

Customer Information

Customer Name	Sai Sankar Gupta, K.B.
Operator Name	Sai Sankar Gupta, K.B.
Company	University of Leiden
Address	Wassenaarseweg 76
Postal Code / City / Country	2333 AL Leiden, Netherlands
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Fax	
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Bruker Information

Office	GSEC
Engineer	T Schiestel
Service Contract No.	
SAP Service Ticket No.	

Spectrometer Information

Order No.	HCAB-76_00003
System	Avance Neo 750
Console Part and Serial No	HCAB-76 / 3
Coil	BR.091075110
Dewar	BD228972
Location	
TopSpin Version	TopSpin 4.1.3 - Build 17

Installation Summary

Approval

Place 2333 AL Leiden, Netherlands
Date October 20, 2021

Place 2333 AL Leiden, Netherlands
Date October 20, 2021

Sai Sankar Gupta, K.B.
Customer representative signature

T Schiestel
Bruker representative signature

NMR Probe

Description	Probe ID	Inspection Lot	Status
PH MASDVT 750W4 EFREE2 BL3.2 C/N/H	H11833_0001	2021-10-19	pass

Copies of all spectra (default and additional) are included in customer's PDF report.

Service Checklist

General Components	pass	fail	n/a
All firmware	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Software updated	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cortab	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lift / spin calibration	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
He / N2 log files	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MICS	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
BSMS	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
AQS chassis	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shim system turbine cleaned	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Door filter(s) replaced	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Optional Components	pass	fail	n/a
Sample Changer	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
MAS controller	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
High power equipment	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
LC-NMR	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Liquid Handler SamplePro Tube	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Micro-Imaging	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Diffusion	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
CryoProbe / Cryoplatfrom	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
BNL / BSNL	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Additional cooling/heating units (like BCU1 / BCU2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
LT-MAS (Low Temperature MAS equipment)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Gyrotron magnet and DNP console	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

General Test Information

Summary of Inspection Lot

Description	Probe ID	Inspection Lot
PH MASDVT 750W4 EFREE2 BL3.2 C/N/H	H11833_0001	2021-10-19

Experiments Measured

Sample	Experiment	Status
Z151230	Magic Angle setting, MAS (NPT_79Br_MAS_magicAngle)	pass
Z151230	Maximum spin rate testing, MAS (NPT_79Br_MAS_maxSpinRate)	pass
Z151230	Optimization of 79Br frequency (NPT_79Br_MAS_fieldsetting)	pass
Z151231	P90 1H pulse calibration, MAS (NPT_1H_MAS_p90det_1h)	pass
Z151230	P90 79Br pulse calibration, MAS (NPT_79Br_MAS_p90det_79br)	pass
Z151232	P90 13C 1H-13C CP pulse calibration, MAS (NPT_13C_MAS_p90det_cp1h_13c)	pass
Z151231	P90 13C pulse calibration, MAS (NPT_13C_MAS_p90det_13c)	pass
Z151232	P90 15N 1H-15N CP pulse calibration, MAS (NPT_15N_MAS_p90det_cp1h_15n)	pass
Z151232	CP 1H-13C sensitivity, MAS (NPT_13C_MAS_sino_cp1h_13c)	pass
Z151232	CP 1H-15N sensitivity, MAS (NPT_15N_MAS_sino_cp1h_15n)	pass
Z151231	13C sensitivity, MAS (NPT_13C_MAS_sino_13c)	pass
Z151231	1H sensitivity, MAS (NPT_1H_MAS_sino_1h)	pass

Achieved Specifications

Pulse Width

Nucleus	Sample		90° Pulse		Power Limit [W]	Method	Status
			Duration [μs]	Power [W]			
1H	Z151231	spec.	-	-	300	direct	pass
		ach.	3.59	85.0			
13C	Z151231	spec.	-	-	300	direct	pass
		ach.	2.94	130.0			
13C	Z151232	spec.	-	-	300	with CP	pass
		ach.	3.65	91.7			
15N	Z151232	spec.	-	-	450	with CP	pass
		ach.	5.99	180.0			
79Br	Z151230	spec.	-	-	300	direct	pass
		ach.	3.25	120.0			

Sensitivity

Nucleus	Sample		S/N	Remarks	Status
13C	Z151232	spec.	500.0	sensitivity of 1H-13C cross-polarization	pass
		ach.	673.2		
15N	Z151232	spec.	80.0	sensitivity of 1H-15N cross-polarization	pass
		ach.	84.4		

Sensitivity with NS

Nucleus	Sample		S/N	FWHM [Hz]	NS	Remarks	Status
¹ H	Z151231	spec.	-	-	-	noise: 20 ppm	pass
		ach.	29517.0	264.3	1	variable, method: sino best	
¹³ C	Z151231	spec.	-	-	-	noise: 20 ppm	pass
		ach.	52.4	5.3	1	variable, method: sino best	

Samples used for Inspection Lot

Sample	Description
Z151230	Potassium Bromide (KBr, 34 ul)
Z151231	Adamantane (34 ul)
Z151232	Alpha-glycine (34 ul)

Remarks / Exclusions

RElocation with Probe MAS 3.2mm H157443/0001

All the old 4mm and 2.5 mm Probe are not spinning with MAS II. need to be chnge optic fiber.