

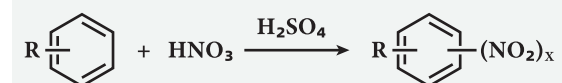
# D-AMERT High Flux Micro Reactor

- Micro Reaction
- Tens Thousands of  
Tons of Amplification

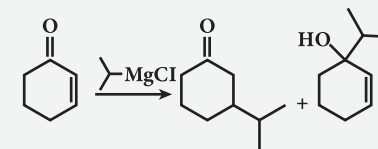


## Application of D-AMERT High Flux Micro Reaction Technology

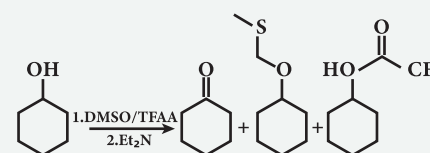
### Nitration Reaction



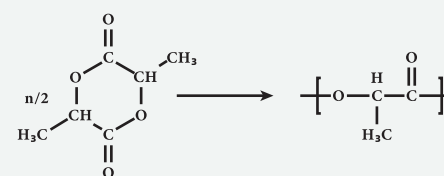
### Grignard Reaction



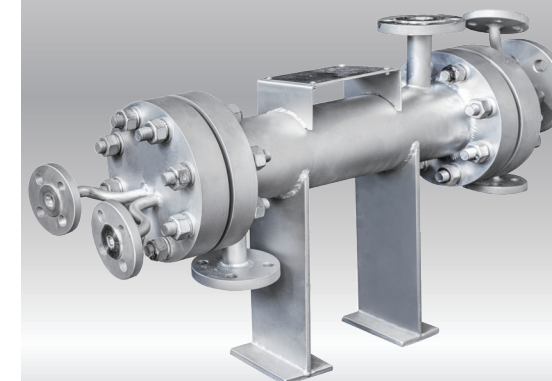
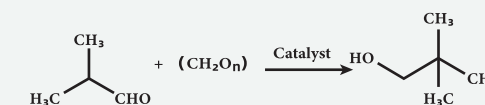
### Oxidation Reaction



### Prepolymerization Reaction



### Aldol Condensation Reaction





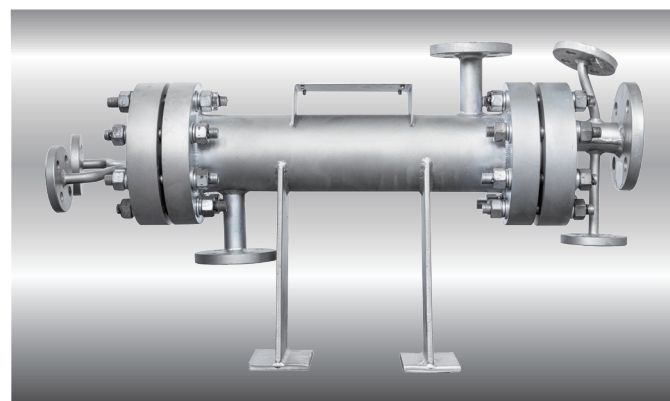
Conveyer  
Metering System

Temperature  
Control System

Micro Component  
Reaction System

Online Quality  
Analyzing and  
Controlling System

## Structure of the D-AMERT High Flux Micro Reaction Technology System



### Micro Component Reaction System

#### Micro Mixing Dispersion Feed System

DODGEN's original linear distributor technology and ultra-precision atomization technology enable the liquid phase to mix or disperse at the micro to molecular level at the moment it enters the micro separation reactor, achieving a rapid reaction in the order of milliseconds.

#### Micro Partition Reactor

DODGEN pioneered simple and efficient microchannel structures and internals to achieve optimal mass and heat transfer coefficients in both laminar and turbulent reactions.

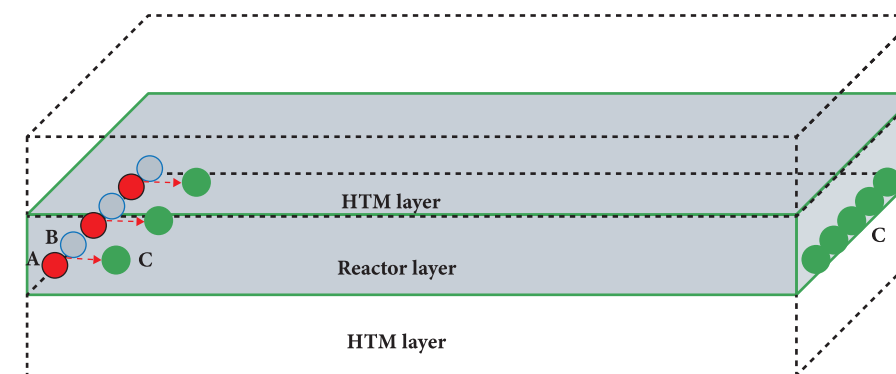
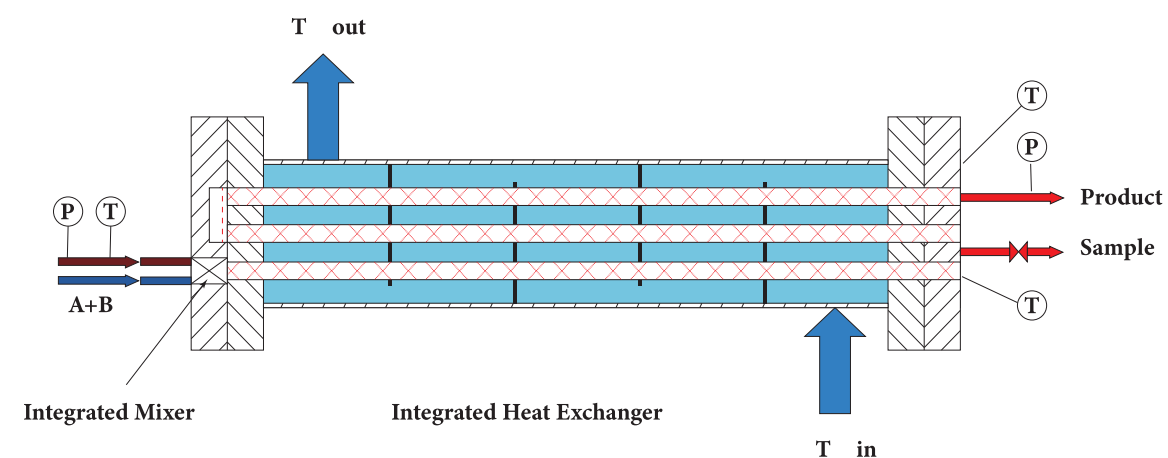
#### Micro Heat Exchanger

The micro heat exchanger designed by DODGEN is combined with the micro separation reactor into an integrated system, so that chemical reactions with large thermal effects can also be carried out under near-constant temperature conditions, and the whole structure is detachable.

## Principle of the D-AMERT High Flux Micro Reaction Technology

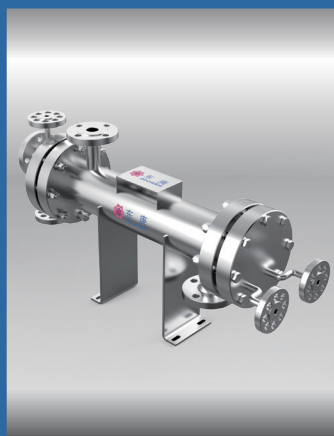
### Continuous Flow Reaction

Through precise control of micro mixing dispersion and micro channel reaction, the precise control of reaction concentration and temperature is achieved, so that the mass transfer efficiency is very high, and high mass transfer coefficient can be achieved under the condition of cover flow or laminar flow.



### Micro Fractional Homogenized Dimensions

The homogenized size of the reactant reaction interface is from micro to molecular level, which makes the chemical reaction engineering design close to the theoretical design state and creates the best chemical reaction kinetic conditions.



DODGEN's D-AMERT high flux micro reactor can reach tens thousands of tons in a single set, providing a reliable guarantee for the realization of large tonnage production.

The outstanding advantage makes D-AMERT high flux micro reaction technology of great commercial value, with a wide range of market prospects.

## Advantages of the D-AMERT High Flux Micro Reaction Technology

- **Fast response to temperature**

Efficient heat transfer system and extremely short reaction time, instantaneous response to changes on reaction temperature.
- **Conversion rate/yield**

Shortening the reaction residence time, accurately controlling the duration, reducing side reactions, improving selectivity.
- **Great safety performance**

The reaction liquid holdup is small, while the mass and heat transfer is fast, avoiding sharp rise in temperature.
- **Production continuity**

Flexible and continuous production process
- **No amplification effect**

Parallel amplification without amplification effect.
- **Device miniaturization**

"Fridge - mobile plant" concept, highly automated controlled.
- **Low investment cost**

Low input and management cost with high income and flexible operation.



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