



**INDIAN INSTITUTE OF TECHNOLOGY BOMBAY**  
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**Detailed Technical Specifications for Peptide Synthesizer:**

**General**

Most robust, fully automated bench top Solid Phase Automated Peptide Synthesizer with excellent performance, ease of operation, flexibility to be used by multiple users.

**Basic system requirements**

1. System should be able to conduct solid phase peptide synthesis with the ability to load all reagents automatically, except resin.
2. The entire synthesis must be conducted in inert atmosphere. Fluids transfer should be by active pressure of N<sub>2</sub> and all solvents, reagents and reactions should be in complete inert environment.
3. Synthesis scale: 5 $\mu$ mol to 1.0mmol or more.
4. System should be capable to synthesize both short as well as long peptides and satirically hindered peptides.
5. System should support various chemistries such as Fmoc, t-Boc, organic, peptoid, combinatorial, branched, PNA etc and capable AA activation in-situ as well as pre activation.
6. The system must have an efficient stirring system to ensure that the resin, amino acids, and all reagents are mixed well within the reaction vessel.
7. All the steps like deprotection, coupling, washing should be done automatically.
8. System should be able to add 25 or more amino acids automatically to accommodate natural as well as unnatural amino acids. Volume of Amino Acid bottles should be 100ul or more.
9. System must have at least 8 or more solvent position with varied reservoir capacity of upto 4.0 L or more. Also capable to deliver as little as 250 micro litre.
10. The wastes reservoir should preferably have capacity to contain at least 1L with overflow detection sensor for the waste solvent collected from coupling, deprotection and washing cycle.
11. The system should have self-diagnostics and automated cleaning routines.
12. System must have an option of on-board cleavage system, separate fluid path & vent and with all protection from volatile/TFA fumes.
13. On-site upgradable to multiple Channels as well as to heating and UV Monitoring of the reactions to meet future needs preferred.
14. Installation & Training at our site should be provided by an expert technician.
15. **Warranty of 12 months from the date of installation must be provided.**