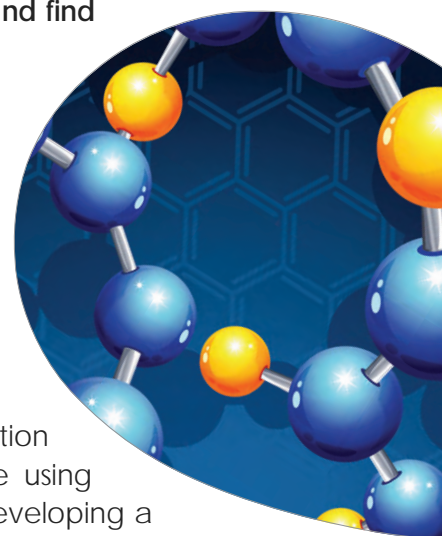


Microwave Chemical Reactors

Most chemists are familiar with the benefits of working with microwave reactors in the laboratory. The technology enables them to test different chemical reactions and find the perfect compound much faster than using conventional heating methods.

Heating a chemical reactor by microwave radiation has the advantages of being faster, cleaner and more efficient than conventional heating methods and the entire sample volume can be heated simultaneously and uniformly. Chemists can therefore achieve cleaner, more efficient chemical reactions with higher yields. In many processes, microwave heating has been found to offer up to a 90% saving in energy, and a two fold increase in yield, compared to conventional heating methods.

Moving directly from laboratory-scale work at the milligramme level to production quantities of kilogrammes or more has, to date, proved difficult to achieve using microwave technology. At C-Tech Innovation we have overcome this issue, developing a range of flow reactors including kilo lab and pilot scale equipment. We can provide a bespoke solution for your process. Our systems are applicable for both liquid and solid state applications.



Features

- Microwave power – 1 to 6 kW as standard (higher as required)
- Temperature range – ambient to 250 °C
- Pressure – atmospheric to 30 bar
- Flow rate – 5 mL to 1 L/min
- Materials of construction – glass, fluoropolymer, stainless steel
- Automatic temperature control

Options

- Fibre optic temperature measurement
- Complete plant or bare reactor

Benefits

- Faster reactions, more throughput
- Cleaner - no hot oil, no fouling of hot surfaces
- Greener - higher yields, fewer by-products, less catalyst, less waste
- Safer - lower chemical inventories, easy temperature control
- High throughput and continuous operation
- Handles liquids and light slurries
- Excellent chemical resistance

- Halide resistant coating of steel parts
- Small pilot unit available for hire



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