

NMR Probe Specifications

Model	JEOL 5mm 700MHz inverse triple resonance Z-gradient high-resolution UltraCool NMR probe, NM-Z-70HCN-AT-FG-UC, with closed loop Helium gas cooling, operating temperature <20K.		
Applicable Instrument Description	ECZ 700 MHz NMR systems. For other models, please contact JEOL Resonance for specifications. Triple resonance inverse high-resolution NMR probe fitted with an actively shielded Z-axis gradient for 5mm sample tubes on 700MHz standard bore magnets. The inner coil is tuned to observe ^1H . The outer coil is tuned to ^{13}C and ^{15}N . The probe is fitted with a ^2H lock. The probe is compatible with the JEOL Autotune accessory unit (NM-61160ATZ). The probe includes one (1) variable temperature compatible sample spinner.		
Specifications	Signal-to-Noise		
	^1H sensitivity	$\geq 6000:1$	0.1% Ethyl Benzene [†]
		$\geq 5200:1$	0.1% Ethyl Benzene [‡]
	^{13}C sensitivity	$\geq 800:1$	0.1% Ethyl Benzene [†]
		$\geq 700:1$	0.1% Ethyl Benzene [‡]
	Pulse Widths		
	^1H pulse width	$\leq 8 \mu\text{s}$	@ 30W
	^{13}C pulse width	$\leq 15 \mu\text{s}$	@ 200W
	^{15}N pulse width	$\leq 40 \mu\text{s}$	@ 200W
	Lineshape		
	^1H spinning lineshape	$\leq 8/16 \text{ Hz}$	1% chloroform (0.55%/0.11%)
	^1H non-spin lineshape	$\leq 12/24 \text{ Hz}$	1% chloroform (0.55%/0.11%)
	Spinning Sidebands (SSB)	$\leq 1\%$	
	Resolution		
	^1H resolution, spinning	$\leq 0.8 \text{ Hz}$	1% chloroform (FWHM)
	^1H resolution, no-spin	$\leq 1.0 \text{ Hz}$	1% chloroform (FWHM)
	Z-gradient		
	The probe is fitted with an actively shielded single Z-axis gradient coil capable of 30G/cm with 10A current.		
	Variable Temperature		
	Variable temperature range is 0°C to +60°C		
	Cooling Requirements:		
	Requires NM-Z150065 CCCUC for probe coil and preamplifier cooling		

[†] Thin wall NMR sample tube, 0.24mm

[‡] Standard wall NMR sample tube, 0.38mm