

TECHNICAL SPECIFICATION FOR PARALLEL SYNTHESIZER WITH HIGH PRESSURE VESSELS

General:

- The system should be all-in-one system with temperature and pressure controller and magnetic stirring.
- Compact design, small footprint to be used inside the 5 ft fume hood.
- Ease of operation
- Each vessel should be controlled with independent pressure and temperature controllers
- In-built magnetic stirrer for the efficient stirring.
- System should also be useful for non-pressure applications by changing to glass vessels
- Safety features such as pressure regulation, function for preventing back-flow of gas, check valve for each gas Injection inlet, cracking pressure at 70kPa, antistatic function, self-diagnosis, double chamber, dew receiving tray, motor over-heat protection, defrost heater

Instrument:

Number of vessels : Minimum 4 independent pressure resistant vessels or more

Synthesis scale : 5 mL to 50 mL

Temperature range : -10 °C to 200 °C or better

Maximum Pressure : 5 MPa or better

Pressure display : Bourdon pressure gauge for each vessel

Rotation speed : 50-1500 rpm or better

Temperature setting/display : Sheet key input and digital display

Gas flushing : Needle valves, two for gas introduction and one for exhaust

Reaction vessel :

1. 4 nos of 10 mL (\pm 2 mL) pressure resistant vessels with required accessories
2. 2 nos of 20 mL (\pm 5 mL) pressure resistant vessel with required accessories
3. 4 nos of Teflon inner vessel for 10 mL (\pm 2 mL) pressure resistant vessel with required accessories

Other requirements:

- All standard accessories for complete operation and maintenance of the equipment shall be supplied by the vendor.
- The instrument should be provided with 12 months warranty and Annual Maintenance contract (AMC) for two additional years.
- Service engineer shall be available in Chennai or nearby cities to attend the call in 24 h. Contact details should be provided.
- Working demonstration of the equipment shall be arranged by the supplier at installed site, without any additional cost.

- The supplier should have supplied similar instruments to IITs, IISc, IISERs or Government (State/Central) Organizations. At least three must have been supplied to IITs, IISc and IISERs. List of organizations with contact details, copy of purchase order and installation certificate should be provided.

Optional:

- Additional gas lines and fitting to connect the gas cylinder with system
- Glass vessels for non-pressure application as parallel synthesizer
- Recirculating chiller