

# Shell & Plate Heat Exchanger



Shell & Plate Heat Exchanger combines the robustness of shell-and-tube exchangers with the high efficiency of plate heat exchangers. By welding circular plates and assembling them inside a cylindrical shell, it delivers compact size, high performance, and outstanding reliability.



## Compact Design

Delivers a large heat transfer area within a small installation space



## High Pressure & Temperature Capability

Ensures stable operation even under extreme conditions



## Enhanced Durability

Welded plate pack structure eliminates gaskets, minimizing leakage risks



## Broad Industrial Adoption

Widely used across power, chemical, marine, and other industries



## Flexible Integration

Optimized for both new installations and retrofit projects

## How It Works

### ✓ Alternating Flow Paths

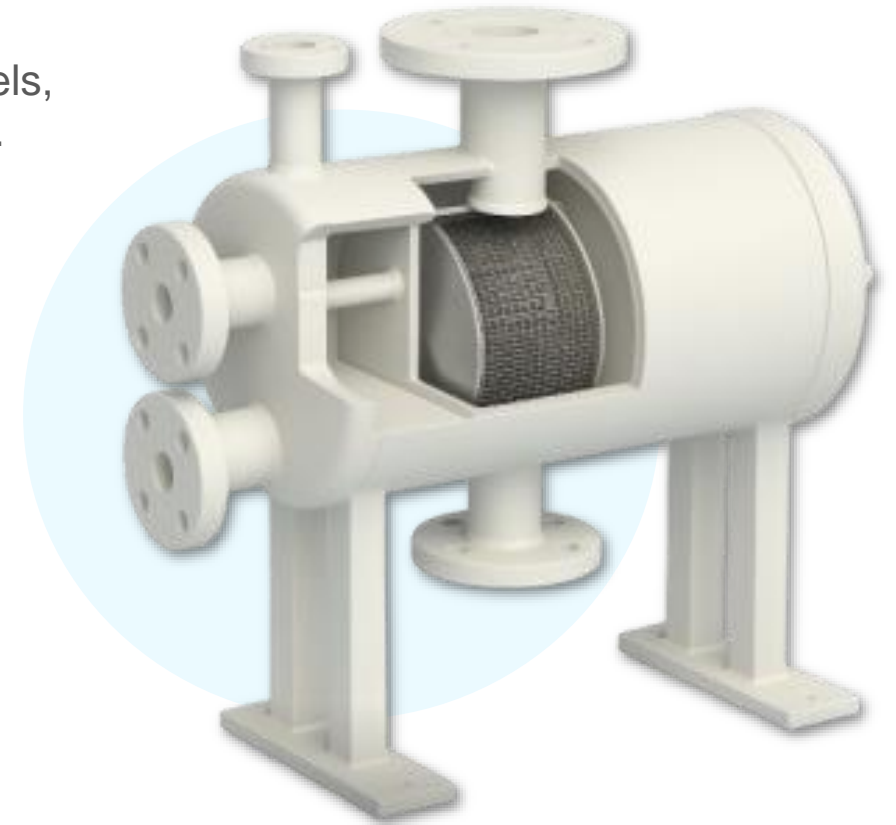
Hot and cold streams pass through welded circular plate channels, remaining fully segregated while maximizing thermal exchange efficiency.

### ✓ Turbulent Flow

Optimized plate geometry induces turbulent flow, improving thermal performance and minimizing fouling.

### ✓ Counter-Current Configuration

Designed for counter-current flow, which keeps a large temperature difference between fluids and improves heat transfer efficiency.



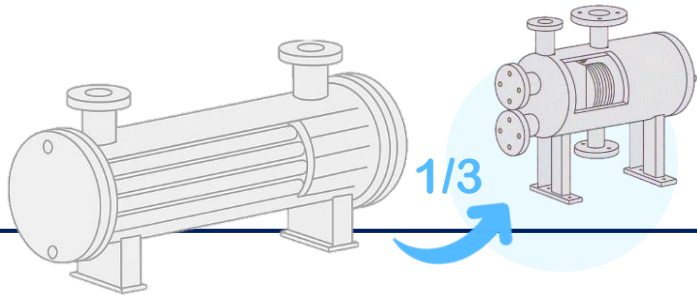
## Compact



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**Small footprint** : Provides large heat transfer area in a compact design

**Space saving** : Reduces overall system size by up to 1/3 compared to conventional exchangers



## Efficient



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**Turbulent Flow** : Enhances heat transfer performance and reduces fouling

**High Pressure** : Withstands operating pressures up to 64 bar

**Durability** : High resistance to thermal fatigue and corrosion

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## Reliable



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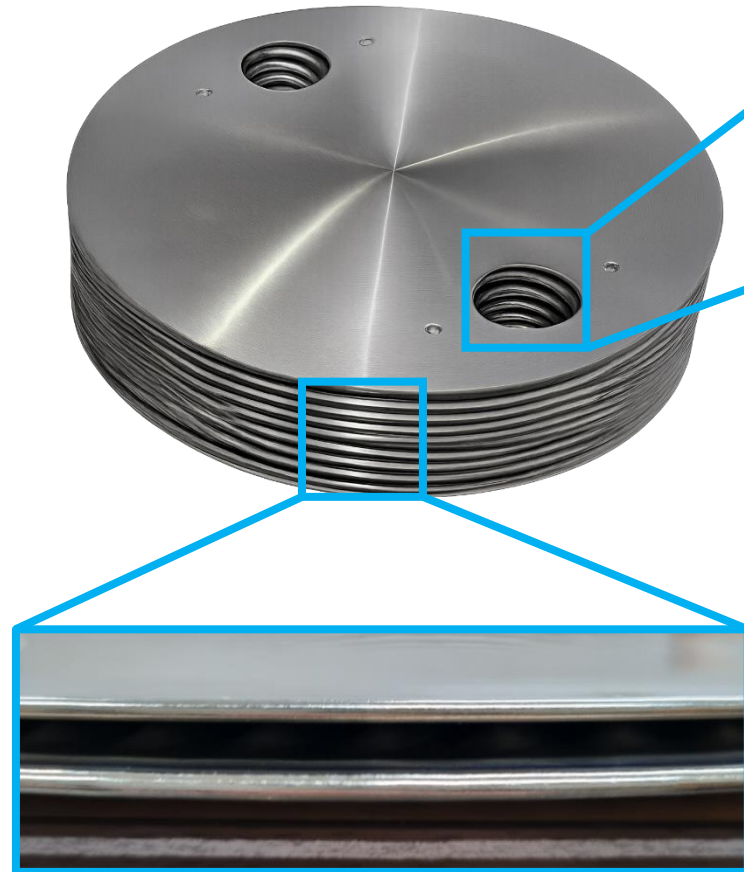
**Low maintenance** : No gaskets or moving parts, minimizing service needs

**Proven Performance** : Reliable in multiple industries and harsh environments

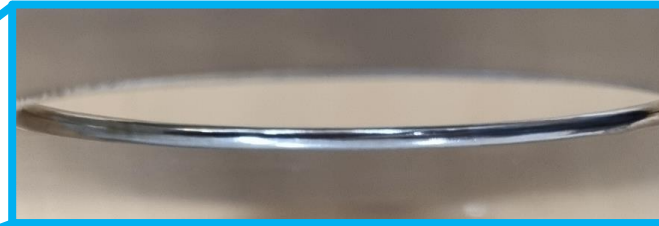
**Long Service Life** : Ensures stable operation and extended lifetime

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## Proven by Weld Quality



Port Hole Welding Bead



### High Quality of Weld Joint between Plates

- ✓ Uniform bead profile for leak-tight, long-life operation.
- ✓ Smooth, consistent bead reduces stress concentration.
- ✓ Precise penetration ensures reliable pressure containment.

Out Diameter Welding Bead



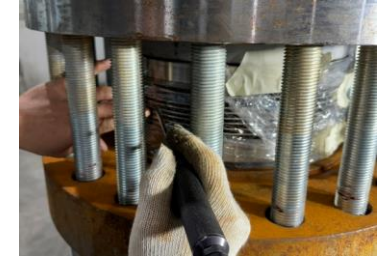
## Proven Plate-to-Plate Weld Strength and Durability

✓ Cryogenic Test with He Leak Test

**Fluid :** Liquid Nitrogen

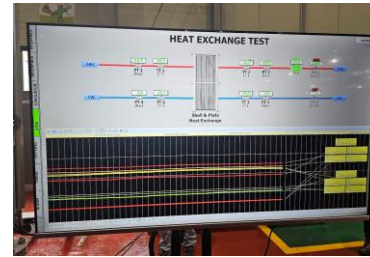
**Cooling temperature :** -196 °C

**Holding time :** 30 min



## Performance Verification using Actual Application Fluids

✓ Performance Test using LPG



✓ Performance Test using NG



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