fsa alfa enerji

SERPENTINE·RADIATOR·HEAT EXCHANGER·ECONOMIZER

CORPORATE PRODUCT CATALOG

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SERPENTINE·RADIATOR·HEAT EXCHANGER·ECONOMIZER

FSA Alfa Enerji

FSA Alfa Enerji Mak. San. Tic. Ltd Şti. as a family, we started production in 2009 under the general title of "Heat Exchangers and Energy Recovery Systems". We have adopted the principle of offering quality and economical products, taking into account today's competitive conditions. With this principle, we accelerated R&D studies and expanded the product portfolio in a short time. We constantly update our quality system with the DIN EN ISO 9001:2015 certificate, subject to audit.

We design and manufacture heat exchangers such as serpentine - finned tubes, radiators, heat exchangers, economizers, recuperators, shell & tube evaporators and condensers, oil coolers, ship towers and pressure vessels. We offer optimum solutions by using computer-aided thermodynamic calculation software and mechanical calculation software in product designs.

In our designs
TEMA (The Tubular Exchanger Manufacturers Association)
ASME (The American Society of Mechanical Engineers)
TSE (Turkish Standards Institute)
EN (European Standards)
ISO (International Organization for Standardization)
DIN (German Institute for Standardization)
PED 2014/68/EU (The Pressure Equipment Directive)
We use standards and directives. We certify our designs and productions according to EN 13445, EN 12952, EN 12953, API 661, API 650 standards.

Our WPS and WPQRs have been completed for all welding methods we use in the processes, and all of our welders working in the process are certified in SMAW, TIG and MIG-MAG welding methods according to TS EN ISO 9606-1 standard.

"dominate the energy..."

Industrial heat exchangers and energy recovery systems
We produce professional solutions.

Our Product Groups

01 Serpentine

Serpentines consist of thin fins wrapped on pipes to increase the heat transfer surface area. Serpentines play an effective role in providing heat transfer. The fins are wrapped in a certain thickness, height and pitch according to the pipe diameter and heat transfer surface requirements determined as a result of thermodynamic and mechanical calculations. Spiral wound serpentines are wound on flat and oval pipes by spot or continuous welding.

02 Radiator

Radiators are formed by grouping serpentines. Radiators vary according to their fluid types and places of use. According to their fluid types, they are classified as hot water radiator, hot water radiator, sea water radiator, steam radiator, hot oil radiator. According to the type of serpentine, radiators can be classified as finless bare tube radiators, straight tube wound coils, oval tube fin arrays, flat double tube fin arrays, grooved and cross-tube radiators.

03 Shel & Tube Heat Exchanger

Heat exchangers are used to change the temperature of the existing liquid or gas fluid with another liquid or gas fluid. In heat exchangers, the two fluids do not come into contact with each other. Heat exchangers water-water, water-oil, water-gas (air, nitrogen, etc.), steam-water, steam-oil, steam-gas (air, nitrogen, etc.) oil-oil, oil-gas, (air, nitrogen) etc.) are classified according to their fluids as heat exchangers. They are classified as straight tube and U-tube heat exchangers according to the production process, usage areas and tube bundle structure.

04 Economizer

Economizers can be produced as condensing and non-condensing types. Energy efficiency can be maximized with condensing type economizers.

05 Waste Heat Boiler

Waste heat boilers can be produced from many materials. It is possible to produce products based on long life, high efficiency and short payback conditions with materials selected according to the type of waste heat to be recovered.

06 Pressure Vessel

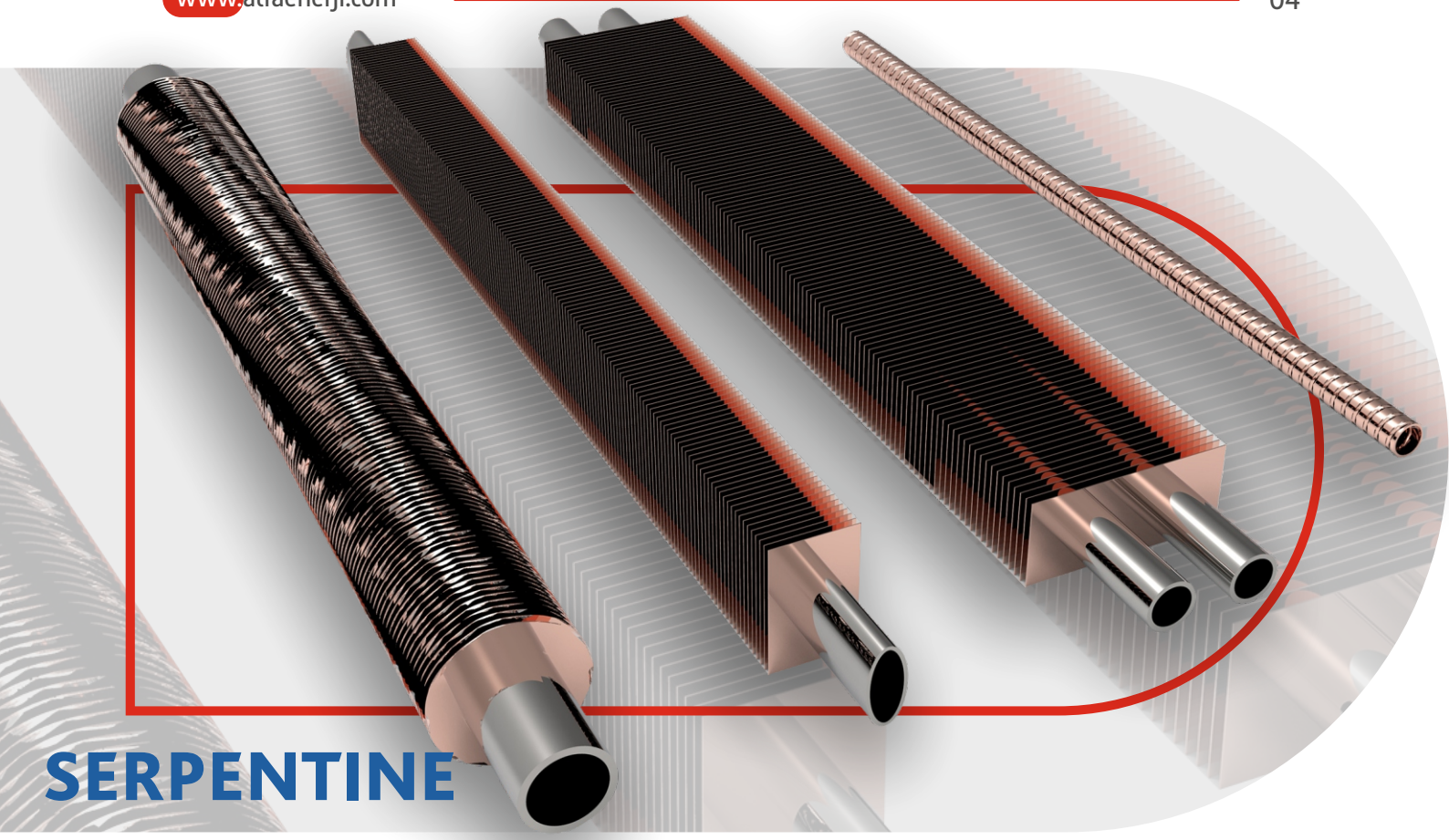
Pressure vessels can be manufactured from many different materials. Production can be made based on high-strength, long-lasting and optimum payback periods with the materials selected according to the place of use, the type of fluid to be stored, the filling-discharging period and the engineering calculations made.

07 Recuperator

Today's competitive conditions have led companies to protect high-cost energy at the highest level. In particular, the use of waste flue gas generated in steam, water and hot oil boilers and waste hot water energy in the textile industry contributes greatly to production costs and the country's economy. Systems built by taking process values into account pay for themselves in a short time.

08 Special Productions

It can produce products in many different materials and sizes according to customer and process needs. For example, high-capacity burners, screens, platforms, chassis, non-standard specific heat transfer devices, large and small prototype products for R&D studies.



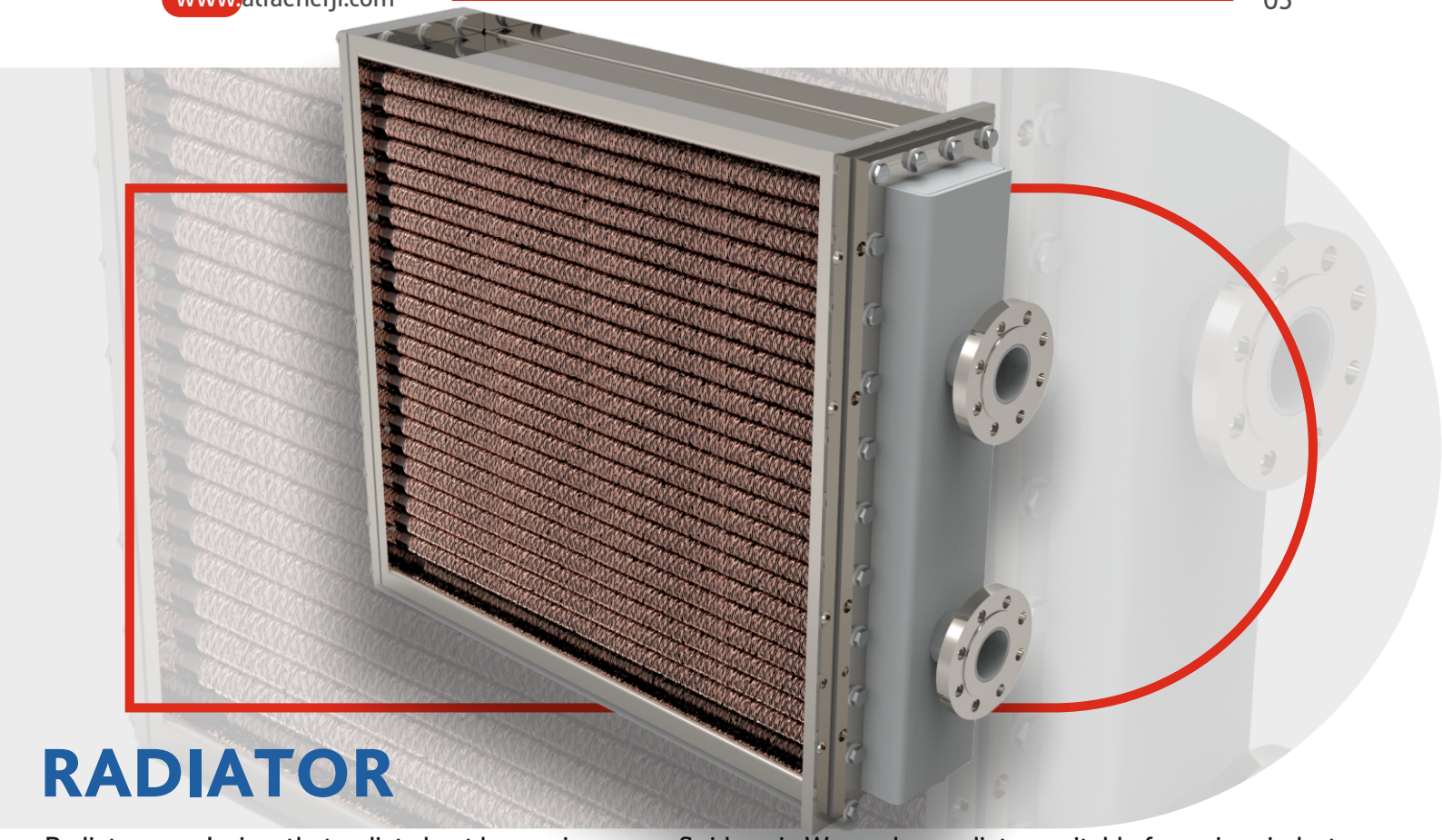
SERPENTINE

Serpentines are important components used to effectively transfer thermal energy. We produce optimized coils for different application areas by using high quality materials during the production phase. Our wide product range includes coils in a variety of shapes and sizes, allowing us to offer solutions suitable for different industries.

Serpentines are created by winding pipes in a specific shape or pattern. This winding arrangement increases the heat transfer surface and provides a more effective energy exchange. These products are often used in refrigeration systems, evaporation processes and hot water heating systems. It is also frequently preferred in industrial processes, chemical reactions and energy recovery systems.

Our production process includes meticulously designed quality control steps and fully complies with international standards. Material selection, design and assembly stages are carried out carefully to ensure the highest efficiency and durability. Our coils are an excellent choice for applications with energy efficiency and long-life expectancy.

We strive to meet the needs of our customers in different industries by providing them with customized coil solutions. We work together with our design and production team to achieve the best results in terms of efficiency, durability and high performance



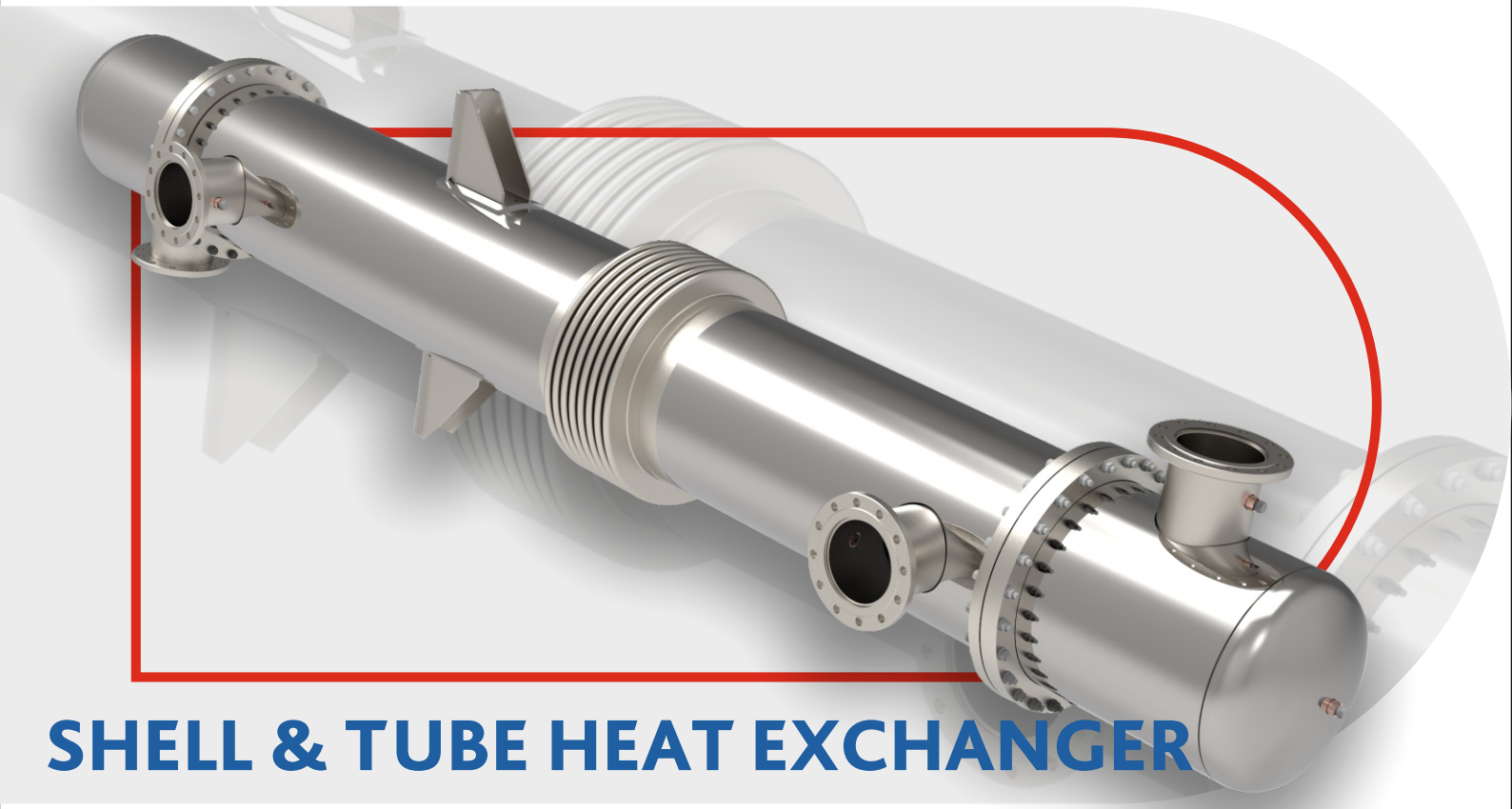
RADIATOR

Radiators are devices that radiate heat by passing over a fluid or air. We produce radiators suitable for various industry needs by using high quality materials in the production process. Our extensive product range includes radiators of different types and sizes, allowing us to offer solutions suitable for a variety of applications.

Radiators increase the temperature of the environment by emitting the heat of hot water or other liquids circulating inside them. Thanks to this heat transfer, radiators are used for heating purposes in buildings as well as providing heat control in industrial processes. It is also widely used in vehicle cooling systems and engine temperature regulation.

Our production process includes rigorous inspection steps designed to meet superior quality standards. Material selection, design and production stages are designed to guarantee durability and high performance. Our radiators are an excellent option for applications with energy efficiency and long life expectancy.

We strive to meet the needs of our customers in different industries by providing customized radiator solutions. We work together with our design and production team to ensure the highest standards in terms of heat transfer and temperature control.



SHELL & TUBE HEAT EXCHANGER

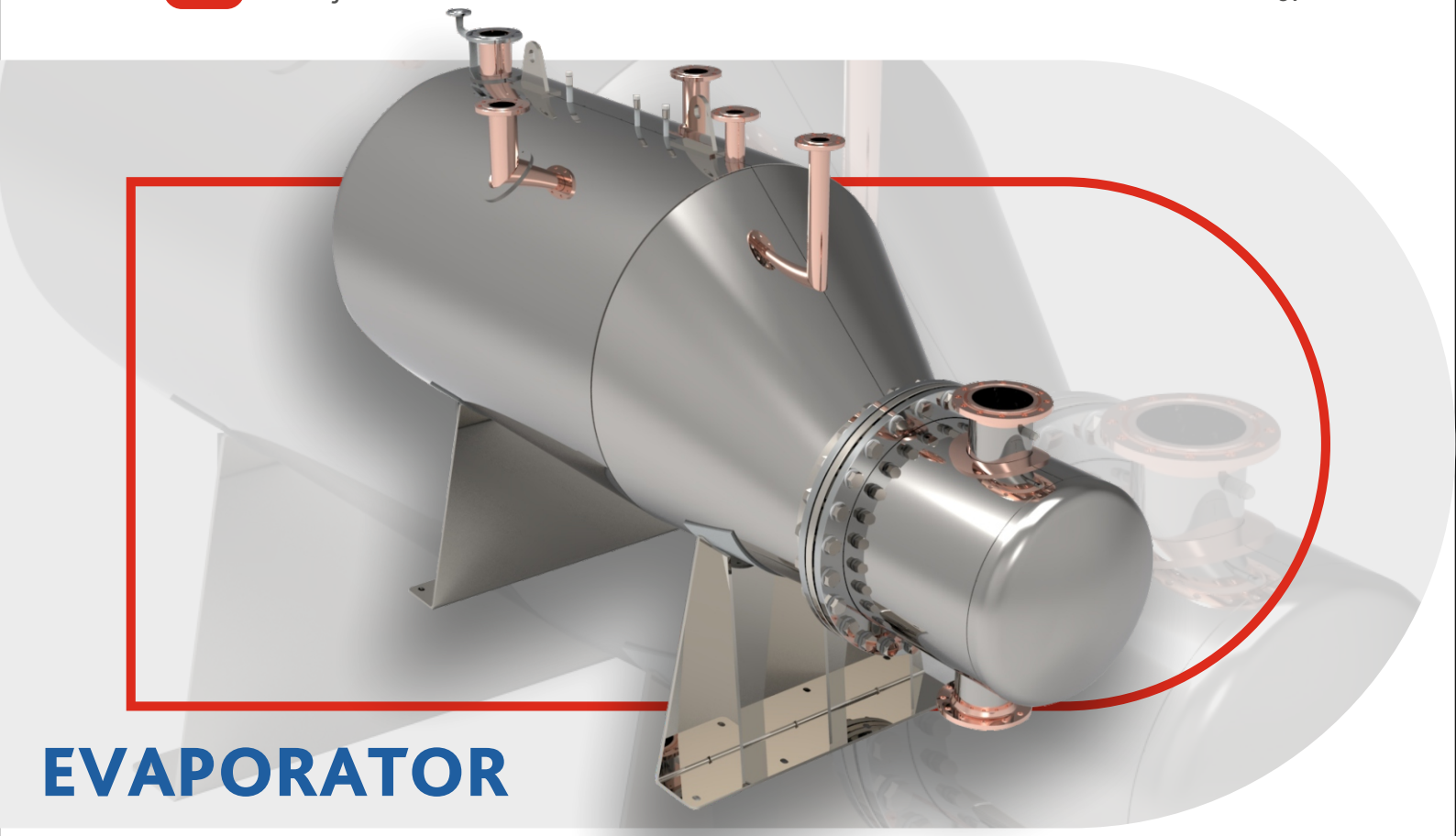
The shell and tube exchanger is a device that provides heat transfer and enables different fluids to exchange heat without contacting each other. Shell and tube heat exchangers, which find a wide range of applications from industrial processes to energy production, are designed to provide efficient and reliable heat transfer.

In our production process, shell and tube heat exchangers are designed and produced using materials that comply with high quality standards. There is an outer body surrounding the intertwined pipes. Heat transfer occurs when a fluid inside passes through the pipes, while another fluid outside passes over the outer body.

Shell and tube exchangers are generally used to provide heat transfer of high pressure and high temperature fluids. These exchangers offer an ideal solution to increase process efficiency, save energy and reduce production costs.

We design customizable shell and tube heat exchangers for different industrial applications. Designed to meet your heat transfer needs and provide optimum performance, these exchangers are subjected to rigorous testing to ensure long life and reliability.

Our shell and tube exchangers are an essential tool for businesses looking to increase the efficiency of industrial processes, optimize energy consumption and reduce environmental impact. We are here to offer the best heat transfer solutions to our customers with our quality design and production approach.



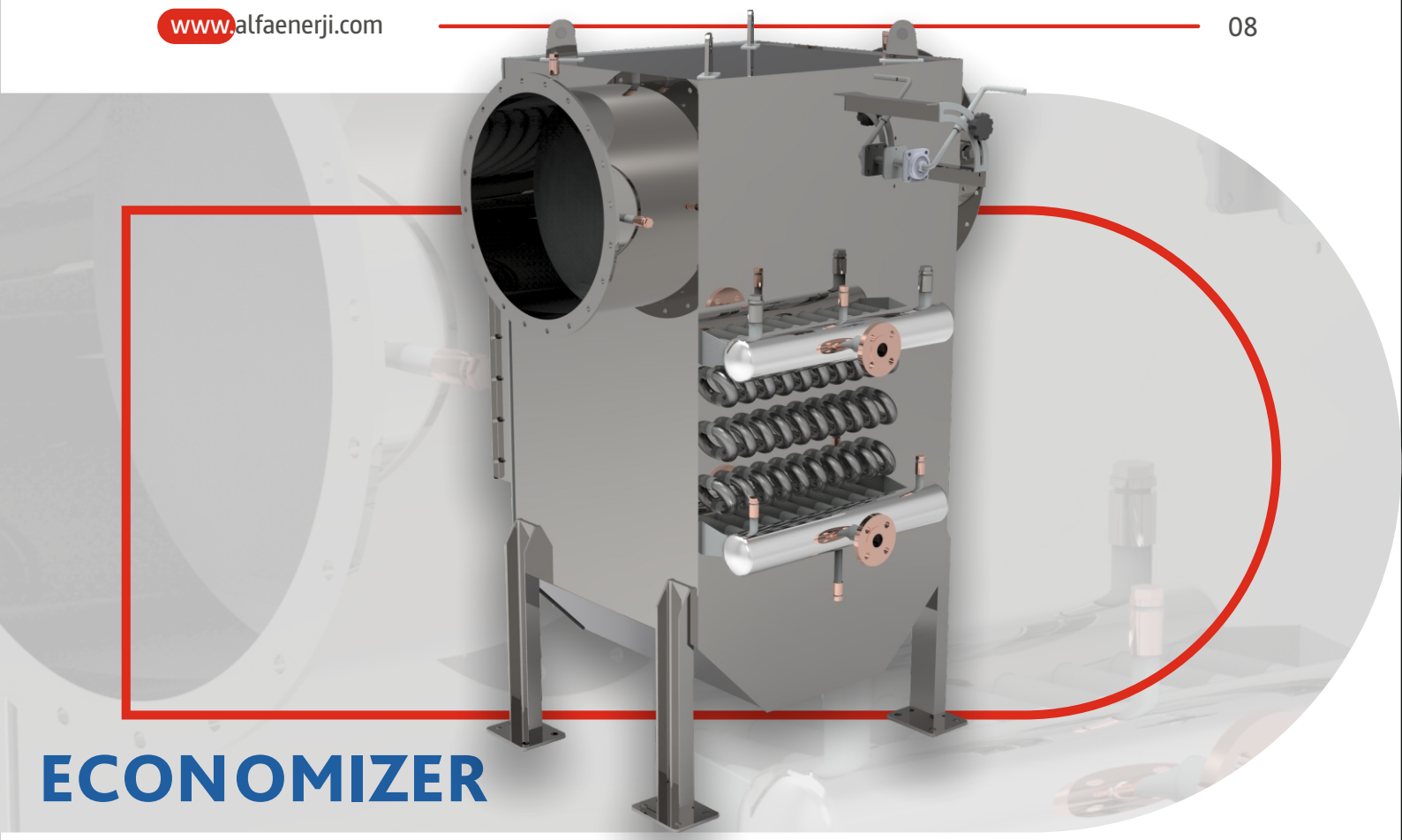
EVAPORATOR

Evaporators are devices that provide heat transfer and enable different fluids to exchange heat without contacting each other. Evaporators, which find a wide range of applications from industrial processes to energy production, are designed to provide efficient and reliable heat transfer.

In our production process, evaporators are designed and manufactured using materials that comply with high quality standards. There is an outer body surrounding the intertwined pipes. Heat transfer occurs when a fluid inside passes through the pipes, while another fluid outside passes over the outer body. Evaporators, such as shell and tube exchangers, are generally used to provide heat transfer of high pressure and high temperature fluids.

These exchangers offer an ideal solution to increase process efficiency, save energy and reduce production costs. We design customizable evaporators for different industrial applications. Designed to meet your heat transfer needs and provide optimum performance, these exchangers are subjected to rigorous testing to ensure long life and reliability.

Our evaporators are an essential tool for businesses looking to increase the efficiency of industrial processes, optimize energy consumption and reduce environmental impact. We are here to offer the best heat transfer solutions to our customers with our quality design and production approach.



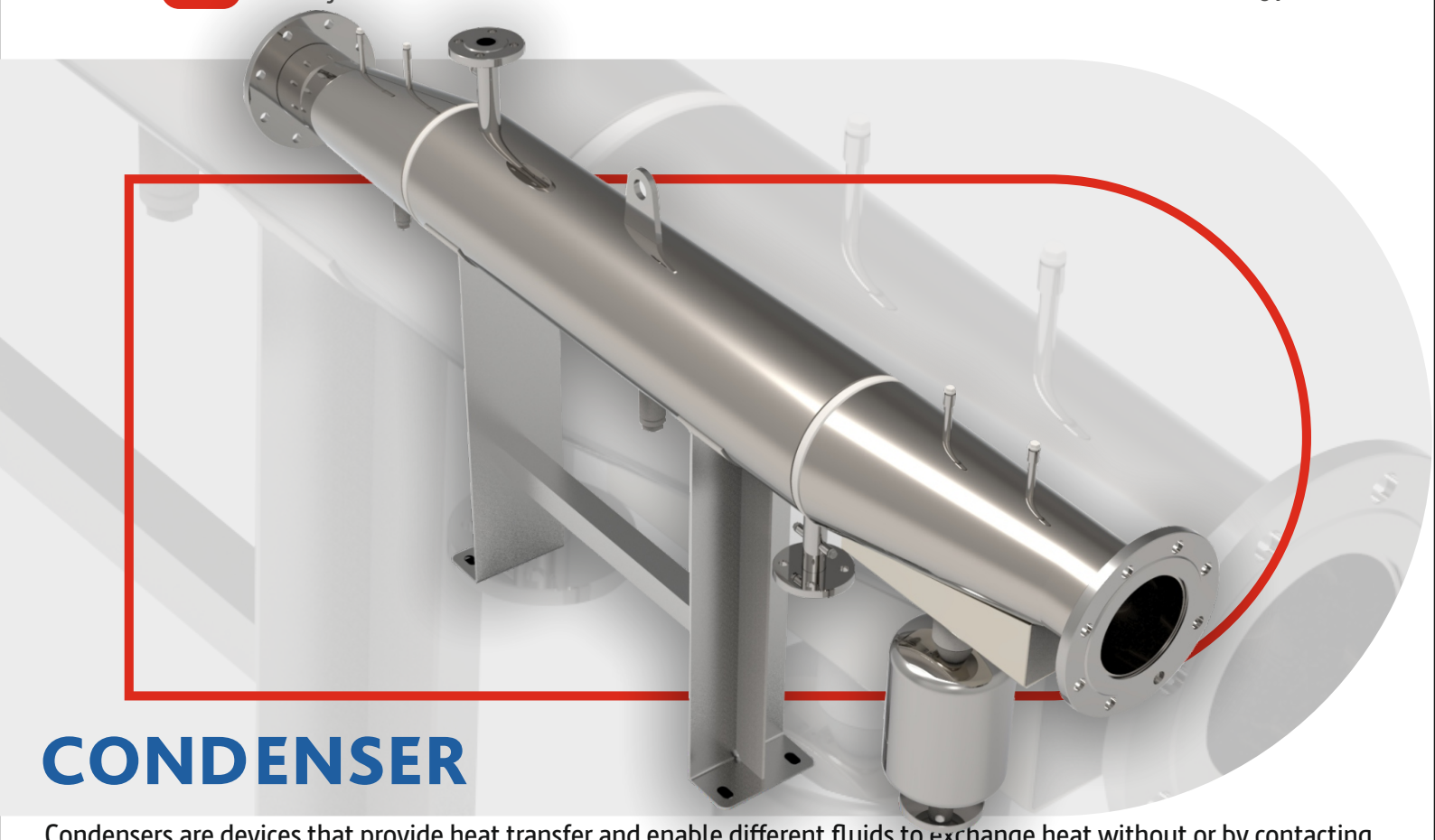
ECONOMIZER

Economizers are devices that provide heat recovery from waste gases or process fluids and can use this heat to increase the efficiency of the system. We produce economizers suitable for various industry needs by using high quality materials and advanced technology in our production process. Our wide product range includes economizers of different types and capacities, so we can offer customized solutions to our customers.

Economizers are used in industrial boiler systems and energy production facilities to recover waste heat and increase energy efficiency. These devices save energy to be used for heating or process purposes by heating cold water or steam passing through hot gas fluids.

Economizers are products created by grouping flat or oval coils with or without fins. Economizers can be produced in various shapes and sizes. Depending on the structure and outlet temperature of the waste gas, economizers can be produced from carbon steel and stainless-steel materials. Condensing economizers are manufactured from stainless steel material to prevent the moisture and sulfur in the waste gas from damaging the pressure pipes in the economizer when it is reduced to the condensing temperature.

Our production process includes rigorous inspection steps designed to meet quality and safety standards. Material selection, design and manufacturing stages are designed to provide excellent performance, durability and long life. Our economizers are an ideal option for businesses looking to save energy and reduce environmental impact.

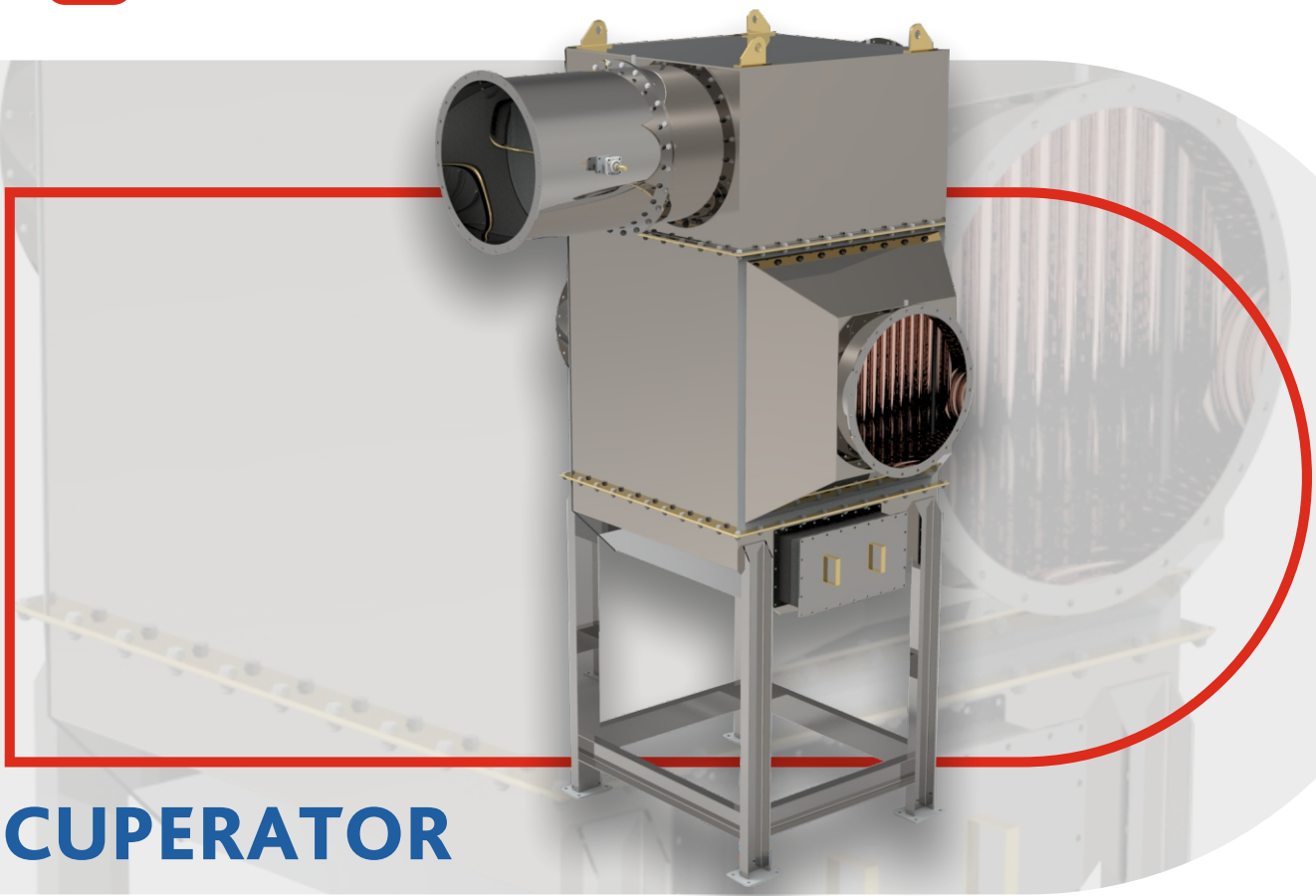


CONDENSER

Condensers are devices that provide heat transfer and enable different fluids to exchange heat without or by contacting each other. Condensers, which find a wide range of applications from industrial processes to energy production, are designed to provide efficient and reliable heat transfer.

In our production process, condensers are designed and manufactured using materials that comply with high quality standards. There is an outer body surrounding the intertwined pipes. Heat transfer occurs when a fluid inside passes through the pipes, while another fluid outside passes over the outer body, and by full or partial condensation of the fluid in the gas phase. Condensers are used to provide heat transfer of fluids at high-low pressure and high-low temperature. These exchangers offer an ideal solution to increase process efficiency, save energy and reduce production costs.

We design customizable condensers for different industrial applications. Designed to meet your heat transfer needs and provide optimum performance, these exchangers are subjected to rigorous testing to ensure long life and reliability. Our condensers are an essential tool for businesses looking to increase the efficiency of industrial processes, optimize energy consumption and reduce environmental impact. We are here to offer the best heat transfer solutions to our customers with our quality design and production approach.



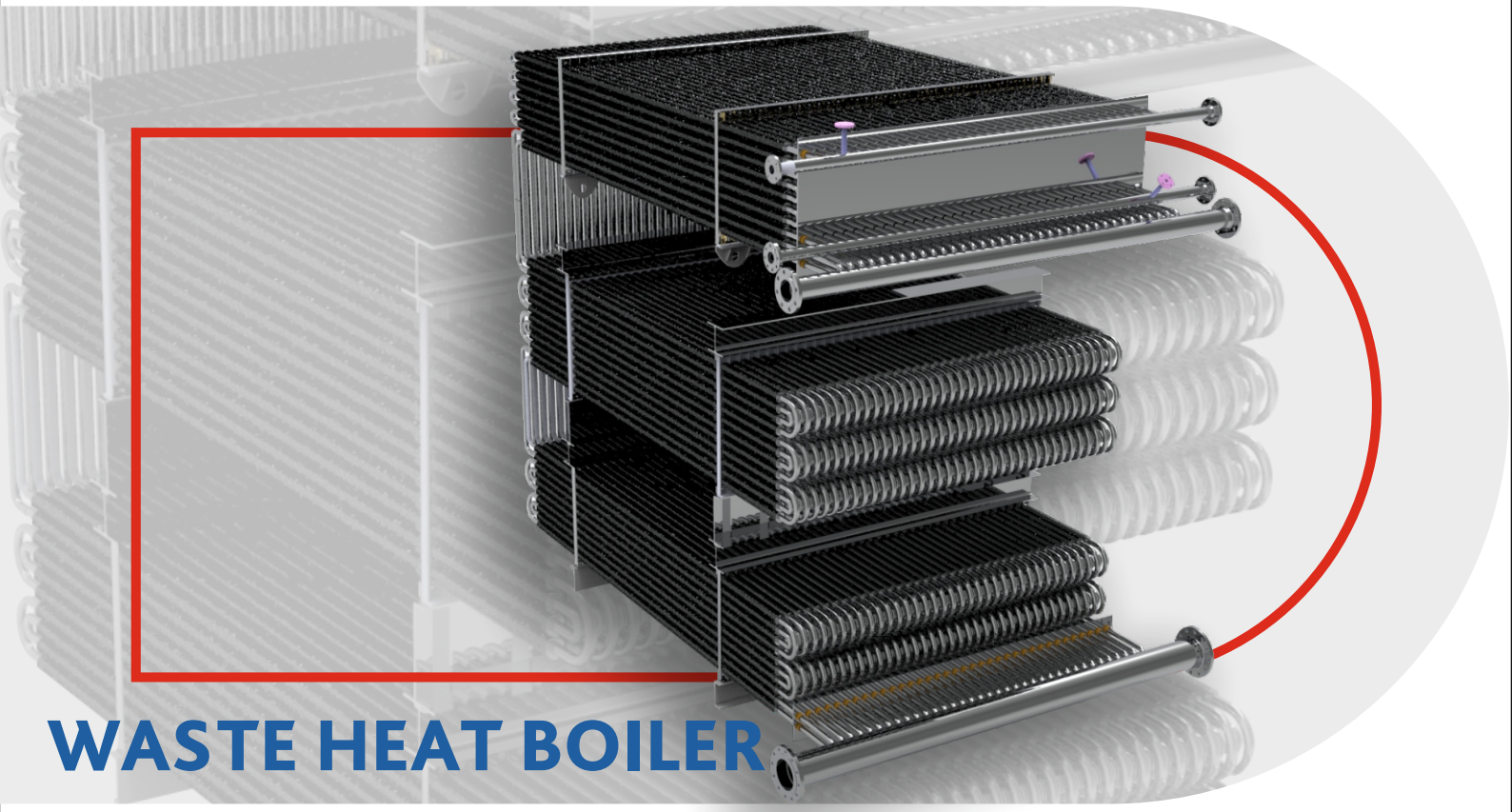
RECUPERATOR

Recuperator is a heat recovery device used to reduce or warm the temperature in the air. Recuperators are used in a wide range of applications, from industrial facilities to buildings. We offer various types of recuperators designed and manufactured in accordance with the highest quality standards in our production process.

Recuperators provide heat transfer by bringing the fresh outside air into contact with the exhaust gas. In this way, energy efficiency is increased by heating the combustion air of the boilers. Gaining energy from the hot gas inside helps reduce energy costs and environmental impact.

Recuperators are formed by grouping straight or oval pipes. Recuperators can be produced in various shapes and sizes. Depending on the structure and outlet temperature of the waste gas, recuperators can be manufactured from carbon steel and stainless-steel materials. Condensing recuperators are manufactured from stainless steel to prevent the moisture and sulfur in the waste gas from damaging the pipes in the recuperator when reduced to the condensation temperature.

Our production stages are carried out using the latest technology and engineering principles. The design and manufacturing of our recuperators is done to optimize durability and performance. We remain committed to providing our customers with the best solutions to save energy, increase the efficiency of their businesses and help them achieve their sustainability goals.



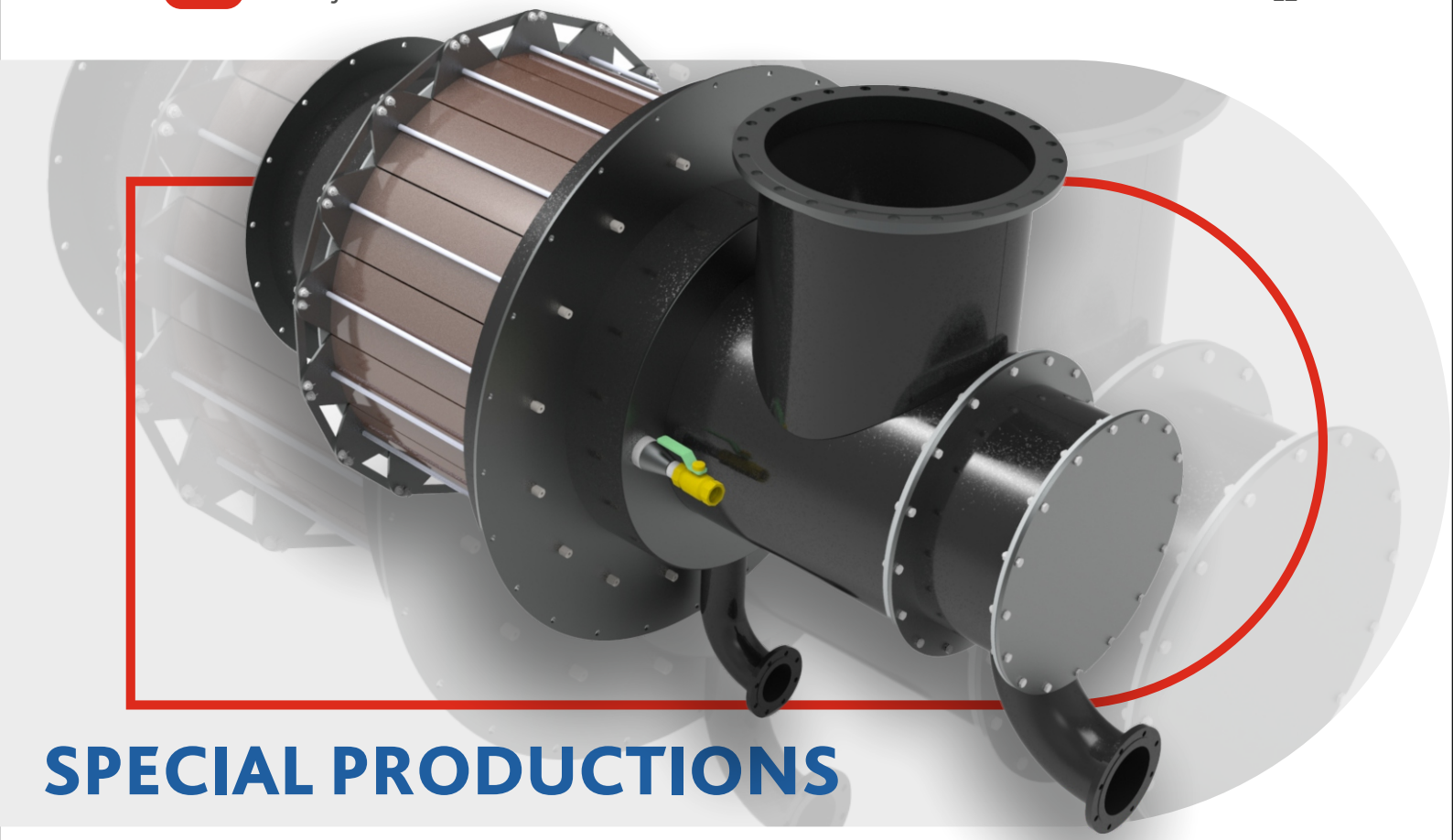
WASTE HEAT BOILER

Waste Heat Boilers are systems that capture waste heat created by industrial processes or energy production facilities and convert this heat into reusable energy. We produce various types of waste heat boilers using the highest quality materials in our production process. These devices are designed to increase energy efficiency and enable businesses to meet their sustainability goals.

Our Waste Heat Boilers capture waste heat from industrial furnaces, steam boilers, gas turbines and other heat-producing equipment. This waste heat is then used to produce steam or provide process heat, thus making it possible to reduce energy costs and reduce environmental impact.

Waste Heat Boilers can be produced in various shapes and sizes. Depending on the structure and outlet temperature of the waste gas, waste heat boilers can be produced from carbon steel and stainless-steel materials. The condensing waste heat boiler is produced from stainless steel material to prevent the moisture and sulfur in the waste gas from damaging the pressurized pipes in the waste heat boiler when it is reduced to the condensation temperature.

Our production stages include carefully designed inspection processes to meet high quality standards. Our Waste Heat Boilers are produced with designs and manufacturing optimized for durability and performance. We offer our customers a reliable solution to increase the energy efficiency of their businesses and recycle waste heat.



SPECIAL PRODUCTIONS

It can produce products in many different materials and sizes according to customer and process needs. For example, high-capacity burners, screens, platforms, chassis, non-standard specific heat transfer devices, large and small prototype products for R&D studies.

Products can be produced with special materials and standards. For example, Hardox material can be used in areas where abrasion is high, super duplex material can be used in areas where chemical corrosion is high, and titanium material with high strength-to-weight performance can be used in the aviation industry.

Projects, thermal hydraulic calculations, static and dynamic calculations can also be made in different standards according to customer demands.

For example; A rectangular prism-shaped pressure vessel that is exposed to external pressure, is in a high temperature and corrosive atmospheric environment, or is located 1 km under the sea can be designed, projected and produced in accordance with ASME standards.

SOME REFERENCES

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EÜAŞ ELEKTRİK ÜRETİM A.Ş.	İÇDAŞ İÇDAŞ ÇELİK ENERJİ TERSANE VE ULAŞIM SANAYİ A.Ş.	GOODYEAR	Diler Holding	YILMAK
DMS DİLMENLER	5Cteta	Akkim	eren	Eczacıbaşı
LESAFFRE TURQUIE	ETİ SODA	ciner	KNAUF	SASA
TP TÜRKİYE PETROLLERİ	STM	roketsan	ÇAYKUR	AMASYA ŞEKER FABRİKASI
KARADENİZ HOLDİNG	isbir Holding	yıldız KAZAN SANAYİİ A.Ş. KURULUŞ 1956	FORD OTOSAN	BRONSWERK HEAT TRANSFER
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