

Kelvion K°Bond HHX-2000

SOLID COOLING FOR HEAVY DUTY HYDROGEN REFUELING STATIONS



DESIGN & FUNCTION

Requirements for Heat Exchangers in Hydrogen Refueling stations are tough and even more demanding when it comes to the refueling of heavy-duty vehicles. To cope with this challenge, we not only used the gained experience in successfully supplying diffusion bonded heat exchangers for the European hydrogen refueling station network. Numerous customer enquiries, the focus on customer needs and cooperations with leading universities provide the basis for our new developed standardized diffusion bonded heat exchanger to be applied in heavy duty hydrogen refueling stations.

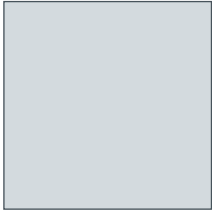
The new standardized design incorporates renowned and proven K°Bond features like entirely European supply chain and production including cutting-edge diffusion bonding technology. It enables fast delivery times and allows to discuss design details even before placed orders. Based on our track record of diffusion bonded heat exchangers for Hydrogen refueling stations we were able to continuously improve our capabilities and gain extensive know-how which allows us to advise our clients and guide them through the technical selection process.

ADVANTAGES

- ▶ **SPECIAL DESIGN FOR HEAVY DUTY HYDROGEN REFUELING STATIONS**
- ▶ **PROVEN TRACK RECORD IN HYDROGEN REFUELING STATIONS**
- ▶ **SHORT DELIVERY TIMES**
- ▶ **TEMPERATURE APPROACH UP TO 2°C**
- ▶ **RELIABLE, MAINTENANCE FREE AND SAFE OPERATION**
- ▶ **HIGH RESISTANCE TO CYCLIC SERVICES**

DIFFUSION BONDING

1. Patterns are designed for each service and chemically etched on stainless steel plates.



Plate

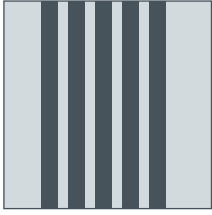
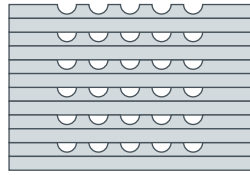
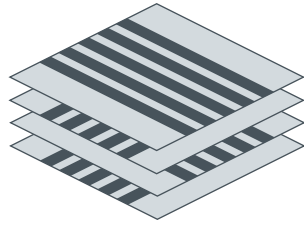
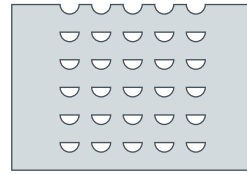


Plate with etched channels

2. Etched plates are stacked and welded through diffusion bonding process, converting them into one solid block of metal (core).



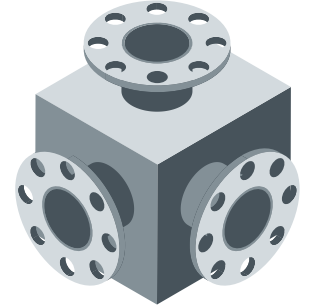
Single plates



Solid block



3. Nozzles and headers are welded on cores to form final K°Bond.



WHY TO USE K°BOND IN H₂ FUELING STATIONS



Pressure resistance up to 1050 bar



Diffusion bonding ensures highest safety level



Up to 6 times smaller than conventional Shell & Tube heat exchangers



Solid state block offers high resistance to cyclic services

HEAVY DUTY HYDROGEN FUELING STATION

