



## Kelvion K°Bond

# COMPACTNESS & PERFORMANCE BONDED TOGETHER



## DESIGN & FUNCTION

For decades, we have been supplying the oil & gas industry with reliable and efficient heat exchange technology for a wide range of applications. Our broad experience and knowledge of the market has enabled us to develop and enhance our product portfolio with innovations.

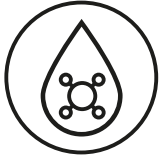
K°Bond, Kelvion's diffusion bonded heat exchanger, is ideal for applications involving extreme process temperatures and pressures. Combining design with welding expertise, K°Bond withstands pressures up to 1,000 bar and temperatures from cryogenic -200 to 600 °C, while providing significant savings in weight and footprint compared to common heat exchanger solutions.

K°Bond with its diffusion bonding technology is perhaps one of the most significant and game-changing solutions for projects with restricted space – May it be for offshore plants (e. g. as high pressure vaporizer) and reliquefaction on floating units.

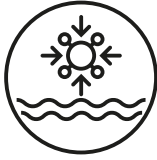
## ADVANTAGES

- ▶ **PRESSURE RESISTANCE UP TO 1000 BAR**
- ▶ **WORKING TEMPERATURE RANGE FROM -200°C TO 600°C**
- ▶ **HIGH HEAT TRANSFER RATE THANKS TO FLUIDS PROXIMITY ALLOWING TEMPERATURE APPROACH UP TO 2°C**
- ▶ **LEAKAGE FREE AND SAFE**
- ▶ **HIGH RESISTANCE TO CYCLIC SERVICES**
- ▶ **UP TO 6 TIMES SMALLER THAN CONVENTIONAL S&T HEAT EXCHANGER**

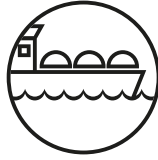
# K°BOND APPLICATIONS



LNG



GAS COMPRESSION  
OFFSHORE



FSRU



RENEWABLES

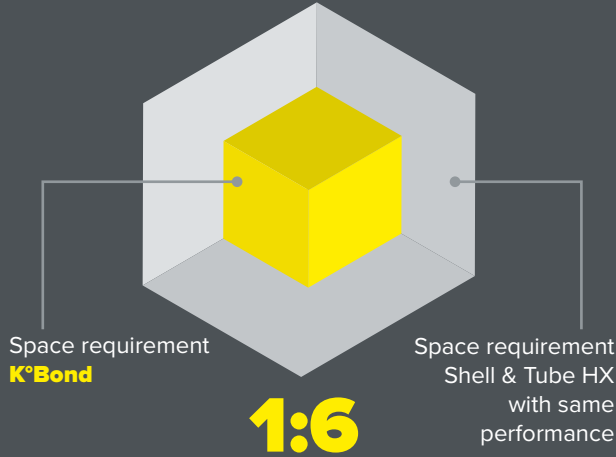
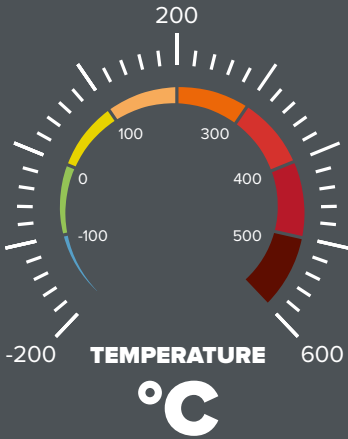


HYDROGEN



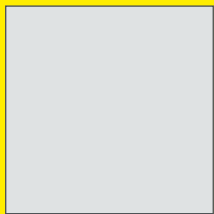
SUPERCRITICAL  
CO<sub>2</sub>

# K°BOND PERFORMANCE



# DIFFUSION BONDING

1. Patterns are designed for each service and chemically etched on stainless steel plates.
2. Etched plates are stacked and welded through diffusion bonding process, converting them into one solid block of metal (core).
3. When required, multiple cores are welded together. Nozzles and headers are welded on cores to form final K°Bond.



Plate

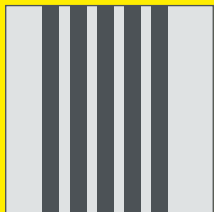
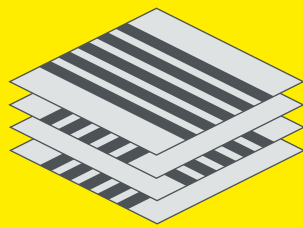
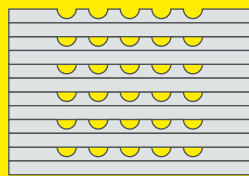
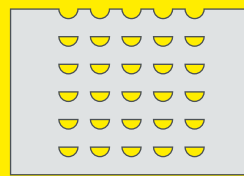


Plate with etched  
channels



Single plates



Solid block



Optimized  
in-house design software



Available in stainless steel  
304L & 316L



Designed as per ASME rules,  
CE-marked and / or U-stamped