BAŞARANLAR | PROCESS

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ABOUT US

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We produce and make the thermal and mechanical calculations of Shell and Tube Heat Exchangers, Air Cooled Heat Exchangers, Special Design Heat Exchangers, Cooling Towers and Pressure Vessels according to the latest international codes and standards using the best software programs and produce them.

Our experienced team uses up-to-date computer software to produce detailed manufacturing drawings.

Our extensive experience in accurate Mechanical design and detailed 2D drawing preparation, competitive prices and timely production make our company the right choice for all your drawing, design and production needs.

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INDUSTRIAL HEAT EXCHANGERS

We produce and make thermal & mechanical calculations of shell & tube heat exchangers, air cooled heat exchangers, economizer and tailor-made special heat exchangers according to the latest international codes and standards, with the use of the most prominent software programs.

Our qualified engineers use the latest version CAD tools to produce detailed fabrication drawings in 2D and 3D.

Standarts

- » ASME VIII Div. 1 & 2
- » AD-2000 Regelwerk
- » BS codes / PD 5500
- » PED 2014/68/EU Regulations
- » Eurocodes / EN 13445
- » CODAP Div. 1 & 2
- » TEMA & API Standards

Equipments

- » Air Cooled Heat Exchangers
- » Double Tube Heat Exchangers
- » Waste Heat Boilers
- » Cooling Towers
- » Steam, Hot Oil and water radiators
- » Recuperators
- » NH3 Condensers and Evaporators
- » Steam-Air Heat Exchangers
- » Steam Generator Heat Exchangers
- » Air Cooling and Dehumidifying Heat Exchangers
- » Oil Heating and Cooling Exchangers
- » Shell & Tube Heat Exchangers
- » Plate Heat Exchangers
- » Pressure vessels
- » Economizers
- » Hot Air Units
- » CO2 Coolers
- » Natural Gas Coolers
- » Vacuum Steam Condensers
- » Flue Gas Exchangers
- » Engine and Generator Air Coolers

Steam

Water

Glykol & Glykol mix

Compressed Gas

Thermal Oils

Refrigerants

FINNED TUBES HEAT EXCHANGERS SPECIFICATIONS

Dimensions

Min. 16 mm up to 50 mm tube diameters
Min. 10 mm up to 20 mm fin heights
Min.2 mm up to 10 mm fin pitch
Min. 0,2 up to 1,5 mm fin thickness

Materials

Carbon steel
Stainless steel
Copper
Copper-Nickel
Titanium
Cr-Mo

Turbulators

Ball
Matrix
Spring
Twisted tape

Coating

Blygold
E-Coat
Hot dip galvanized
Nicel Coating

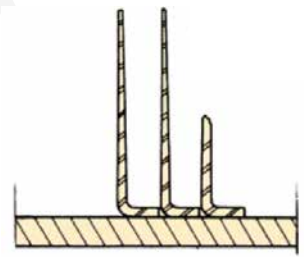
Finned types

» **L-Fin**
Extruded fin

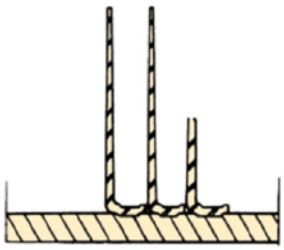
» **LL-Fin**
Welded fin

» **KL-Fin**
Corrugated

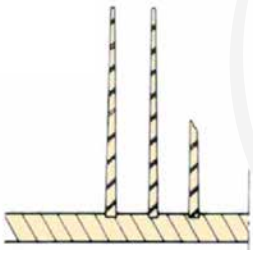
» **G-Fin**
Low fins



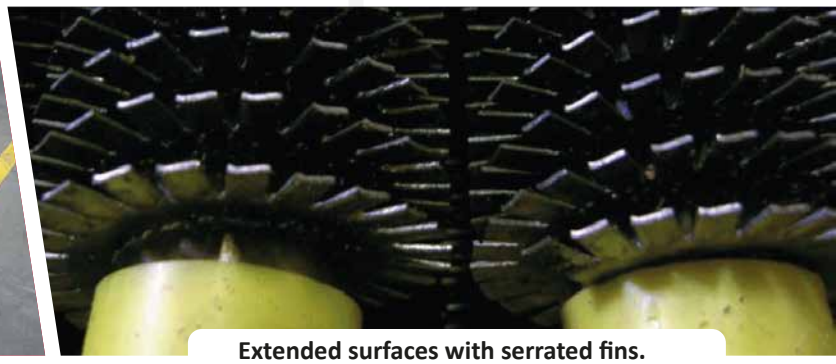
L-Fin maks. 130 °C



KL-Fin maks.250°C



G-Fin maks.400 °C



Extended surfaces with serrated fins.

AIR COOLED HEAT EXCHANGER

Air cooled heat exchanger is a finned tube heat exchanger that uses the air for cooling medium. It is required a wide surface area for heat transfer. It is applied to finned tube for increasing the heat transfer surface and compact design of construction area An ACHE installation includes the finned tube heat exchanger header, steel support structure, fan drive equipment, including axial fans, V-belt drivers, bearing shafts and electric motors.

BASARANLAR produces industrial air coolers that are designed to meet specific customer requirements. BASARANLAR offers air coolers that vary in size, ranging from small vertical air coolers to large horizontal air coolers. Unit configurations include forced draft, induced draft and v-type designs. Air coolers are commonly used for cooling compressed gas, oil and other working fluids.

ACHEs are used for many Industrial Applications, such as Power, Chemical, ORC Plant, Oil & Gas, Steel Industry and many other Applications.

WHY CHOOSE BAŞARANLAR ACHE?

- » Enhanced technology
- » Widest range of fin shapes, tubes, headers and materials
- » Leading design and manufacturing technologies
- » Complete service packages
- » Fast delivery
- » Long life cycle

Finned Tube Types

L-Fin
LL-Fin
KL-Fin
G-Fin
B-Fin (Extruded)
Welded Finned tubes
Low finned tubes

Materials of Construction

AL-6XN
Carbon Steel
Chrome Molybdenum
Cupro-Nickel 90/10
Hastelloy
Monel
Stainless Steel 304, 304L, 316, 316L
Titanium

Header Types

Pipe
Plug Box
Slab
Removable Cover

Forced Draft

Allows easier maintenance of the fans. Fans deliver air at ambient temperature with consequent higher efficiency. temperature differences in boiler tube.

Induced Draft

The plenum chambers are mounted on top of the bundle and protect the finned surface against wind, rain, snow and partially hail. The location of the fans also ensures an optimum air distribution, limits air recirculation and allows lower level at maintenance walkway level. Fans deliver hot air.

TRUNK TUBES HEAT EXCHANGERS

SHELL & TUBE HEAT EXCHANGERS

Basaranlar Process has been providing both standard and custom shell & tube heat exchangers to our industrial customers. Our reputation for high quality and fast lead-times have earned the trust of many top companies in the chemical, pulp/paper, waste water, military, power, renewable energy and refining markets.

Shell and tube type heat exchanger consists of plain tube or finned tube to increase the thermal performance.

Heat Exchanger Types

- Hairpin Heat Exchanger
- Double Pipe Heat Exchanger
- Fixed Tube Heat Exchanger
- U Tube Heat Exchanger
- Floating Heat Exchanger
- Kettle Type Exchanger
- Evaporator
- Condenser

Standarts

- EN 13445
- ASME SEC. VIII DIV 01
- API 660
- TEMA Standarts

Heat Exchanger Materials

- SA516 Gr 70
- SA106 Gr B
- P265GH
- P295GH
- P355NL2
- CuZn28Sn1
- CuZn20Al2
- CuZn22Al2
- CuNi10Fe1Mn
- CuNi30Mn1Fe
- SA182
- SA240
- SA249
- SA790 Dupleks
- SA179
- SA334 Gr 6
- SA214
- St35,8

Dimensions

Sizes: From 2” (50 mm) to 80” (2032 mm) diameters, and lengths up to 65 feet (19.82 m)

Styles: U-tube, straight tube, and multi-pass designs available.

Malzemeler : 304ss, 316Lss, Duplex, AL6XN, Hastelloy, Copper, Nickel, Monel, Inconel, Titanium and others.

Types: TEMA B, C, & R type exchangers.

ECONOMIZER

An average boiler operates with an efficiency of approximately 66%, which means that 34% of the energy can be considered waste heat. An economizer, also called regenerators, is a type of heat exchanger that recovers heat from flue gasses to preheat fluids or puts it to use in another part of the production process. This recovery process saves on fuel consumption and costs, as well as it reduces the CO2 emission.

Investing in an economizer increases the efficiency with 8%. Including both an economizer and an air preheater realizes an even higher efficiency of 20%.

MANY TYPES OF ECONOMIZERS

At Basaranlar Proses we engineer many types of economizers, or heat exchangers. For a boiler or steam generators fueled by natural gas, oil and biogas, both traditional tubes and finned tubes are applied depending on your production requirements. For a boiler fueled by coal, only regular tubes are optional due to the ash fouling.

Example industries for economizers

- Energy (power plant, combined heat and power (CHP), gas-fired, oil-fired, coal-fired and biomass-fired)
- Energy-from-Waste plants (household, hazardous, and hospital waste)
- Steel industry
- Oil and gas industry
- Pulp and paper industry
- Chemical industry
- Food industry
- Pharmaceutical industry
- Horticulture

Economizers provide many advantages

- Increase in production process efficiency
- Reduced emission of CO2 and other toxic combustible wastes
- Lower energy consumption
- Reduced cost
- Suitable for all standard fuels
- Suitable for all waste heat and flue gas boiler types
- Easy retrofit into existing installations
- Short return on investment (commonly within 1 year)
- At Basaranlar Proses, we build customized economizers meeting your specific requirements. Please contact us for more information.

THE OTHER HEAT EXCHANGERS

TUBE IN TUBE HEAT EXCHANGER

Double tube heat exchangers are designed whereby one tube is concentrically positioned within a larger tube.

The double tube composition allows for unrestricted flow of product, making it the ideal heat exchanger for viscous products.

The product flows through the inner tube and the service fluid flows through the surrounding shell.

HAIRPIN HEAT EXCHANGER

It has a better thermal performance than a multi-pass heat exchanger, even for processes having very low EMTD (effective mean temperature difference).

As it is a U-tube design, metallic expansion joints are not required to absorb the differential expansion between the service channel and the product channel. The U-radius of the hairpin itself is also an effective transfer length, unlike the elbow that would be needed to interconnect in series two shell and tube heat exchangers.

It allows a design with removable U-tube bundle but also completely welded. The pressure drop in the product channel is lower than the one achieved in an equivalent multipass design. It is a compact design, with low maintenance cost.

FLUE GAS HEAT EXCHANGERgb

Exhaust gas heat exchangers are used in order to increase the degree of efficiency of stationary engines which, for instance are found in combined heat and power (CHP) plants.

The energy from the cooling of the exhaust gas is usually used for heating water or thermal oil.

REFERENCE IMAGES

KGS Proses
CO2-NH3 heat exchangers & Pressure vessels

ERCIM
Air cooled Waste steam condenser

LİMAK
Motor Cooler

TANPERA
Steam Generator

SISTEMAS
Steam-air heater

TANPERA
Waste Heater

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