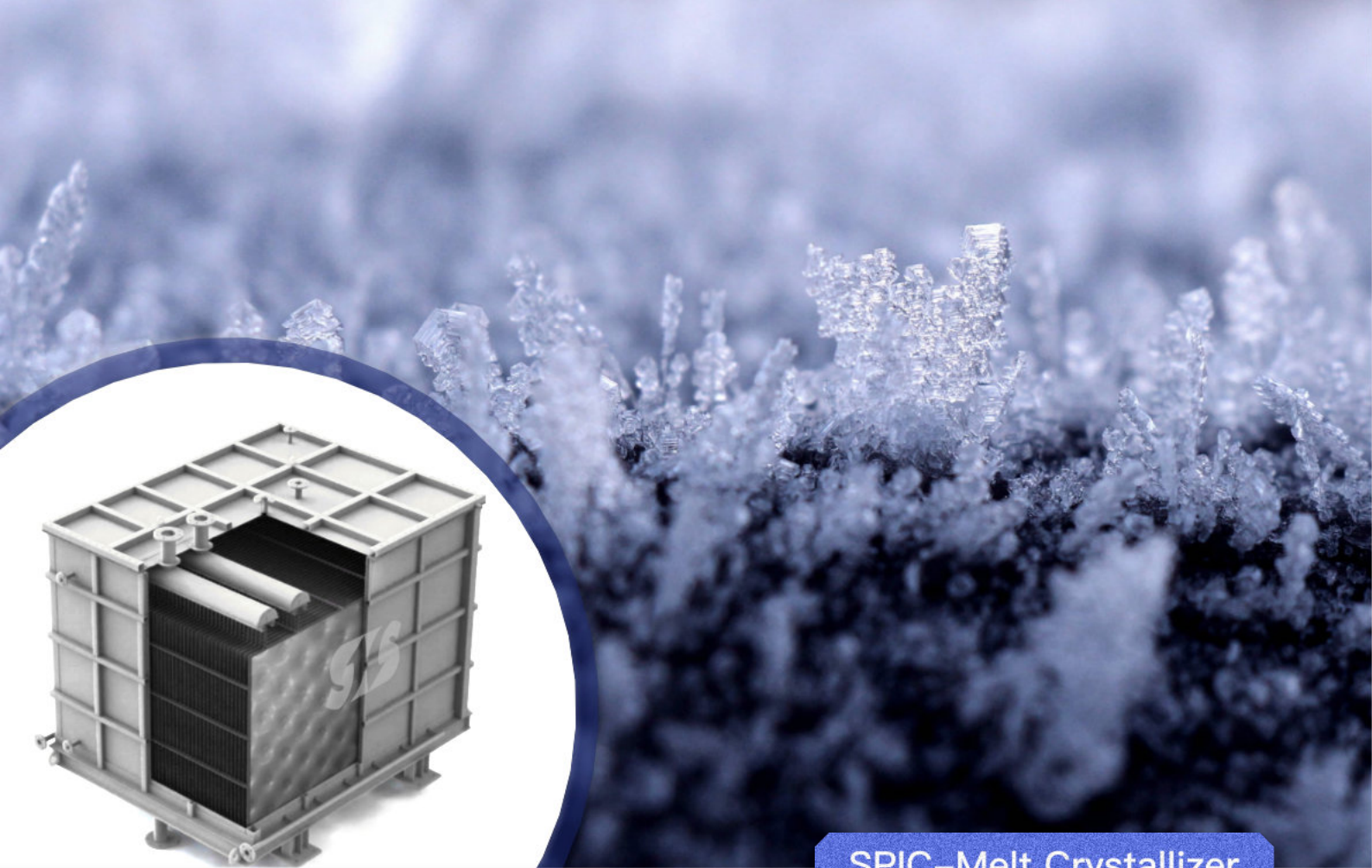


STATIC MELT CRYSTALLIZATION SYSTEM

A low-carbon, safe, and reliable separation solution for the production of high-purity chemicals.



SPIC-Melt Crystallizer



Hanertech Energy Technology (SuZhou) Co., Ltd
TEL: 400 688 9325; +86 512 69572850
Email: szsales@sehenstar.com
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ABOUT US

Technology Leading & Innovation Driven



We committed to the research, production, and application services of innovative energy-saving systems. With 11 years of experience in heat transfer and energy-saving field design and application, our technical team utilizes its strong scientific research capabilities and technological advantages to break through foreign technological monopolies. We have developed proprietary crystallization technology and provide products and services related to static crystallization.

We are dedicated to the research, production, and system integration services of static crystallization purification technology and its products. Our crystallization purification systems have been successfully applied in industries such as new materials, new energy, and environmentally friendly chemical manufacturing, bringing substantial benefits to our clients and earning their trust.

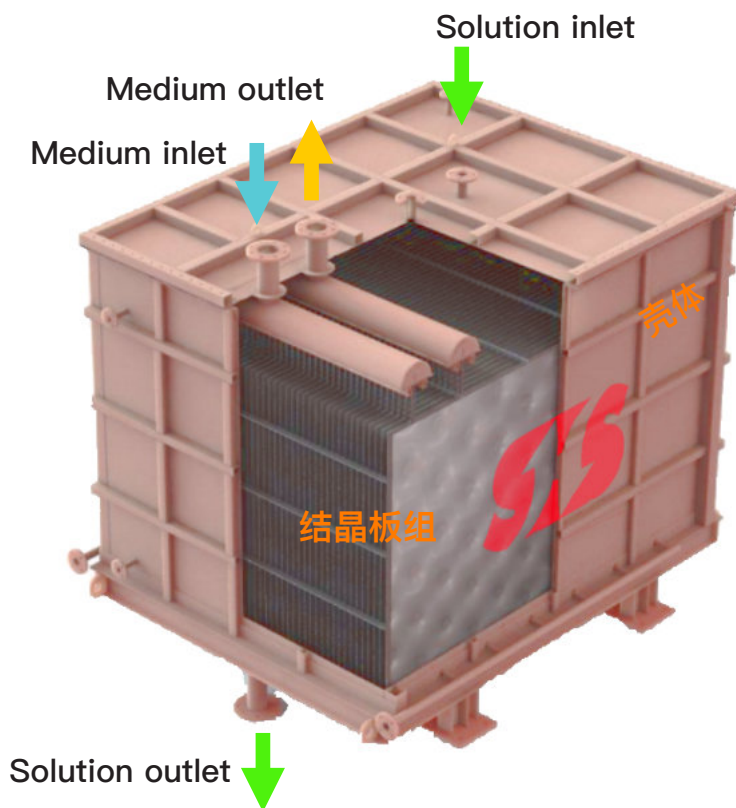


STATIC MELT CRYSTALLIZATION SYSTEM

TECHNOLOGY



BRIEF INTROCUCTION



Melt crystallization is a method of separating and purifying substances based on the different solidification points of the materials to be separated. It is a low-energy and environmentally friendly process for clean organic substance separation. It exhibits high separation efficiency for substances with similar boiling points, such as hydrocarbons, isomers, and thermally sensitive materials. The preparation of ultra-pure substances is a unique advantage of molten crystallization.

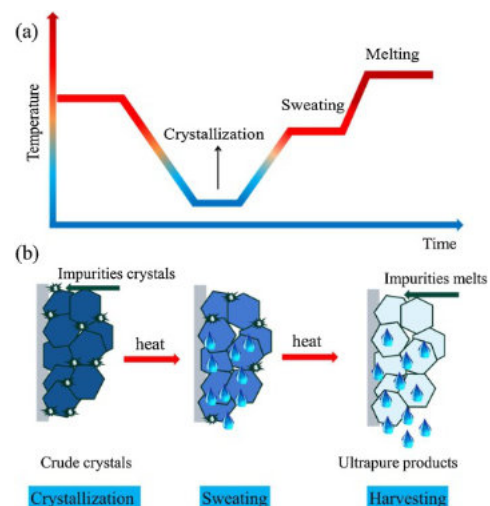
Static stepwise crystallization is a novel separation and purification method. Utilizing specially designed crystallization plates and controlling the temperature of the medium within the plate, the substance to be purified gradually transitions from a saturated state to a supersaturated state. This process leads to the crystallization and precipitation of the target substance, gradually forming a crystalline layer on the plate's surface.



PROCESS

The static stepwise crystallization method we employ is a novel approach to separation and purification. By using specially designed crystallization plates and employing our in-house developed temperature control units, we accurately regulate the temperature of the medium within the plates. This controlled process causes the substance to be purified to transition gradually from a saturated state to a supersaturated state. Consequently, the target substance undergoes crystallization and precipitates, leading to the gradual formation of a crystalline layer on the plate's surface.

In contrast, the molten crystallization method achieves high-purity products through a sequence of operations involving cooling crystallization, warming sweating, and heating melting processes.



Crystallization Steps



ADVANTAGES

1. High Product Purity

The purity of the product can reach 99.99%.

2. Environmentally Friendly

No other solvents are added to reduce environmental pollution. The equipment operates under normal pressure and has zero exhaust emissions.

3. Reliable Operation

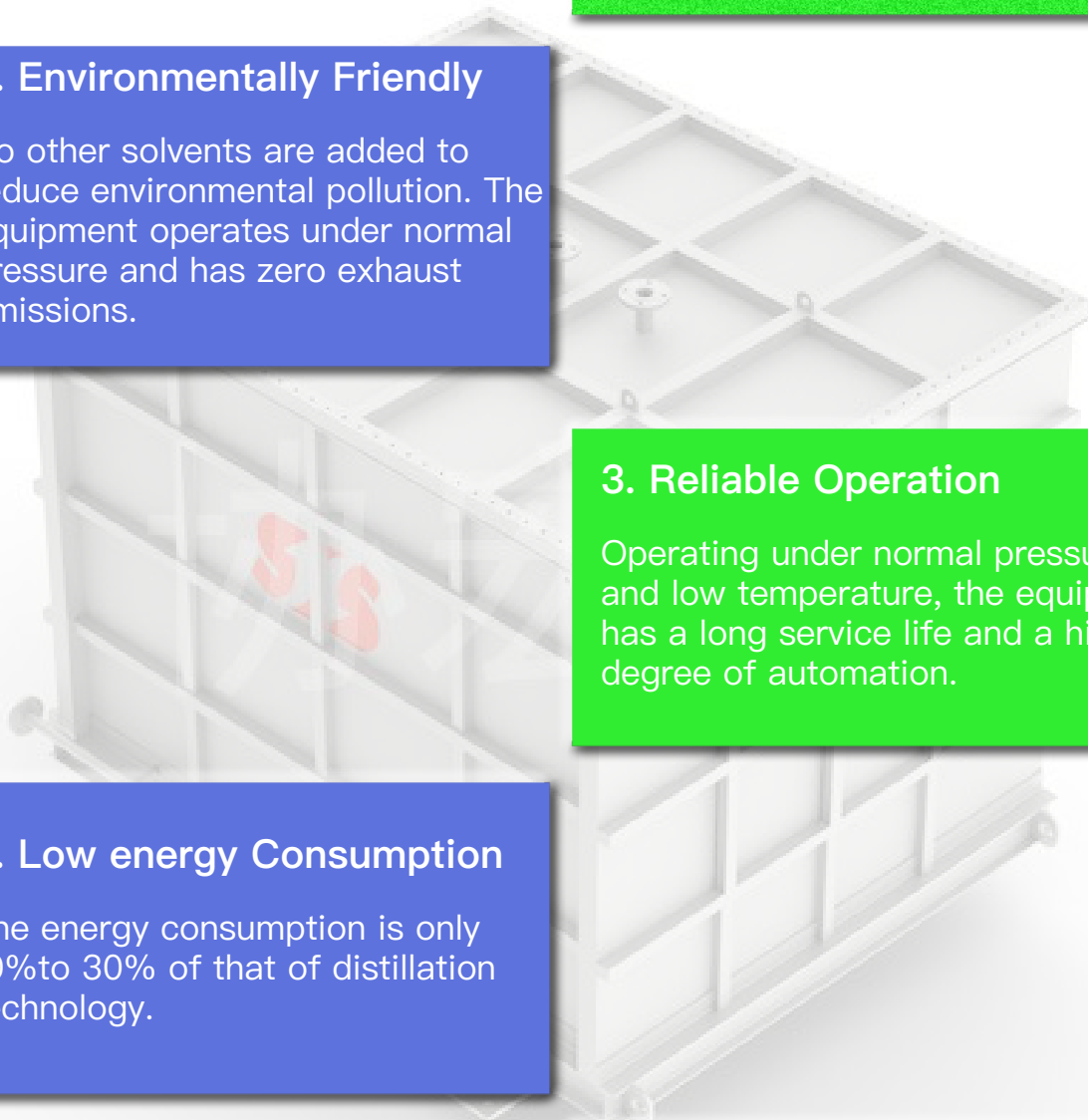
Operating under normal pressure and low temperature, the equipment has a long service life and a high degree of automation.

4. Low energy Consumption

The energy consumption is only 10% to 30% of that of distillation technology.

5. Wide Application Range

It is very suitable for substances such as heat sensitivity, isomers, azeotropes, etc.





APPLICATIONS

Electronic chemicals:

- Ethylene Carbonate/EC
- Dimethyl Carbonate/DMC
- Vinylene Carbonate/VC
- Fluoroethylene Carbonate/FEC
- Phosphoric Acid

Bio-based materials:

- Dimethyl Succinate
- Lactide
- Pentanediamine
- Long-chain dicarboxylic acid

Coal chemical industry:

- Refined naphthalene
- Fischer-Tropsch wax
- Cresol
- Naphthol

Fine Chemicals:

- Benzoic acid
- Phenylenediamine
- Dichlorobenzene
- Chloroacetic acid
- Nitrochlorobenzene

Polymer monomer:

- Bisphenol A
- Acrylic acid
- Caprolactam
- Dimethyl Terephthalate
- Hexamethylene diamine

Petrochemical industry:

- Maleic anhydride
- P-xylene
- M-xylene



CASES



EQUIPMENT



Pillow Plate & Temperature Control Unit



The core crystallization plates are fabricated using fully automated laser welding technology:

- ✓ Employing high-precision welding methods for superior weld quality and minimal distortion.
- ✓ Low-speed turbulent flow of the fluid within the plates, resulting in low pressure drop and high heat transfer coefficient.
- ✓ The plates are designed in a convex shape, facilitating easy adhesion of crystalline material without collapsing.



In-house Developed Precision Temperature Control Unit:

- ✓ Equipped with precision valves and instruments.
- ✓ Temperature control within $\pm 0.5^{\circ}\text{C}$.
- ✓ Utilizes Schneider Electric components.
- ✓ Digital display with keypad operation.
- ✓ Stable performance, durability, and high safety design.

OUR SERVICE

- Provides a high level of automation, eliminating the need for manual operation. Real-time data collection and feedback ensure precise system operation.
- No need for constant monitoring by personnel, as an integrated safety system ensures production safety.
- We have designed standardized control interfaces, streamlining operational procedures and reducing training costs.



Accurate temperature control



Developing the best chemical processes



PLC fully automated



Monitoring data at actual time



Quick decision-making



Reliable after-sales service

OUR TEAM

Advanced Technology Institute



Our company has jointly established an Advanced Technology Research Institute in collaboration with Wuhan University of Science and Technology. The institute is dedicated to research in areas such as industrial crystallization, process intensification in separation, functional crystal materials, and green biomass refining.

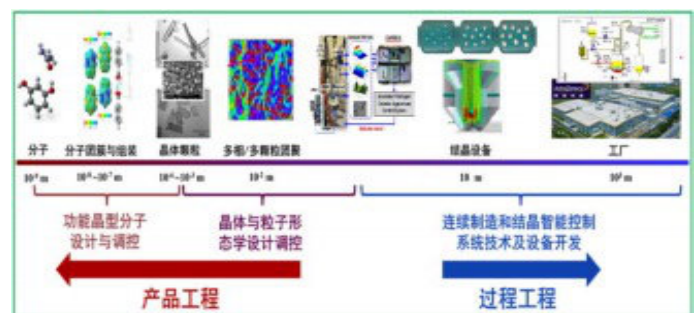


Doctor: 4
 Professor: 4
 Associate Professor: 1
 Lecturer: 1

PROFESSIONAL TEAM

PROFESSIONAL TESTING

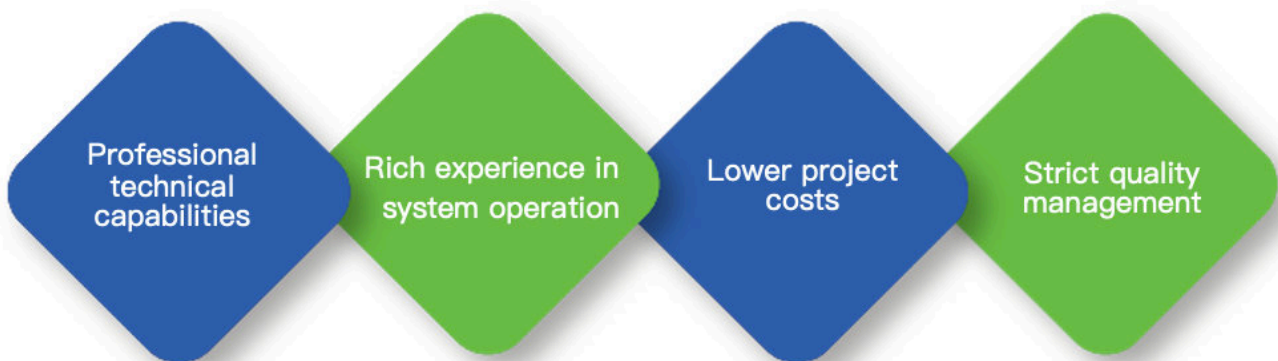
- Numerical Simulation
- Physical Simulation
- Quality Inspection
- On-Site Testing
- Analysis and Reporting



PROCESS DESIGN



We not only provide customers with equipment and solutions but also leverage our strengths to offer complete system design for the entire process, and even undertake turnkey projects. This maximizes the feasibility and rationality of system design while minimizing project risks and customer investment costs, including time and financial expenses.



Equipment and process routes often serve as the core of energy-saving and environmental protection projects. Leveraging our professionalism and project management experience, Xiehongtai provides customers with direct system design or process package solutions. On one hand, this reduces procurement steps, better controls project costs, and offers convenience to customers. On the other hand, it maximizes the feasibility and rationality of system design, minimizing project risks.

We consistently adhere to the principle of "Innovation-Driven," aiming to provide customers with high-quality products and services while continuously creating value for them!



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