

NMR Probe Specifications

Model	JEOL Resonance 5 mm 600 MHz Carbon-Proton 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	Carbon-Proton high resolution NMR probe for detection Carbon fitted with an actively shielded Z-axis gradient for 5mm sample tubes on 600MHz standard bore magnets. The LF coil is tuned to observe ^{13}C . The HF coil is 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 <table> <tr> <td>^1H sensitivity</td><td>$\geq 2200:1$</td><td>0.1% Ethyl Benzene[†]</td></tr> <tr> <td>^1H sensitivity</td><td>$\geq 1920:1$</td><td>0.1% Ethyl Benzene[‡]</td></tr> <tr> <td>^{13}C sensitivity</td><td>$\geq 2500:1$</td><td>ASTM[†]</td></tr> <tr> <td>^{13}C sensitivity</td><td>$\geq 2180:1$</td><td>ASTM[‡]</td></tr> </table> Pulse Widths <table> <tr> <td>^{13}C pulse width</td><td>$\leq 15 \mu\text{s}$</td><td>^{13}C @ 80W</td></tr> </table> Lineshape <table> <tr> <td>^1H spinning lineshape</td><td>$\leq 8/16 \text{ Hz}$</td><td>1% chloroform (0.55%/0.11%)</td></tr> <tr> <td>^1H non-spin lineshape</td><td>$\leq 12/24 \text{ Hz}$</td><td>1% chloroform (0.55%/0.11%)</td></tr> </table> Spinning Sidebands (SSB) $\leq 1\%$ Resolution <table> <tr> <td>^1H resolution</td><td>$\leq 0.8 \text{ Hz}$</td><td>1% chloroform (FWHM)</td></tr> <tr> <td>^1H resolution, non-spin</td><td>$\leq 1.0 \text{ Hz}$</td><td>1% chloroform (FWHM)</td></tr> </table> 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		^1H sensitivity	$\geq 2200:1$	0.1% Ethyl Benzene [†]	^1H sensitivity	$\geq 1920:1$	0.1% Ethyl Benzene [‡]	^{13}C sensitivity	$\geq 2500:1$	ASTM [†]	^{13}C sensitivity	$\geq 2180:1$	ASTM [‡]	^{13}C pulse width	$\leq 15 \mu\text{s}$	^{13}C @ 80W	^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%)	^1H resolution	$\leq 0.8 \text{ Hz}$	1% chloroform (FWHM)	^1H resolution, non-spin	$\leq 1.0 \text{ Hz}$	1% chloroform (FWHM)
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[†] Thin wall NMR sample tube, 0.24mm

[‡] Standard wall NMR sample tube, 0.38mm