

NMR Probe Specifications

Model	JEOL Resonance 10mm 400MHz Broadband Autotune Z-gradient High Resolution NMR probe (NM-80001T10S)																															
Applicable Instrument	ECZ 400MHz NMR systems. For other models, please contact JEOL Resonance for specifications.																															
Description	Broadband observation high resolution NMR probe fitted with an actively shielded Z-axis gradient for 10mm sample tubes on 400MHz standard bore magnets. The inner coil may be tuned to observe any nucleus from ^{31}P to ^{17}O and ^{15}N . The outer coil can be 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 <table> <tr> <td>^{13}C sensitivity</td><td>$\geq 400:1$</td><td>ASTM</td></tr> <tr> <td>^{13}C sensitivity</td><td>$\geq 400:1$</td><td>10% Ethyl Benzene</td></tr> <tr> <td>^{31}P sensitivity</td><td>$\geq 250:1$</td><td>1% trimethylphosphite</td></tr> <tr> <td>^{15}N sensitivity</td><td>$\geq 60:1$</td><td>90% formamide w/o NOE</td></tr> </table> Pulse Widths <table> <tr> <td>^1H pulse width</td><td>$\leq 25 \mu\text{s}$</td><td>@26W</td></tr> <tr> <td>^{13}C pulse width</td><td>$\leq 20 \mu\text{s}$</td><td>@150W</td></tr> <tr> <td>^{31}P pulse width</td><td>$\leq 30 \mu\text{s}$</td><td>@100W</td></tr> <tr> <td>^{15}N pulse width</td><td>$\leq 38 \mu\text{s}$</td><td>@150W</td></tr> </table> Lineshape <table> <tr> <td>^{13}C spinning lineshape</td><td>$\leq 3/5 \text{ Hz}$</td><td>ASTM (0.55%/0.11%)</td></tr> </table> Spinning Sidebands (SSB) $\leq 1\%$ Resolution <table> <tr> <td>^{13}C resolution</td><td>$\leq 0.2 \text{ Hz}$</td><td>ASTM</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 -100°C to $+180^\circ\text{C}$		^{13}C sensitivity	$\geq 400:1$	ASTM	^{13}C sensitivity	$\geq 400:1$	10% Ethyl Benzene	^{31}P sensitivity	$\geq 250:1$	1% trimethylphosphite	^{15}N sensitivity	$\geq 60:1$	90% formamide w/o NOE	^1H pulse width	$\leq 25 \mu\text{s}$	@26W	^{13}C pulse width	$\leq 20 \mu\text{s}$	@150W	^{31}P pulse width	$\leq 30 \mu\text{s}$	@100W	^{15}N pulse width	$\leq 38 \mu\text{s}$	@150W	^{13}C spinning lineshape	$\leq 3/5 \text{ Hz}$	ASTM (0.55%/0.11%)	^{13}C resolution	$\leq 0.2 \text{ Hz}$	ASTM
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§ The probe may have a ^{19}F background when observing ^{19}F .