

NMR Probe Specifications

Model: **JEOL** 5mm 800MHz broadband autotune Z-gradient high resolution NMR probe NM-80013TH5SS

Description: Broadband observe high resolution NMR probe fitted with an actively shielded Z-axis gradient for 5mm sample tubes on 800MHz standard bore magnets. The inner coil can be tuned to observe from ^{31}P to ^{15}N . The outer coil may be tuned from ^1H to ^{19}F (see Note). The probe is fitted with a ^2H lock. The probe is compatible with the optional JEOL Autotune accessory unit (NM-61160ATZ)#. The probe includes one (1) variable temperature compatible sample spinner.

Specifications: Signal-to-Noise

^1H sensitivity	$\geq 700:1$	0.1% Ethyl Benzene [†]
^1H sensitivity	$\geq 610:1$	0.1% Ethyl Benzene [‡]
^{13}C sensitivity	$\geq 500:1$	ASTM [†]
^{13}C sensitivity	$\geq 435:1$	ASTM [‡]
^{31}P sensitivity	$\geq 230:1$	0.0485M TPP
^{15}N sensitivity	$\geq 55:1$	90% Formamide w/o NOE

Pulse Widths

^1H pulse width	$\leq 20 \mu\text{s}$
^{13}C pulse width	$\leq 15 \mu\text{s}$
^{31}P pulse width	$\leq 20 \mu\text{s}$
^{15}N pulse width	$\leq 30 \mu\text{s}$

Lineshape

^1H spinning lineshape	$\leq 8/16 \text{ Hz}$	1% chloroform (0.55%/0.11%)
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Spinning Sidebands (SSB) $\leq 1\%$

Resolution

^1H resolution	$\leq 0.5 \text{ Hz}$	1% chloroform
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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 $+150^\circ\text{C}$

Tuning nuclei between ^{31}P and ^{15}N may require a capacitive stick change.

[†] 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 .