

NMR Probe Specifications

Model	JEOL Resonance 5 mm 600 MHz broadband Z-gradient high resolution SuperCool NMR probe with open loop liquid nitrogen cooling, operating temperature <85K
Applicable Instrument	ECZ 600 MHz NMR systems.
Description	For other models, please contact JEOL Resonance for specifications. Broadband high resolution NMR probe for both direct and 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 to ^{15}N , except ^9Be to ^{199}Hg . The HF coil is tuned to ^1H or ^{19}F §. 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	$\geq 1500:1$ 0.1% Ethyl Benzene [†]
		$\geq 1310:1$ 0.1% Ethyl Benzene [‡]
	^{19}F sensitivity	$\geq 850:1$ 0.05% TFT [‡]
	^{13}C sensitivity	$\geq 700:1$ ASTM [†]
		$\geq 610:1$ ASTM [‡]
	^{31}P sensitivity	$\geq 300:1$ 0.0485M TPP [‡]
	^{15}N sensitivity	$\geq 75:1$ 90% Formamide w/o NOE [‡]
	Pulse Widths	
	^1H pulse width	$\leq 13 \mu\text{s}$ @ 30W
	^{99}F pulse width	$\leq 19 \mu\text{s}$ @ 30W
	^{13}C pulse width	$\leq 15 \mu\text{s}$ @ 90W
	^{31}P pulse width	$\leq 22 \mu\text{s}$ @ 90W
	^{15}N pulse width	$\leq 30 \mu\text{s}$ @ 150W
	Lineshape	
	^1H non-spin lineshape	$\leq 10/18 \text{ Hz}$ 1% chloroform (0.55%/0.11%)
	Resolution	
	^1H resolution (non-spin)	$\leq 0.8 \text{ Hz}$ 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	
	Cooling Requirements:	
	8 Liters/Day liquid Nitrogen Consumption with Fill-On-The-Fly	

[†] Thin wall NMR sample tube, 0.24mm

[‡] Standard wall NMR sample tube, 0.38mm

§ The probe may have a ^{19}F background when observing ^{19}F .