Broadband FG/TH NMR Probe Specifications

**Instrument model** JNM-ECZ 400S

**Probe Designation** 40TH5AT/FG2-D

 5mm 400MHz broadband Z-gradient high resolution Broad Band FG/TH NMR probe (S/N: NM-03510TH5)

**Probe Description** Broadband high resolution NMR probe for direct detection fitted with an actively shielded Z-axis gradient for 5mm sample tubes on 400 MHz standard bore magnets. The LF coil can be tuned to observe any nucleus from 31P to 15N, plus 39K and 109Ag. The HF coil may be tuned from 1H to 19F§. The probe is fitted with a 2H lock. The probe is compatible with the JEOL Autotune accessory unit (NM-61160ATZ). The probe includes one variable temperature compatible sample spinner.

**Specifications** Signal-to-Noise

1H sensitivity 337:1 0.1% Ethyl Benzene†

19F sensitivity 280:1 0.05% TFT§

13C sensitivity 253:1 ASTM†

13C sensitivity 263:1 10% Ethyl Benzene†

 31P sensitivity 156:1 0.0485M TPP

15N sensitivity 36:1 90% Formamide

Pulse Widths

|  |  |  |
| --- | --- | --- |
| 1H pulse width | 15 s | @30W |
| 19F pulse width | 20 s | @26W |
| 13C pulse width | 9 s | @80W |
| 31P pulse width | 13.6 s | @50W |
| 15N pulse width | 19.5 s | @150W |

Lineshape

 1H spinning lineshape 0.45/6/12 Hz

(0.55%//0.50%/0.11%)

Standard sample: 1% chloroform in acetone-d6

Spinning Sidebands (SSB) ≤1%

Resolution

Z-gradient

1H resolution ≤0.5 Hz 1% chloroform in acetone-d6

13C resolution ≤0.25 Hz ASTM

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, 0.24 mm

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