

SDB STRATA Strata400_400s PM form



Created 2016-12-19 15:05:20

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English

Service call information

Call number (required)

FS28739

FSE (name)

Customer information

Name

City

Country

Show feedback field

Microscope information

Serial number (required)

D1085

Product type

Strata400S

Available SEM Column Tasks (please select)

- (E-SEM) W Column (E-SEM) LaB6 Column CLM-SEM Column FEG Column
 Nanosem/SFEG Column Elstar/Magellan E-SEM FEG Column

Available ION Column Tasks (please select)

- Pre Lens / Magnum Sidewinder / Tomahawk

Available STAGE Tasks (please select)

- DC 50x50mm DC 100x100mm & Quanta600 150x150mm DC MLA 100x100mm 150x150mm DC 110x110mm
 DC 150x150mm DC 200x200mm Piezo UHR Piezo

100x100mm

150x150mm

 Piezo Expida
300x300mm

 Piezo Helios 300x300mm

Covered Options (please select)

- | | | | |
|--|---|--|--|
| <input type="checkbox"/> EDX | <input type="checkbox"/> NAVIGATION
CAMERA | <input type="checkbox"/> MULTILOADER | <input type="checkbox"/> QUICKLOADER / CRYO
MAT |
| <input checked="" type="checkbox"/> LOADLOCK | <input type="checkbox"/> GIS 1 | <input checked="" type="checkbox"/> GIS 2 | <input type="checkbox"/> GIS 3 |
| <input checked="" type="checkbox"/> GIS 4 | <input type="checkbox"/> GIS 5 | <input type="checkbox"/> GIS 6 | <input checked="" type="checkbox"/> STEM |
| <input checked="" type="checkbox"/> CDEM | <input type="checkbox"/> vCD | <input type="checkbox"/> CHARGE
NEUTRALIZER | <input checked="" type="checkbox"/> OMNI PROBE |

Safety Check; Task and Values

Is the Electron column/Vacuum chamber modified by the customer? Yes No

Additional Safety checks

Description	Value	Comments
Review critical alert bulletins (CAB) and system modification instructions (SMI) and safety alert bulletins (SAB)	<input checked="" type="checkbox"/> Done	
General visual check that there is no hazard with the main power cable. Check if the main electrical wires are free of damages and the connections are well attached. Make sure the PE (protective earth) connection is present.		
Check quality of main electrical wiring.	<input checked="" type="radio"/> OK <input type="radio"/> Not OK	
Check if the interlocks are connected and nothing is bypassed	<input checked="" type="radio"/> OK <input type="radio"/> Not OK	
Check if all panels and covers are securely in place	<input type="radio"/> N/A <input checked="" type="radio"/> OK <input type="radio"/> Not OK	
Check LN2 dewar (if present) for any damages, scratches and cracks. For large LN2 dewars: ensure there is ventilation present. SAB-002-2014	<input checked="" type="radio"/> N/A <input type="radio"/> OK <input type="radio"/> Not OK	
GIS and MultiChem systems: make sure there is an appropriate fume hood for GIS changes	<input type="radio"/> N/A <input checked="" type="radio"/> OK <input type="radio"/> Not OK	
Check EMO buttons Work Instruction: 201042	<input checked="" type="radio"/> OK <input type="radio"/> Not OK	

Tasks

PREPARATION STEPS

Description	Value	Comments
Check history call data or other available info	<input checked="" type="checkbox"/> Done	
Discuss instrument status with customer. Note down any defects the customer experienced, when necessary schedule additional call to solve the defects.	Done	
Create folder on system PC c:\service\pm\ (today's date)	<input type="checkbox"/> N/A <input checked="" type="checkbox"/> Done	D:\FEI\20161219 PM\
Record FEI software version	3.8.8.1937	
Check system functionality: column mode; record and save reference image (low kV and high kV)	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Not OK	
Check magnification calibration	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Not OK	

PC & IT

Description	Value	Comments
Create back-up (registry) and save to c:\service\pm\ (today's date)	<input type="checkbox"/> N/A <input checked="" type="checkbox"/> Done	D:\FEI\20161219 PM\
Check current RAPID version	<input checked="" type="checkbox"/> N/A <input type="checkbox"/> Checked <input type="checkbox"/> Updated	
A RAPID connection should be established to confirm RAPID is installed and functioning correctly. This is accomplished by establishing an OpenVPN connection with the customer's RAPID credentials. For connection instructions, refer to the latest RAPID service manual available on the RAPID portal.		
Verify that RAPID connection is working	<input checked="" type="checkbox"/> N/A <input type="checkbox"/> OK <input type="checkbox"/> Not OK	
Record HDD free space	30.4Gb	d:\ = 359Gb
Defrag HD (windows versions older than XP)	<input checked="" type="checkbox"/> N/A <input type="checkbox"/> Done	

VACUUM SYSTEM

Description	Value	Comments

Record Electron Column Base Pressure Upper IGP	1.04e-9	<input type="radio"/> Pa <input checked="" type="radio"/> mbar <input type="radio"/> torr <input type="radio"/> log	
Record Electron Column Base Pressure Lower IGP	2.75e-7	<input type="radio"/> Pa <input checked="" type="radio"/> mbar <input type="radio"/> torr <input type="radio"/> log	
Record Ion Column Upper IGP pressure	4.13e-7	<input type="radio"/> Pa <input checked="" type="radio"/> mbar <input type="radio"/> torr <input type="radio"/> log	
Record Ion Column Lower IGP pressure	NA	<input type="radio"/> Pa <input type="radio"/> mbar <input type="radio"/> torr <input type="radio"/> log	
Record Ion Column Base Pressure	NA	<input type="radio"/> Pa <input type="radio"/> mbar <input type="radio"/> torr <input type="radio"/> log	
Record Chamber Base Pressure	1.71e-5	<input type="radio"/> Pa <input checked="" type="radio"/> mbar <input type="radio"/> torr <input type="radio"/> log	

Warning! If system has GIS IEE XeF2 or I2 total pump replacement is required!

Exchange scroll pump tip seal Work Instruction: 4022 190 51987	<input checked="" type="radio"/> N/A <input type="radio"/> Replaced tip seal <input type="radio"/> Replaced pump	
Check pre pump for abnormal noise and vibrations	<input type="radio"/> N/A <input checked="" type="radio"/> Checked	
Check pre-vacuum hose(s)	<input checked="" type="radio"/> Checked <input type="radio"/> Changed	
Check penning tube (Pfeiffer / Edwards)	<input type="radio"/> N/A <input type="radio"/> Cleaned <input checked="" type="radio"/> Checked <input type="radio"/> Changed	
Check pump down and vent time	<input type="radio"/> N/A <input checked="" type="radio"/> OK <input type="radio"/> Not OK	
Check function of plasma cleaner	<input checked="" type="radio"/> N/A <input type="radio"/> Checked	

PNEUMATIC

Description	Value	Comments
Record main air pressure	5.0 <input checked="" type="radio"/> bar <input type="radio"/> psi	
Check for air leaks	<input checked="" type="radio"/> OK <input type="radio"/> Not OK	
Empty water trap	<input checked="" type="radio"/> N/A <input type="radio"/> Done	

WATER

Description	Value	Comments
Check quality of cooling water at flowmeter(s) (e.g. alge growth, water transparency)	<input type="radio"/> N/A <input checked="" type="radio"/> OK <input type="radio"/> Not OK	
Check water flow at flowmeter, check if the flow is adjustable	<input type="radio"/> N/A <input checked="" type="radio"/> Checked <input type="radio"/> Adjusted	
Check water sensor	<input type="radio"/> N/A <input checked="" type="radio"/> OK <input type="radio"/> Not OK	
Clean / change water filter	<input checked="" type="radio"/> N/A <input type="radio"/> Cleaned <input type="radio"/> Changed	
Check for water leaks and check quality of hoses	<input type="radio"/> N/A <input checked="" type="radio"/> OK <input type="radio"/> Not OK	
Record temperature of water coming from the chiller	NA <input type="radio"/> °C <input type="radio"/> °F	Facility PCW

ELECTRONICS

Description	Value	Comments
Check fans and clean air filters (also PC's)	<input type="radio"/> N/A <input checked="" type="radio"/> OK <input type="radio"/> Not OK	
Check (hand) panel functions, LEDs and bulbs	<input checked="" type="radio"/> OK <input type="radio"/> Not OK	

Nanosem/SFEG Column

Description	Value	Comments
Check and adjust coulomb tube current	<input checked="" type="checkbox"/> Done	
Coulomb tube conditioning check	<input checked="" type="checkbox"/> Done	
Condensor calibration	<input checked="" type="checkbox"/> Done	

Check cross-over position (each spot) for each high-tension / spot size	<input checked="" type="checkbox"/> Done	
Record emission current	162 <input type="radio"/> pA <input type="radio"/> nA <input checked="" type="radio"/> μ A	
Record extractor voltage	4560 <input checked="" type="radio"/> V	
Record last source change date	07 Jun 2016	

ION_Column: Sidewinder / Tomahawk

Description	Value	Comments
Home the apertures	<input checked="" type="checkbox"/> Done	
Check apertures	<input checked="" type="checkbox"/> Done	
Oil aperture mechanism	<input checked="" type="checkbox"/> Done	
Check apertures currents	<input checked="" type="radio"/> OK <input type="radio"/> Not OK	
Check lens alignment	<input checked="" type="radio"/> OK <input type="radio"/> Not OK	
Check column to column (zero beam shift in the alignment)	<input checked="" type="radio"/> OK <input type="radio"/> Not OK	
Record LMIS lifetime	96 <input checked="" type="radio"/> hours	
Record LMIS lifetime	NA <input type="radio"/> μ A-hours	
Check spot quality	<input checked="" type="radio"/> OK <input type="radio"/> Not OK	

STAGE: Piezo UHR 100x100mm

Description	Value	Comments
Check functionality	<input checked="" type="radio"/> OK <input type="radio"/> Not OK	
Check tilt axis	<input checked="" type="radio"/> OK <input type="radio"/> Not OK	
Clean and grease all accessible axis	<input checked="" type="checkbox"/> Done	
Check/clean encoder bars if accessible	<input checked="" type="radio"/> OK <input type="radio"/> Not OK	
Check and clean all visible ceramics including move test to verify cleanliness Work Instruction: 4022 190 51073	<input checked="" type="radio"/> OK <input type="radio"/> Not OK	
Check touch alarm function Work Instruction: 4022 190 60317	<input checked="" type="radio"/> OK <input type="radio"/> Not OK	

Clean and check rotation table including the ground Work Instruction: 4022 190 51101	<input type="radio"/> OK <input type="radio"/> Not OK	
Clean chamber	<input checked="" type="checkbox"/> Done	
Check flip-stage movements	<input type="radio"/> N/A <input checked="" type="radio"/> OK <input type="radio"/> Not OK	
Check HT 4kv cable BD	<input type="radio"/> N/A <input checked="" type="radio"/> OK <input type="radio"/> Not OK	
Compucentric stage rotation	<input checked="" type="checkbox"/> Done	
TAD tests	<input type="radio"/> N/A <input checked="" type="radio"/> Done	
Contamination test	<input checked="" type="checkbox"/> Done	
Clean ceramics and tilt motors (UHR only, every 6 months)	<input type="radio"/> N/A <input checked="" type="radio"/> Done	
Reassemble tilt axis UHR stage when required	<input checked="" type="radio"/> N/A <input type="radio"/> Done	

DETECTORS STANDARD

Description	Value	Comments
SED/ETD: Perform standard test	<input type="radio"/> N/A <input checked="" type="radio"/> OK <input type="radio"/> Not OK	
TLD: Check suction tube	<input type="radio"/> N/A <input checked="" type="radio"/> OK <input type="radio"/> Not OK	

FINAL STEPS BEFORE LEAVING

Description	Value	Comments
Create back-up (registry) and save to c:\service\pm\ (today's date)	<input type="radio"/> N/A <input checked="" type="radio"/> Done	D:\FEI\20161219 PM\
Create image of C: drive on external HDD and record location	<input type="radio"/> N/A <input checked="" type="radio"/> Done	
Create and submit DAR/Fingerprint	<input type="radio"/> N/A <input checked="" type="radio"/> Done	
Take SEM resolution image and save to c:\service\pm\ (today's date)	<input type="radio"/> N/A <input checked="" type="radio"/> Done	
Clean mouse, monitors and handpanels	<input type="radio"/> N/A <input checked="" type="radio"/> Done	
Talk to customer	<input checked="" type="checkbox"/> Done	

Covered options

LOADLOCK

Description	Value	Comments
Check / clean loadlock	<input type="radio"/> N/A <input checked="" type="radio"/> Cleaned <input type="radio"/> Checked	
Check load position for unusual movement	<input checked="" type="radio"/> Checked <input type="radio"/> Adjusted	
Check carrier / docking sensors	<input checked="" type="checkbox"/> Done	

GIS 2

Description	Value	Comments
Heat GIS for 15 min	<input type="radio"/> N/A <input checked="" type="radio"/> Done	IEE
Check temperature	28 <input type="text"/> <input checked="" type="radio"/> °C <input type="radio"/> °F	
Check insertion repeatability and check position	<input type="radio"/> N/A <input checked="" type="radio"/> OK <input type="radio"/> Not OK	
Check insertion speed	<input type="radio"/> N/A <input checked="" type="radio"/> OK <input type="radio"/> Not OK	
Check deposition	<input type="radio"/> N/A <input checked="" type="radio"/> OK <input type="radio"/> Not OK	
If the GIS is IDEP or IEE; check for vacuum burst with HT disabled and open GIS valve	<input type="radio"/> N/A <input checked="" type="radio"/> Done	
Record GIS lifetime	1.95 <input type="text"/> <input checked="" type="radio"/> hours	

GIS 4

Description	Value	Comments
Heat GIS for 15 min	<input type="radio"/> N/A <input checked="" type="radio"/> Done	Pt
Check temperature	45 <input type="text"/> <input checked="" type="radio"/> °C <input type="radio"/> °F	
Check insertion repeatability and check position	<input type="radio"/> N/A <input checked="" type="radio"/> OK <input type="radio"/> Not OK	
Check insertion speed		

	<input type="radio"/> N/A <input checked="" type="radio"/> OK <input type="radio"/> Not OK	
Check deposition	<input type="radio"/> N/A <input checked="" type="radio"/> OK <input type="radio"/> Not OK	
If the GIS is IDEP or IEE; check for vacuum burst with HT disabled and open GIS valve	<input checked="" type="radio"/> N/A <input type="radio"/> Done	
Record GIS lifetime	192.9 <input checked="" type="radio"/> hours	

STEM

Description	Value	Comments
Check pneumatic insert: repeatability and vacuum	<input type="radio"/> N/A <input checked="" type="radio"/> OK <input type="radio"/> Not OK	
Check centering and stage position	<input type="radio"/> N/A <input checked="" type="radio"/> Done	
Check STEM modes	<input type="radio"/> N/A <input checked="" type="radio"/> OK <input type="radio"/> Not OK	

CDEM

Description	Value	Comments
Perform lifetime check	<input type="radio"/> N/A <input checked="" type="radio"/> OK <input type="radio"/> Not OK	

OMNI PROBE

Description	Value	Comments
Record version (open box for data)	3.1.0	
Home all axis	<input checked="" type="radio"/> OK <input type="radio"/> Not OK	
Check/perform alignments	<input type="radio"/> N/A <input checked="" type="radio"/> Checked <input type="radio"/> Adjusted	
Replace needles	<input checked="" type="radio"/> N/A <input type="radio"/> Done	

Other covered options

Field Replacement Units

Toolbox Parts

Part number	#	Name	Comments	Status
1500F	1	New Pelican case		
4022 268 01435	1	SCREWDRIVER,M3 X-RAY		
4022 268 01436	1	SCREWDRIVER,M4 X-RAY		
ASM990	1	Consult your Service Manager: New Fluke ASM 9901 + probe		
1043742	1	Calibration of your Fluke ASM 9901 + probe + case (exchange program)		
4022 268 00273	1	VAC.GREASE TUB 2 OZ-1613		
5322 390 20011	1	GREASE,SILICON,2 OZ TUBE		
4022 268 01527	1	ANEMOMETR TESTO405-V1,SP		

Annual PM parts

Part number	#	Name	Comments	Status
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Optional spare parts

Part number	#	Name	Comments	Status
4022 268 00734	1	XDS10 Dry vacuum pump		<input type="radio"/> Used <input type="radio"/> Unused
4035 273 58931	1	Pump vacuum XDS35		<input type="radio"/> Used <input type="radio"/> Unused
0822 081 09008	1	0822 081 09008 (6 meter)		<input type="radio"/> Used <input type="radio"/> Unused
4022 297 15641	1	4022 297 15641 (per meter)		<input type="radio"/> Used <input type="radio"/> Unused
5322 530 20167	1	5322 5302 0167 (1 meter)		<input type="radio"/> Used <input type="radio"/> Unused
0822 081 10004	1	VACUUMSLANG K217 8.5X2.5		<input type="radio"/> Used <input type="radio"/> Unused
25062	1	FILTER CARTRIDGE		<input type="radio"/> Used <input type="radio"/> Unused
5322 480 54034	1	FILTER SEDIMENT 50UM		<input type="radio"/> Used <input type="radio"/> Unused
18876	1	Lightbulb 18876		<input type="radio"/> Used <input type="radio"/> Unused
4022 268 01819	1	SOOP Light Bulb 4022 268 01819 (Tecnai SOOP 3+4)		<input type="radio"/> Used <input type="radio"/> Unused

5322 134 44226	1	5322 134 44226 (Tecnai SOOP 1+2, CM)	<input type="radio"/> Used <input type="radio"/> Unused
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Optional consumables

Part number	#	Name	Comments	Status
4035 272 15261	1	Tip seals kit XDS10		<input type="radio"/> Used <input type="radio"/> Unused
4035 278 01861	1	Tip seals kit XDS35		<input type="radio"/> Used <input type="radio"/> Unused
4022 268 00329	1	TUBE ASSY AIM GAUGE NW25		<input type="radio"/> Used <input type="radio"/> Unused
4022 268 02250	1	Pfeiffer repair kit		<input type="radio"/> Used <input type="radio"/> Unused
4022 268 01425	1	GASKET DN100CF AGPL		<input type="radio"/> Used <input type="radio"/> Unused
4035 272 35991	1	SUPPRESSOR,SW		<input type="radio"/> Used <input type="radio"/> Unused

Summary

- All checks passed
 Additional service needed

Comment

- Create signature field

Please note on FSR:

Yearly PM and Safety checks done according to the FEI specifications and the attached checklist. Please write down the outcome of the Safety checks on the FSR and comment if the system has any remaining issues that were not solved during the PM.

E-mail this checklist together with the FSR to the customer (send as a PDF) and FEI (use e-mail button on top of this file) and save a copy in the PM directory on the system PC