

Customer Information

Customer Name	Feng Xue
Operator Name	
Company	Wuxi Ruifeng Test Technolgoy
Address	
Postal Code / City / Country	Suzhou, China P. R.
Phone Contact Customer	18651519833
Fax	
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Bruker Information

Office	Bruker CN
Engineer	Zhijian Liu
Service Contract No.	
SAP Service Ticket No.	

Spectrometer Information

Order No.	Z133003_00028
System	Avance III 400
Coil	
Dewar	
Location	Suzhou China
TopSpin Version	TopSpin 3.5 pl 7 - Build 188

Approval

Place: Suzhou, China P. R.
Date: Nov 21, 2025

Place: Suzhou, China P. R.
Date: Nov 21, 2025

Feng Xue
Customer Representative Signature

Zhijian Liu
Bruker Representative Signature

NMR Probe

Description	Probe ID	Inspection Lot	Status
PA BBO 400S1 BBF-H-D-05 Z PLUS	Z108618_0547	2025-11-21	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	☐	☐	☒
Software updated	☐	☐	☒
Cortab	☐	☐	☒
Lift / spin calibration	☐	☐	☒
He / N2 log files	☐	☐	☒
MICS	☐	☐	☒
BSMS	☐	☐	☒
AQS chassis	☐	☐	☒
Shim system turbine cleaned	☐	☐	☒
Door filter(s) replaced	☐	☐	☒
Optional Components	pass	fail	n/a
Sample Changer	☐	☐	☒
MAS controller	☐	☐	☒
High power equipment	☐	☐	☒
LC-NMR	☐	☐	☒
BEST	☐	☐	☒
Liquid Handler	☐	☐	☒
Micro-Imaging	☐	☐	☒
Diffusion	☐	☐	☒
Cryoplatfrom	☐	☐	☒
Additional cooling/heating unit	☐	☐	☒

General Test Information

Summary of Inspection Lot

Description	Probe ID	Inspection Lot
PA BBO 400S1 BBF-H-D-05 Z PLUS	Z108618_0547	2025-11-21

Experiments Measured

Sample	Experiment	Status
Z10248	1H lineshape with sample rotation and NS = 4 (NPT_1H_lineshape_wrot)	pass
Z10248	1H lineshape without sample rotation (NPT_1H_lineshape_nrot)	pass
Z10263	P90 1H pulse calibration (NPT_1H_p90determinationf1_1h)	pass
Z10120	1H sensitivity (NPT_1H_sensitivity)	pass
Z10163	13C lineshape with sample rotation (NPT_13C_lineshape_wrot)	pass
Z10263	Indirect P90 13C pulse calibration (NPT_1H_p90determinationf2_13c)	pass
Z10163	13C sensitivity (NPT_13C_sensitivity)	pass
Z10153	13C sensitivity with 1H decoupling (NPT_13C_sensitivity_dec1h)	pass
Z10263	Indirect P90 15N pulse calibration (NPT_1H_p90determinationf2_15n)	pass
Z10187	15N sensitivity with 1H decoupling (NPT_15N_sensitivity_dec1h)	pass
Z10201	P90 31P pulse calibration (NPT_31P_p90determinationf1_31p)	pass
Z10201	31P sensitivity (NPT_31P_sensitivity)	pass
Z10234	P90 19F pulse calibration (NPT_19F_p90determinationf1_19f)	pass
Z10234	19F sensitivity with 1H decoupling and LB=0.5 (NPT_19F_sensitivity_lb05_dec1h)	pass

Experiments not Measured

Sample	Experiment
Z10263	P90 2H pulse calibration (NPT_prep_p90det_d)
Z10209	29Si sensitivity (NPT_29Si_sensitivity)
Z10209	P90 29Si pulse calibration (NPT_29Si_p90determination_29si)
Z10627	1H temperature calibration with 99.8% MeOD (NPT_1H_tempcalib_998meod)
Z10234	19F sensitivity (NPT_19F_sensitivity)
Z10201	31P sensitivity with 1H decoupling (NPT_31P_sensitivity_dec1h)
Z10246	Automated shim optimization (NPT_prep_tsopt)
Z10246	Optimization of 2H locksetting (NPT_prep_locksettings_d)

Achieved Specifications

Pulse Width

Nucleus	Sample		90° Pulse		Power Limit [W]	Method	Status
			Duration [μs]	Power [W]			
¹ H	Z10263	spec.	-	-	40	direct	pass
		ach.	12.1	16.9			
¹³ C	Z10263	spec.	-	-	100	indirect	pass
		ach.	8.8	74.2			
¹⁵ N	Z10263	spec.	-	-	150	indirect	pass
		ach.	17.1	110.0			
¹⁹ F	Z10234	spec.	15.0	-	50	direct	pass
		ach.	14.8	22.8			
³¹ P	Z10201	spec.	15.0	-	70	direct	pass
		ach.	14.6	13.9			

Sensitivity

Nucleus	Sample		S/N	Remarks	Status
¹ H	Z10120	spec.	-	noise: 2 ppm variable, method: sino best	pass
		ach.	366.1		
¹ H	Z10120	spec.	300.0	noise: 200 Hz variable, method: sino best	pass
		ach.	402.6		
¹³ C	Z10163	spec.	190.0	noise: 40 ppm variable, method: sino best	pass
		ach.	214.3		
¹³ C	Z10153	spec.	190.0	noise: 40 ppm variable, method: sino best , with ¹ H decoupling during acquisition and relaxation delay	pass
		ach.	264.3		
¹⁵ N	Z10187	spec.	20.0	noise: 2 ppm variable, method: sino best, with ¹ H decoupling during acquisition	pass
		ach.	33.6		
¹⁹ F	Z10234	spec.	275.0	LB: 0.5 Hz, noise: 1 ppm variable, method: sino best, with ¹ H decoupling during acquisition	pass
		ach.	487.2		
³¹ P	Z10201	spec.	-	noise: 5 ppm variable, method: sino best	pass
		ach.	235.6		

Lineshape with Rotation

Nucleus	Sample		50% [Hz]	0.55% [Hz]	0.11% [Hz]	SSB [%]	Status
¹ H	Z10248	spec.	0.60	6.0	12.0	-	pass
		ach.	0.34	2.2	4.9	0.3	
¹³ C	Z10163	spec.	0.20	2.0	4.0	-	pass
		ach.	0.07	1.2	3.1	0.1	

Lineshape without Rotation

Nucleus	Sample		50% [Hz]	0.55% [Hz]	0.11% [Hz]	Status
¹ H	Z10248	spec.	0.80	7.0	14.0	pass
		ach.	0.63	3.8	5.7	

Samples used for Inspection Lot

Sample	Description
Z10120	0.1% Ethylbenzene (EB) in Chloroform-D
Z10153	10% Ethylbenzene (EB) in Chloroform-D
Z10163	40% Dioxane in Benzene-D ₆ (ASTM)
Z10187	90% Formamide (HCONH ₂) in Dimethyl Sulfoxide-D ₆

Sample	Description
Z10201	0.0485 M Triphenyl Phosphate (TPP, $[\text{C}_6\text{H}_5]_3\text{PO}_4$) in Acetone- D_6
Z10209	85% Hexamethyldisiloxane (HMDSO, $[[\text{CH}_3]_3\text{Si}]_2\text{O}$) in Benzene- D_6
Z10234	0.05% Trifluorotoluene (TFT, a,a,a- $\text{CF}_3\text{C}_6\text{H}_5$) in Chloroform-D
Z10246	2 mM Sucrose, 0.5 mM DSS, 2 mM NaN_3 in 90% H_2O + 10% D_2O (60 mm filling height)
Z10248	1% Chloroform (CHCl_3) in Acetone- D_6
Z10263	100 mM Urea- ^{15}N ($[\text{C}^{15}\text{NH}_2]_2\text{CO}$), 100 mM Methanol- ^{13}C ($^{13}\text{CH}_3\text{OH}$) in Dimethyl Sulfoxide- D_6
Z10627	Temperature Calibration - 99.8% Methanol- D_4

Remarks / Exclusions