

NMR Probe Specifications

Model	JEOL Resonance 5 mm 600 MHz inverse Z-gradient high resolution UltraCool NMR probe, operating temperature <20K	
Applicable Instrument	ECZ600R NMR systems. For other models, please contact JEOL Resonance for specifications.	
Description	Inverse high resolution NMR probe for indirect detection fitted with an actively shielded Z-axis gradient for 5mm sample tubes on 600MHz standard bore magnets. The LF coil can be tuned to observe ^{31}P , ^{13}C , ^{29}Si , or ^{15}N . The HF coil may be tuned to ^1H . 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	$\geq 3600:1$ 0.1% Ethyl Benzene [†]
	^1H sensitivity	$\geq 3150:1$ 0.1% Ethyl Benzene [‡]
	^{13}C sensitivity	$\geq 700:1$ ASTM [†]
	^{13}C sensitivity	$\geq 610:1$ ASTM [‡]
	Pulse Widths	
	^1H pulse width	$\leq 8 \mu\text{s}$ 1H @ 30W
	^{13}C pulse width	$\leq 17 \mu\text{s}$ 13C @ 80W
	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, non-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 -40°C to +150°C	

[†] Thin wall NMR sample tube, 0.24mm

[‡] Standard wall NMR sample tube, 0.38mm