

IceCube™: Safe and Simple High Energy Reactions



- Powerful reaction heat dissipation system for safety.
- Low temperature and heating capability for versatility.
- 2 reaction zones for multi-step synthesis capabilities.
- Ozonolysis, lithiation, azides, nitration on one system.
- Easy to use, set-up, and operation. Plug and play.



The IceCube is a revolutionary continuous flow low temperature reactor specifically for high energy reactions to be performed in a highly controlled and safe manner. The system is made up of 3 modules. The Ozone Module, Pump Module, and Reactor Module. The modules can be configured or purchased separately to match the configuration you want.



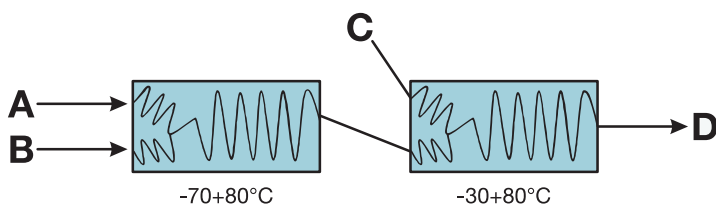
Ozone Module gives you a safe and efficient way of generating ozone from oxygen. The ozone/oxygen amount is precisely controlled through the built-in mass flow controller. The system can also be used as a powerful and compact stand alone ozonizer.

Oxygen flow rate: 10-100 mL/min.

O₃/O₂ v/v%: 14% at 20 mL/min oxygen flow rate.

Maximum reaction pressure: 3 bar.

Reactor Module is a highly versatile reactor capable of controlling even extremely exothermic reactions safely and simply. Composed of two reactor plates with peltier heating/cooling, and a reaction line made of Teflon for wide chemical compatibility, the system may be configured for 2, 3, or 4 reactants in 1 sequence. Difficult or dangerous reactions such as lithiation, azide generation or ozonolysis may now be performed and quenched immediately without the need for isolation of dangerous intermediates.



Main reactor block temp: -70 – +80°C

Maximum main reactor volume: 8 mL

Tubing: 1/16" OD 1mm ID PTFE

Maximum precooling volume: 4 mL

Quench reactor block temp.: -30 – +80°C

Quench reactor volume: 4 mL

Number of mixers: 2

Pressure capability: up to 3 bar



Pump Module is made up of 2 rotary piston pumps, which have good chemical compatibility. The pumps are connected to two 3-way valves, which control the path of reactant or solvent through the reactor. Multiple pump modules can be purchased. Single pumps also.

Flow rate: 0.2 – 4 mL/min

Max pressure: 6 bar

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