



INDIAN INSTITUTE OF TECHNOLOGY BOMBAY
MATERIALS MANAGEMENT DIVISION
Powai, Mumbai 400076

For RFx No.610000383 (PR No.1000011547)

Technical Specifications for 1.7 mm variable temperature triple-resonance probe

- a) A 1.7 mm variable temperature triple-resonance probe (for smaller sample quantities) for observation of ^1H , ^{13}C and ^{15}N with auto tuning and matching and having pulse field gradient capability with minimum operational temperature range of -50 to $+80$ °C with all accessories for low and high temperature operations. All the relevant probe specifications such as 90 deg pulse lengths, sensitivity etc for standard nuclei (^1H , ^{13}C , ^{15}N) are to be provided.

Please specify the following:

1. Configuration of the coils.
2. Pulse widths for ^1H , ^{13}C , ^{19}F , ^{31}P , ^2H and ^{15}N using standard samples. Please specify the sample used.
3. Best resolution and line-shape (under sample spinning and non-spinning conditions). Please specify the line-widths measured using the standard sample.
4. Best Signal-to-noise (S/N) ratio values for each nuclei of the probe measured using standard samples (Please provide data and mention the sample used).
5. Maximum gradient strength (at least 30 G/cm).
6. Gradient recovery times (not more than 100 μs).
7. Decoupling pulse width, power, bandwidth, duty cycle capability on each RF channel.
8. Temperatures range over which the probe can be used.
9. Compatibility of the magnet/probe with 1.7 mm NMR tubes or its likes.