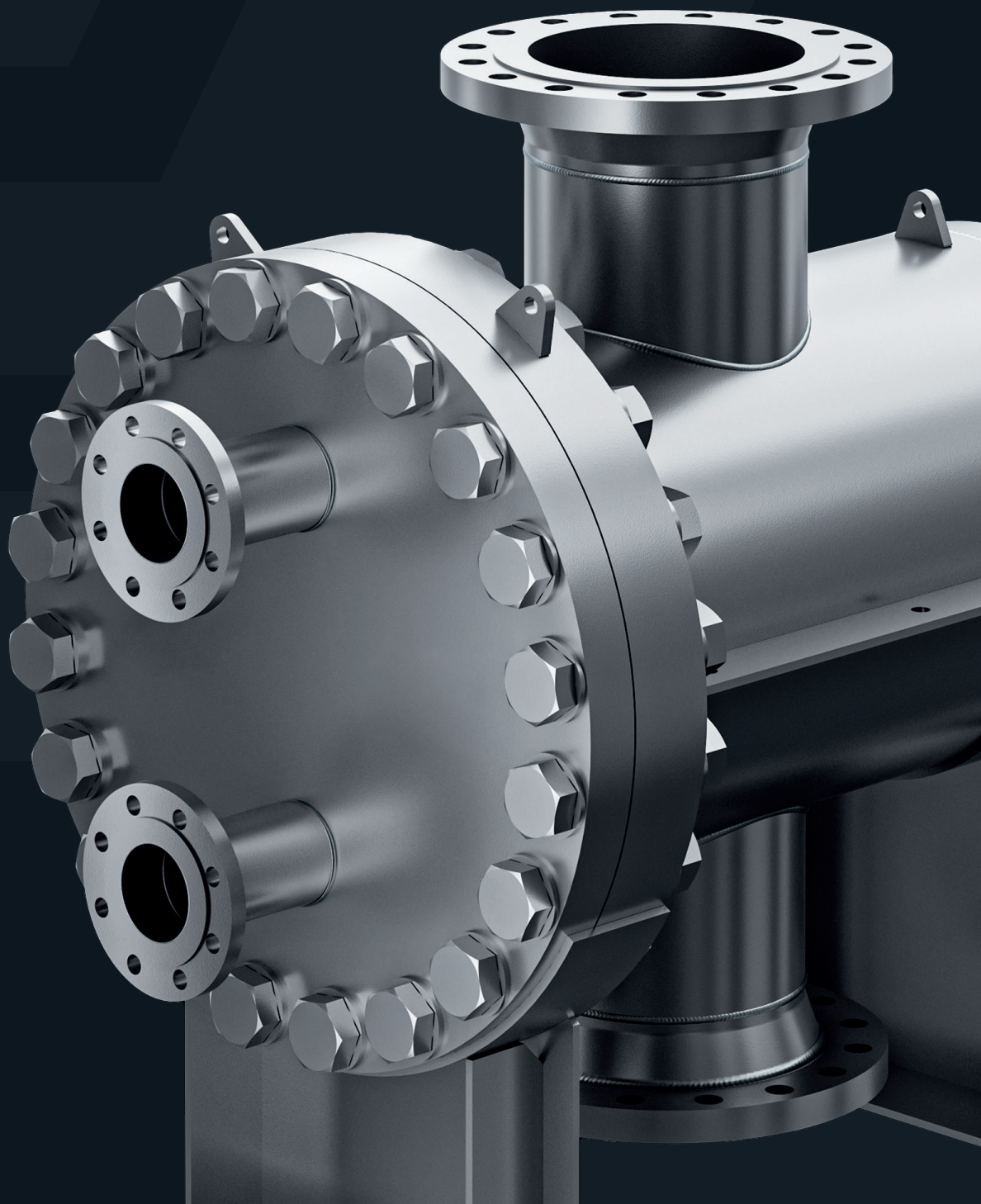


SHIELD

PLATE & SHELL
HEAT EXCHANGERS



SHIELD

PLATE & SHELL HEAT EXCHANGER

APPLICATIONS



REFRIGERATION
INDUSTRY



INDUSTRIAL
COOLING
AND HEATING
SYSTEMS



SYSTEMS
WITH AGGRESSIVE
MEDIA



VAPOR
CONDENSATION



SUITABLE
FOR CHEMICAL
PROCESSES



CIP
SYSTEMS



OIL COOLERS
AND HEATERS



ECONOMIZERS,
GAS HEATERS
AND COOLERS



FUEL OIL
HEATERS

Driven by a passion for innovation, Hexonic has provided effective heat transfer solutions for various applications. Our experienced engineers work closely with customers to create new products and find the most efficient heat transfer methods.

From that passion a new product has been born – SHIELD Plate & Shell Heat Exchanger with inventive jagged pattern of a heating plate.

Breaking new ground solution brings not only enhanced flow turbulence but also increased heat exchange area. Together it gives more compact, lighter but most of all more efficient device which can be customized to your individual requirements. Highly efficient SHIELD Plate & Shell Heat Exchanger will become a long-life dependable solution for your applications.

ADVANTAGES



HIGH HEAT
EXCHANGE
SURFACE



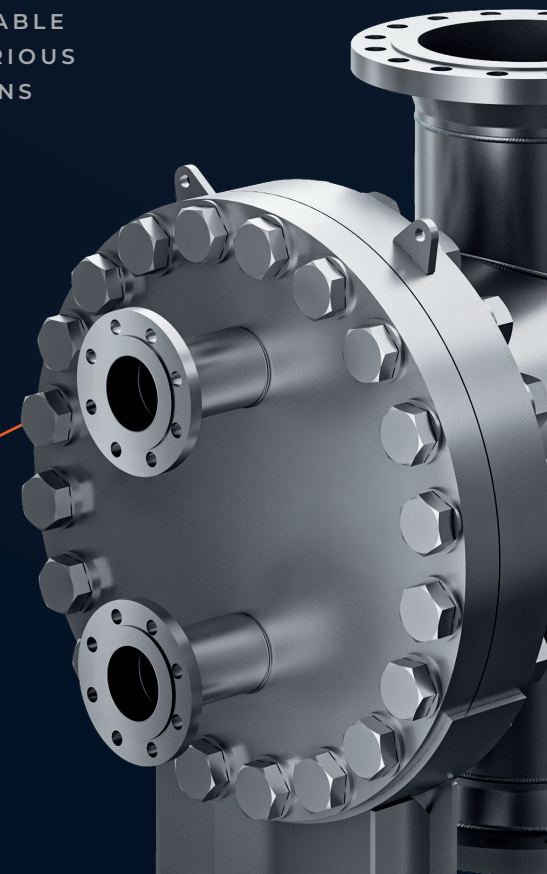
DURABLE
CONSTRUCTION



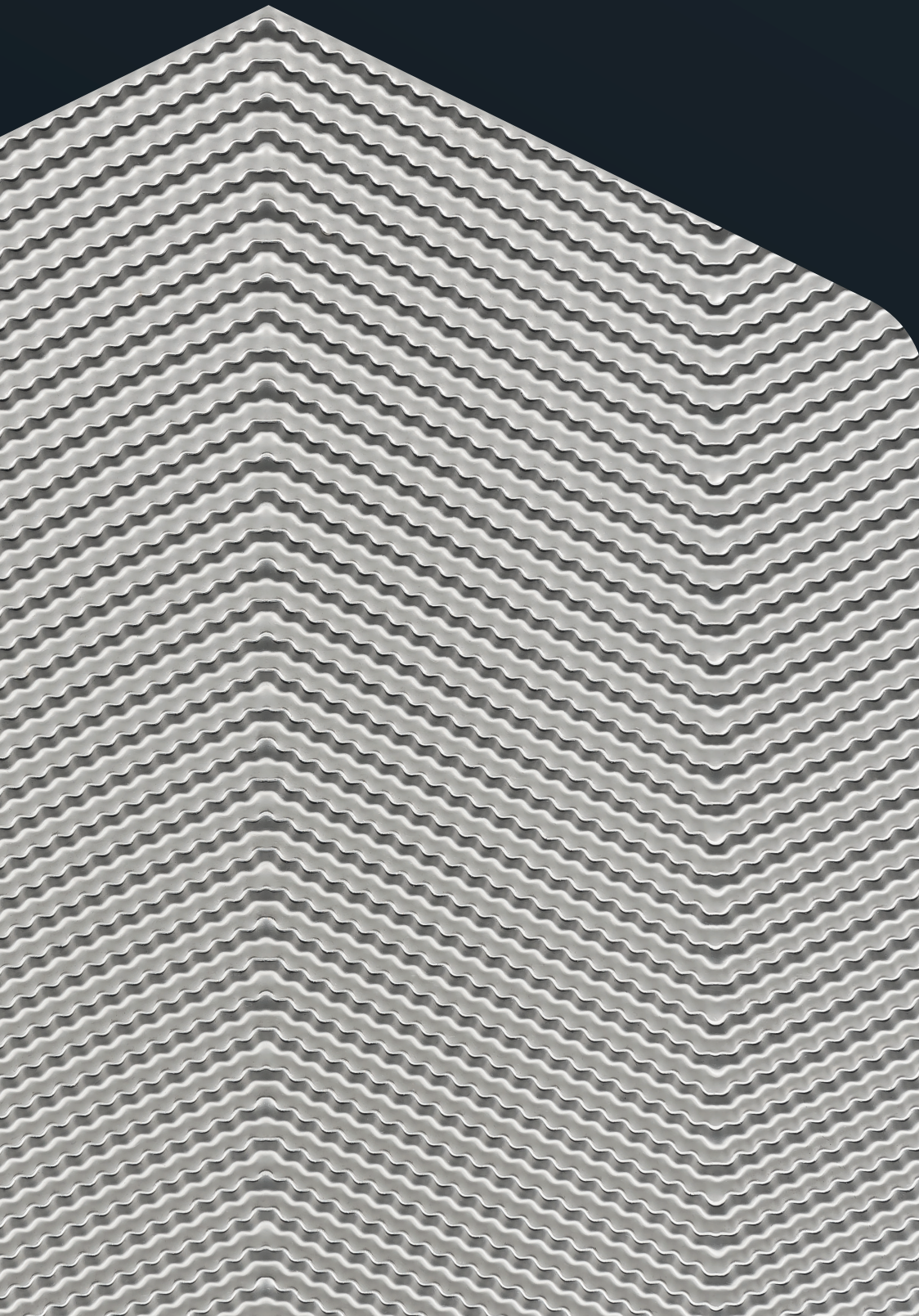
RESISTENCE TO
HIGH TEMPERATURES
AND PRESSURES



AVAILABLE
IN VARIOUS
OPTIONS



INGENIOUS PATTERN



JAGGED
/ˈdʒæɡɪd/
WITH ROUGH, SHARP POINTS PROTRUDING

THE INNOVATIVE JAG DESIGN IS THE RESULT OF OVER SIX YEARS OF RESEARCH AND DEVELOPMENT.

In search of optimal strength and thermal characteristics of the JAG geometry, a series of computational fluid dynamic analyses were performed. Together with other calculations and tests of prototypes they allowed to determine the precise channel performance in a plate and shell heat exchanger.

Final tests confirmed that designed by Hexonic innovative corrugation JAG pattern delivers up to 10% higher efficiency than the standard one. It is designed to substantially increase heat exchange as the “jagged” channels boost flow turbulence which enhances heat transfer and reduces fouling. Furthermore, the design brings a bigger exchange area, and general pressure drop levels are reduced.

Ingenious JAG technology brings you cutting-edge solutions within one plate.



INNOVATIVE
CORRUGATION
DESIGN

10%↑

UP TO 10% HIGHER
HEAT TRANSFER
EFFICIENCY



ENHANCED FLOW
TURBULENCE

10%↓

UP TO 10% LOWER
PRESSURE DROP FOR
HIGH FLOW PATTERN



DECREASED
FOULING



INCREASED HEAT
EXCHANGE AREA



INCREASED PLATE
ENDURANCE

SHIELD PLATE

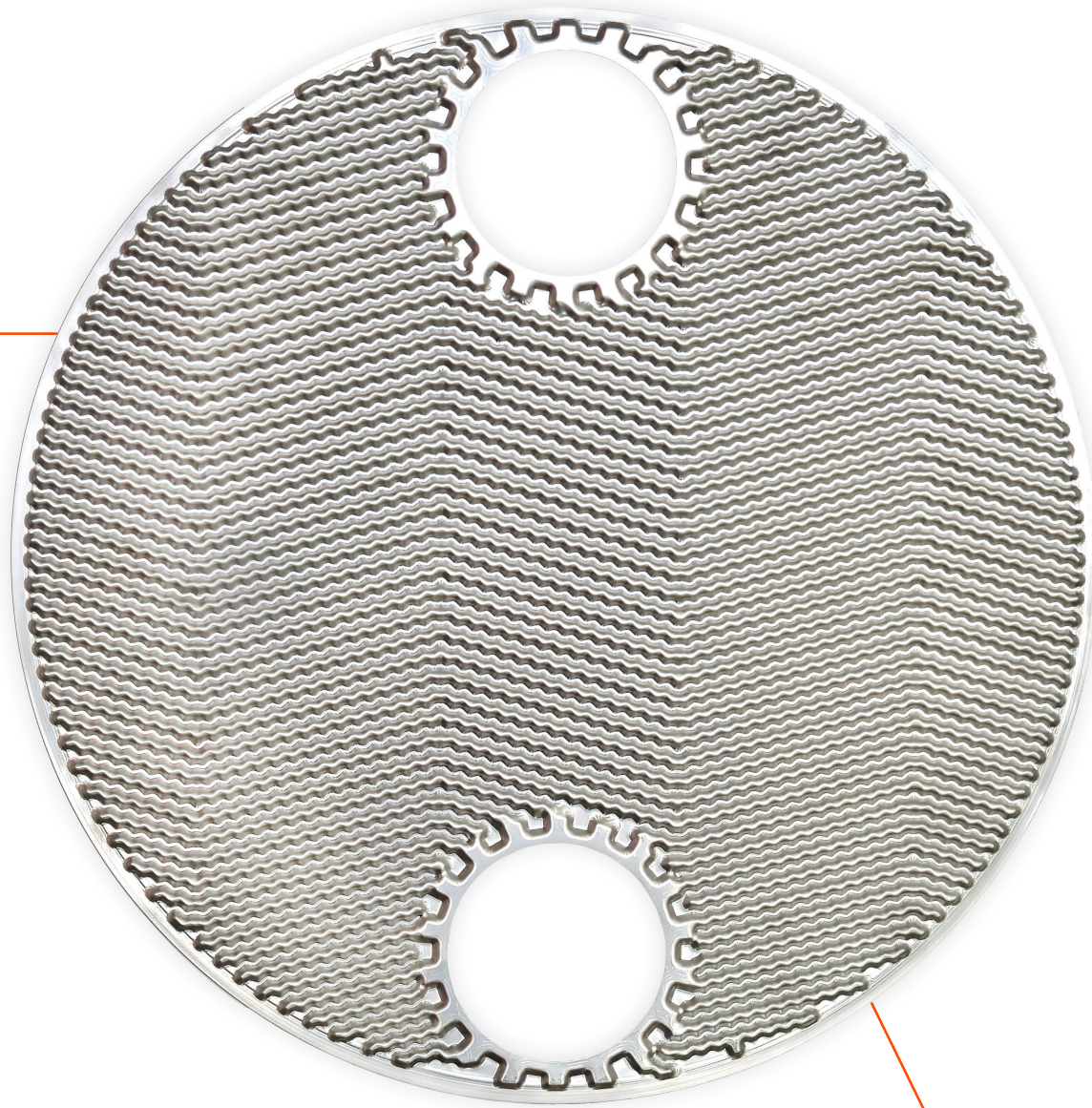
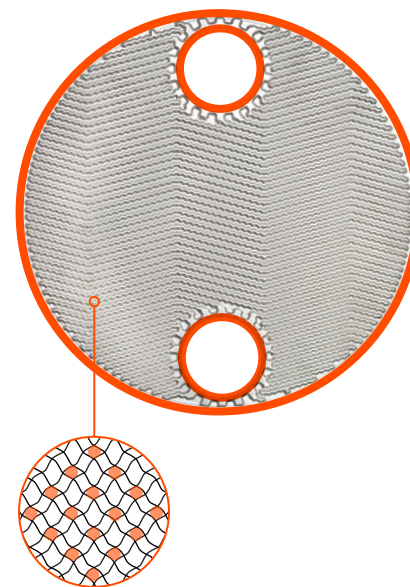


PLATE FEATURES



REINFORCED PLATE CONSTRUCTION

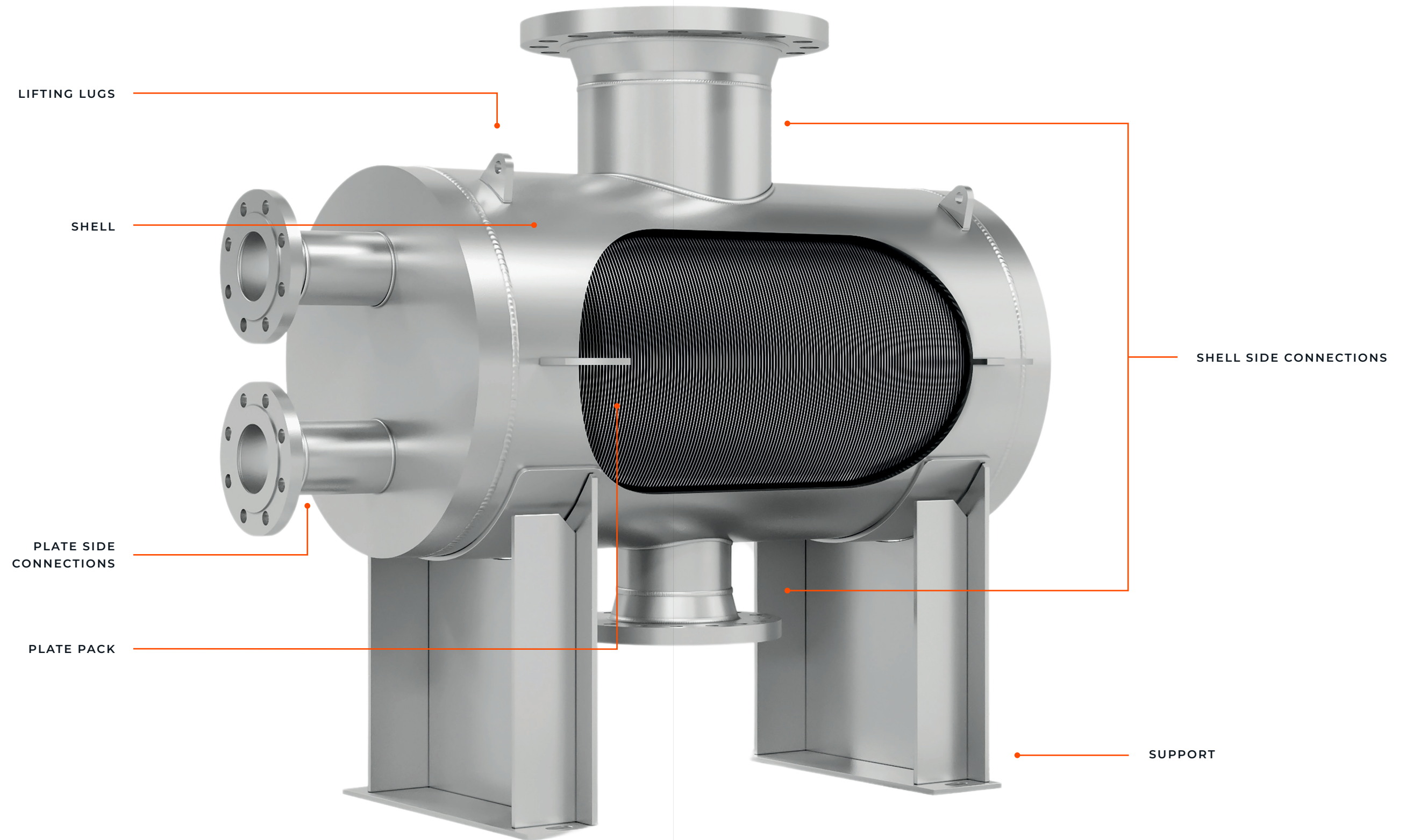
A plate pack is enclosed in a solid structure. The plates are joined in pairs using the TIG welding method, and the ports, welded with a laser, further strengthen the construction, making it resistant to variable loads and thermal stresses.




VACUUM BRAZING FOR ENHANCED STRENGTH AND RELIABILITY

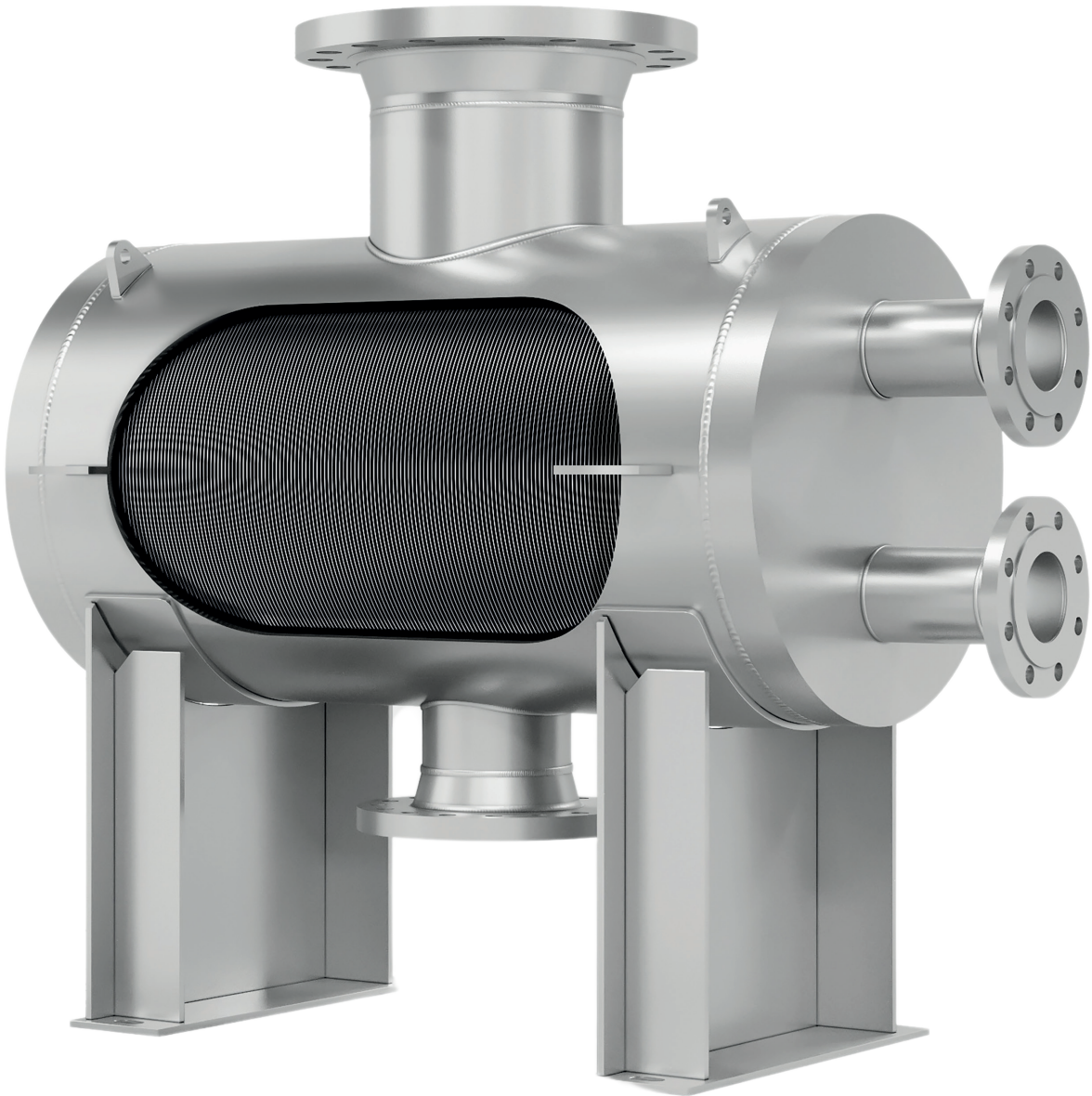
Additionally, there is the option of using vacuum brazing as a supplementary method for joining and reinforcing the plates, which allows for a significantly larger contact surface and increases the device's strength. The pair of plates is joined along the entire outer surface, at the ports, and additionally at several optimally selected points in the heat exchange area.

CONSTRUCTION



TECHNICAL DATA

| Model |  Distance between ports | | Max no of plates | Plate connections | | Shell max. connections | | Typical shell diameter | |
|-------|--|-------|------------------|-------------------|------|------------------------|-----|------------------------|-------|
| | mm | in | | DN | NPS | DN | NPS | mm | in |
| JR-03 | 132 | 5.20 | 100 | 32 | 5/4" | 80 | 3" | 273,1 | 10.75 |
| JR-07 | 208 | 8.19 | 200 | 50 | 2" | 250 | 10" | 355,6 | 14.00 |
| JR-13 | 310 | 12.20 | 300 | 80 | 3" | 300 | 12" | 508 | 20.00 |
| JR-23 | 420 | 16.54 | 400 | 100 | 4" | 350 | 14" | 610 | 24.02 |



HEATING PLATES MATERIAL

- STAINLESS STEEL 316L (1.4404)
- TITANIUM GRADE 1, 11
- HASTELLOY C-276
- STEEL 254SMO
- DUPLEX LDX 2101 (1.4162), 2304 (1.4482)
- OTHER UPON REQUEST

SHELL MATERIAL

- CARBON STEEL
- STAINLESS STEEL 316L (1.4404)
- OTHER UPON REQUEST

PRODUCT VARIATIONS:
OPENABLE AND NON-OPENABLE

PLATE THICKNESS: 0,7-1,0 MM

ACCESSORIES

- INSULATION
- COUNTER FLANGES
- EXTENDED LEGS
- EARTHING LUGS

BRAZING MATERIAL

- COPPER
- LUNA™ STAINLESS BRAZING

SINGLE AND MULTI-PASS FLOWS

TECHNICAL PARAMETERS

MIN. PRESSURE — -1 BAR
MAX. PRESSURE — 45 BAR
MAX. TEMPERATURE — 250 °C
MIN. TEMPERATURE — -196 °C
— HIGHER UPON REQUEST

STANDARD - PED 2014/68/EU
OR ASME SEC VIII, DIV.1

