



we work on quality

ADDRESS

14 Alon street
Piraeus 185 40,
Greece / Europe

PHONE

Phone +30 21 0422 7410
Fax +30 21 0422 7303

ONLINE

info@farad.gr
sales@farad.gr
www.farad.gr

Presentation

Overview

1. Company Profile
2. Milestones
3. Industries
4. Manufacturing Process & Infrastructure
5. R & D
6. Products
7. Focus on Quality
8. Customers
9. Worldwide presence



Company Profile

About FARAD

- ❑ FARAD SA has been designing and manufacturing high quality Heat Exchangers, since 1979.
- ❑ Our company is based in Piraeus, Greece, has over 40 years of experience, it employs 60 people, while has so far completed more than 40.000 successful installations.

FARAD in Numbers



40 years
of experience

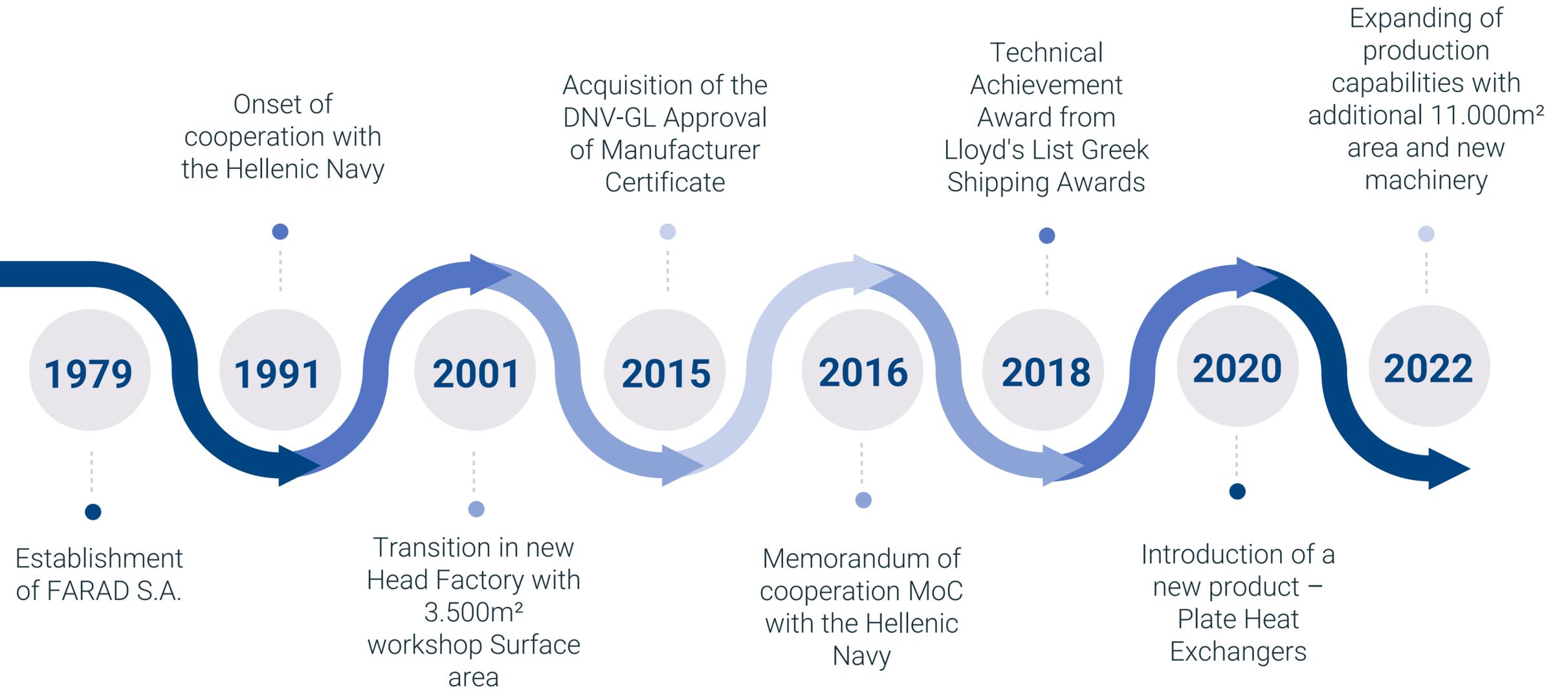


60 specialized
employees



>40k successful
installations

FARAD's Milestones



Industries

Our cross-sectoral approach

Through 40 years of experience, FARAD S.A. has acquired valuable knowledge and technical expertise in 5 different industries

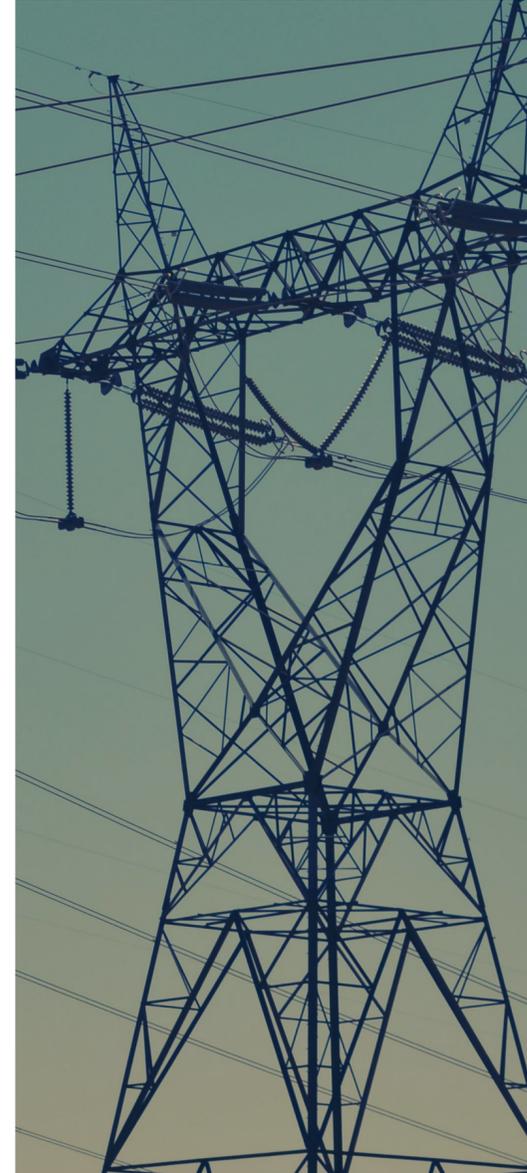
Marine



Petrochemical



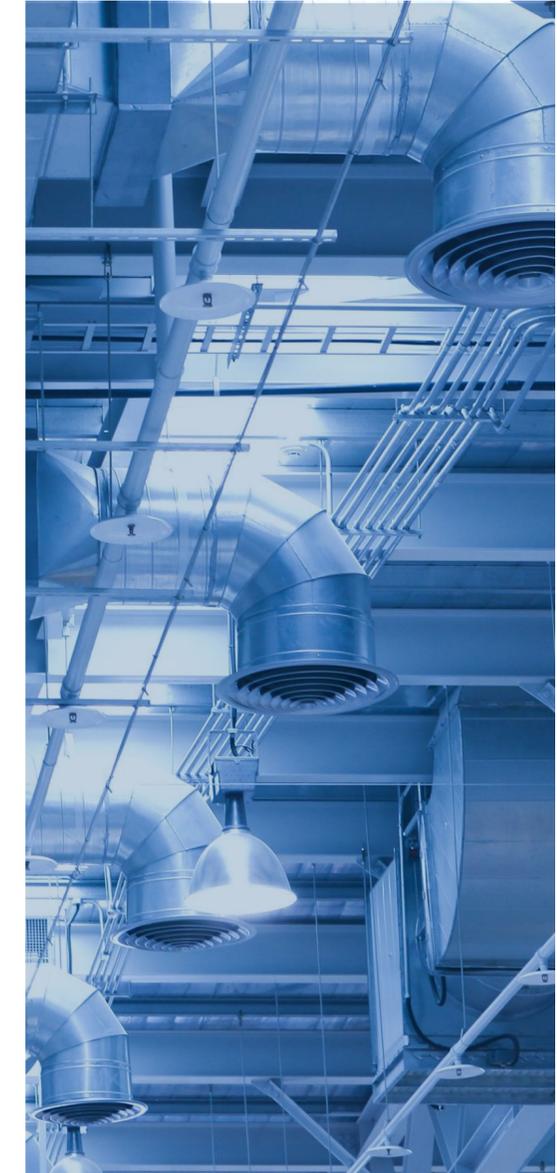
Energy



Food & Beverage



HVAC & Refrigeration





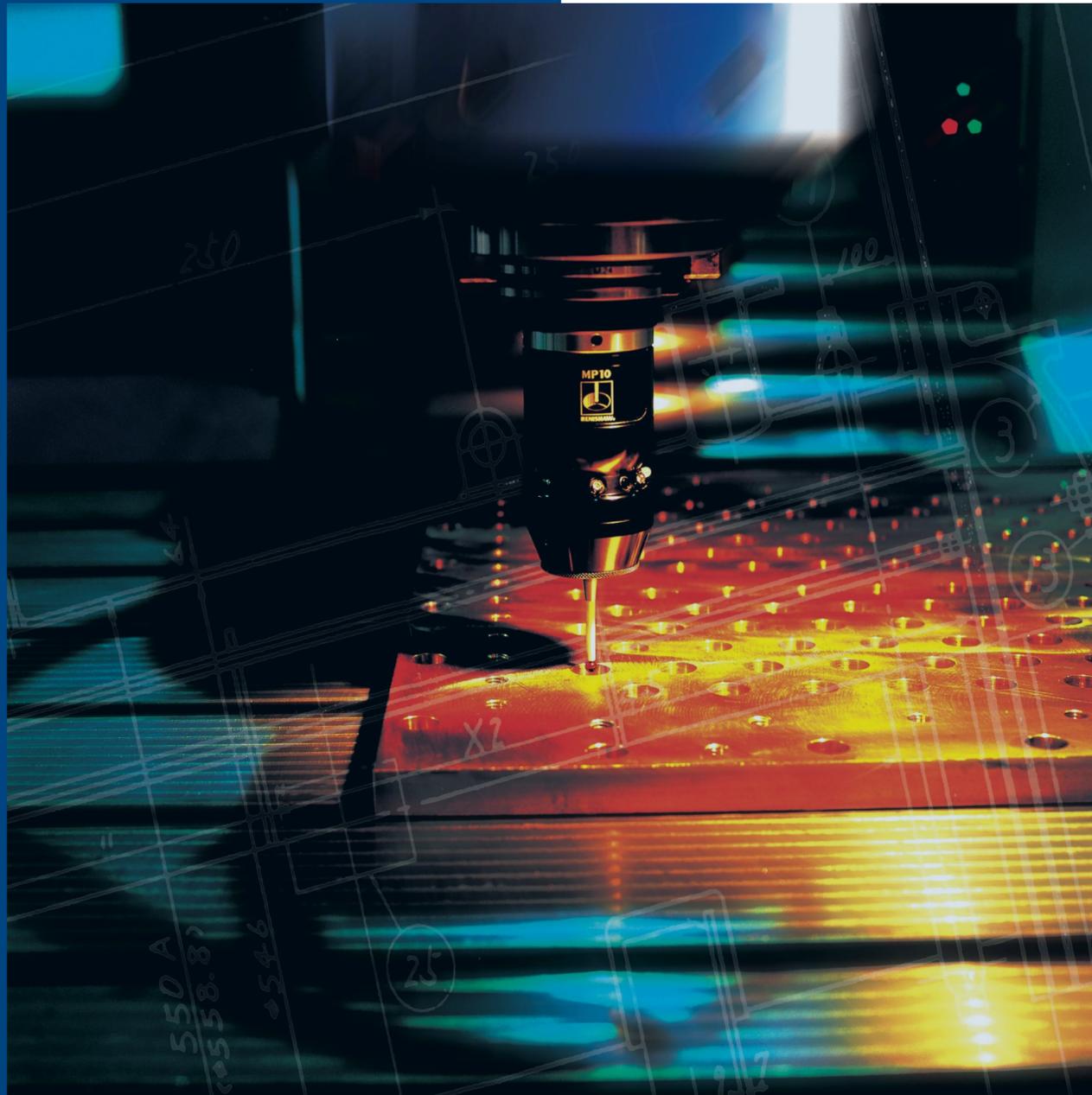
Manufacturing Process

We Manufacture by using

- ❑ Daily workflow process management
- ❑ Computerized job order monitoring system
- ❑ Continuous quality management improvements
- ❑ ISO 9001:2015 Quality Management System & Policy BVQI
- ❑ Design & Manufacturing to PED 2014/64/EU, ASME BPVC VIII div.1, or other national codes

Certifications



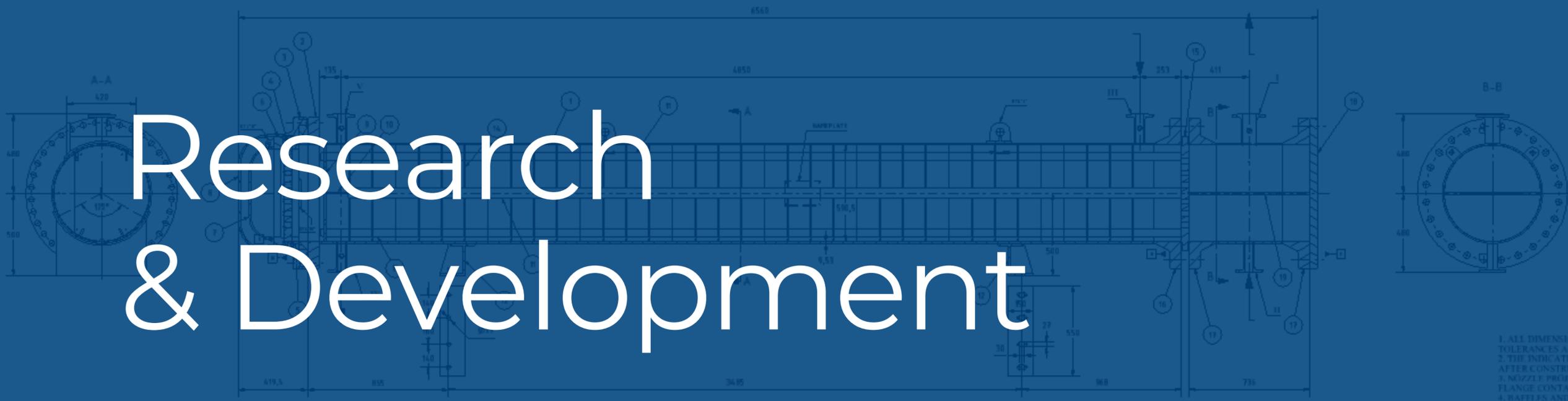


Manufacturing Infrastructure

- ❑ FARAD is using cutting edge technology and a high-performance production line
- ❑ The company is using advanced software for thermal and mechanical calculations and testing facilities to verify design parameters
- ❑ Workshop Surface area: 3,500m²
- ❑ Heavy lift cranes: 1X 10tn, 6X 5tn, 6X 3,5tn, 2X 2tn
- ❑ State of the art (CAD – CAM) equipment
- ❑ Welding dpt. equipped with 6 high-end welding cells
- ❑ Advanced software for thermal & mechanical calculations
- ❑ Testing facilities to verify design parameters

Research & Development

GENERAL SECTION



DESIGN DATA

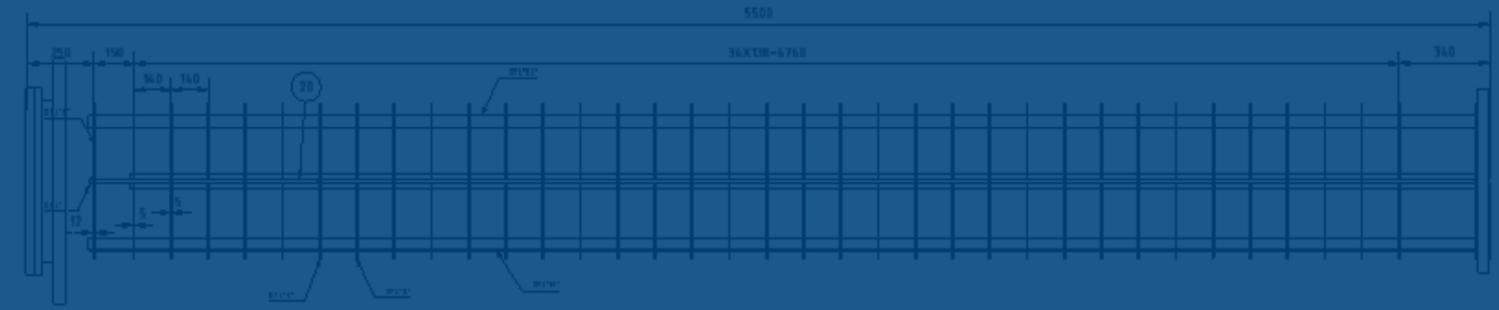
DESCRIPTION	SHELL SIDE	TUBE SIDE	UNITS
CONTENT FLUID	LER. OIL 5N-500	MIX H/C	-
WORKING PRESSURE (INLET/OUTLET)	8.5 / 8.5	12.4 / 12.05	bar
DESIGN PRESSURE (PSI)	118	12.4	bar
TEST PRESSURE	9.5	13.7	bar
WORKING TEMPERATURE (INLET/OUTLET)	270 / 100	20 / 75	°C
MAX WORKING TEMPERATURE	270	75	°C
MR. DESIGN MATERIAL TEMPERATURE	20	20	°C
CORROSION ALLOWANCE	2	2	mm
TOTAL CORR. ALLOW. OF TUBESHEETS	2	2	mm
NUMBER OF PASSES	1	2	-
SURFACE AREA			56 m ²

WEIGHT (APPROX.)

TUBE BUNDLE	EMPTY (ELECTRIC)	OPERATING
	4800 kg	6000 kg

- ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED.
- TOLERANCES AS PER DIN 25008.
- THE INDICATED THICKNESSES ARE THE MINIMUM ACCEPTABLE AFTER CONSTRUCTION.
- NOZZLE PROJECTION IS REFERRED FROM VESSEL CENTERLINE TO FLANGE CONTACT FACE (UNLESS OTHERWISE SPECIFIED).
- BAFFLES AND TUBE SUPPORT MUST BE DRILLED AS TUBESHEETS BUT WITH HOLES DIA: 2mm MAX.
- NOZZLE FLANGES STUD BOLTS HOLES STRADDLE -
- BEVELLED EDGE OF FLANGES 3mm AT 45° (1:1).
- ALL COUPLING SHALL BE FURNISHED WITH PLUGS.
- PROVIDE LIFTING LEGS ON CHANNEL, BARREL, CHANNEL COVER AND SHELL COVER BARREL AS SHOWN ON THE DWG.
- WELDING PREPARATION ARE SPECIFIED SEPARATELY.

TUBE BUNDLE



STUD BOLTS AND NUTS

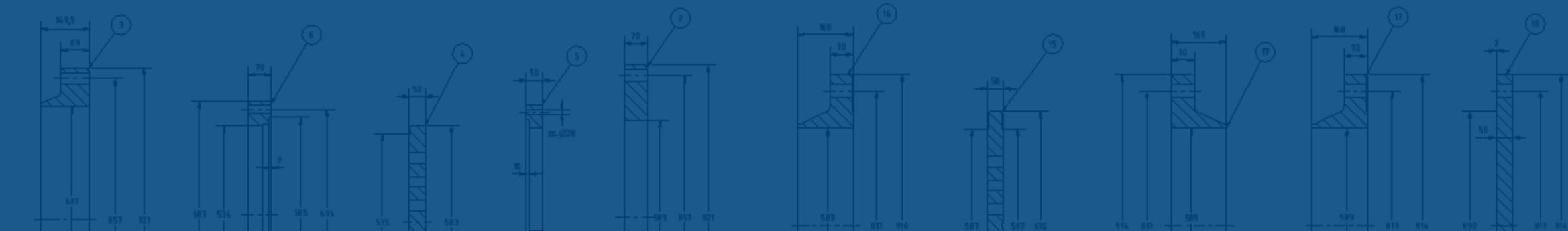
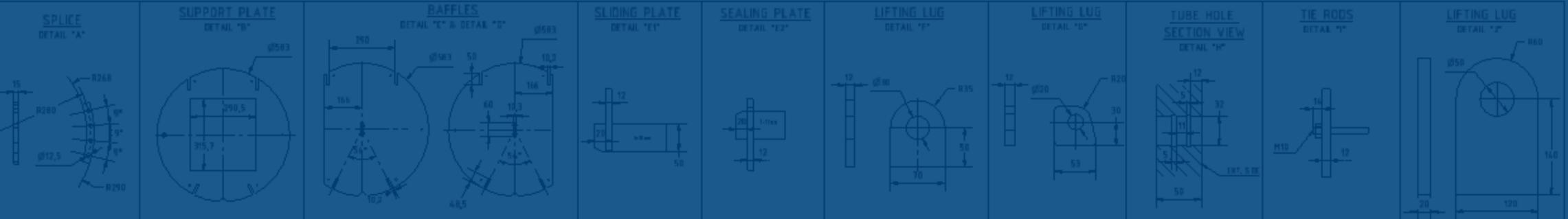
MARK	ITEM	MATERIAL- STUD BOLT	MATERIAL NUTS	SIZE	hr(isel)	L(mm)	A(mm)
A	SHELL FLANGE REAR HEAD END (8) to SHELL COVER FLANGE (2)	ASME SA-93 B7	ASME SA-94 2H	M36	36	245	85
B	SHELL FLANGE STATIONARY END (10) to STATIONARY HEAD FLANGE (CHANNEL) STATIONARY HEAD FLANGE (CHANNEL)	ASME SA-93 B7	ASME SA-94 2H	M36	24	285	85
C	(12) to CHANNEL COVER (8)	ASME SA-93 B7	ASME SA-94 2H	M36	24	220	85
D	FLOATING HEAD COVER FLANGE (6) to SPLIT RING (2)	ASME SA-93 B7	ASME SA-94 2H	M30	24	210	80

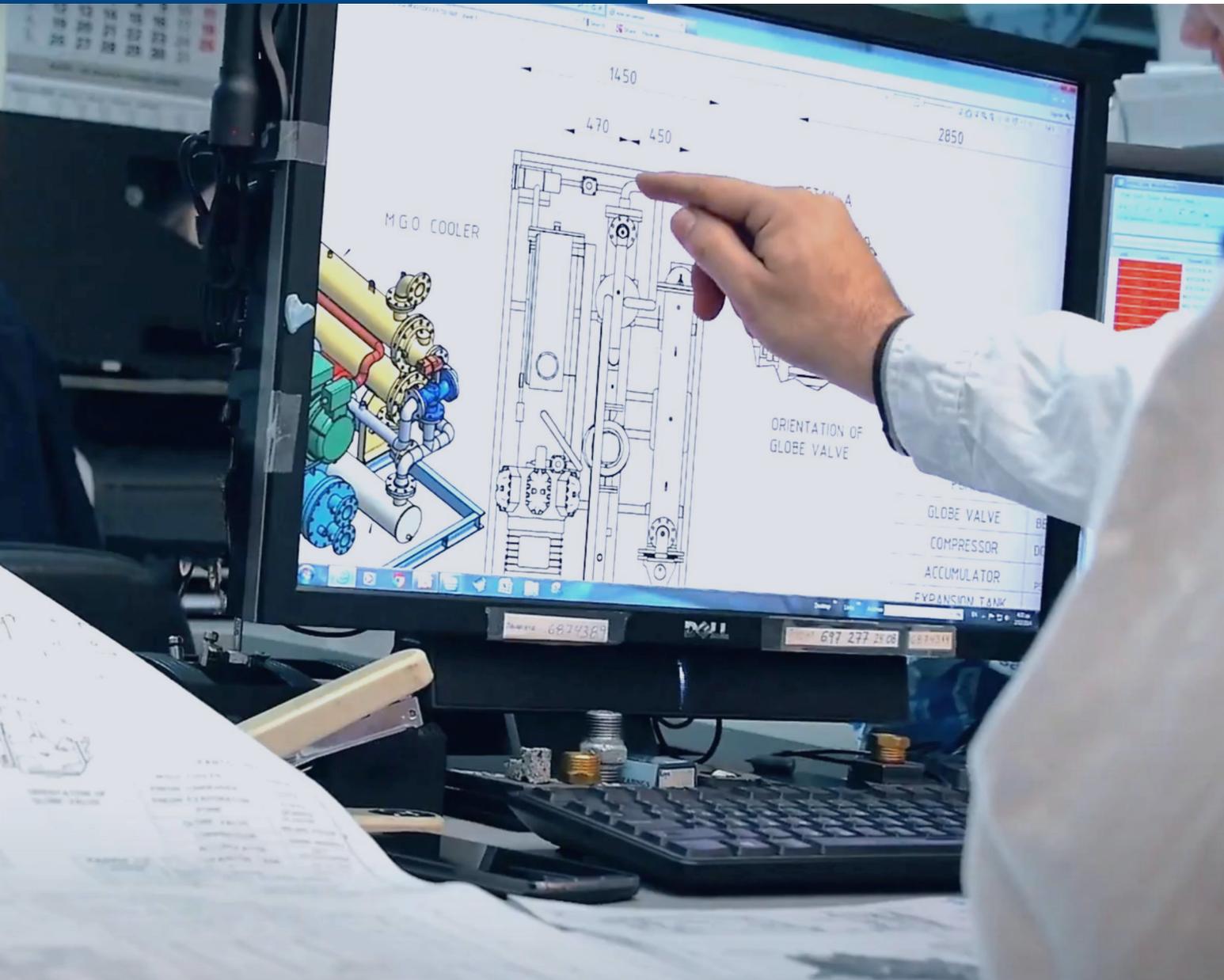
NOZZLES DATA TABLE

MARK	NOM DIAM	MATERIAL	REMARKS
I	2"	ASTM A 95	ANSI B16.5 WN STD CLASS30
II	2"	ASTM A 95	ANSI B16.5 WN STD CLASS30
III	2"	ASTM A 95	ANSI B16.5 WN STD CLASS30
IV	2"	ASTM A 95	ANSI B16.5 WN STD CLASS30
V	2"	ASTM A 95	ANSI B16.5 WN STD CLASS30

ITEMS - MATERIALS TABLE

No	ITEM	MATERIAL	No PER SET	REMARKS
1	SHELL	ASTM A105 Gr. B	1	OD: 480.6 X 9.53
2	SHELL FLANGE - REAR HEAD END	ASME SA-93 Gr. B	1	ASME Sect. I Part A SA 516
3	SHELL COVER FLANGE	ASME SA 516	1	WN RF300 20" SESTD B16.47 B
4	FLOATING TUBESHEET	P355NH	1	EN N028-3 Recertified to UG-10
5	SPLIT RING	P355NH	1	EN N028-3 Recertified to UG-10
6	FLOATING HEAD COVER FLANGE	ASME SA-93 Gr. B	1	ASME Sect. I Part A SA 516
7	FLOATING HEAD COVER	ASME SA 234 WPB	1	22" ASME B16.5
8	SHELL COVER	ASME SA 234 WPB	1	28" ASME B16.5
9	SUPPORT PLATE	S235JR02	1	EN N02594 Recertified to UG-10
10	TIE ROD	DIN 934 ZP	8	M10 Recertified to UG-10
11	SLIDING & SEALING PLATES	S235JR-AR	5	EN N025-2 Recertified to UG-10
12	SUPPORT SADDLE	P265GH	2	EN N028-3 Recertified to UG-10
13	TUBES	SA38.8	100	DN 17 85-70, DN 2468-81 Recertified to UG-10
14	BAFFLES	S235JR02	35	EN N02594 Recertified to UG-10
15	STATIONARY TUBESHEET	P355NH	1	EN N028-3 Recertified to UG-10
16	SHELL FLANGE- STATIONARY HEAD END	ASTM A 105	1	WN RF300 24" SESTD ANSI B16.5
17	STATIONARY HEAD FLANGE- CHANNEL	ASTM A 105	2	WN RF300 24" SESTD ANSI B16.5





Research & Development

Innovation

- ❑ We are constantly re-evaluating and upgrading our products, by incorporating feedback from our clients and our in-house testing facilities
- ❑ Our R&D Department regularly cooperates with accredited laboratories for operational tests
- ❑ Our experienced personnel is constantly testing new parameters and optimising our products, using cutting edge technology



We focus on innovation, using our long-standing experience and cutting edge technology

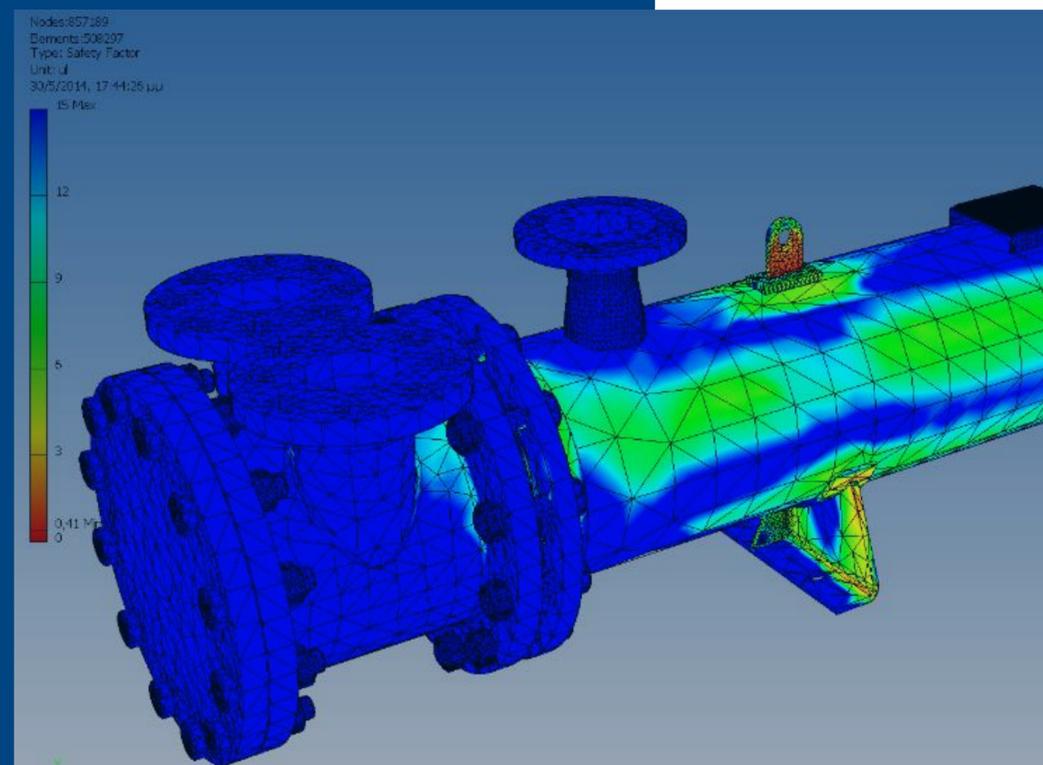
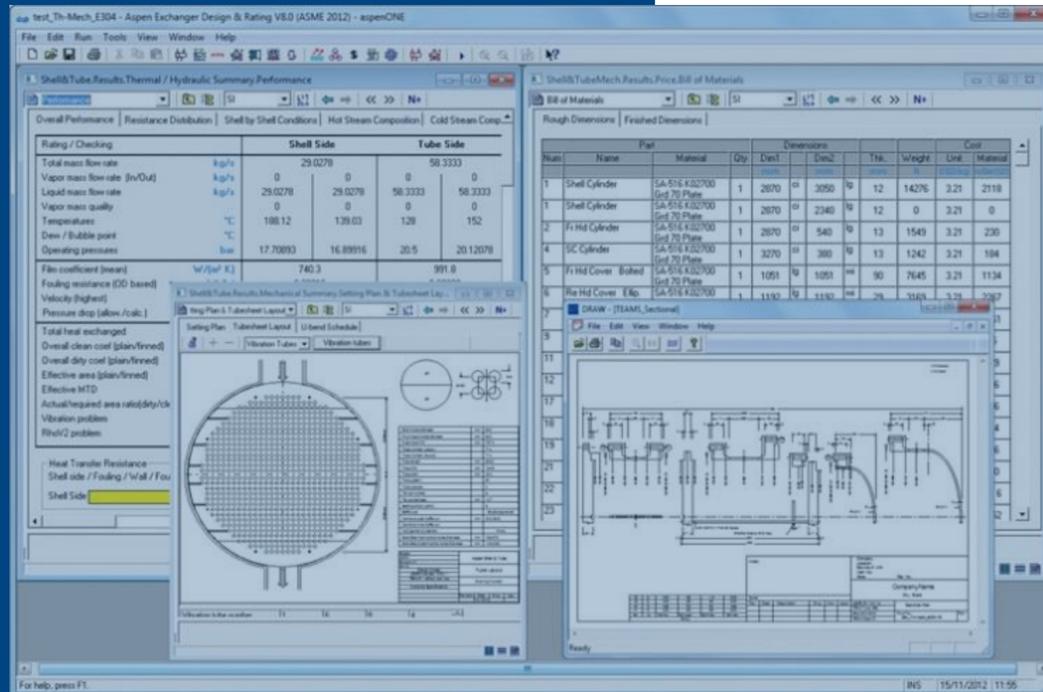


Research & Development

- ❑ We use industry leading software to calculate optimal dimensions and specifications for our products, based on customer requirements.
- ❑ Our R&D Department is constantly improving the design of our products for simple installation, optimal operation and easy maintenance.
- ❑ The development process of all our products includes a research phase, where product specifications, production cost and product timeline are accurately determined.



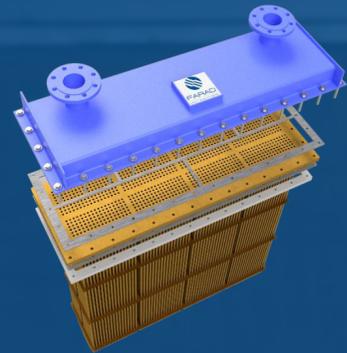
**We do not just manufacture.
We constantly develop new,
state-of-the-art products**



Our Products



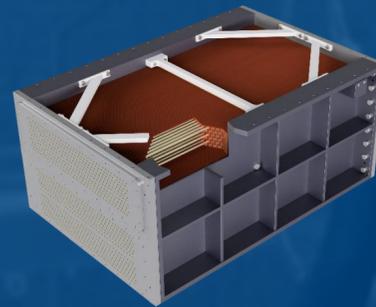
Products



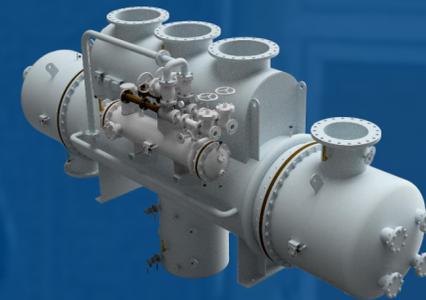
Box Coolers



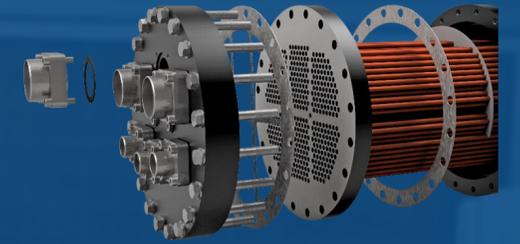
Cargo Condensers



Charge Air Coolers



COPT Condenser



DEX Evaporators



Electric Heaters



FC Condensers



Fresh Water Generator



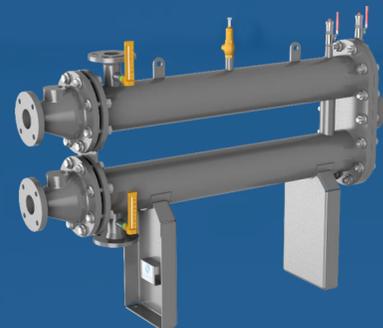
Gasketed Plate Heat Exchangers



HVAC Air Coolers



LNG - LPG Vaporizers



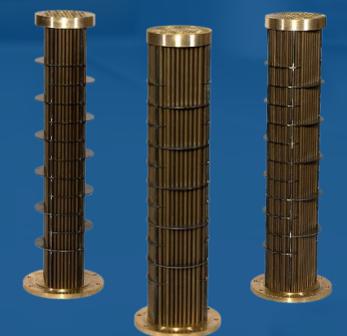
MGO Coolers



MGO Cooling Unit



Tank Cleaning Heaters



Water - Oil Coolers



Quality

We work on Quality

- We provide a 2 years warranty period for all our products
- We use top quality European raw materials that are fully certified
- We use 3D modeling that enable us to predict installation problems
- We implement 12-point Quality Control Checks at every single product
- We minimize the footprint of our products due to sophisticated design



We use state of the art technology in order to implement our unique quality and client-based approach





**We can
guarantee high
performance
and the long
lasting of all
our products**



Quality

Reliability

- ❑ We guarantee lifetime technical support for all our products
- ❑ We carry out all necessary inspections for proper operation of the newly installed equipment
- ❑ We undertake training of new equipment's operators
- ❑ We provide detailed technical reports about any possible malfunction and provide effective solutions
- ❑ We provide detailed technical documentation for all equipment we manufacture
- ❑ We guarantee competitive delivery times

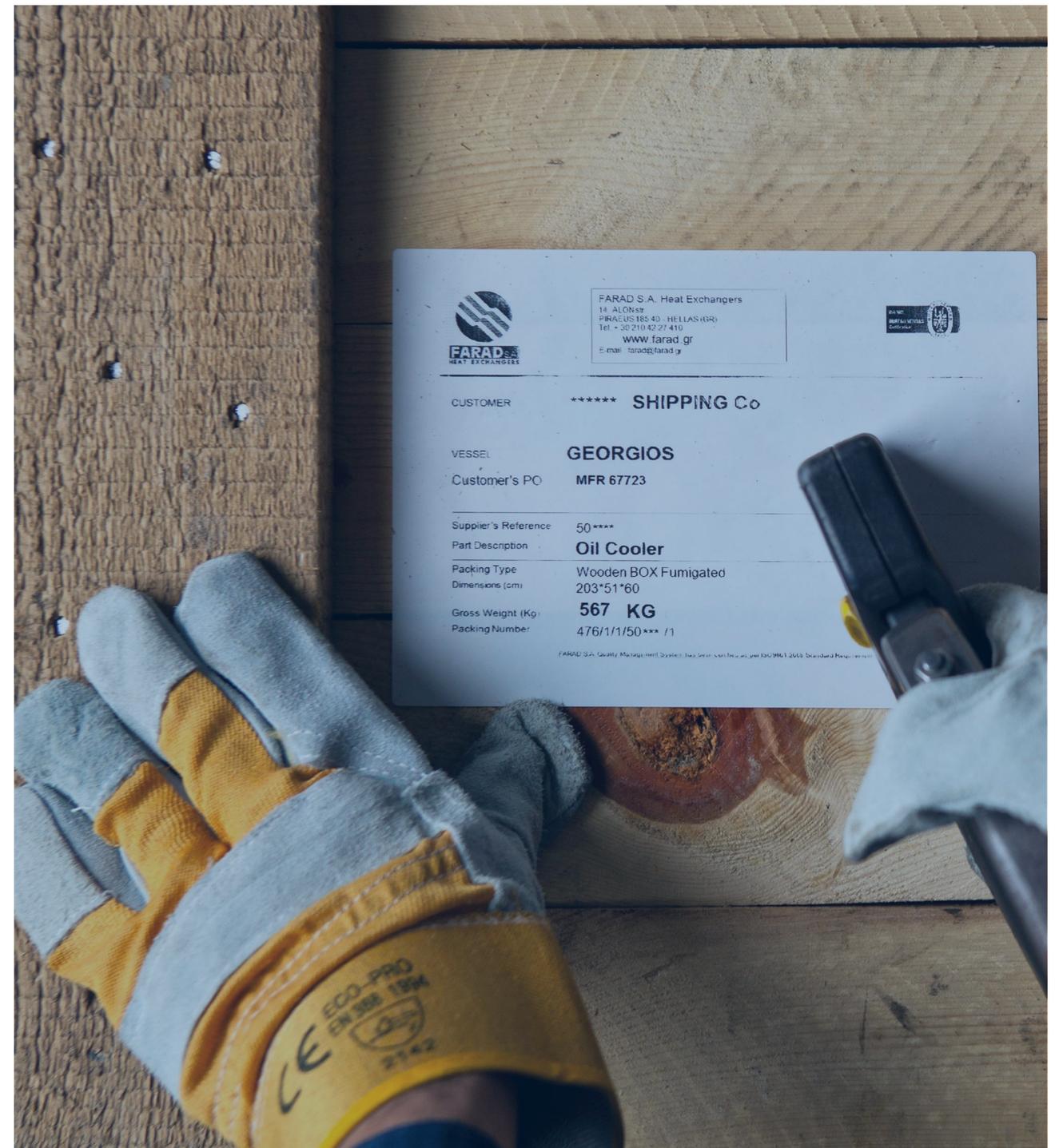


Customers

More than 500 Partners
around the globe

The main fields of our activities are:

- Shipyards
- Naval Projects
- Power Plants
- Oil Refineries
- Shipping Companies



Customers



- **Australia**
- **Austria**
- **Canada**
- **China**
- **Egypt**

- **Finland**
- **France**
- **Germany**
- **Greece**
- **India**

- **Ireland**
- **Italy**
- **Japan**
- **Malaysia**
- **Oman**

- **Portugal**
- **Romania**
- **Singapore**
- **South Korea**
- **Spain**

- **Turkey**
- **UK**
- **USA**

Thank you
For your attention

CONTACT

14 Alon street
Piraeus 185 40,
Greece / Europe

Phone - +30 21 0422 7410

Email - sales@farad.gr

Website- www.farad.gr



we work on quality