









►► Cryogenic Heat Exchanger and System Engineering Global Leader

# PCHE Printed Circuit Heat Exchanger

New Energy Transfer Solutions
Satisfactory performance in any environment
Various applications



## PCHE Printed Circuit Heat Exchanger

DongHwa Entec

## >> Special Characteristic

## Thermal Design O-

- Optimized thermal Design
   High Heat Duty, Low Pressure Drop
- Micro Channel Design with Process
- Multi Stream Service
- Avoidance Design with Icing phenomenon

### Structural Design O

- Pressure & Thermal Analysis
- Vibration, Pitching & Rolling
- Fatigue analysis

#### Code & Standards O

- ASME Division I & II
- Class Society
- KGS(Korea Gas Safety Code)

## O Production Technology

- Diffusion Bonding Technology Stainless steel: 3XX, 4XX
- Welding Technology Core-Core Welding Core-Header Welding
- Inspection Methods
   HE Leak, Pressure Test....
   NDE(PT, UT, MT...)

## Maintenance and O Repair Solution

- Performance Monitoring Methods
- Cleaning Methods
- Repair Procedure

## O Compact Size

Small Footprint, Small Weight

## **O** Excellent performance

High Heat Duty, Low Pressure Drop









## O Long Service Life

High Durability, Easy Maintenance

#### **O Extreme Environments**

Cryogenic Service, High Pressure, High Temperature





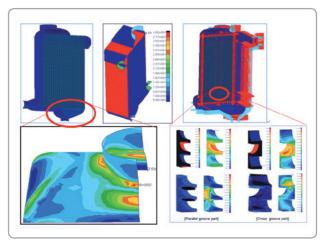
Max. Pressure Test: above. 4,000bar Cyclic test: 0~1,000 bar, 1 CPM, 10,000 cycle

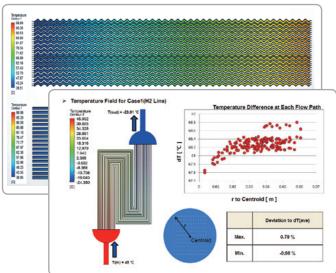
[ PCHE Best Solution ]

## **DongHwa Entec**

## >> Technology Developments

DHE has the thermal and flow analysis capability for Micro Channel and PCHE





Structural design technology is verified based on FEM technology, Stress & Thermal Deformation Vibration, Fatigue analysis.

## **>> Best Solution**



## **Oil&Gas Processing**

- Compressor Cooler
- High Pressure Cooler/Heater



## **Marine Application**

- Fuel Gas Supply System
- Re-gasification, Re-liquefaction



## **Energy System**

- Hydrogen Discharge Station
- Fuel Cell System













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