

Technical Specification of Organic Reactor with Integral Parts

S.NO	Bidder Eligibility Criteria-II	(Complied/ Not complied)	Reference Page No.	Remarks, If any
1	The bidder/OEM should have supplied at least 5 similar items to IITs, NITs, IISERs, CSIR Labs or other Govt. organizations or Industries in the last 3 years, PO copies or installation certificates along with contact details of end user need to be submitted as the proof of supply. IIT Madras reserves its right to verify the claims submitted by the bidder and the feedback from the previous customers will be part of technical evaluation.			

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1.	Organic reactor work station containing stand with base and supporting rods to hold the components such as main reaction vessel, overhead stirrer, and associated condensers etc should have the following detailed specifications.		
2.	Organic reactor work station should hold jacketed glass vessels ranging from 250 mL to 5 litres on a single stand setup. Rapid vessel exchange with easy-removing vessel clamp and hose coupling without the need of any tool-kit.		
3.	Organic reactor work station should be able to support work with reaction vessel at temperatures from -70° to +250 °C.		
4.	Should be provided with 5-Neck Lid DN100 with all necessary items		
5.	Should be provided with all necessary items like manifolds with insulated hoses, stirring guide, coupling, support base, stands, and HDPE drip tray.		
6.	Stirrer alignment should be easily done with drop in stirrer coupling without any use of tools.		
7.	Hose couplings should be made of PEEK with threaded design and should be able to connect and release quickly.		
8.	Hose manifolds should allow easy thermo fluid drain down while changing vessels		

9.	System should have zero dead space Glass filled PTFE drain valve to prevent leakage across all temperature range.		
10.	System should accept overhead stirrer from all leading brands.		
11.	System should be supplied with all common replacement parts like seals and O-rings.		
12.	Jacketed vessels with metal collar of 1000 mL to be provided with suitable temperature probe and impeller. The vessel should be ground and polished flat flange to avoid contamination.		
13.	Should be provided with different shapes of stirring shaft like anchor & PTFE adjustable rotor with flat blade to create tangential flow and gentle stirring.		
14.	Should be provided with Overhead stirrer with Digital Set & Actual Speed Display & Timer Display.		
15.	System should have support to allow stirring motor to be raised or lowered without changing the alignment, tool-free.		
16.	Overhead Stirrer System should be with Quick action Chuck, the impellers can be easily replaced with just one hand without the need for tools		
17.	System should be provided with digital overhead stirrer that offers up to 2000 rpm, 40 Ncm torque, can handle up to 10000 mPa s viscosity. Overhead stirrer must have a control knob for rotation speed, and a push button to start or stop the function with timer.		
18.	Stirrer should have provisions of setting the speed limit, display of set and actual values with timer.		
19.	A temperature regulator/circulator that is compatible with the reactor unit and provides precise cooling and heating in the operating range (20°-250 °C) or better should be quoted as optional. All the necessary accessory units, such as reaction vessels of various capacities, mixers, condensers, addition funnels, adapters, bubblers, converters for joints, stoppers, thermofluids for thermal regulator, and hoses for circulation, besides the system kit and maintenance accessories should be quoted as optionals.		

Terms and Conditions

1.	Soft and hard copy of the manual should be provided with the system.		
2.	Test report of the system should be provided.		
3.	Installation should be free.		
4.	Training sessions related to the system to be done at least two to three per year until warranty expires.		
5.	Warranty: minimum 2 years and 1 year Comprehensive AMC (Optional), company must take responsibility to replace the consumables if needed during the three years of warranty period.		
6.	Service facility and down-time call attendance:		
7.	Supplier should clearly mention about their service set up in India (preferably in South part of India) for prompt service support along with contact details of service engineers specially trained on the offered system. Service should be provided within 24 hrs from the report of technical problem so that machine down time is minimized.		
8.	In case the Equipment / System remains non-operational for more than 5 days then warranty period will be extended for the equivalent period for which Equipment / System remained non-operational. Warranty extension in such case shall be done without prejudice to any other Terms & conditions of the contract.		
9.	Spares: Supplier should confirm the availability of spares for next 10 years from the date of installation. All essential spares for day-to-day operation needs should be provided as standard supply.		
10.	Pre-Installation Requirement: Necessary pre-installation advice should be sent immediately after the placement of the order.		
11.	Delivery Condition: The instrument should be delivered within 14-16 weeks.		

(Note: It is mandatory for the bidders to provide the compliance statement in tabular column format along with catalogue page number (comply/not comply) for the Above points with document proof as required. Failing which bidders will be technically disqualified)