EKİN ENDÜSTRİYEL
Isıtma-Soğutma San. Tic. Ltd. Şti.

Plate Heat Exchangers

MIT

Plate Heat Exchangers

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MIT PLATE HEAT EXCHANGERS

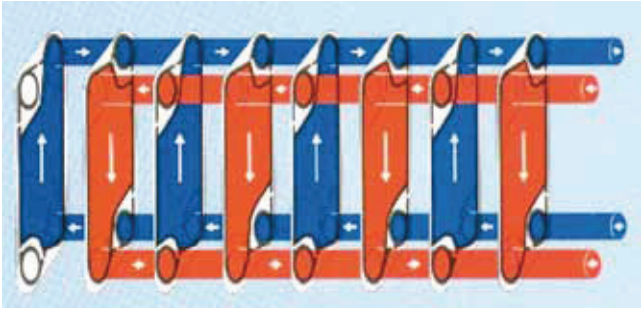
MIT , one of the most known and preferred brands of Turkey , has been continuing creating new ideas and developments to improve plate heat exchanger sector. Ekin Industrial aims to develop its product range and the most concrete proof of this determination is MIT Plate Heat Exchangers. Since the day it is founded with the philosophy of ' We have a dream', Ekin Industrial personel, who work non-stop, have been realizing that the dream is becoming true and they raise the bar and continue chasing their dreams.

In this journey, Ekin Industrial wants to have good relationships with its customers who are on the top of the organigram, with its rivals who provide great competition and so a unique improvement and with its suppliers who give neccessary support. This good relationships must be in not only commercial field, but also in social field. Having good relationships with customers, rivals and suppliers is a must for Ekin Industrial.

MIT PLATE HEAT EXCHANGERS WORKING PRINCIPLE

Plate heat exchangers are such devices that work with the principle of two different liquids making heat transfer in themselves. The liquid to be heated or the liquid heats, are totally seperated from each other with plates. In standart plate heat exchangers, there are 4 in-out ports and two of them are for heater liquid and two of them for heated liquid. With special production, it is possible to produce heat exchangers which have more than one heater or heated liquids.In MIT P late Heat Exchangers, the flow is always diagonal. When the hot liquid enters in the top portion and leaves from the bottom, the cold liquid enters in the bottom and leaves from top. So efficiency reaches maximum level.

In MIT Plate Heat Exchangers, it is obvious in the above graphs that in the straight flow, cold leaving temperature can not exceed hot leaving temperature. On the other hand, it can be possible in the diagonal flow.



COMPONENTS OF MIT PLATE HEAT EXCHANGERS

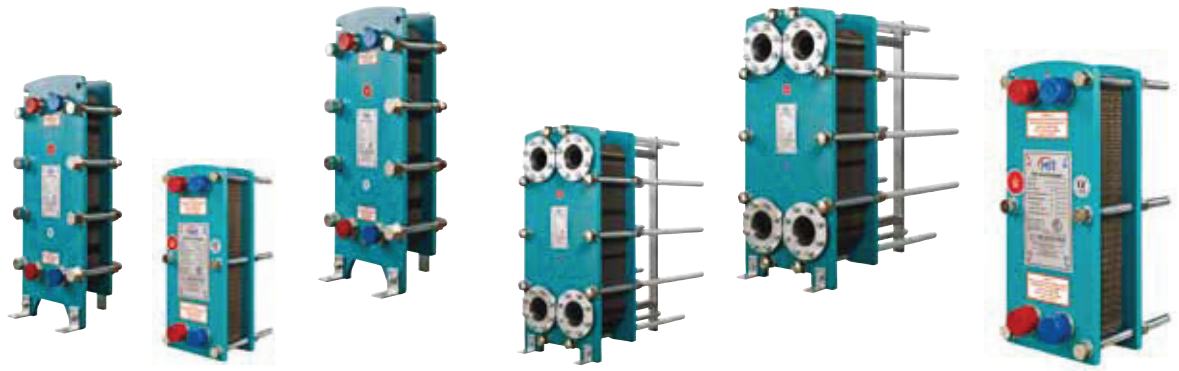
MIT Plate Heat Exchangers is composed of;

- Front frame with In-Out connections and information on it
- Top and carrying shafts which are used for fixing plates- First plate that prevents liquid from contacting with frame- Flow plates which let liquids to pass and enable heat transfer- Fully closed last plate which prevents liquids from touching back frame
- Back frame with assembly and maintenance instructions on it, which can move on the shafts
- Washers and pins which enable to hold plates in a certain squeezing level

In MIT Plate Heat Exchanger Tag that is placed front frame there are;

- Model information of our heat exchanger
- Plate number of our heat exchanger
- Production number of our heat exchanger
- Capacity information of our heat exchanger
- Test and using temperature of our heat exchanger
- Test and using pressure of our heat exchanger
- Minumum squeezing dimensions of our heat exchanger
- Ekin Industrial contact information

PLATE HEAT EXCHANGERS



Model	504	513	514	521	522	617	637	647
Width mm	200	350	350	460	460	337	460	485
Height mm	480	930	930	1090	1090	1047	1390	1750
Length min-max	200 - 400	250 - 1000	250 - 1000	250 - 1500	250 - 1500	250 - 1250	350 - 1500	350 - 1500
Horizontal Port Distance mm	70	140	140	210	210	150	238	225
Vertical Port Distance mm	381	640	640	720	720	800	1070	1365
Max. Working Pressure bar	20	20	20	20	20	20	20	20
Test Pressure bar	25	25	25	25	25	25	25	25
Weight kg	23+0.25n	98+0.75n	98+0.75n	225+1.1n	225+1.1n	116+091n	255+2n	336+2.3n
Connection Diameter	1 1/4" Thread	2" Thread or Flange	2" Thread or Flange	4" Flange	4" Flange	2 1/2" Thread	3" Flange	4" Flange

Model	641	643	662	665	685	656	6125	6180
Width mm	610	815	610	775	790	770	920	1155
Height mm	1450	1450	1870	1705	2170	1640	2895	2882
Length min-max	350 - 1500	350 - 1500	400 - 2500	400 - 2500	600 - 3000	600 - 3000	600 - 4000	600 - 4000
Horizontal Port Distance mm	296	395	296	395	353	365	440	596
Vertical Port Distance mm	890	791	1292	1091	1478	930	1939	1842
Max. Working Pressure bar	20	20	20	20	20	20	20	20
Test Pressure bar	25	25	25	25	25	25	25	25
Weight kg	380+2n	520+2.1n	547+3.1n	730+3.3n	850+3.8n	720+3,2n	1280+4,4n	1460+5,6n
Connection Diameter	6" Flange	8" Flange	6" Flange	8" Flange	8" Flange	8" Flange	10" Flange	12" Flange

Materials	
Plate Material	AISI 316, Titanium, Hastelloy
Connection Material	Carbon Steel, Stainless Steel, Plastic
Frame Material	Carbon Steel, Stainless Steel

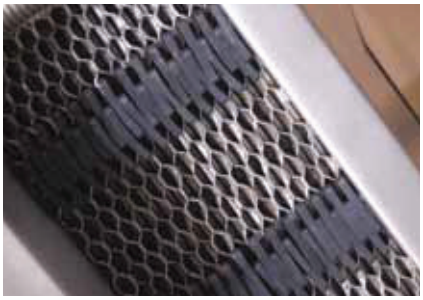


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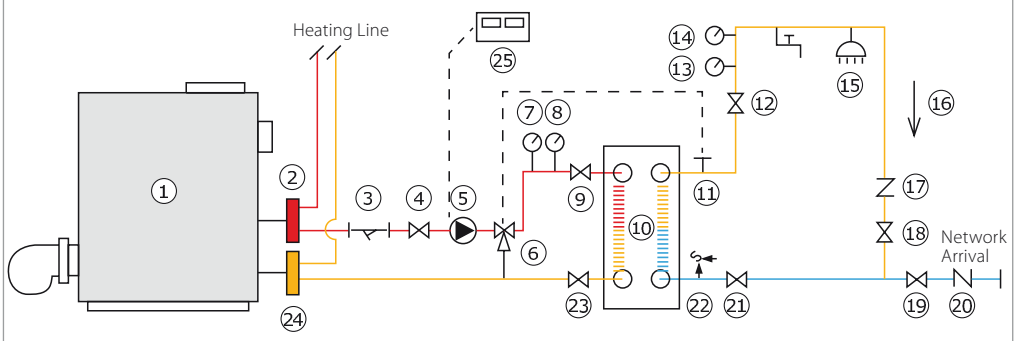
PLATE HEAT EXCHANGER AREA OF USAGE

HVAC (Heating, Ventilation and Cooling)

Obtaining Warm Utility Water

In residences and industry utility water is essential for comfort. With the help of MIT Plate Heat Exchangers, your utility water can be produced either centrally or individually.

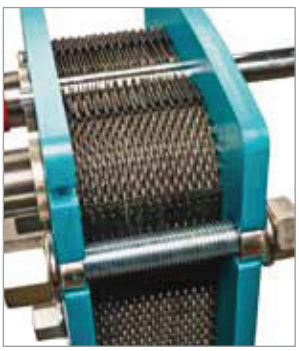
This new system is more hygienic, more efficient, long lasting, more economical and more compact. With this new system, when liming or deformation due to over chlorine occurs, instead of changing system completely, with small revisions, your system can be reached its old performance.

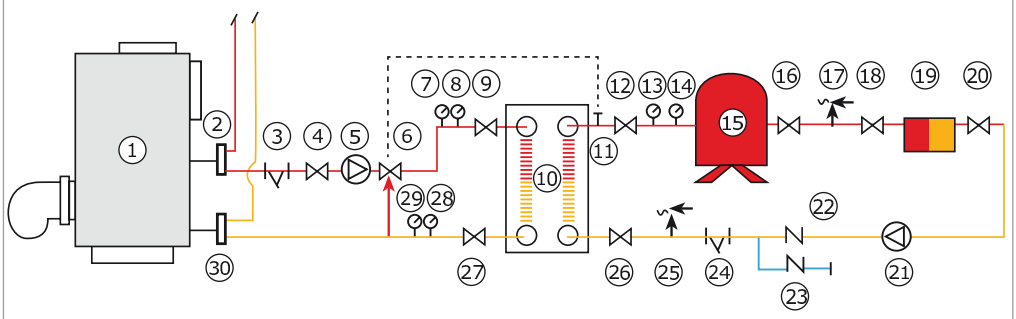


1) Boiler
2) Going Collector
3) Dirt Holder
4) Valve
5) Pump
6) Threeway rational valve
7) Thermometer
8) Manometer
9) Valve
10) Heat Exchanger
11) Temperature Sensor
12) Valve
13) Thermometer
14) Manometer
15) Usage Area
16) Recirculation
17) Check Valve
18) Valve
19) Valve
20) Check Valve
21) Valve
22) Safety Valve
23) Valve
24) Returning Collector
25) Control Panel

Local Heating

Using hot water coming from local heating centers, jeothermal sources, electricity production centers, a region, a town, even a city can be heated. According to type of coming source, the design of MIT Plate Heat Exchangers changes. The region can be divided into some zones with the help of MIT Plate Heat Exchangers. MIT Plate Heat Exchangers make it possible to provide hot water in different degrees to different requirements of buildings only if there are different MIT Heat Exchangers under the buildings.



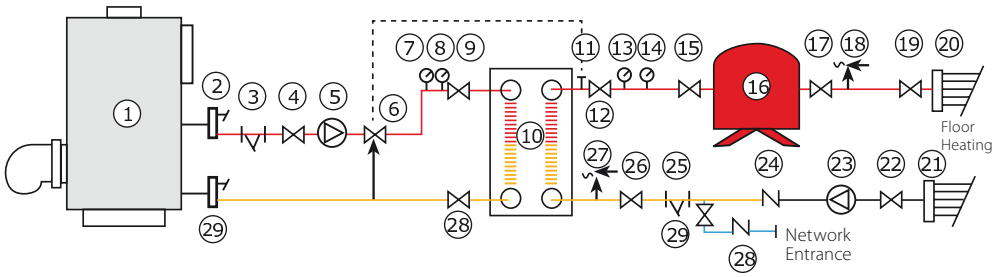


1) Boiler
2) Going Collectors
3) Dirt Holder
4) Valve
5) Circulation Pump
6) Threeway Valve
7) Thermometer
8) Monometer
9) Valve
10) Heat Exchanger
11) Temperature Sensor
12) Valve
13) Thermometer
14) Monometer
15) Expansion Deposit
16) Valve
17) Safety Valve
18) Radiator Valve
19) Radiator
20) Radiator Valve
21) Circulation Pump
22) Check Valve
23) Check Valve
24) Dirt Holder
25) Safety Valve
26) Valve
27) Valve
28) Thermometer
29) Manometre
30) Returning Collector

HVAC (Heating, Ventilation and Cooling)

Floor Heating Systems

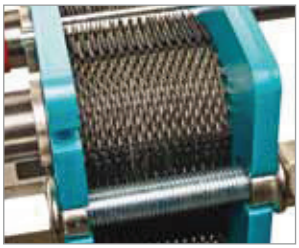
Nowadays, in regions where more heating comfort desired, floor heating systems are used. In these systems, to prevent heating source from to be affected from corrosion, MIT Heat Exchangers are used as a protecting wall between heater and heated sources. With their high corrosion resistance, complete stainless structure and special designs, MIT Plate Heat Exchangers ensure that you will be able to use your system without any problems.

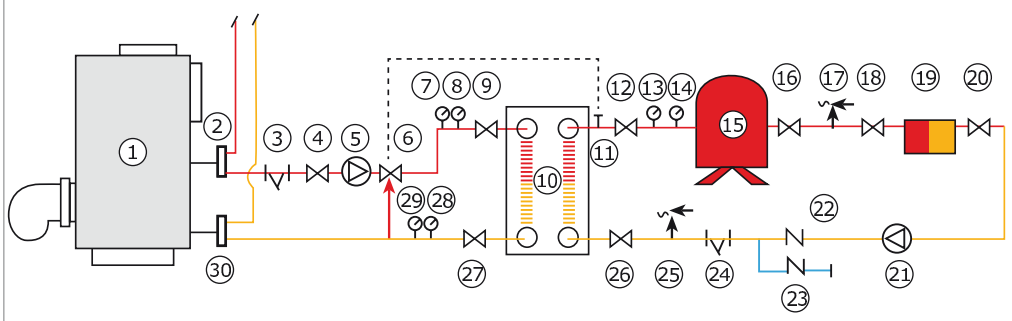


1) Boiler
2) Going Collectors
3) Dirt Holder
4) Valve
5) Circulation Pump
6) Threeway Valve
7) Thermometer
8) Monometer
9) Valve
10) Heat Exchanger
11) Temperature Sensor
12) Valve
13) Thermometer
14) Monometer
15) Valve
16) Expansion Deposit
17) Valve
18) Safety Valve
19) Valve
20) Floor Heating Going Collector
21) Floor Heating Returning Collector
22) Valve
23) Circulation Pump
24) Check Valve
25) Dirt Holder
26) Valve
27) Safety Valve
28) Valve
29) Returning Collector

Pressure Breaker

There is high pressures in multi floor and high buildings. Transferring this pressure directly heating cooling system placed in the bottom, causes the system getting tired. Moreover, investment cost will be so high because, it becomes a must to set up the system with armatures that are resistant to high pressure. In these kind of systems, MIT Plate Heat Exchangers which are placed between boiler room or cooling group and system, absorb the pressure coming from the system in themselves and so enable boiler cooling system to work in low pressure.



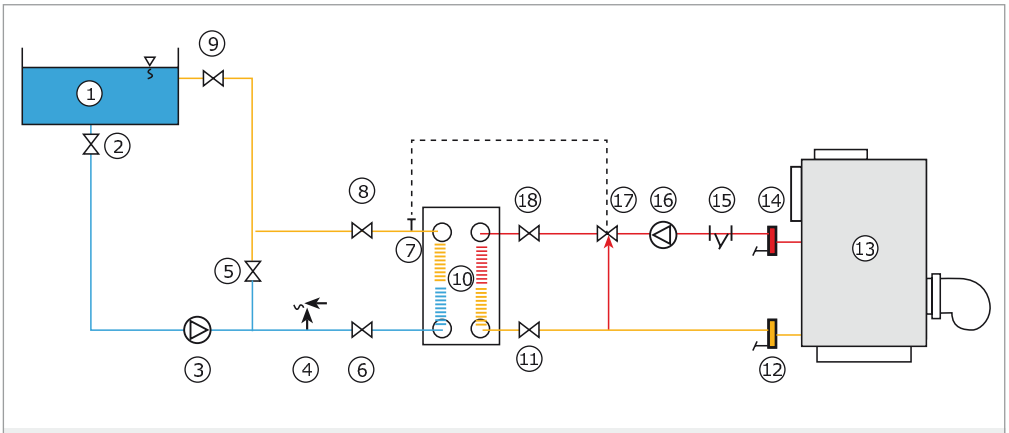


1) Boiler
2) Going Collectors
3) Dirt Holder
4) Valve
5) Circulation Pump
6) Threeway Valve
7) Thermometer
8) Monometer
9) Valve
10) Heat Exchanger
11) Temperature Sensor
12) Valve
13) Thermometer
14) Monometer
15) Expansion Deposit
16) Valve
17) Safety Valve
18) Radiator Valve
19) Radiator
20) Radiator Valve
21) Circulation Pump
22) Check Valve
23) Check Valve
24) Dirt Holder
25) Safety Valve
26) Valve
27) Valve
28) Thermometer
29) Manometre
30) Returning Collector

HVAC (Heating, Ventilation and Cooling)

Pool Heating

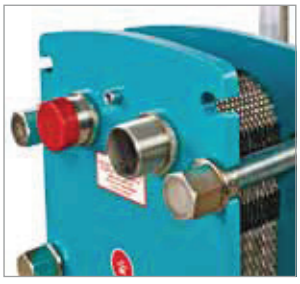
All pools must be kept in certain temperature levels, no matter what if it is a swimming pool or if it is a health pool. To keep pools in certain temperature levels, MIT Plate Heat Exchangers are used with the help of a simple automation. By means of its compact structure, MIT Plate Heat Exchangers occupy really small place and enable to keep your pool in certain temperature level.

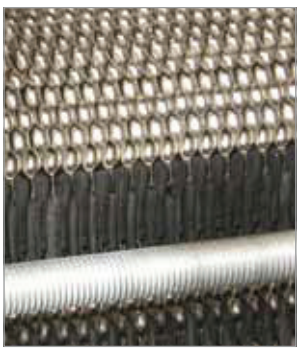


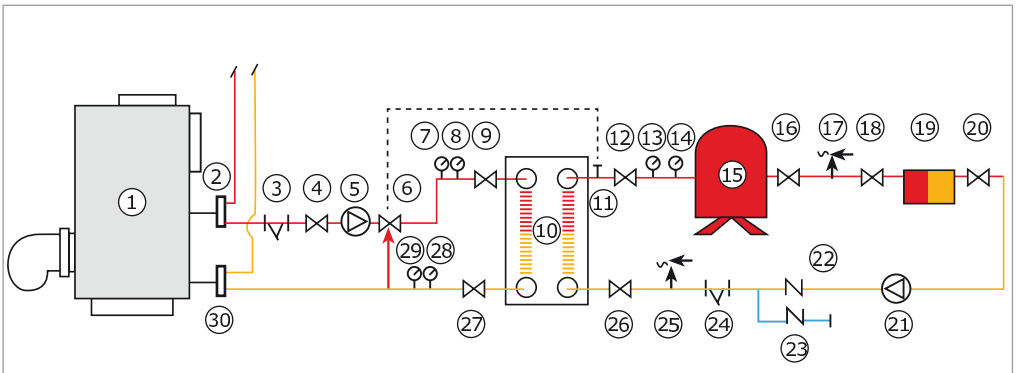
1) Pool
2) Valve
3) Pool Circulation Pump
4) Safety Valve
5) Valve
6) Valve
7) Temperature Sensor
8) Valve
9) Valve
10) Heat Exchanger
11) Valve
12) Returning Collector
13) Boiler
14) Going Collector
15) Dirt Holder
16) Boiler Circulation Pump
17) Threeway Valve
18) Valve

Central Heating Systems

As a part of new laws in our country, central systems are encouraged and it has been becoming mandatory in some situations. The main cause of this is that central system is more efficent compared to individual use and consumes less energy. MIT Plate Heat Exchangers enable to produce hot water to heat residental areas and at the same time to produce hot utility water.





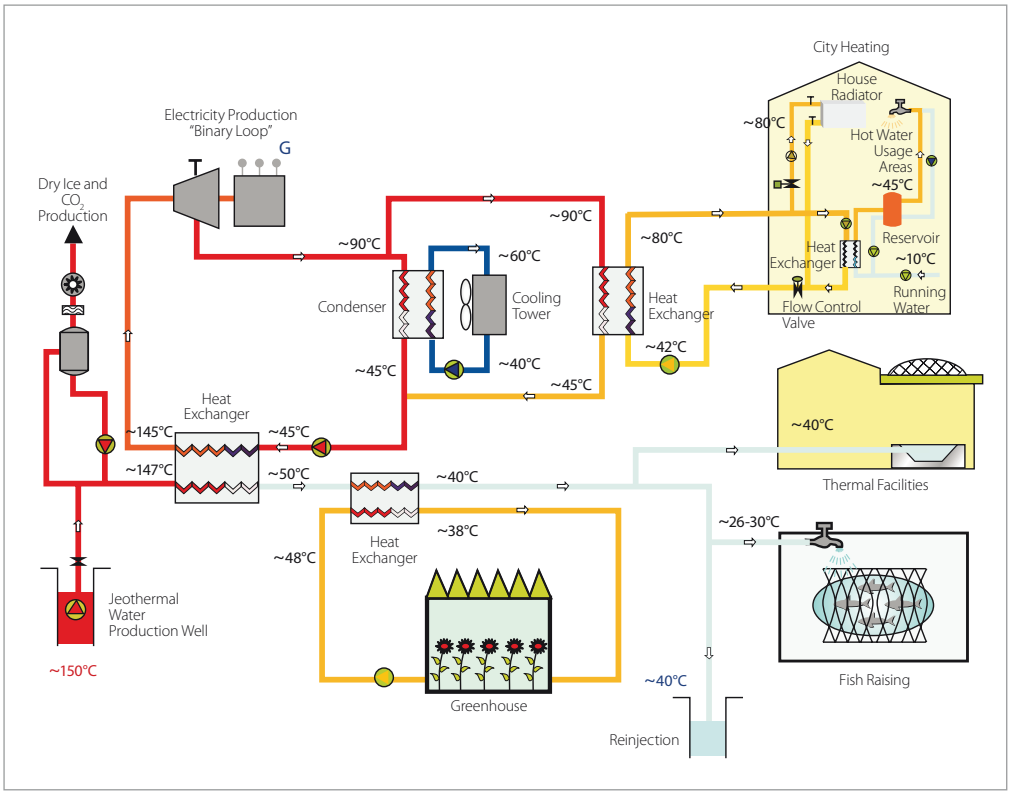


1) Boiler
2) Going Collectors
3) Dirt Holder
4) Valve
5) Circulation Pump
6) Threeway Valve
7) Thermometer
8) Monometer
9) Valve
10) Heat Exchanger
11) Temperature Sensor
12) Valve
13) Thermometer
14) Monometer
15) Expansion Deposit
16) Valve
17) Safety Valve
18) Radiator Valve
19) Radiator
20) Radiator Valve
21) Circulation Pump
22) Check Valve
23) Check Valve
24) Dirt Holder
25) Safety Valve
26) Valve
27) Valve
28) Thermometer
29) Manometre
30) Returning Collector

ENERGY

Geotermal Heating Sysytems

Among the rich countries, Turkey takes an important place in geothermal sources and has been increasing investment to this concept. MIT Plate Heat Exchangers are used for both house heating and utility water producing and it has become one of the most favourite brands.



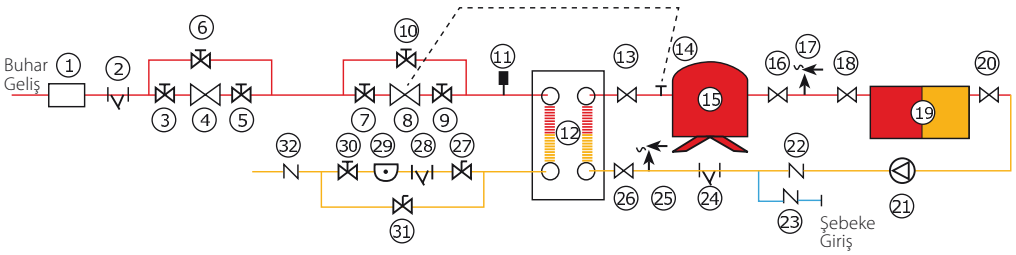
Heat Energy Recovery

Day by day, energy has been becoming more expensive so there is no more patience left about wasting enegy neither in indusrty nor in individual use. In indusry energy budget has been increasing about %20-%40 and become almost the biggest expense. Considering all these points, energy recovery is very important. MIT Plate Heat Exchangers prevent energy lost with their large plates suitable for every system and gasket variety.

ENERGY

Electricity Production Facilities

Thermic centrals are places where electricity is produced. Besides this, they are really big super-heated water sources. In these systems, extra systems are set up and a lot of money is spent to cool the superheated water. In this point MIT Plate Heat Exchangers step in. They provide free water cooling and using this heat enery, enable us to heat a region.



1) Seperator
2) Dirt Holder
3) Valve
4) Pressure Reducer
5) Valve
6) Valve
7) Valve
8) Thermostatic Valve
9) Valve
10) Valve
11) Vacuum Breaker
12) Heat Exchange
13) Valve
14) Temperature Sensor
15) Expansion Tank
16) Valve
17) Safety Valve
18) Valve
19) Radiator
20) Valve
21) Circulation Pump
22) Check Valve
23) Check Valve
24) Dirt Holder
25) Safety Valve
26) Valve
27) Valve
28) Dirt Holder
29) Steam Trap
30) Valve
31) Valve

Solar Energy Systems

Solar energy systems are the most popular alternative sources. In obtaining hot utility water and house heating, they provide free energy. In these systems, MIT Plate Heat Exchangers are used as sudden water heater and make system to work more efficiently and lengthen life of the system by providing safer performing.

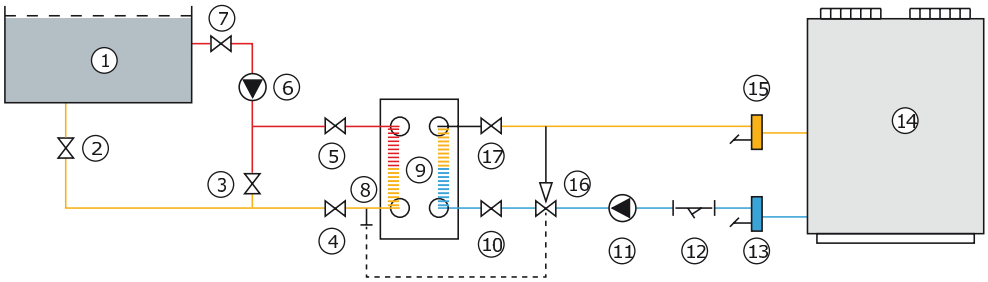
INDUSTRY

Cooling Rolling Press Oil

In bloomeries, used oil gets hot and looses its lubricant function and so company performance goes down. To keep the bloomery oil in an optimum temperature, MIT Plate Heat Exchangers are used. With cooling tower, chiller circuit and a simple automation which are connected to heat exchanger's seconder circuit, rolling press oil stays desired temperature and your company works with maximum temperature.

Cooling Borax Oil

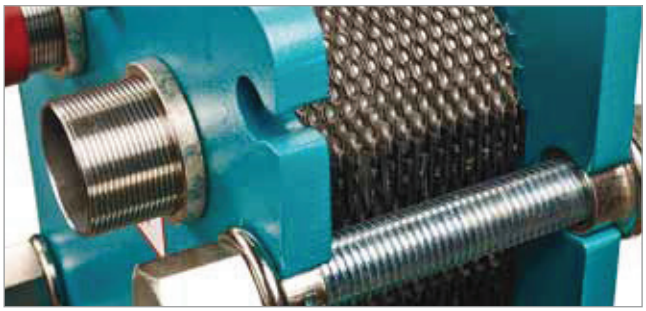
Borax oil is one of the corner stones of indusry, it is heart of the machining. Quality and temperature of borax oil is very important to get maximum performance from cutting edge and to reach maximum cutter life. If cooling tower or chiller is used with MIT Plate Heat Exchangers which enable you to keep borax oil in an optimum temperature, you can get maximum efficiency.

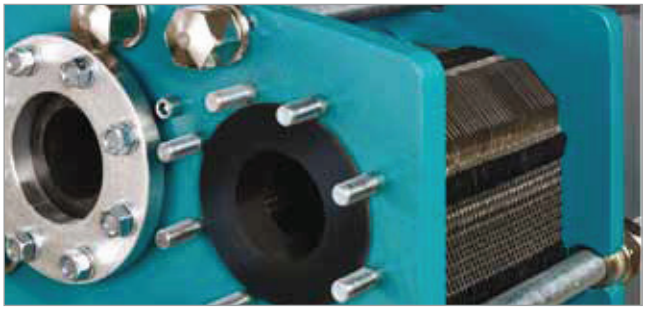


1) Oil Tank
2) Valve
3) Valve
4) Valve
5) Valve
6) Oil Circulation Pump
7) Valve
8) Oil Tank
9) Heat Exchanger
10) Valve
11) Circulation Pump
12) Dirt Holder
13) Going Collector
14) Cooling Tower
15) Returning Collector
16) Threeway Rational Valve
17) Valve

Cooling Group Cycle

In today's world, cooling towers is the most common cooling source to meet the cooling demand in industrial facilities. These towers can be either open or close and in both, MIT Plate Heat Exchangers are used. In open towers, some amount of solid particles mixes with water so this water with particles can not be sent to system that will be cooled directly. By using MIT Plate Heat Exchangers between the system and the open tower, the system is seperated as two circuits and MIT Plate Heat Exchangers take the whole risk. In due course, if the heat exchanger gets dirty, it can be cleaned and so the system can work with the same performance again.

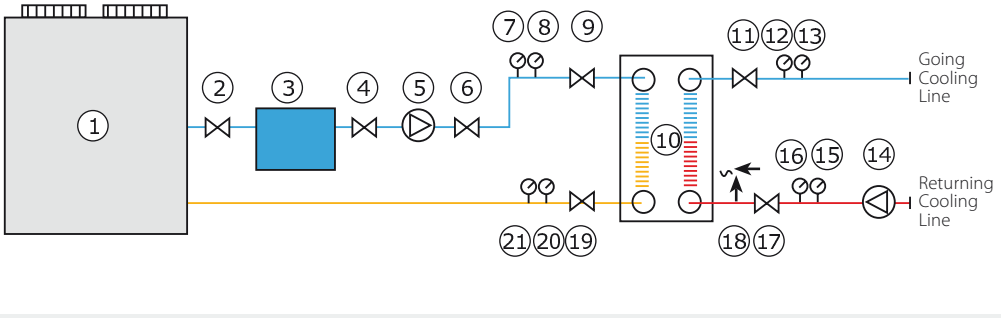




INDUSTRY

Chiller Group Circuit

Generally, it is not enough using cooling tower in such situations that low temperature water needed. That's why chillers are preferred in that kind of applications. Because of that chiller groups are very sensitive , expensive devices and it is really hard to fix them, in a bad situation caused by the system, big damages may occur. MIT Heat Exchangers seperate the system and chiller circuit and so make them work free from each other, they just make heat transfer between them.



1) Cooling Group
2) Valve
3) Tank
4) Valve
5) Circulation Pump
6) Valve
7) Thermometer
8) Monometer
9) Valve
10) Heat Exchanger
11) Valve
12) Thermometer
13) Monometer
14) Circulation Pump
15) Thermometer
16) Monometer
17) Valve
18) Safety Valve
19) Valve
20) Thermometer
21) Monometer

Waste Heat Recycle

In industrial facilities, there are a lot of heat sources that go in vain such as rotten steam, hot water that returns without washing the fabric. At the same time, there are some applications which require heat like utility hot water production and office heating. If you use MIT Plate Heat Exchangers to transfer available heat sources to heat needed areas, you do not waste your heat and you do not have to pay extra cost for your heat requirement as well. Nowadays, the competition in production has been greatly increasing. The most important factor about relieving companies is to decrease expenses. Energy expenses is one of the most biggest components, it is very significant for eveybody so wasting it is unacceptable. If we make a rough calculation, a heat exchanger used for heat recycle will amortize itself in 3-6 months and start to make company profit.

MILK PASTEURIZATION

Milk is one of the basic nutritions. Collecting, producing and healthily keeping milk is a hard task. That's why different solutions have been tried along the history and lastly, pasteurization technology have been developed. In rough expression, pastorization is heating milk rapidly and cooling it again. By means of this process, all the bacterias in the milk are killed. MIT Plate Heat Exchangers are favourably designed for this process.

The most important advantage of using plate heat exchanger in pasteurization is reaching high regeneration values.

Milk is in a loop in the heat exchanger. By means of this, milk coming from heating and hot milk going to cooling part and cold milk going to heating collide in regeneration level and heat transfer occurs.

With this energy and time saving system, the process is completed faster and cheaper. In multi level MIT Plate Heat Exchangers, it is possible to design hygienic in-out for equipments like seperator, homogenizer, holder and degasifier. These equipments are delivered ready to assemble.

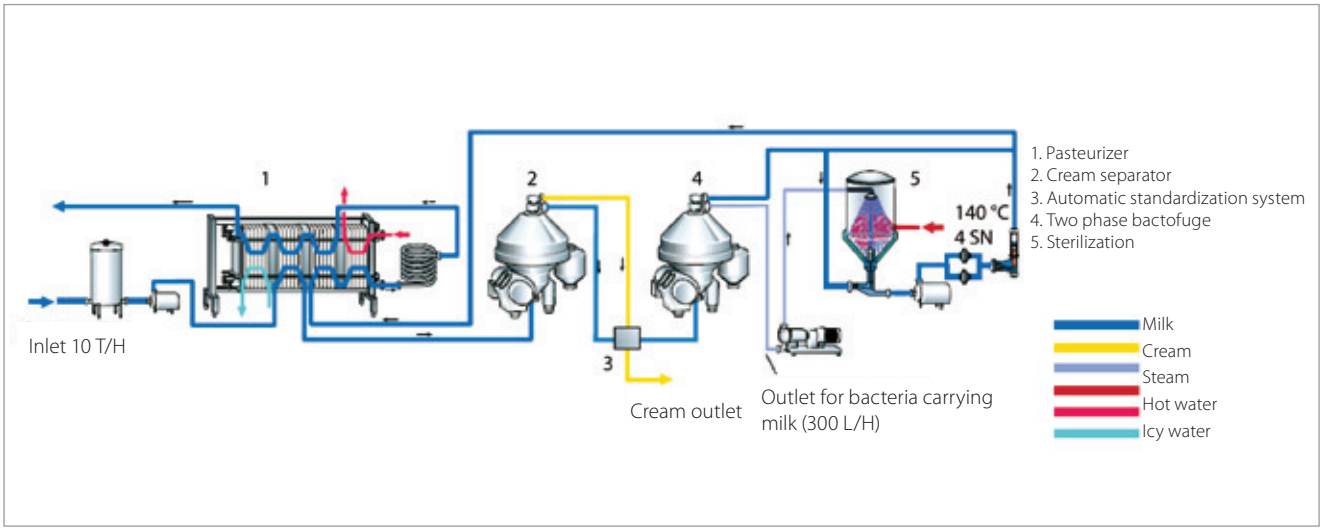
Hygiene is vital for foods. That is why heat exchangers used for food applications are produced as stainless.

Foods contact only with stainless surfaces and special gaskets that took FDA(Food and Drug Administration) certificate.

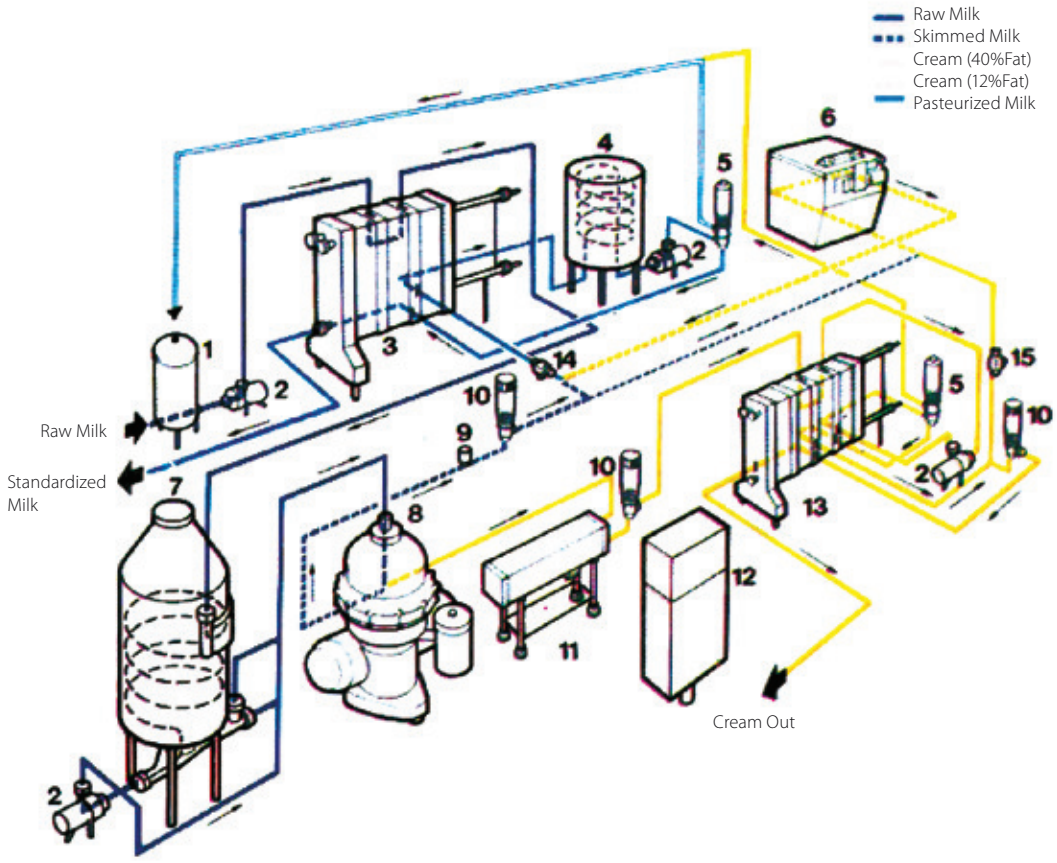
UHT MILK STERILIZER

Sterilizer is a specially designed unit to bring the microbial load to zero at high temperatures (>130°C) especially in milk and milk products. Besides the systems with plate heat exchangers, tubular heat exchanger systems are also preferred due to high performance and long-life.

In such processes especially at temperatures higher than the boiling point, adjusting the pressure and temperature levels between the product and service water flows requires a careful and meticulous operation. In addition, there is also an alternative process method called direct steam injection.



FOOD AND HYGIENIC APPLICATIONS



1) Balance Tank
2) Centrifuge Pump
3) Plate Heat Exchanger
4) Storage Tank
5) Return Valve
6) Homogenizer
7) Daerator
8) Seperator
9) Pressure Regulator
10) Control Valve
11) Density Regulator
12) Control Pump
13) Cream Pasteurization
14) Standardized Milk
15) Cream Flow Regulator

- The raw milk coming from balance tank(1) is transferred to pasteurizator (3) with the help of centrifuge pump (2). The raw milk comes across standardized and pasteurized milk and the heat transfer is made 4°C to 71°C regeneratively.
- The milk coming dairator is made free from bad smells under vacuum for example 63°C
- The milk transferred to seperator (8) with the help of the centrifuge pump (2) is separated as % 40 fat cream and skimmed milk. Stabilization of back pressure out of the seperator is achieved by pressure regulator (9) and control valve (10). On the other hand, fat ratio of the cream is adjusted by 11 numbered density regulator and control valve (10).
- The cream coming to the cream pasteurizator (13) is heated 60°C and then pasteurized to 95°C. A certain amount of the cream cooled regeneratively is transferred to milk line to be mixed with milk and the other part of the cream is transferred to cream tank as over cream.
- 40 % cream is mixed with the milk coming from the milk line before entering the homogenizer (6) and fat ratio is dropped to 12 % and homegenized partially.
- After homogenization process, there will be such a balance between control valve and standardized milk flow valve (14) that the milk is standardized automatically to desired fat ratio like 3 %.
- The standardized milk is pasteurized in 78°C for 20 seconds in pasteurizator number 3. Pasteurization time is achieved by storage tank number 4.
- The cold milk just entered the system regeneratively and the milk which is cooled 10°C are cooled to 4°C with cold water in the cooling section of pasteurizator and sent pasteurized milk tank.

Aseptic Storage Tank

Aseptic tank is an interim storage unit where the sterilized product is protected prior to loading in terms of microbiological and other sensorial properties. Aseptic Storage Tank, which provides operational flexibility for the user, serves as a "Buffer" tank between the sterilization and the loading of the product. It provides advantages such as avoiding product loss during machine down times, eliminating the need for the product return in the sterilizer and production planning flexibility.

Juice Pasteurization / Syrup Preparation Unit

It is a system developed for the pasteurization of products such as juice, nectar and low acidic (Ph<4.6), isotonic and pulpy drinks. Pasteurizers have different alternatives such as tubular or with plate heat exchanger, aseptic or hot filling depending on the requirements of the product and package.

For the removal of the oxygen found within the product as dissolved, deaerator can be optionally added. In addition, homogenizer which may be used in pulpy products will be another alternative increasing the quality of the product. The system can be design as Full Automatic, Semi Automatic or Manuel.

YOGHURT - AYRAN(*) PASTEURIZATION

(*) Turkish beverage made with yoghurt and water.

Just like in milk, yoghurt produced through processes of milk also provides an ideal environment for bacterial growth and multiplication. So, processes similar to the ones milk goes under must also be applied to yoghurt. MIT plate exchangers guarantee to provide the most convenient solution for you with “Wide Gap” plates that are suitable for yogurt processes, have wide gaps and deliver maximum performance where viscous fluids are present.

CIP Applications

Hygiene is of utmost importance in the processing of foodstuffs that are prone to bacterial growth such as milk and yoghurt. In these applications, the whole processing line where the foodstuff is processed must be cleaned periodically to prevent bacterial growth. The liquid used in cleaning is called CIP. This liquid should be circulated in the system at certain flow rates and temperatures. MIT Plate Heat Exchangers are used to keep the CIP liquid at required temperatures.

Chemical Applications

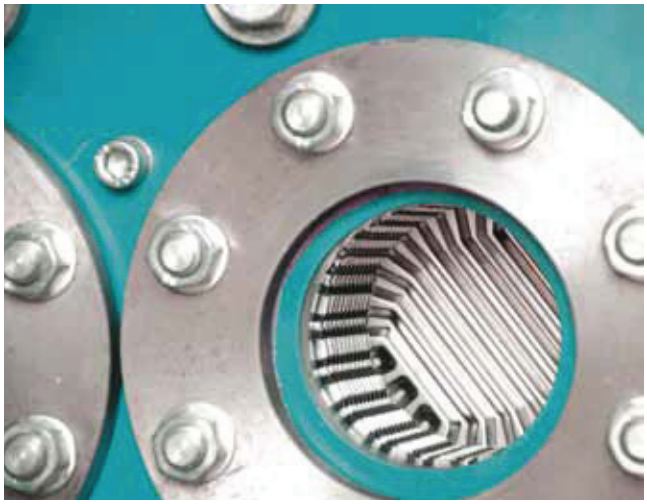
Chemical fluids used in chemical industry need to be heated or cooled according to the process. To achieve accurate results, every stage of the process is required to be carried out at correct temperature level. Heating can be achieved by steam or hot water while sources such as cooling tower and chiller can be used in cooling. In chemical industry, the main concern is the aggressive nature of the used chemical. Aggressive chemicals pose a risk in plate heat exchangers both for the plates and gaskets. Therefore, choosing the right plate and gasket is of vital importance. In MIT plate heat exchangers, you may find the solution you are looking for with wide range of materials suitable for specific applications such as double layered plates and special Viton gaskets.

MARINE

SHIP COOLING SYSTEMS

There are two types of cooling systems direct and two phase (indirect) cooling. Direct cooling is free of problems, and sutiable for engines that are originally designed as sea engines. Cylinder blocks and other equipments having circulating water in it, are protected by compounds and zincs. All external sea engines and small powerful internal enngines are made in this way. A sea pump triggered by engine absorbs and circulates the water in the engine so cooling is achieved. This pump is designed in the way of being able to make cooling in such situations that the engine operates hard. That is why in normal usage, the engine never reaches ideal operating temperature and works cold. Because of this, with a by-pass line and a thermostat, there are some appliances are developed to provide enough engine heating and control the flow rate of water sent to the engine. In two stages cooling systems, utility water circulates in the engine (just like in land vehicles and stationary industry engines) so internal parts of the engine are protected from the effect of the sea water.

The sea water pump triggered by the engine, transfers sea water to the MIT Plate Heat Exchanger. The hot utility water coming from the engine, circulates in the plates and gets cold with the help of sea water and turns back to engine.



MARINE

CENTRAL COOLING SYSTEM

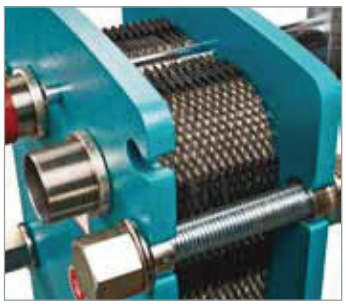
In central cooling systems, sea water is used for cooling the freshwater circulation line which is placed in the seconder side. This cooled freshwater acts as a cooler liquid in Heat Exchangers which need to be cooled. These Heat Exchangers are mostly used in circulation line and engine water cooling. Using fresh water in seconder circuit, lessens corrosion and wear in circuit components which are placed in machine strokes. Moreover, it decreases back up and maintenance costs to minumum levels. With MIT Plate Heat Exchangers, your system will be safer and more durable.

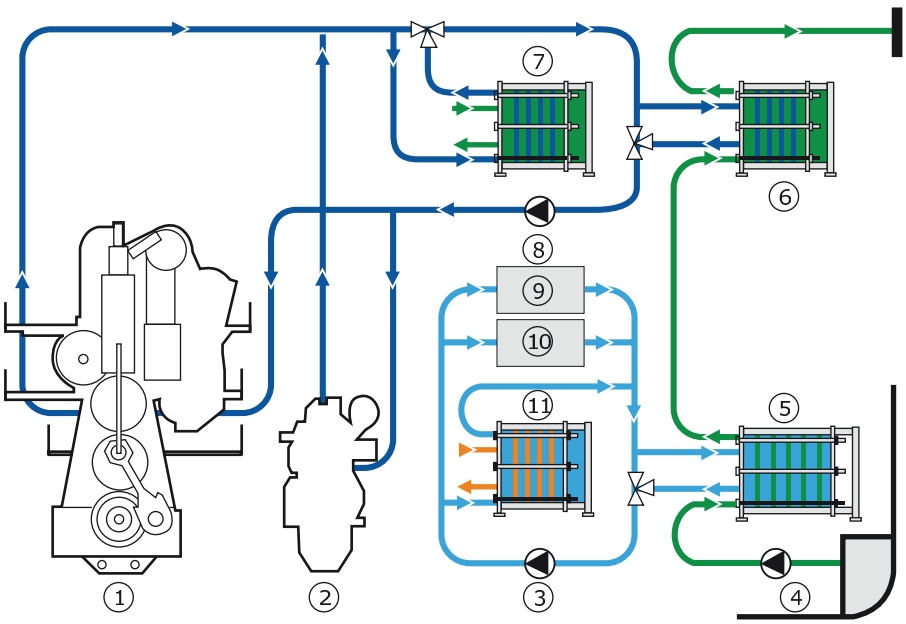
MIT Plate Heat Exchangers presents best suitable solutions for all capacities. Moreover, they keep your first investment cost in minumum levels. With their different plate angels and variety, our Heat Exchangers can operate in all systems with full performance. We can present plates like stainless steel and titanium in certain standarts or different plate materials suitable for your needs. In marine sector, it is possible to use both standart frames and frames that are specifically produced for the sector such as aluminum and aluminum compound light frames.

The biggest problem of marine sector is over corrosivity of sea water. MIT Plate Heat Exchangers having complete titanium and titanium compound 316 plates, are always with you in the solution of this problem. MIT Plate Heat Exchangers have such plates, gaskets and frames that are suitable for all processes needed in a ship.

Other Cooling Applications In a Ship; - Main Engine Cooling

- Lubrication Oil Cooling
- Camshaft Cooling
- Fuel Oil Heating
- Water Distilation Cooler

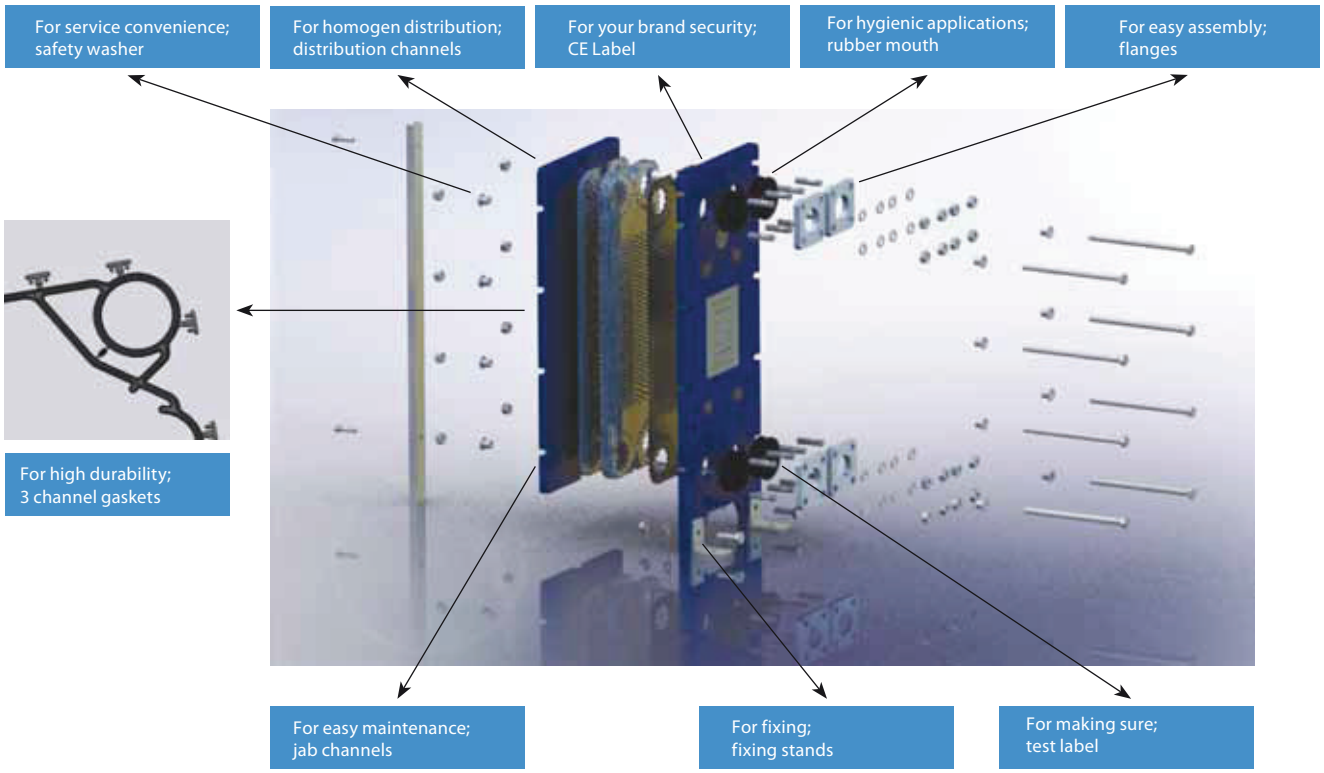




1) Main engine
2) Aux. engine
3) LT - fresh water pumps
4) Sea water pumps
5) LT - central coolers
6) HT - central coolers
7) Preheater for sea water desalination
8) HT - fresh water pumps
9) Auxiliaries
10) Charge air cooler M.E.
11) Lube oil cooler M.E.

MIT PLATE HEAT EXCHANGER TECHNOLOGY

MIT Plate Heat Exchangers, the rising star of Plate Heat Exchanger market, takes heart from the design team which gives continuous support. In Plate Heat Exchanger Market, all technologies have become ordinary. On the other hand, Ekin Industrial design team proving that still there is something to do something new, will make new studies and show what can be done for the market.

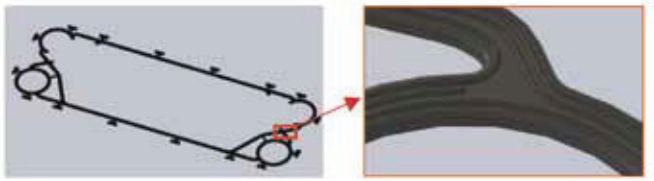


- **For hygienic applications;**
  Complete Stainless Steel Frame
  Rubber Mouth Wrapped on the Frame

- **For longer life;**
  Three Channels Gasket
  Viton, Silicone, ACM, EPDM,
  NBR Gaskets Titanium, SMO, 316 Plates

With three channels gasket system, higher performance;

Triple Flexible Pressing Channels: In contrast to planar pressing surface placed on standart gaskets, it is possible to prevent permanent deformation on the main gasket with the help of three different symmetric pressing surfaces. It decreases permanency of the deformation on the channels with the help of elasticity of the channels, so you do not need to change the gaskets, even though you lay up the heat exchangers over and over again.



Thin Section Pressing Surface: In Plate Heat Exchangers, in standart gaskets, the surfaces pressing the former plate are in thick section. Thin section pressing surface splits from gastkes' upper faces in the shape of V, presses front plate with thin section, causes surface extension and so provides high pressure resistance.

Colorful Auricle: There are colors in gaskets specifying material of the gaskets in all Plate Heat Exchangers. In standart gaskets, these colors are determined after production by painting gasket surface. In long term usage of the gaskets, because of liquid corrosion and outside air condition, these colors disappear and after sometime it becomes impossible to recognize material of the gaskets. In MIT Plate Heat Exchangers, one of the fixing auricles is made of fully colorful material so no matter how much corrossion occurs in the gaskets, it is possible to find out material of the gasket.

MIT PLATE HEAT EXCHANGERS PLATE TYPES

STANDART PLATES

These plates are used in standart applications such as, supplying hot utility water, low pressure steam applications and site heating. With their special distribution channels, wide and narrow angles depending on requirements, minimum pressure losses, special plate depth providing maximum efficiency, MIT Plate Heat Exchanger Standart Plates present best solutions for these kind of applications.

LARGE GAP PLATES

In some applications, there may be some solid particles in the liquid passing through the heat exchanger. For these kind of applications, large gap plates have been designed by MIT Team. Those large plates enable liquid to pass through the heat exchanger without sticking the channels and minimize pollution in the heat exchanger. Moreover, these large gap plates are thicker compared to standart plates. This thickness increases resistance to possible corrosive factors in the liquid. This especially is used in textile indusry to optimize efficiency in heat recycle.

HALF BRAZED PLATES

Two plates are brazed into each other by using lazer brazing in MIT Half Brazed Plates. In such applications that include aggressive liquids and high temperatures, gasket life can be very short. That's why using MIT Half Brazed Plates is advised in aggressive liquid side instead of using gaskets in this kind of applications. The liquid in the other side pass through the gasketed surface like standart applications so your system will be more safe and maintenance of your heat exchangers will be easier.

DOUBLE PROTECTED PLATES

If two liquids of a process should not mix, MIT Double Protected Plates ensure full system safety. In these heat exchangers, two plates are joined together without brazing and the liquid can easily pass between the plates. If a leakage occurs, the liquid gets out between these two plates without mixing with the other liquid and early intervention can be possible. Moreover, it can easily be removed and cleaned like standart gasketed plates.

EVAPORATOR PLATES

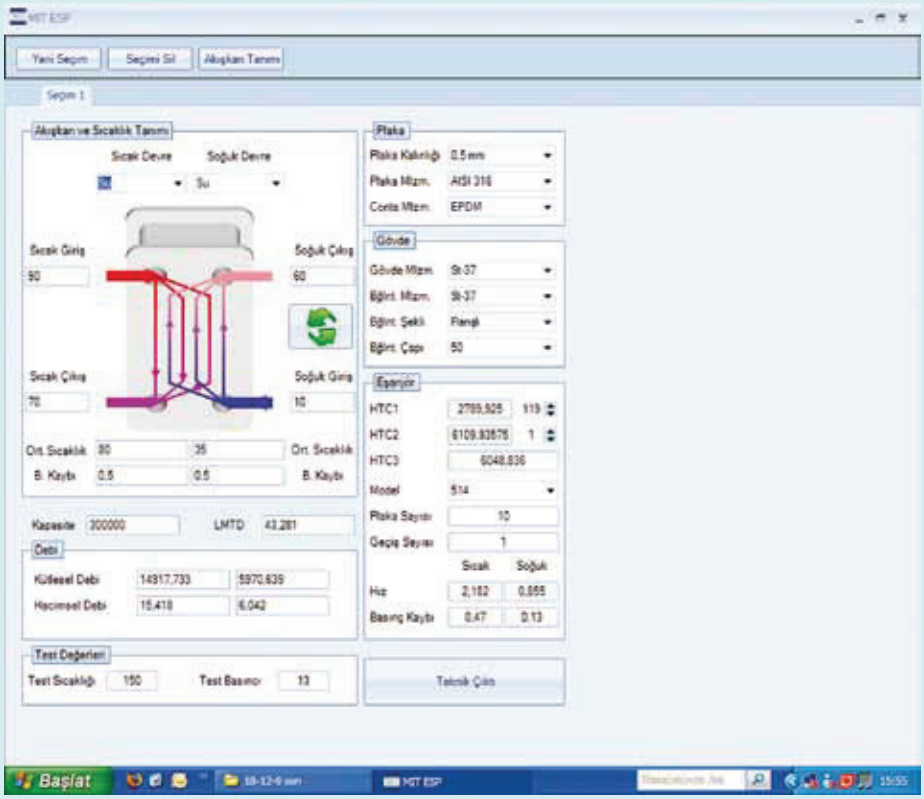
MIT Evaporator technology has been designed to meet concentration needs of industrial fluid and chemical processes. MIT can find unique solutions about this concept, as a result of years of experience and research applications. Furthermore, according to product viscosity, heat characteristics, concentration, efficieny and production quantity, MIT can suggest both tubular or plate heat exchanger. Moreover, depending on product type and economic factors, there are different applications such as, evaporator single transition and no compression heat and steam.

Why Should I Use MIT Plate Heat Exchanger?

- MIT Plate Heat Exchangers can transfer heat with very high efficiency.
- MIT Plate Heat Exchangers occupy very little place, thanks to their compact structure.
- MIT Plate Heat Exchangers can be completely disassembeld and cleaned.
- MIT Plate Heat Exchangers have wide range of plates and gaskets
- MIT Plate Heat Exchangers are completely made in Turkey.
- MIT Plate Heat Exchangers have big service and franchise network.
- MIT Plate Heat Exchangers are exibited to market by the main producer.
- MIT Plate Heat Exchangers are always the most economic solution for you.
- MIT Plate Heat Exchangers are designed and presented to customers by cheerful, solution oriented and qualified sales engineers.
- MIT Plate Heat Exchangers have quality certificates like CE, ISO, GOST, BV.
- MIT Plate Heat Exchangers are guaranteed by Ekin Industrial for 2 years.
- MIT Plate Heat Exchangers are transported in very short delivery time.
- MIT Plate Heat Exchangers contain by products which make it easier to set up the heat exchanger.

MIT - ESP

MIT-ESP program is used in design of MIT Plate Heat Exchangers. This program has been developed at the end of long and hard work of Ekin Industrial Software Team. There are more than one reason that make MIT-ESP the first and unique in Turkey such as, simple and easy interface usage, the warning system that warns user according to chosen process and makes automatic corrections and a smart control system that prevents user from making wrong choice.



MIT - ESP

After designing a heat exchanger with MIT-ESP, it is very easy to get technical document in desired format (PDF, EXCEL, TIFF, TEXT). By means of this, it is possible to know a lot of information like efficiency of the heat exchanger, pressure loss in the heat exchanger, heat exchanger dimensions and working conditions of the heat exchanger, before setting up the heat exchanger to the system.

Company:	**Date: 08.01.2014**
PHE Type: 514	**Engineer:**

Fluid Information		**Primer**	**Seconder**
Fluid		Water	Water
Density	kg/m³	967.57	988.22
Specific Heat	kj/kg C	1,006	1,005
Thermal Conductivity	W/mK	0,659	0,606
Viscosity (Average)	cP	0,518	1,021

Performance Data		**Primer**	**Seconder**
Mass Flow Rate	kg/h	14917.73	5970.63
Volume Flow Rate	m³/h	15,418	6,042
Inlet Temperature	C	90	10
Outlet Temperature	C	70	60
Required Pressure Drop	bar	0,5	0,5
Actual Pressure Drop	bar	0,47	0,13
Total Heat Exchanged	kcal/h	300000	
Heat Transfer Coff. - Duty	kcal/hm²C	6109.93	
Heat Transfer Coff. - Actual	kcal/hm²C	6048.83	
Difference in HTC	%	1	
Heat Transfer Area	m²	1,54	
LMTD	C	43.28	

Plate Heat Exchanger Properties		
Plate Heat Exchanger Type		514
Number of Plates		10
Plate Material		AISI 316
Plate Thickness	mm	0,5 mm
Gasket Material		EPDM
Frame	Frame material	St-37
Connection material		St-37
Connection type		Flange
Connection diameter	mm	50
Design Temperature	C	150
Design Pressure	bar	13
Flow Direction		Counter Current Flow
Pass Count		1

General Provisions

1) Our company gives 2 years of guaranty against production mistakes and providing spare parts of products for 10 years.

2) Our Plate Heat Exchangers have gasket clips technology. In other words, gaskets are fixed with the help of holes drilled on plate by fitting. So it is easy to unfix and clean our heat exchangers during maintenance.

3) Our company pledges that we will send you a booklet containing usage information and other specifications.

OUR PROFESSIONAL PLATE HEAT EXCHANGER SERVICE

Besides production, Ekin Industrial provides service for all brands and models of heat exchangers. The content of professional service is decided and applied according to needs so you can make your system reach the first day performance.

Possible Problems Which Occur in Plate Heat Exchangers

- Performance drop caused by liming
- Blockage due to possible residue and dirt coming from installations
- Over pressure loss related to blockage
- Heat transfer drop due to blockage
- Gasket fatigue in time
- Gaskets' lack of leakproofing speciality
- Plates being deformed because of corrosion
- Frame deformation caused by internal and external effects

When you have any of these problems, all you need to do is to reach the professional service department of Ekin Industrial and enyoj your service.

Contents of Professional Service Package

- Plate supply for every brand and model
- Gasket supply for every brand and model
- Revision and cleaning of plate heat exchanger
- Fast and detailed cleaning of heat exchanger plates
- Cleaning heat exchanger plates with special chemicals
- Production and supply of every type of nut and pin
- Delivery of heat exchanger operating like it is new
- 7 days 24 hours service opportunity