

NMR Probe Specifications

Model	JEOL Resonance 5mm 400MHz broadband Z-gradient high resolution ROYAL NMR probe (NM-03810RO5 or NM-03811RO5S)		
Applicable Instrument	ECZ, ECA, ECX and ECS 400MHz NMR systems. For other models, please contact JEOL Resonance for specifications.		
Description	Broadband high resolution NMR probe for both direct and indirect detection fitted with an actively shielded Z-axis gradient for 5mm sample tubes on 400MHz standard bore magnets. The LF coil can be tuned to observe any nucleus from ^{31}P to ^{15}N , plus ^{39}K and ^{109}Ag . The HF coil may be tuned from ^1H to ^{19}F §. The probe is fitted with a ^2H lock. The probe is compatible with the JEOL Autotune accessory unit (NM-61160ATZ-s or NM-01090AT). The probe includes one (1) variable temperature compatible sample spinner.		
Specifications	Signal-to-Noise		
	^1H sensitivity	≥500:1	0.1% Ethyl Benzene [†]
		≥425:1	0.1% Ethyl Benzene [‡]
	^{19}F sensitivity	≥550:1	0.05% TFT [§]
	^{13}C sensitivity	≥180:1	ASTM [†]
		≥155:1	ASTM [‡]
	^{13}C sensitivity	≥200:1	10% Ethyl Benzene [†]
		≥175:1	10% Ethyl Benzene [‡]
	^{31}P sensitivity	≥100:1	0.0485M TPP
	^{15}N sensitivity	≥30:1	90% Formamide w/o NOE
	Pulse Widths		
	^1H pulse width	≤7 μs	@30W
	^{19}F pulse width	≤9 μs	@26W
	^{13}C pulse width	≤12 μs	@80W
	^{31}P pulse width	≤18 μs	@50W
	^{15}N pulse width	≤20 μs	@120W
	Lineshape		
	^1H spinning lineshape	≤6/12 Hz	1% chloroform (0.55%/0.11%)
	^1H Non-spin lineshape	≤8/16 Hz	1% chloroform (0.55%/0.11%)
	Spinning Sidebands (SSB)	≤1%	
	Resolution		
	^1H resolution, spinning	≤0.5 Hz	1% chloroform (FWHM)
	^1H resolution, non-spin	≤0.8 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 -100°C to +150°C	

[†] 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 .

Data and specifications are subject to change without notice.

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