



**INDIAN INSTITUTE OF TECHNOLOGY BOMBAY**  
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**Specifications for Benchtop Nuclear Magnetic Resonance Spectroscopy System**

Requirement of Benchtop Nuclear Magnetic Resonance (NMR) spectroscopy system suitable for

1. Solid fat/solid wax content in oil
2. Droplet size distribution of water in oil or oil in water system

The instrument should have the following specifications along with options for different pulse sequences including FID, CPMG, T1 inversion recovery, T1 solid echo, 1D profile & Diffusion.

1.	Minimum Frequency (MHz)	13
2.	Minimum Magnetic Field (T)	0.3
3.	Minimum Range of Magnetic Field Gradient (T/m)	0-2.5
4.	Minimum Temperature Stabilization of Magnet (°C)	0.1
5.	Probe Size Range (mm)	5 to 18
6.	Minimum Sample Temperature Range (°C)	-5 to 65
7.	Maximum Probe Dead-time (μs)	10
8.	RF Transmitter power range (W)	225-250
9.	NMR Tubes (at least)	100

Direct service & application support

Following must be quoted separately

1. Suitable PC with latest configuration
2. Optional upgradation to high temperature probe-head -100°C → +200°C with suitable probe-head and temperature accessory.