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Technical specifications for Monoware 200 microwave reactor for small scale synthesis
from mg to gram.

Microwave assisted focused monomode organic synthesis system should be able to handle the synthetic reactions involving routine Organic, Organometallic, Nano materials synthesis, fluorination, caustic solutions, catalysts using palladium, non-polar solvents like toluene, hexane etc.

- Power Output : Microwave power of 850 W or higher
- Microwave Power field density : 6000 Watts/liter or more
- Maximum Pressure & Temperature: 20 bar and 260°C or greater for 10 mL as well as 30 mL reaction vessels for scale up reactions without re-optimization of parameters.
- System must be able to effectively heat polar as well as non-polar solvents like Toluene, Dioxane etc. to elevated temperature without heating aids.
- Temperature Measurement: IR measurement as standard facility with multi point calibration for accurate temperature measurement of reactions.
- Integrated Pressure Sensor to measure, display as well as document reaction pressure.
- Should have inbuilt magnetic stirrer device with variable speed from 0 rpm upto at least 1200 rpm or more to ensure uniform temperature in the reaction.
- Self-tuning cavity for optimum heating efficiency with all vessel types.
- Should be supplied with Glass Vials of 10 ml (100 nos.) and 30 ml (22 nos.) capacity with sustainable material of construction and allow for multiple reaction runs to be conducted in the same vial.
- Must be supplied with vessel made of Silicon Carbide material of at least 10ml capacity (01 nos. each) to allow for carrying out reactions involving metallic particles, in-situ fluorination, caustic solutions of high alkaline pH such as NaOH at elevated temperatures and reactions using other aggressive reactants to avoid breakage of glass vessels during operation and it must have unlimited reusability for reduced cost of operation.
- Sealing of reaction vessels should be easy and without use of any tools.
- Heating Performance benchmarks with glass vessels and without any heating aids :
 - System should have ability to heat 20 mL Ethanol to 200 °C in around 2 min
 - System should have ability to heat 5 mL Toluene to 200 °C in around 5 min
- Large inbuilt Touchscreen display with capability for online graphical display of reaction parameters like pressure, power and temperature and review of previous reaction runs.
- Direct printout to PDF files or export of data to excel via USB ports.
- Consumables: Stir Bars for both 10 mL as well as 30 mL vessels (20 nos. each), Caps (60 nos.), Silicone Septum (100 nos.) must be quoted in the main offer along with the instrument for trouble free operation.