _____

Aperture 4	Aper X: _____ Y: _____ Gun X: _____ Y: _____
Aperture 5	Aper X: _____ Y: _____ Gun X: _____ Y: _____
Aperture 6	Aper X: _____ Y: _____ Gun X: _____ Y: _____
Emission Image	
Gun Aligned	
Condenser Aligned	
Apertures Aligned	
Stigmator Balance	
High Current Mode	
Gun Parameters (write values in)	
Gun Vacuum (EHT ON)	Bake out required?
Extractor Current (EHT ON)	@1KV μ A
Gun Vacuum (EHT OFF)	
Extractor Current (EHT OFF)	
Gun Vacuum (EHT ON)	Bake out required?
SEM Magnification Calibration	<2% error allowed
SEM Scan Speed Calibration	Minimal movement allowed when changing scan speeds
Gun Vacuum (EHT ON)	Bake out required?
EO Calibration done	
Airlock Pump Down Time	Minutes
Penning Gauge & Isolator	
Stage Condition & Lubricate	
Damping System	
Drain H2O From Compressor	
Nitrogen Feed	
Check Turbo damper	
Service CIV	
Service Airlock	
Clean Keyboard, Desk & Mouse	
Output Device Magnification Calibration	

Monitor Brightness & Contrast	
CCD Camera	
Replace Blown Bulbs on SEM Front Panel	
Fans and Filters	Clean SEM PC, All Pulse Processors and cabinet/desk
Scroll Pump Tip seal	Replacement
Fore line Trap	Alumina Replacement
Desiccator on SEM	
Water Chiller (Water level)	Hexid 40 Fluid top up
Scan Disk and Defragment	On SEM PC
Remove Temp Files	On SEM PC

OPERATIONAL CHECKS

CONFIRM CONDITION OF

COMMENTS

System Vacuum	torr
Gun Vacuum	torr
PC Date and Time	Reset in Bios on both SEM and QS PC
SEM Magnification Calibration	<2% error allowed
SEM Scan Speed Calibration	Minimal movement allowed when changing scan speeds
Image Resolution on Inlens SE @ 300K x Mag image at 6mm WD	Has image improved? Save image in Service directory.
Beam Stability	
Backscatter Working	
Stage Movement	
Check PC Speed	
Aperture Size and Specimen Current (Faraday cup @ 10Kv, 6mm WD)	Size and Specimen Current Aperture 1 Size: _____ μ Value: _____ Aperture 2 Size: _____ μ Value: _____ Aperture 3 Size: _____ μ Value: _____ Aperture 4 Size: _____ μ Value: _____ Aperture 5 Size: _____ μ Value: _____ Aperture 6 Size: _____ μ Value: _____
Column Alignment Shift and Tilt	Course Shift and Tilt Aperture 1 Aper X: _____ Y: _____ Gun X: _____ Y: _____ Aperture 2 Aper X: _____ Y: _____ Gun X: _____ Y: _____

Aperture 3	Aper X: _____ Y: _____ Gun X: _____ Y: _____
Aperture 4	Aper X: _____ Y: _____ Gun X: _____ Y: _____
Aperture 5	Aper X: _____ Y: _____ Gun X: _____ Y: _____
Aperture 6	Aper X: _____ Y: _____ Gun X: _____ Y: _____

SEM Interlocks Partial Vent on Standby? Z Move on Vent? Shutdown @ Logoff?	
Cut SEM Log File (save cut portion in Anaspec Directory)	
Back Up SEM Config Files (emserver file to service directory)	
Read Only on Load State File	
Update The Service File	
CIV	
Airlock	

COMMENTS or RECOMMENDATIONS

ENGINEER

CUSTOMER