EVA

EVATEKSAN

PLATE HEAT EXCHANGER

GASKETS

www.evateksan.com

EVATEKSAN

PLATE HEAT EXCHANGER GASKETS

Plate heat exchangers, which are among the most important components in the field of mechanical installations, ensure that installations become much more functional and efficient thanks to their long-lasting and durable features. Plate heat exchangers, which help to provide much more efficient heat transfer compared to previous generation exchangers, differ from old-type exchanger types in terms of corrosion resistance and long service life.

Gaskets, which are the most critical parts in Plate Heat Exchangers, are now produced for all brands and models of exchangers by UNAL TEKNiK under the EVATEKSAN brand. Our company, which is the pioneer in heat exchanger solutions in Turkey, has the variety, stock, knowledge, and technical expertise to help you find what you are looking for among hundreds of gaskets.

WHAT IS THE SECRET BEHIND THE QUALITY OF EVATEKSAN GASKETS?

R&D

Our special rubber formulas developed as a result of long-term R&D studies.

DESIGN & MANUFACTURING

Designing gaskets/molds and producing molds in-house.

CE CERTIFICATE

We certify that we have passed all necessary conformity assessment processes.

ISO QUALITY CERTIFICATES

Our special rubber formulas developed as a result of long-term R&D studies.

CHALLENGING TESTS

The rigorous tests we carry out in our quality control laboratory.

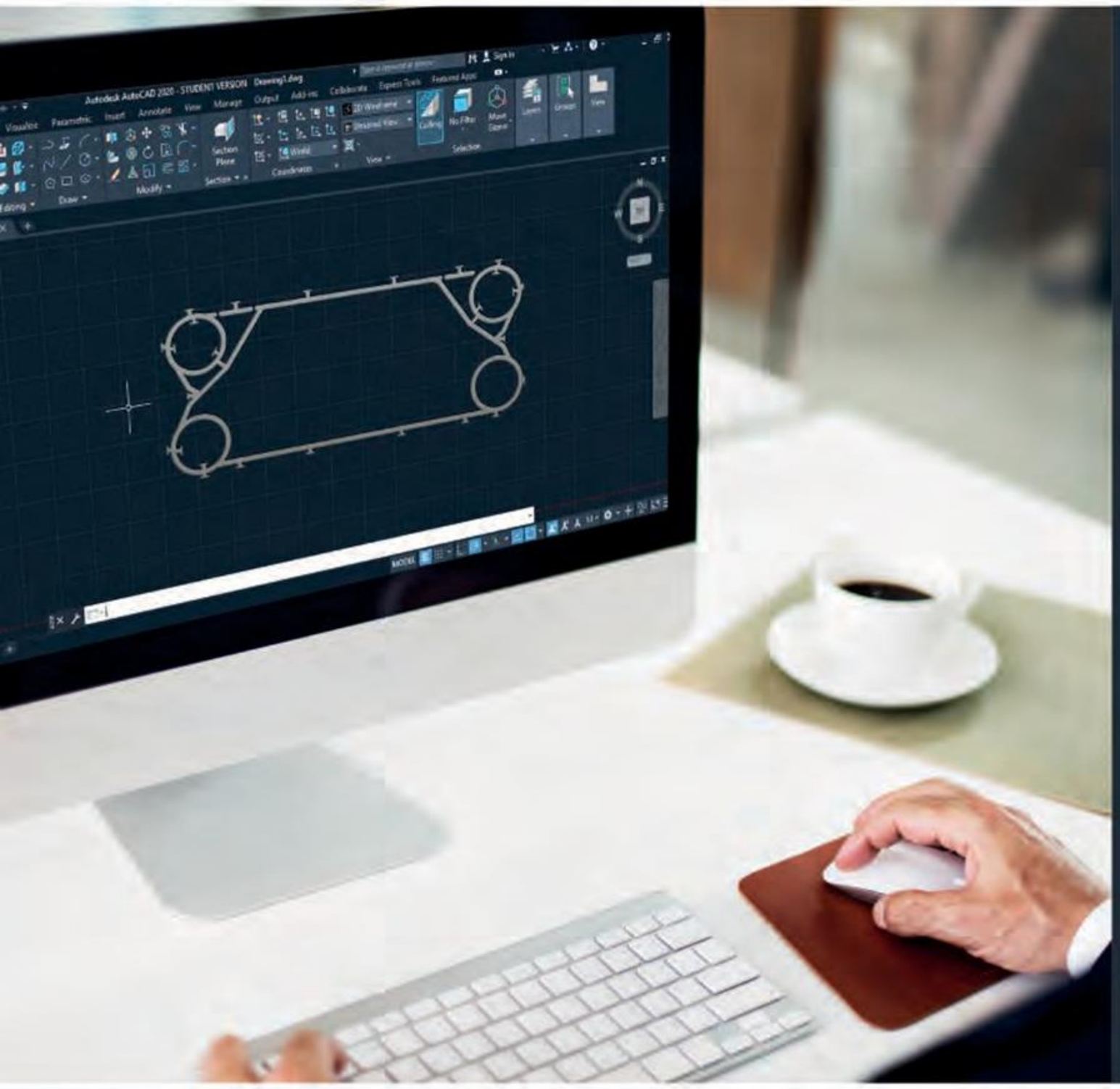
FIELD APPLICATIONS:

Before delivery, the gaskets are tested and approved by our own service team on heat exchangers operating under

EVATEKSAN
QUALITY STEPS

DESIGN

MOLD PRODUCTION



DESIGN

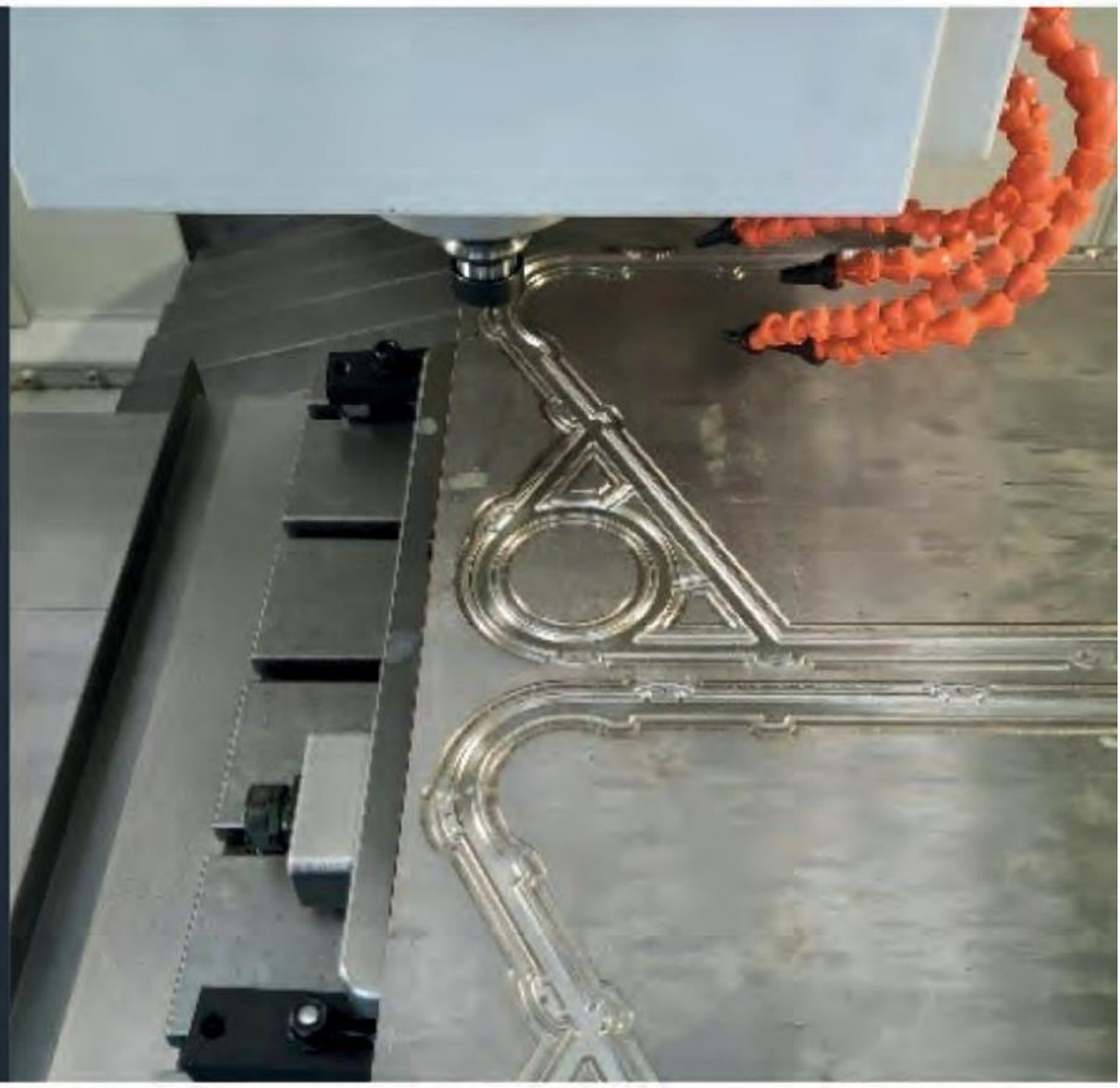
The UNAL TEKNIK design team creates the desired gasket design by analyzing every detail through 3D scanning, detailed measurement, template work, and final control, ensuring a perfect fit to the plate.

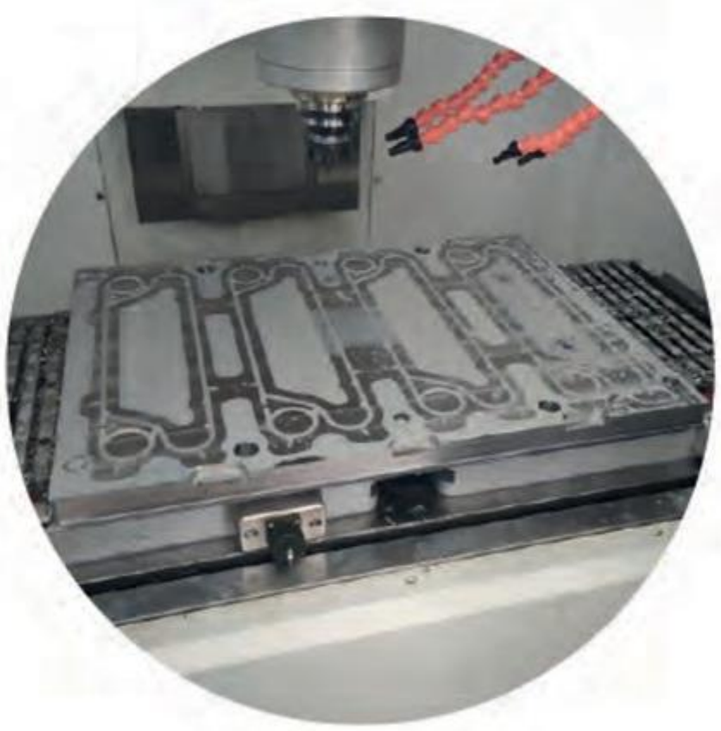
For gaskets that are not included in its product range, EVATEKSAN is able to carry out design, mold production, and gasket manufacturing within very short lead times.

TRIAL PRODUCTION » QUALITY CONTROL » PRODUCTION » TESTING

MOLD MANUFACTURING

Once the gasket designs are completed, they are transferred to our in-house mold workshop. With state-of-the-art CNC vertical machining centers, molds are produced with the highest precision. Each mold undergoes rigorous final inspections before being delivered to the production department, ensuring flawless performance in the next stage of manufacturing.





EVATEKSAN
QUALITY STEPS

DESIGN » MOLD PRODUCTION

TRIAL PRODUCTION

The molds received from the workshop are placed into fully-automated, computer-controlled rubber presses and tested under minimum and maximum temperature and pressure ranges. Each sample is barcoded and delivered to the quality control department for detailed inspection.

TRIAL PRODUCTION

QUALITY CONTROL

PRODUCTION

TESTING

QUALITY CONTROL

Samples from trial production undergo rigorous tests such as hardness, permanent deformation, and tensile/tear resistance to determine which sample delivers the most suitable values. Data related to temperature, pressure, and raw materials of the approved sample are recorded, and a production recipe is prepared for the gasket. This finalized recipe is then delivered to the production department.

EVATEKSAN
QUALITY STEPS

DESIGN

MOLD PRODUCTION

PRODUCTION

Based on the data provided by the Quality Control department, series production begins using the designated mold and production recipe with fully automated, PLC-controlled rubber presses. During production, witness samples are periodically taken and submitted to the Quality Control department. These samples undergo rigorous testing, ensuring that all gaskets produced by EVATEKSAN maintain consistent, high quality.

TRIAL PRODUCTION

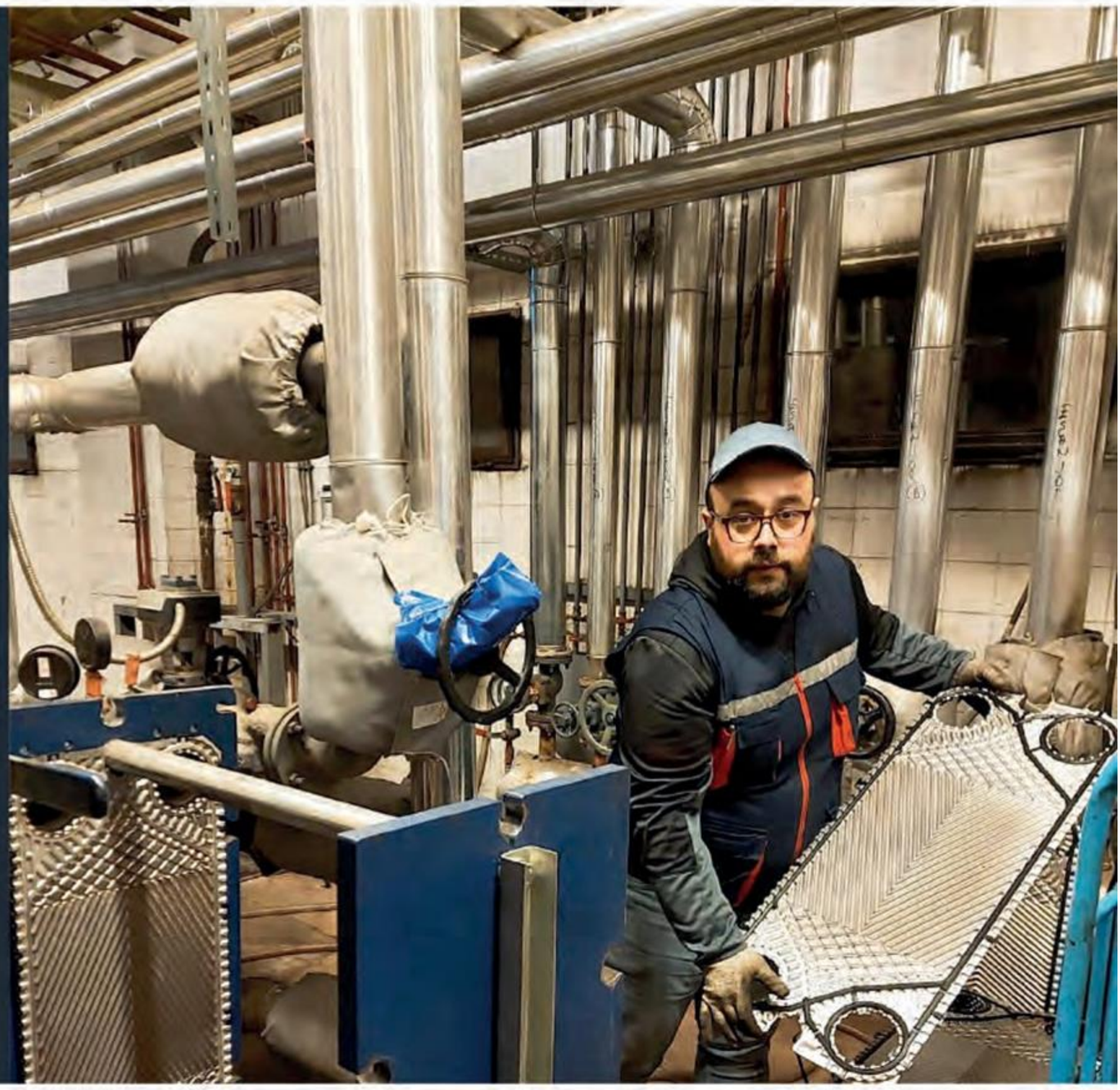
QUALITY CONTROL

PRODUCTION

TESTING

TESTING

The UNAL TEKNIK Service Team conducts field tests by installing EVATEKSAN gaskets on heat exchangers operating under various processes and working conditions. This ensures that EVATEKSAN can verify the performance and quality of its gaskets under real working conditions before they are delivered to customers.



SCALING

Scaling is not only the biggest enemy of Plate Heat Exchangers but also of pipes, valves, and indeed all installation components. In our country, water is generally hard and rich in minerals. Since fluid temperatures in Plate Heat Exchangers are constantly variable and flow channels are narrower compared to other installation components, the effects of scaling appear more quickly and more severely.

Effects of Scaling in Plate Heat Exchangers:

- Narrowing of flow channels
- Increase in pressure losses
- Reduction in heat transfer

Once scale molecules start adhering to the surface, they accumulate layer by layer and continue to grow rapidly. The more scale builds up, the faster scaling will progress.

The most effective solution to scaling problems is to completely dismantle the heat exchanger, clean the plates individually with special descaling chemicals, and then reassemble the unit.

Leakages

The most common problem encountered in Plate Heat Exchangers is the leakage of fluid from inside the exchanger to the outside. The source of leakages is usually issues with the sealing elements, namely the gaskets. These problems may occur in various ways. Over time, due to fluctuating temperatures and pressures, gaskets may lose their sealing properties. Leakages can also occur as a result of faulty installation during initial assembly. In cases of excessive pressure fluctuations, fluids may be released to the outside through the safety channels located at the gasket mouths.

To eliminate leakages, gaskets may need to be partially or completely replaced, or the exchanger may need to be dismantled so that the gaskets can be properly refitted into their grooves.

FOULING

Fouling is directly related to the level of impurities contained in the fluid passing through the exchanger. To give some examples of this contamination and how it forms: In systems where an open cooling tower is used, dust present in the surrounding air is drawn into the cooling water by the force of the tower′ s fan. This dust dissolves in the water and is carried into the installation. In heating systems, although boilers and pipelines operate as closed systems, deposits still begin to form inside the installation over the years. The cause of these deposits may be particles detached from the pipes or solid contaminants that enter the system during maintenance or modifications.

The most effective solution to fouling problems is to dismantle the heat exchanger completely, clean the plates individually with special chemicals, and reassemble the unit.

Problems that may occur in the heat exchanger as a result of fouling:

- Excessive pressure losses in the system
- Reduction in heat transfer
- Narrowing of flow channels

MIXING

Another possible problem in Plate Heat Exchangers is the mixing of the two fluids passing through the exchanger. Mixing is considered the most serious problem that can occur in a heat exchanger. The main cause of mixing is usually perforation of the plates. Highly corrosive fluids, plates reaching the end of their service life, or factors such as water hammer in steam exchangers are the primary reasons for plate perforation. Unlike leakages, mixing problems are generally not related to the gaskets.

The only way to resolve a mixing problem is to remove or replace the defective plate. The faulty plate may sometimes be identified by visual inspection, but the most reliable method is the penetration test. In this test, two different colored expandable penetration dyes are sprayed on each side of the plate and allowed to expand. If the dyes encounter a hole, they pass through to the other side and stain the opposite color, clearly indicating the leakage point.

Problems that may occur due to mixing include:

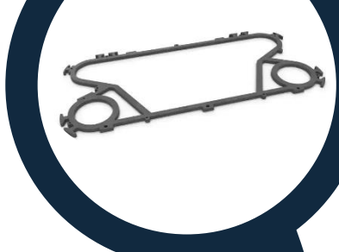
- In oil cooling systems, water mixing with oil and impairing its properties
- In seawater exchangers, seawater entering the freshwater side and damaging installation components
- In steam system exchangers, additional water entering the steam boiler, causing a rise in pressure
- In domestic hot water exchangers, boiler water mixing with the domestic water supply due to pressure differences, or vice versa, leading to increased boiler pressure

MODELS

PLATE / GASKET / HEAT EXCHANGER

ALFA LAVAL

T2 - M3 - TL3B - T5B - T5M - TS6M - TL6B - M6 - M6M - T8B - T8M
M10B - M10M - T10M - A10 - TL10B - TL10P - M15B

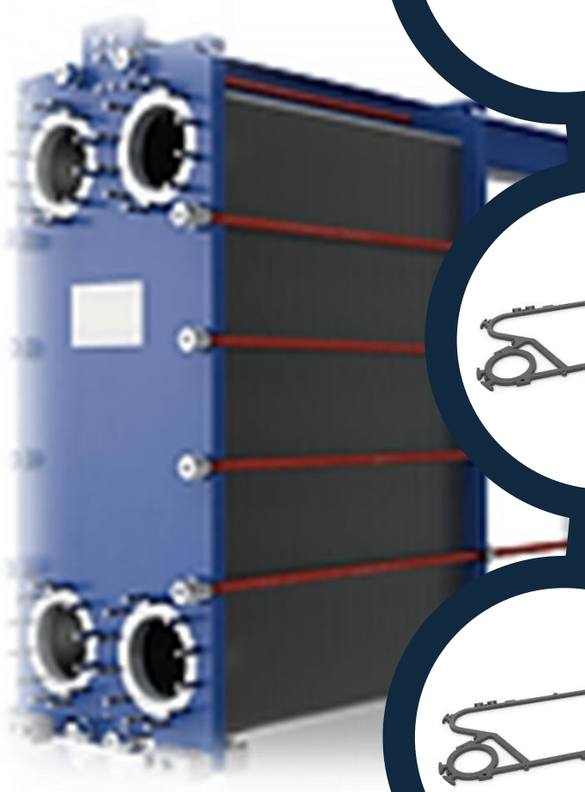


APV

T4 - TR1 - SR2 - H17 - N35 - 0034E
0050E - Q055 - Q055 - L080E - J92

SONDEX

S4A - S7A - S8A - S9A - S14A - S19A - S21A - S41A
SONDERBLOCK (S21 - S22 - S47 - S62 - S86 - S100)



TANPERA

ORW2 - ORW22 - ORW3 - ORW32 - ORW33 - ORW35
ORW4 - ORW42 - ORW43 - ORW61 - ORW63

GEA

VT04 - VT10 - VT20 - NT50T - NT50M

ARES

A1S - A1L - A2S - A2M - A3S - A3M - A4S - A4A - A6S

MIT

M503 - M504 - M704 - M505 - M707 - M708 - M508 - M509 - M510
M513 - M514 - M517 - M520 - M521 - M522 - M523 - M535 - M547 - M562

REFERENCES

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Engineering for a Better Future

RENAISSANCE CONSTRUCTION

TAV Construction

YDA

Limak

KOLİN

nef

Ford

OYAK | Renault Group

TURKISH AEROSPACE

BAYKAR

Otokar

Unilever

ÜLKER

ETİ

ENFABAL honey

"emeğin ağız tadı" emek

İVRİNDİ AYDENİZ ET BALIKESİR

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