

NMR Probe Specifications

Model	JEOL Resonance 3.2 mm High Resolution 500 MHz HXY MAS probe		
Applicable Instrument	ECZR 500 MHz NMR system. For other models, please contact JEOL USA for specifications.		
Description	Three-channel magic angle spinning (MAS) NMR probe. Magic angle spinning speeds up to 21 kHz with standard Zirconia rotors at room temperature with gas supply <60 psi. High frequency channel tuned to ^1H at 500 MHz or ^{19}F at 470 MHz. Observe (X, Y) channel tuning inserts supplied for (^{27}Al , ^{13}C , ^{79}Br)/ ^{15}N , (^{31}P , ^7Li)/(^{27}Al , ^{13}C , ^{79}Br), (^{31}P , ^7Li)/ ^{15}N & (^{27}Al , ^{13}C , ^{79}Br)/ ^{29}Si , and Observe (X) channel tuning for ^{23}Na , ^{27}Al , ^{13}C , ^{79}Br . Other tuning combinations are optionally available.		
Specifications	Signal-to-Noise	^{13}C sensitivity ≥ 100	8 scans HMB, HCN Tuning
	Pulse Widths		
	Standard Power Amplifiers:		
	^1H $\pi/2$ pulse width	$\leq 4.1 \mu\text{s}$	At ≤ 50 W at 500 MHz
	^{13}C $\pi/2$ pulse width	$\leq 4.7 \mu\text{s}$	At ≤ 180 W at 125 MHz
	^{15}N $\pi/2$ pulse width	$\leq 7.7 \mu\text{s}$	At ≤ 180 W at 50 MHz
	Middle Power Amplifiers:		
	^1H $\pi/2$ pulse width	$\leq 2.9 \mu\text{s}$	At ≤ 100 W at 500 MHz
	^{13}C $\pi/2$ pulse width	$\leq 3.8 \mu\text{s}$	At ≤ 275 W at 125 MHz
	^{15}N $\pi/2$ pulse width	$\leq 6.2 \mu\text{s}$	At ≤ 275 W at 50 MHz
	Resolution	^{13}C resolution ≤ 0.1 ppm	Adamantane (FWHM)
	Variable Temperature	Variable temperature range is -100°C to $+150^\circ\text{C}$ with VT system.	

Notes:

Pulse width specifications are measured at the magic angle with sufficient air flow, at ambient temperature. Cross Polarization (CP) at field strengths up to 80% of the observe pulse strength up to 10ms duration. The probe may have ^{19}F & ^{13}C background signals for single pulse experiments.