

NMR Probe Specifications

Model	JEOL Resonance 4 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 17 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 ≥ 120	8 scans HMB, HCN Tuning
	Pulse Widths		
	Standard Power Amplifiers:		
	^1H $\pi/2$ pulse width	$\leq 4.5 \mu\text{s}$	At ≤ 50 W at 500 MHz
	^{13}C $\pi/2$ pulse width	$\leq 6.8 \mu\text{s}$	At ≤ 180 W at 125 MHz
	^{15}N $\pi/2$ pulse width	$\leq 8.1 \mu\text{s}$	At ≤ 180 W at 50 MHz
	Middle Power Amplifiers:		
	^1H $\pi/2$ pulse width	$\leq 3.2 \mu\text{s}$	At ≤ 100 W at 500 MHz
	^{13}C $\pi/2$ pulse width	$\leq 5.5 \mu\text{s}$	At ≤ 275 W at 125 MHz
	^{15}N $\pi/2$ pulse width	$\leq 6.5 \mu\text{s}$	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.