



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

Product Guide



Our Main Focus:

Heat Transfer Section

- Plate Heat Exchangers
- Brazed Heat Exchangers
- Flat Access Stations
- Shell and Tube Heat Exchangers

Pressure Vessel Section

- Boilers
- Accumulation Tanks
- Stainless Process Tanks
- Expansion Tanks
- Balance Tanks
- Air Separators
- Sediment Blockers

Separator Vessels Section

- Balance Tanks
- Sediment Blockers
- Air Separators
- Package Sediment and Air Separators
- Package Balance Sediment and Air Separators

Hygienic Process Section

- Pasteurizers and Sterilizers
- CIP Systems and Tubular Heat Exchangers
- Complete Stainless Process Heat Exchangers
- Hygienic Pumps
- Aseptic Storage Tanks
- Food Process Equipment and Facilities

Liquid Transfer Section

- Domestic Pumps
- Hygienic Pumps
- Process Pumps



Sustainable Innovation, Quality Standardization And Dynamism

Ekin Industrial has entered Turkey's sector of imported plate heat exchanger, with their customer focused vision and dynamic. Ekin has expanded into new and upcoming investments.

One of the main steps was gaining the identity of being a producer.

Ekin Industrial has started the production of plate heat exchangers with the brand of 'MIT'.

We grew in the philosophy of quality, through initially adapting to ISO Quality Management System procedures, and completed the CE security and quality certification period, and has matched foreign standards like GOST.

MIT plate heat exchangers have now become a solution to engineering problems in the world market and has grown through an expansion of franchises.

Engineering Approachments, Integrated Solutions

Ekin Industrial, with investment in MIT plate heat exchangers, their identity of producer and engineer vision is aiming to solve problems in the sector. To meet these views, Ekin Industrial has expanded into the production of components, sales and after sales service by employing expert engineers.

The factors that guided Ekin Industrial to success are their exceptional customer service to the needs and wants of consumers, modern facilities, and becoming partners to projects that involve high-end technology.

Ekin Industrial is an expert company which has wide product range which includes plate heat exchangers, accumulation tanks, water heater tanks, installation materials and its service group and submit competitive advantages to mechanical installation sector in Turkey and all around the World.



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Plakalı Isı Eşanjörleri

Plate Heat Exchangers

Plate Heat Exchangers



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 necessary 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.

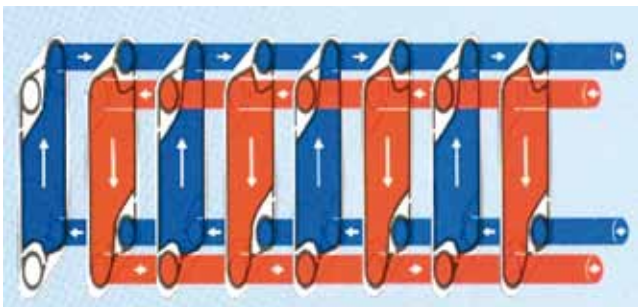
MIT PLATE HEAT EXCHANGERS WORKING PRINCIPLE

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 separated from each other with plates. In standart plate heat exchangers, there are 4 in-out ports. Two of them 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 Plate 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 bottom 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

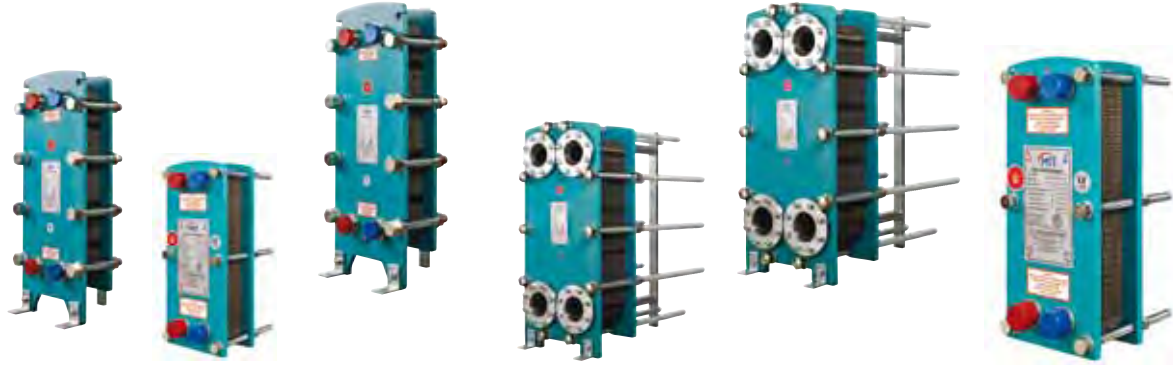


In MIT Plate Heat Exchanger Tag that is placed front frame there are;

- 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+0.91n	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



USAGE AREA OF PLATE HEAT EXCHANGER

HVAC (Heating, Ventilation and Air Conditioning)

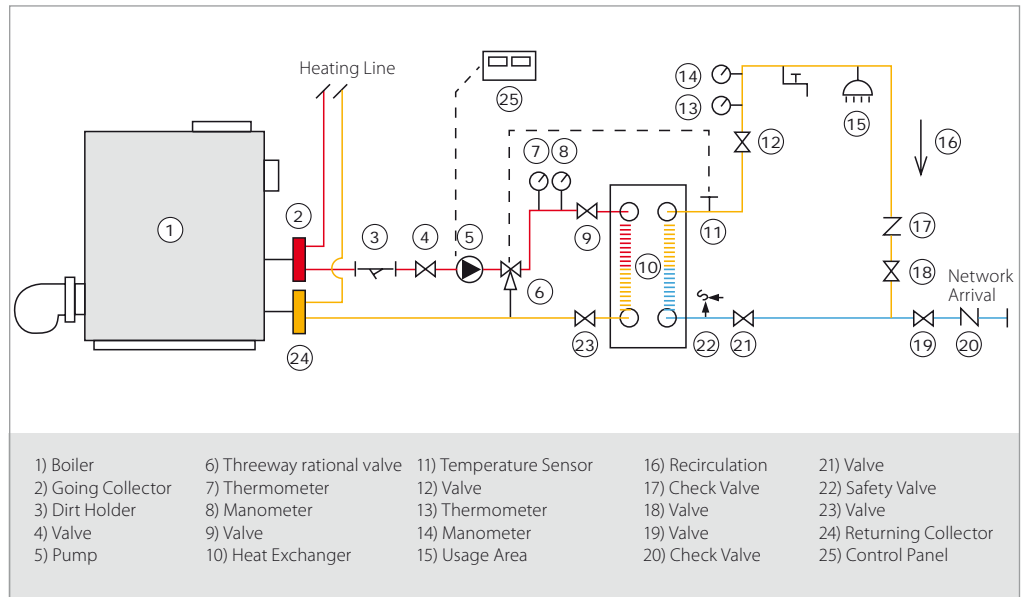
Obtaining Warm Utility Water

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



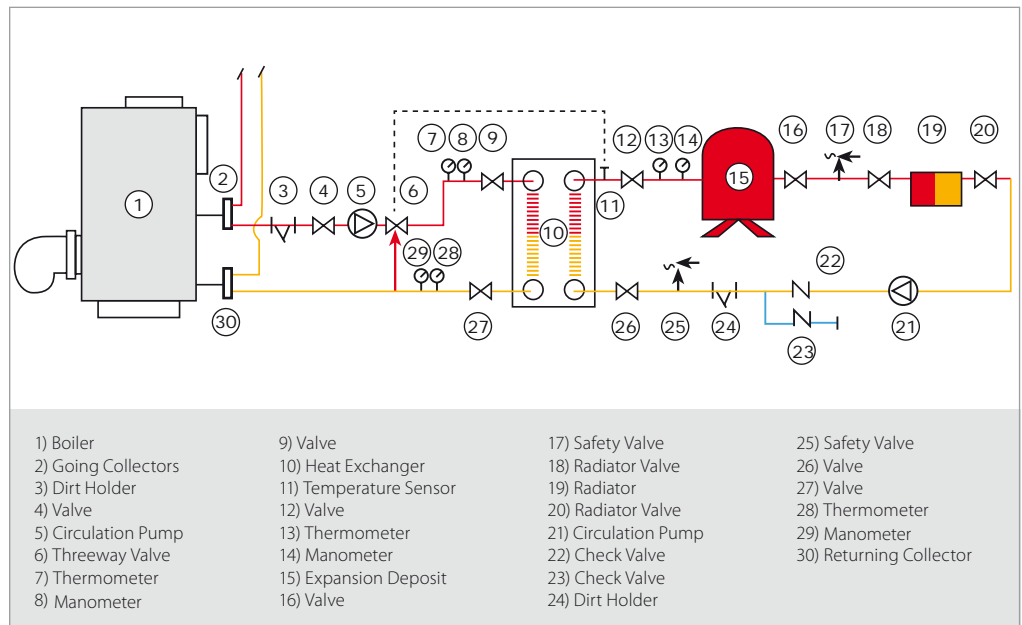
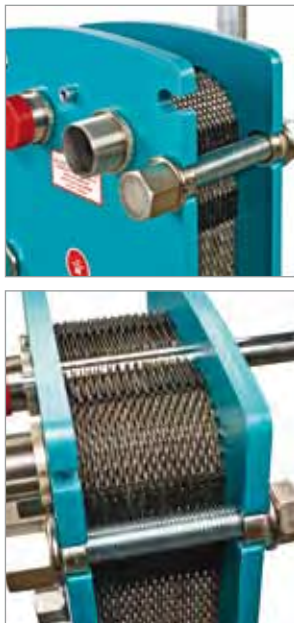
performance.



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.

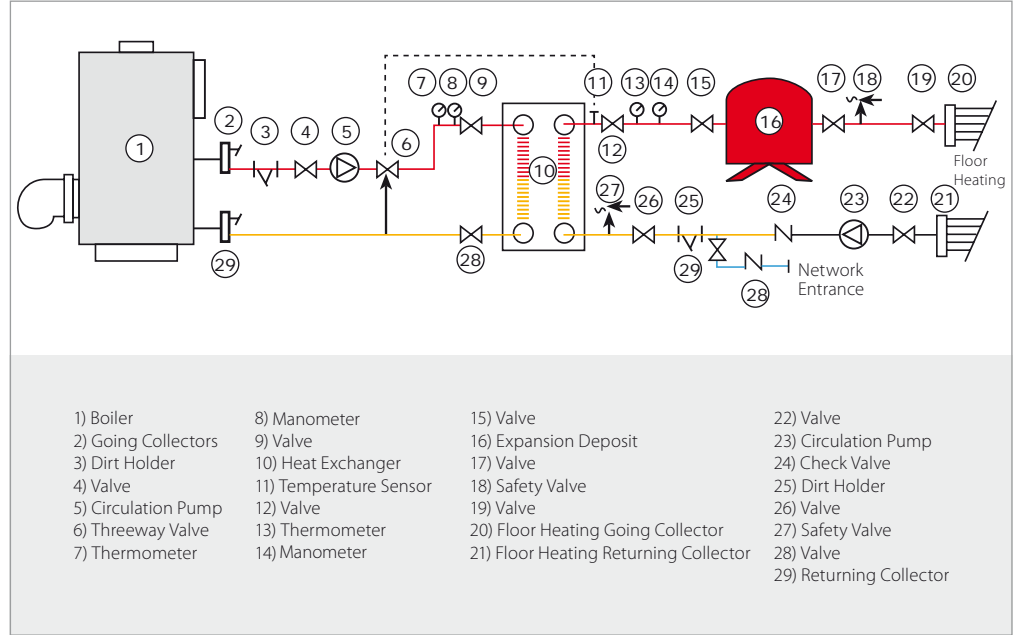


HVAC (Heating, Ventilation and Air Conditioning)

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

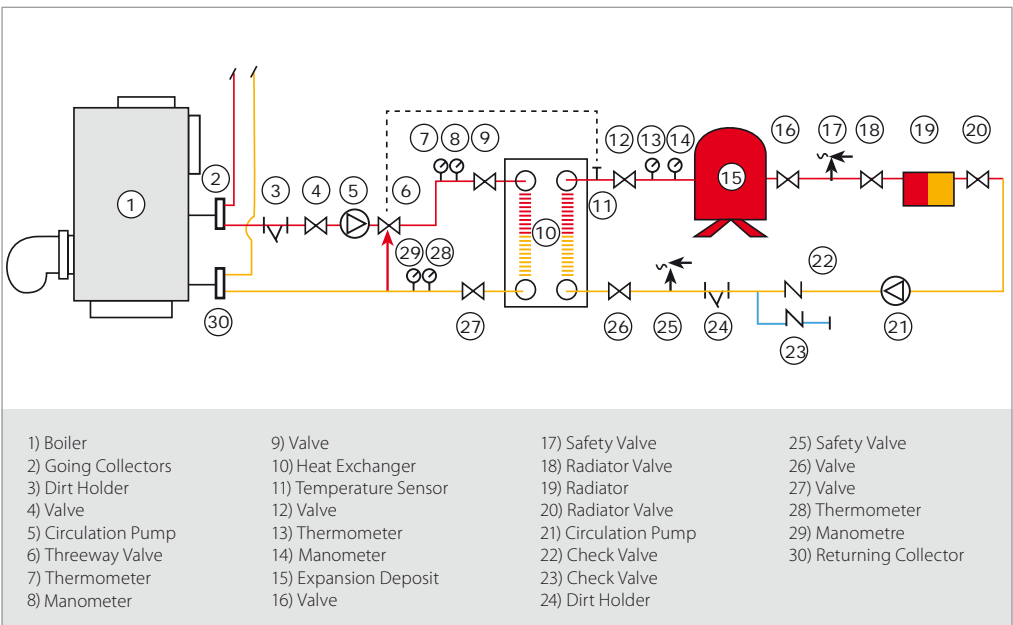
heater and heated sources. With their high corrosion resistance, complete stainless structure and special designs, MIT Plate Heat Exchangers ensure that you will be able to use your system without any problems.



Pressure Breaker

There are 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.

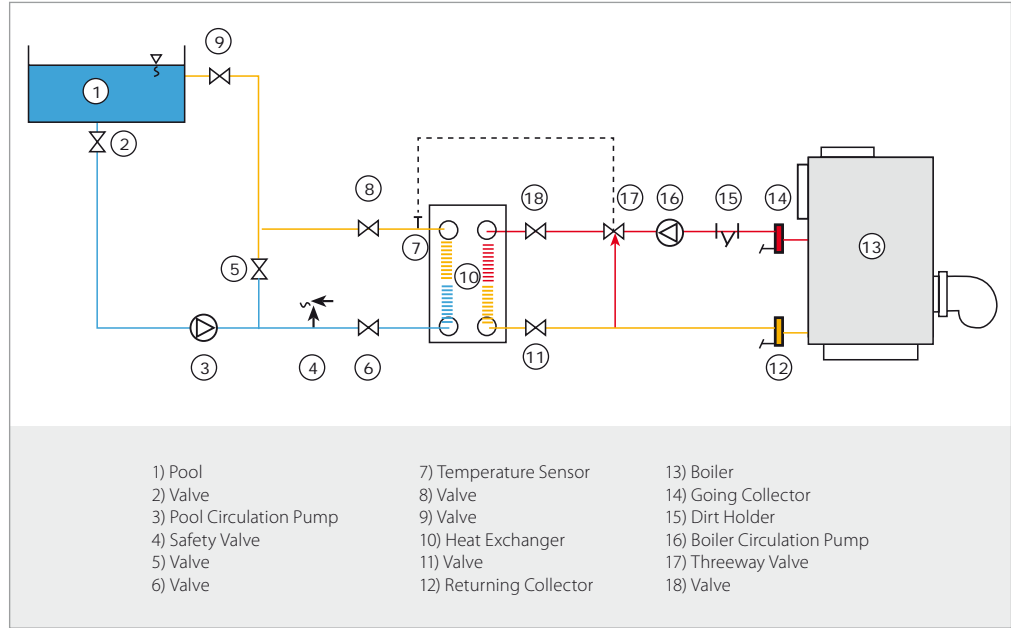


HVAC (Heating, Ventilation and Air Conditioning)

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

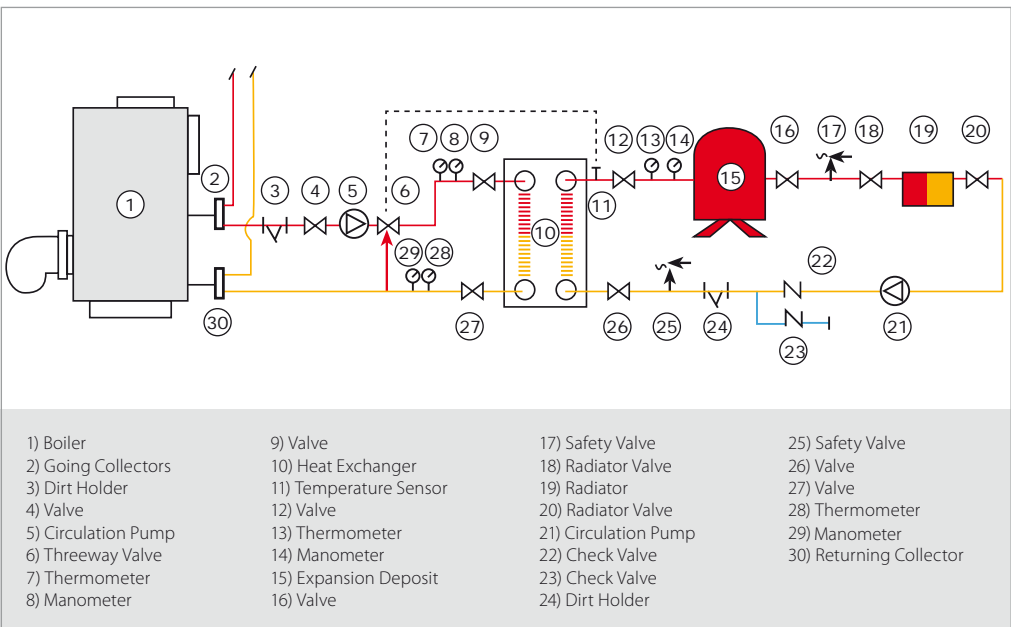
automation. By means of its compact structure, MIT Plate Heat Exchangers occupy really small place and enable to keep your pool in certain temperature level.



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 efficient compared to individual use and consumes

less energy. MIT Plate Heat Exchangers enable to produce hot water to heat residential areas and at the same time to produce hot utility water.

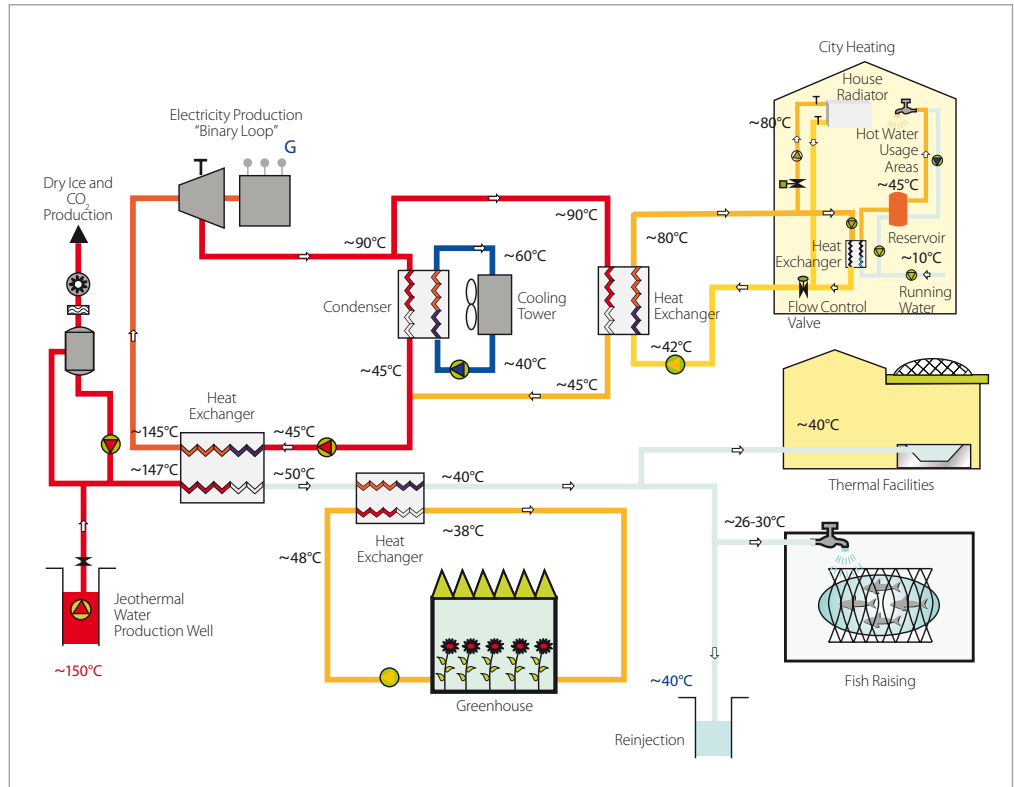


ENERGY

Geothermal Heating Systems

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 energy neither in industry nor in individual use. In industry 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.

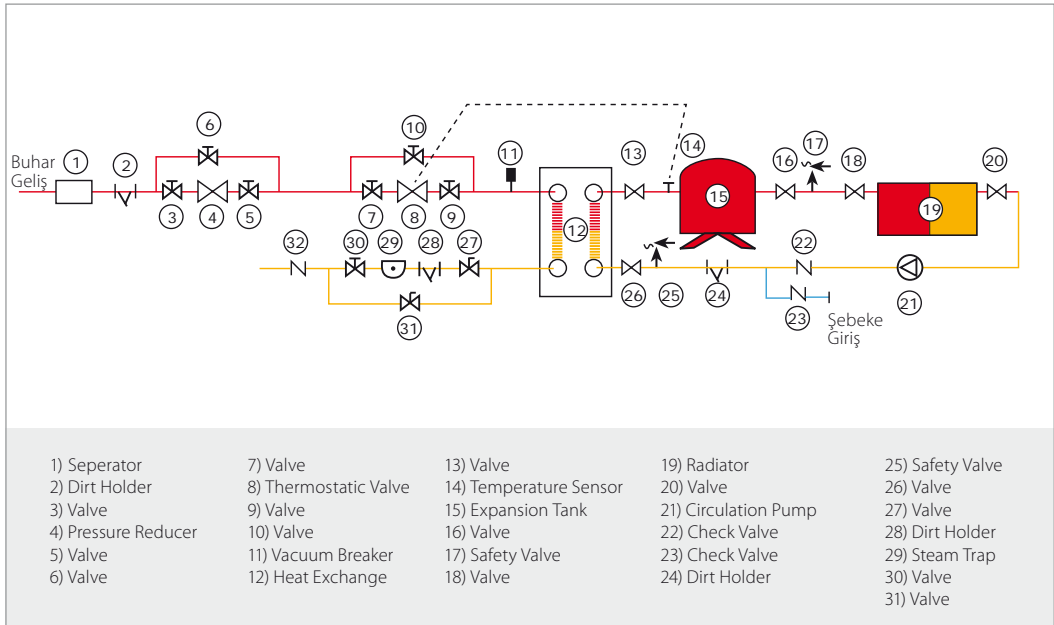


ENERGY

Electricity Production Facilities

Thermic centrals are places where electricity is produced. Besides this, they are really big superheated 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 energy, enable us to heat a region.



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

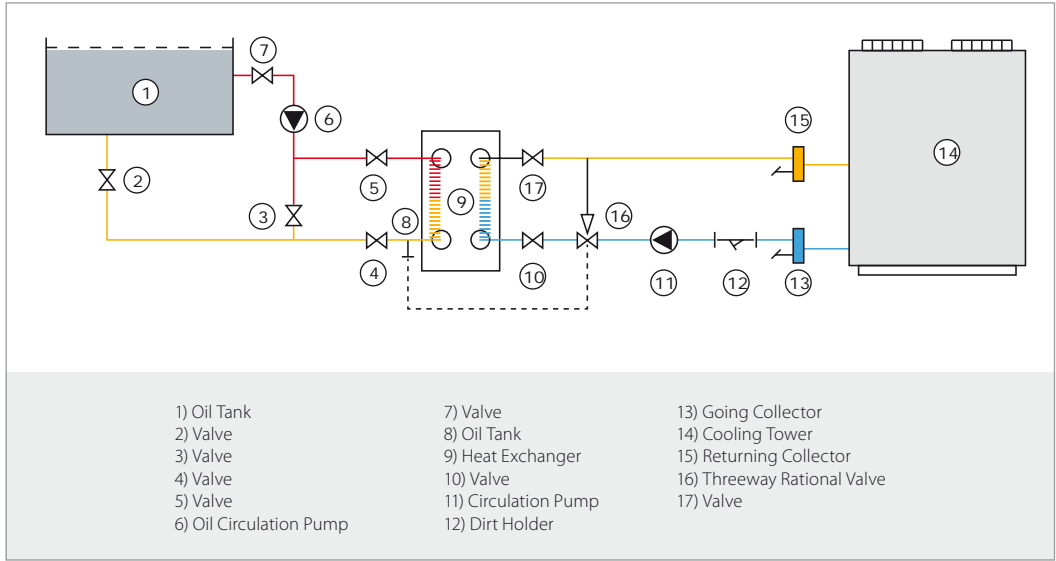
Cooling Rolling Press Oil

In bloomeries, used oil gets hot and loses 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 second 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 industry, 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.



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 separated 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.

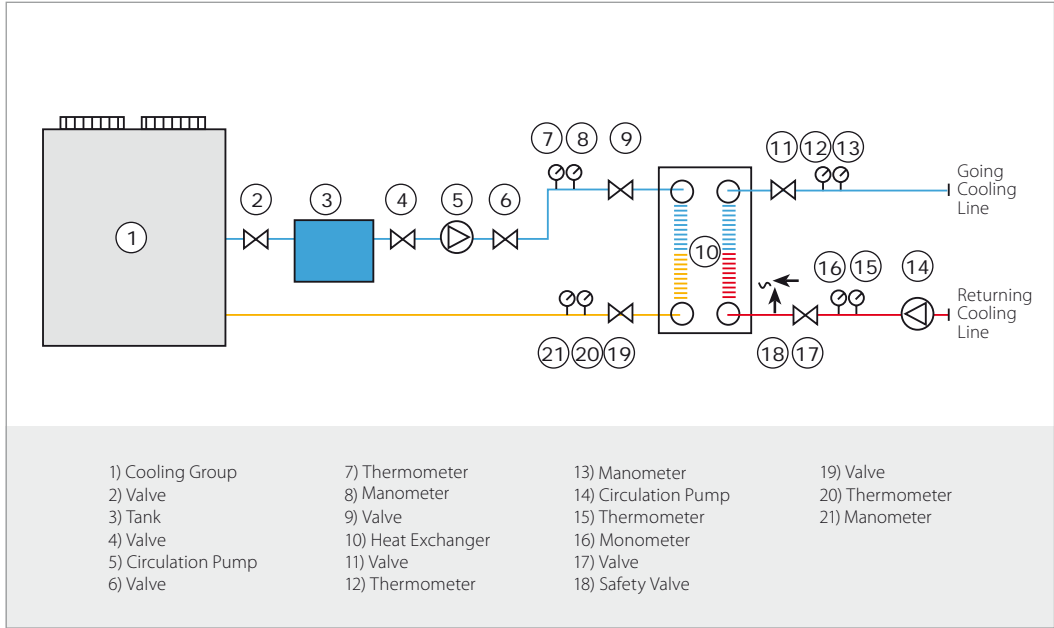


INDUSTRY

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 separate the system and chiller circuit and so make them work free from each other, they just make heat transfer between them.



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 everybody 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, pastozization 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

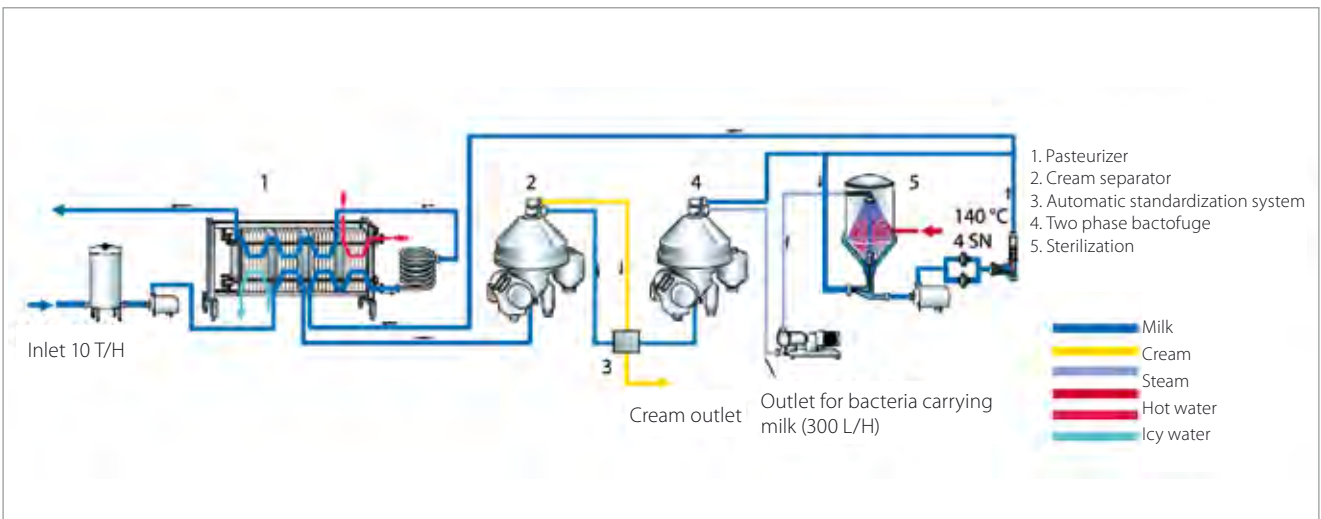
Exchangers, it is possible to design hygienic in-out for equipments like separator, homogenizer, holder and degasifier. These equipments are delivered ready to assemble.

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.

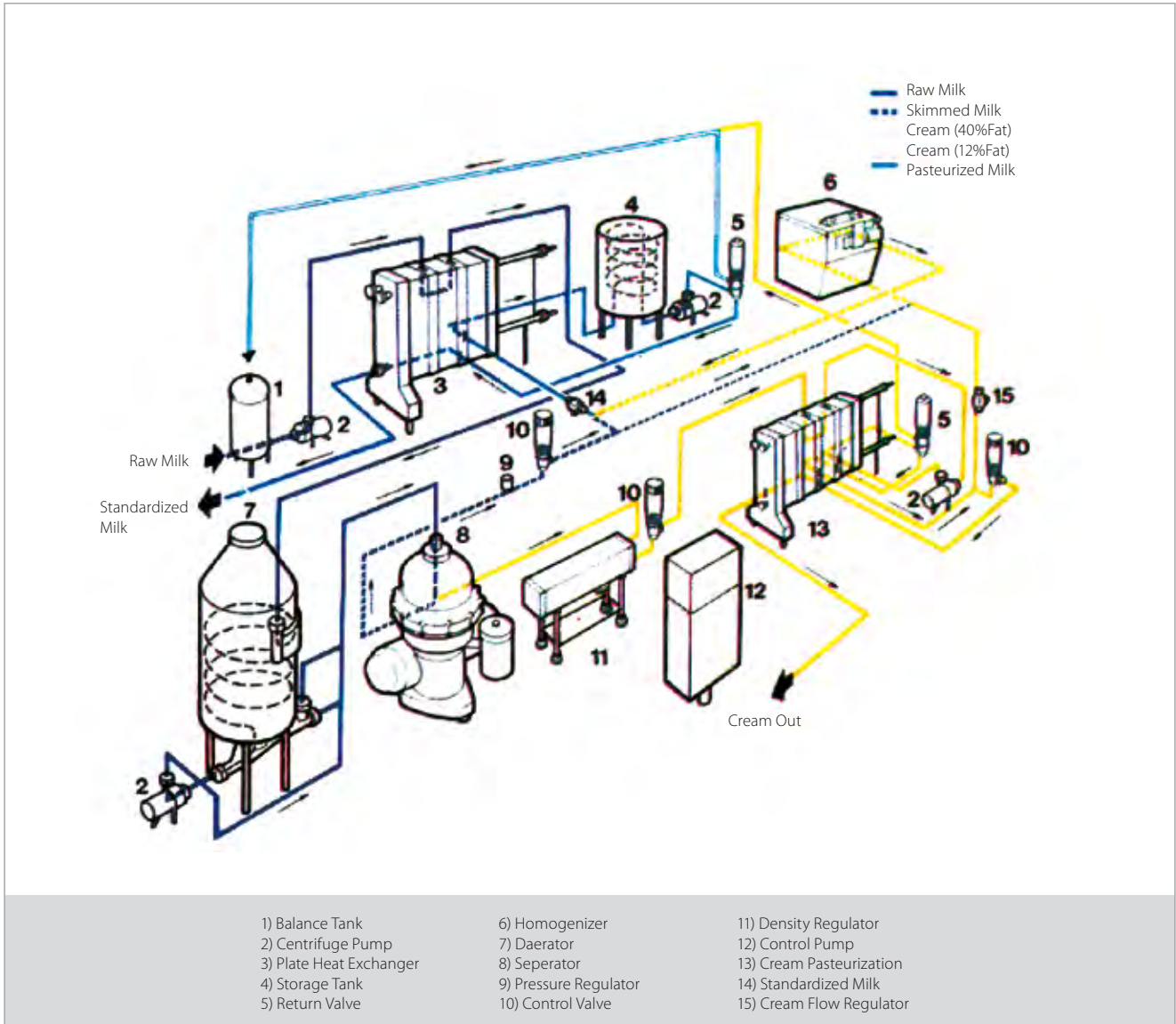
UHT MILK STERILIZER

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



- 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 daerator 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 ($\text{Ph} < 4.6$), 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 Manual.



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 suitable 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 engines 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

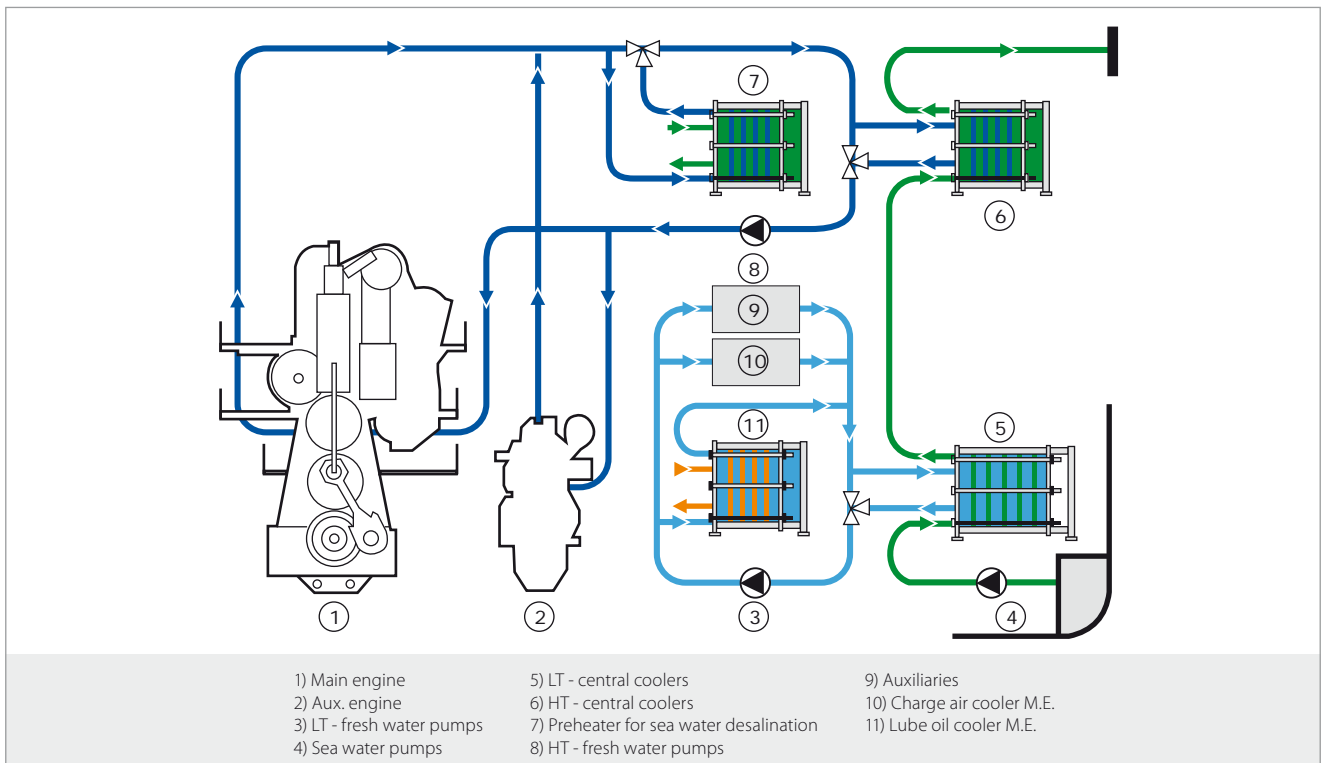
In central cooling systems, sea water is used for cooling the freshwater circulation line which is placed in the seconder side. This cooled freshwater acts as a cooler liquid in Heat Exchangers which need to be cooled. These Heat Exchangers are mostly used in circulation line and engine water cooling. 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 minimum 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 minimum levels. With their different plate angles 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.

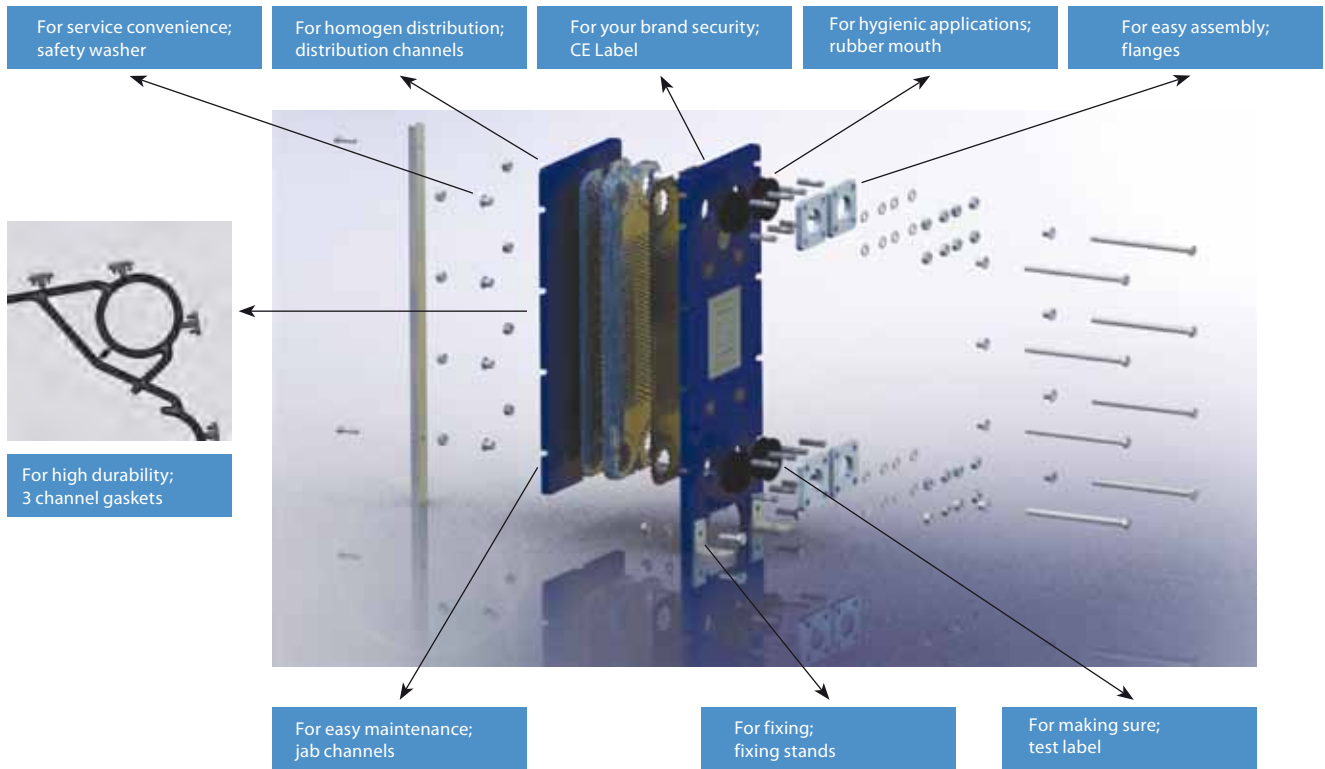
Other Cooling Applications In a Ship;

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



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.

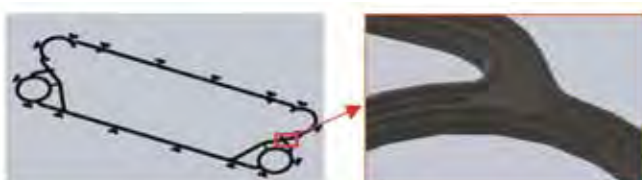


- **For hygienic applications;**
Complete Stainless Steel Frame
Rubber Mouth Wrapped on the Frame

- **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 gaskets' 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 industry 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, efficiency 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.

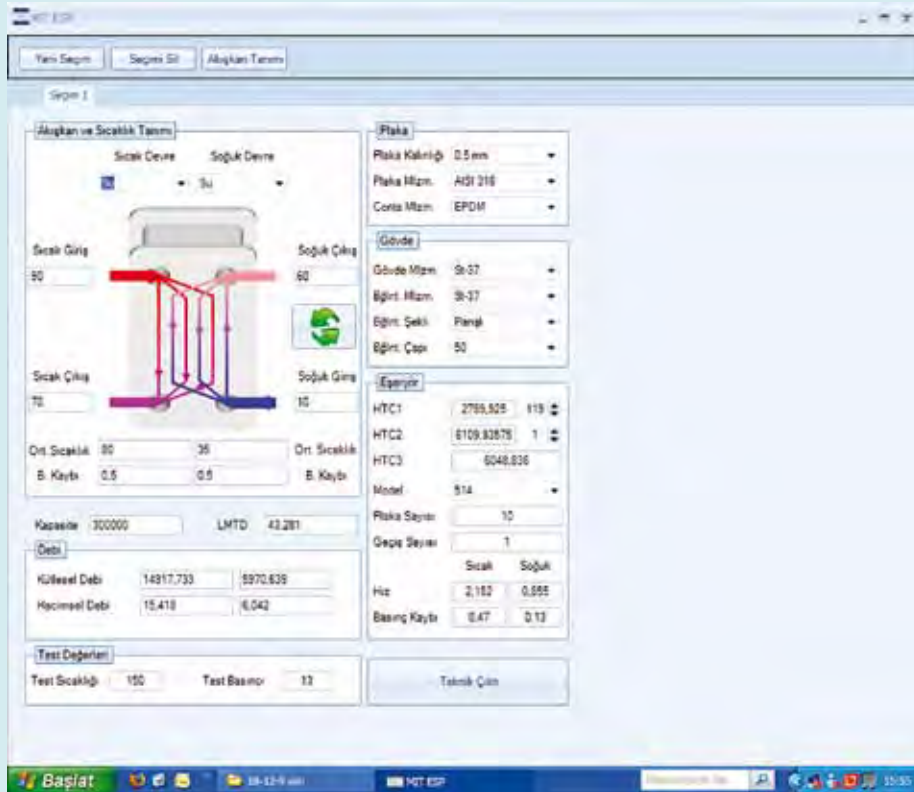


Why Should I Use MIT Plate Heat Exchanger?

- 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 disassembled 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 exhibited 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	Secondar
Fluid		Water	Water
Density	kg/m ³	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	Secondar
Mass Flow Rate	kg/h	14917,73	5970,63
Volume Flow Rate	m ³ /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/hm ² C		6109,93
Heat Transfer Coff. - Actual	kcal/hm ² C		6048,83
Difference in HTC	%		1
Heat Transfer Area	m ²		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 enjoy 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



made in Turkey

heat up the water
heat up the fun

Heat Transfer Section

- Plate Heat Exchanger
- Brazed Heat Exchanger
- Flat Access Station
- Tubular Heat Exchanger

Pressure Vessel Section

- Boilers
- Accumulation Tanks
- Stainless process Tanks
- Expansion Tanks
- Balancing Tubes
- Air separator • Dirt separator

Fluid Transfer Section

- Domestic Pumps
- Sanitary Pumps
- Process Pumps



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

Ekin Endüstriyel Isıtma-Soğutma San. Tic. Ltd. Şti.

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Web : www.ekinendustriyel.com





Brazed Heat Exchanger

Brazed Heat Exchangers



MIT Brazed Heat Exchangers

MIT Brazed Heat Exchangers are used in both cooling units and heating applications. In cooling units they are used as evaporators and condensers. On the other hand in heating applications, they serve sudden heating in specific tasks.

MIT present best suitable solutions with heat exchangers having high quality compounds and wide variety. Capacity and connections can be produced in desired ways for specific applications. MIT Brazed Heat Exchangers save you more place with the help of their compact design.

Capacity Table

PHE information	MB-01	MB-02	MB-03	MB-04	MB-05
Cooling capacity/ heat load (kW)	0.5-4	0.5-5	0.5-5	2-10	5-15
Heat Transfer area (m ²)	(n-2)x0.012	(n-2)x0.014	(n-2)x0.014	(n-2)x0.022	(n-2)x0.026
Design temperature (°C)	-196-200	-196-200	-196-200	-196-200	-196-200
Standart design pressure (bar)	10	10	10	10	30
High design pressure (bar)	30	40	30	30	45
Test pressure (bar)	15/45	15/60	15/45	15/45	45/67/5
Distribution					
Double loop					
Channel pattern	H	H,L,M	H	H,L,M	H,L,M
Max. plate number	50	60	50	60	150
(height/width) (mm)	186/72	207/77	193/83	314/72	311/111
Empty weight (n = plate number) (kg)	0.6+0.044xn	0.7+0.06xn	0.4+0.06xn	1.1+0.09xn	1.2+0.13xn
Max. brazed connection dimensions	7/8"	7/8"	7/8"	7/8"	13/8"
Max. threaded connection dimensions	3/4"	3/4"	3/4"	3/4"	11/4"
Standart Plate Material	AISI316L	AISI316L	AISI316L	AISI316L	AISI316L
Braze Material	Copper or Nickel	Copper or Nickel	Copper	Copper or Nickel	Copper or Nickel



MB - 06	MB - 07	MB - 08	MB - 09	MB - 10	MB - 11	MB - 12
3-30	30-80	10-60	30-200	60-200	150-450	150-500
(n-2)x0,030	(n-2)x0,048	(n-2)x0,050	(n-2)x0,095	(n-2)x0,113	(n-2)x0,21	(n-2)x0,26
-196-200	-196-200	-196-200	-196-200	-196-200	-196-200	-196-200
30	30	30	30	30	30	25
45	40	45	45	40	40	
45/675	45/60	45/675	45/675	45/60	45/60	375
Q	Q	Q	Q	Q	Q	
	D			D	D	
H	H	H,L,M	H,L,M	H	H	H
150	118	150	250	198	250	250
325/95	390/195	527/111	615/188	490/250	739/322	798/363
1+0,09xn	1,8+0,23xn	1,8+0,23xn	4,6+0,41xn	6,5+0,38xn	13+0,8xn	135+0,97xn
13/8"	15/8"	15/8"	21/8"	25/8"	31/8"	4"
11/4"	11/2"	11/4"	2"	21/2"	31/8" clamp	4" clamp
AISI316L	AISI316L	AISI316L	AISI316L	AISI316L	AISI316L	AISI316L
Copper	Copper	Copper or Nickel	Copper or Nickel	Copper	Copper	Copper

MIT Brazed Plate Heat Exchangers



MIT Brazed plate heat exchangers are designed for cooling, ventilation and heating processes and are used for long years safely.

Main Data:

- Min. temperature: -196 °C
- Max. temperature: +200 °C
- Design Pressure: -45 bar
- Available for standart and high pressure
- Cooling capacity/ heat load: -450 kW
- Connection Size: Threaded, welded
- Copper or nickel brazing

Approvals:

- CE certificate according (PED) 97/23/EC
- UL
- ISO 9001:2000

MIT Brazed Plate Heat Exchangers

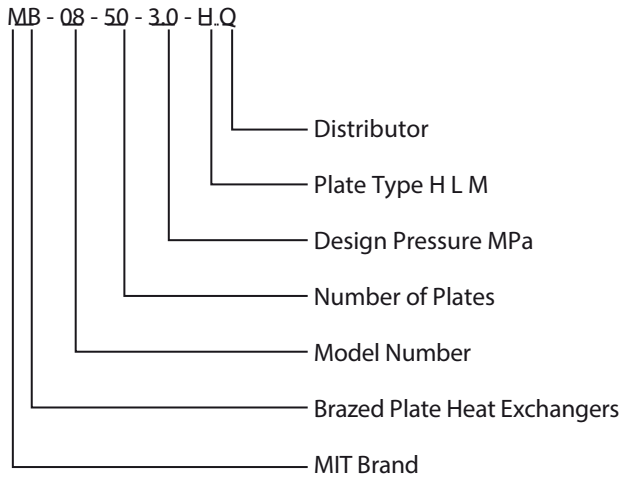
Model	MB - 01	MB - 02	MB - 04	MB - 05	MB - 05	MB - 06	MB - 06	MB - 06
Width (mm)	72	77	72	111	111	95	95	95
Height (mm)	186	207	314	311	311	325	325	325
Length (mm)	7+23n	7+23n	7+23n	9+24n	9+24n	9+15n	9+15n	9+15n
Horizontal Port Distance (mm)	40	42	42	50	50	39	39	39
Vertical Port Distance (mm)	154	172	278	250	250	269	269	269
Max. Working Pressure (bar)	30	30	30	30	30	30	30	30
Test Pressure (bar)	45	45	45	45	45	45	45	45
Weight (kg)	0.6+0.044n	0.7+0.06n	1.1+0.09n	1.2+0.013n	1.2+0.013n	1+0.09n	1+0.09n	1+0.09n

Model	MB - 07	MB - 08	MB - 09	MB - 11	MB - 11	MB - 12	MB - 12	MB - 12
Width (mm)	195	111	192	322	322	363	363	363
Height (mm)	390	527	617	739	739	798	798	798
Length (mm)	10+2n	9+24n	10+24n	13+28n	13+28n	13+28n	13+28n	13+28n
Horizontal Port Distance (mm)	120	50	92	232	232	188	188	188
Vertical Port Distance (mm)	296	466	519	599	599	608	608	608
Max. Working Pressure (bar)	30	30	30	30	30	30	30	30
Test Pressure (bar)	45	45	45	45	45	45	45	45
Weight (kg)	1.8+0.23n	1.8+0.23n	4.6+0.41n	13+0.8n	13+0.8n	13.5+0.97	13.5+0.97	13.5+0.97

Materials	
Plate Material	AISI 304 / 316
Connection Material	AISI 304
Brazing Material	Brazing Material: Copper (Standard) or stainless

Model	Standart Connections	Optional Connections	Max. Thread Connection Diameter	Max. Solder Connection Diameter
MB - 01	Thread	Solder	3/4"	7/8"
MB - 02	Thread	Solder	3/4"	7/8"
MB - 04	Thread	Solder	3/4"	7/8"
MB - 05	Thread	Solder	1 1/4"	1 3/8"
MB - 06	Thread	Solder	1 1/4"	1 3/8"
MB - 07	Solder	Thread	1 1/2"	1 5/8"
MB - 08	Thread	Solder	1 1/2"	1 5/8"
MB - 09	Thread	Solder	2"	2 1/8"
MB - 11	Victaulic	Solder	3 1/8"	3 1/8"
MB - 12	Victaulic	Solder	4"	4"

Expression of Brazed Plates



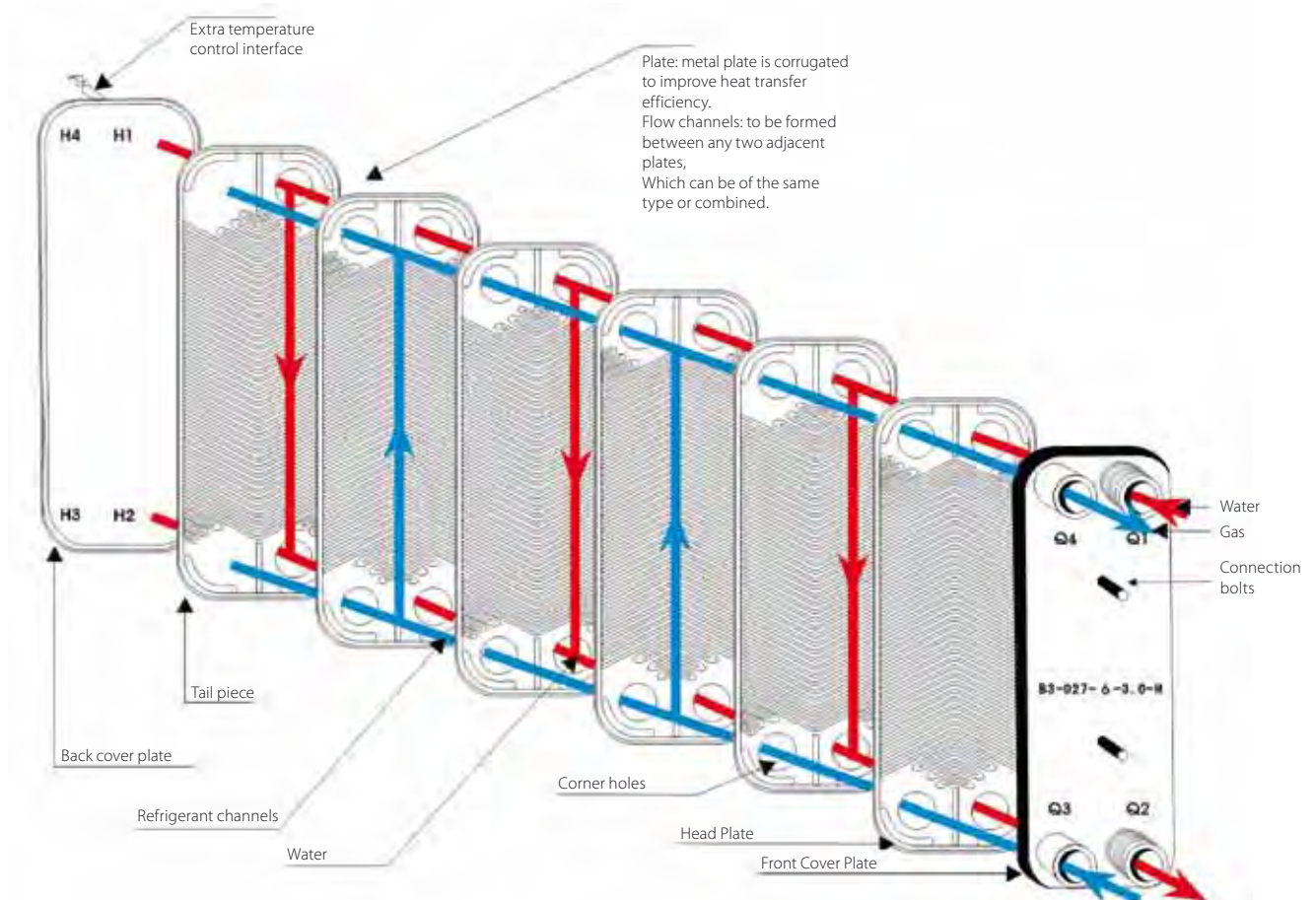
MIT Brazed Plate Heat Exchangers can be designed with plates having different heat transfer characteristics.

The H Type plate obtuse angles which result in higher heat transfer efficiency by increasing the turbulence of the fluid.

The L Type plate has acute angles. This reduces the pressure drop and leads to reduced turbulence and lower heat transfer efficiency.

The M type plate is a combination of L and H plates. This solution can be used for applications, where the temperature change on one side of the BPHE is much larger than on the other.

The Structure of Brazed Plate Heat Exchanger

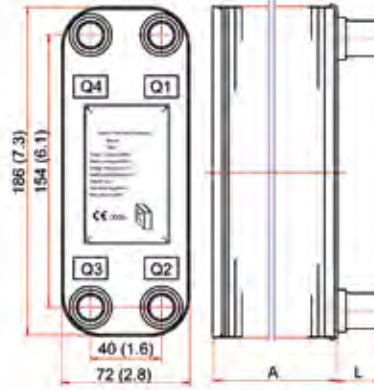


Brazed Plate Heat Exchanger MB - 01

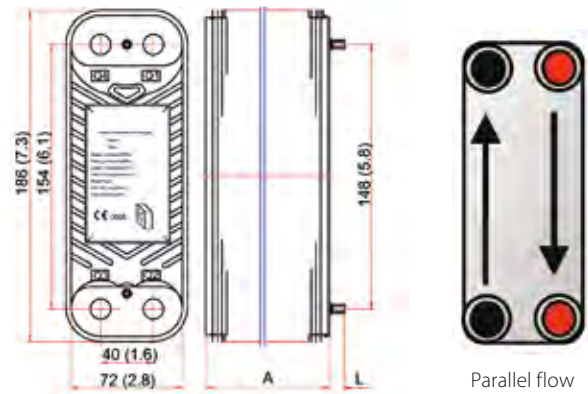


MB - 01 can be copper-brazed or nickel-brazed plate heat exchanger. The material of plate can be 304, 316L or SM0254.

Flat front/back cover plate



Corrugated front and back cover plate



Parallel flow

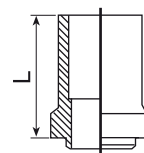
Brazed Plate Heat Exchanger MB - 01

Plate Number	A (mm)	Weight (kg)	Volume Q1 Q2 side / Q3 Q4 side	Heat exchanger area (m ²)
n	7+23n	0.6+0.044n	0.018x1/2n / 0.018 x 1/2 (n-2)	(n-2) 0.012

Parameters

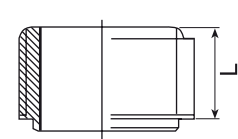
Design Pressure	10 bar (A type) 30 bar (B type)
Test Pressure	15 bar (A type) 45 bar (B type)
Design Temperature	-196 ~ +200°C
Plate Type	H
Heat Load	~4 KW
Number of max. plates	50

Welded Connection



Maximum Connection 7/8"

Threaded Connection



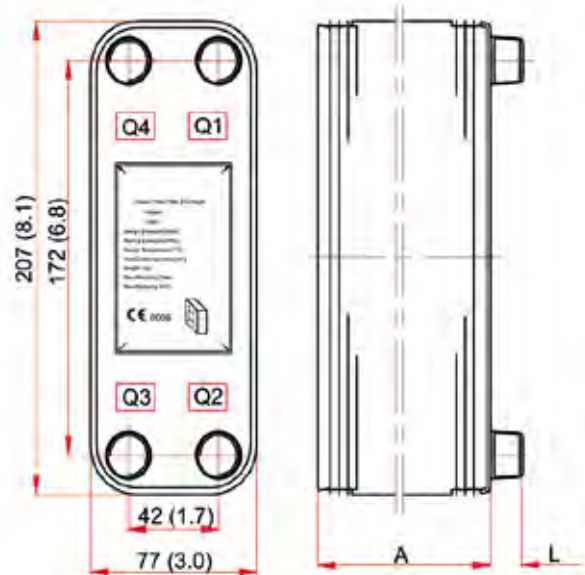
Maximum Connection 3/4"

Ekin Industrial provides exchangers with various threaded and welded connection.

Brazed Plate Heat Exchanger MB - 02



MB - 02 can be copper-brazed or nickel-brazed plate heat exchanger. The material of plate can be 304, 316L or SM0254.



Parallel flow

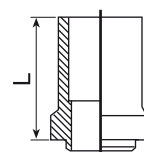
Brazed Plate Heat Exchanger MB - 02

Plate Number	A (mm)	Weight (kg)	Volume Q1 Q2 side / Q3 Q4 side	Heat exchanger area (m2)
n	7+23n	0.7+0.06n	0.02x1/2n / 0.02 x 1/2 (n-2)	(n-2) 0.012

Parameters

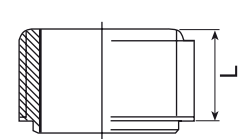
Design Pressure	10 bar (A type) 30 bar (B type)
Test Pressure	15 bar (A type) 45 bar (B type)
Design Temperature	-196 ~ +200°C
Plate Type	H. L. M.
Heat Load	~5 KW
Number of max. plates	50

Welded Connection



Maximum Connection 7/8"

Threaded Connection



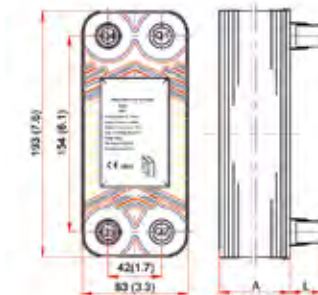
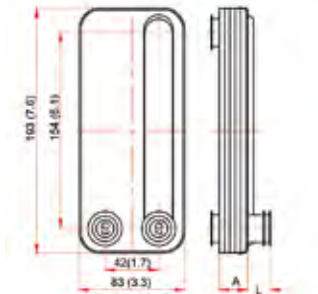
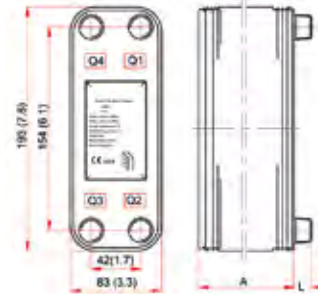
Maximum Connection 3/4"

Ekin Industrial provides exchangers with various threaded and welded connection.

Brazed Plate Heat Exchanger MB - 03



MB - 03 can be copper-brazed or nickel-brazed plate heat exchanger. The material of plate can be 304, 316L or SM0254.



Diagonal flow

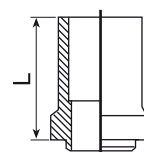
Brazed Plate Heat Exchanger MB - 03

Plate Number	A (mm)	Weight (kg)	Volume Q1 Q2 side / Q3 Q4 side	Heat exchanger area (m2)
n	7+23n	0.4+0.06n	0.022x1/2n / 0.022 x 1/2 (n-2)	(n-2) 0.014

Parameters

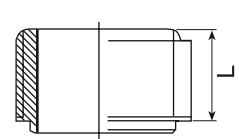
Design Pressure	10 bar (A type) 30 bar (B type)
Test Pressure	15 bar (A type) 45 bar (B type)
Design Temperature	-196 ~ +200°C
Plate Type	H
Heat Load	~5 KW
Plate Number	60

Welded Connection



Maximum Connection 7/8"

Threaded Connection



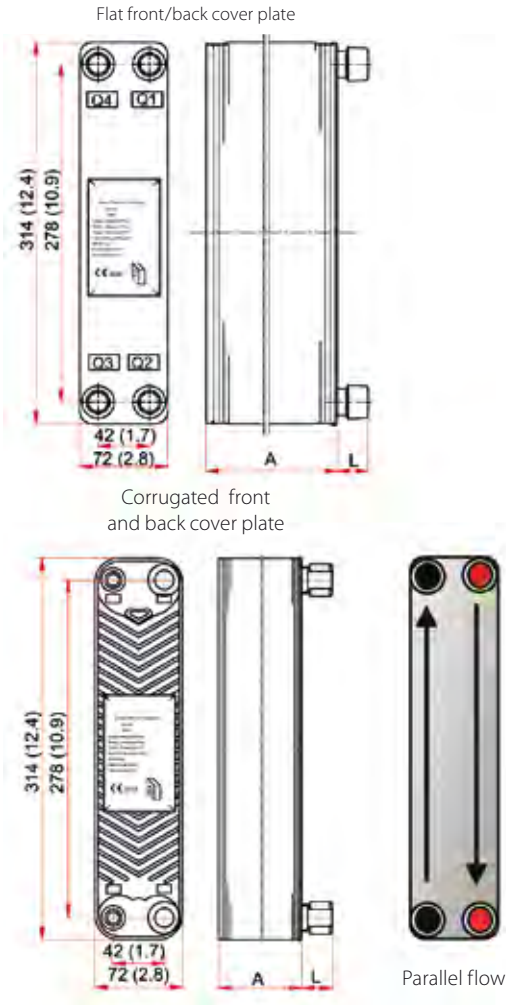
Maximum Connection 3/4"

Ekin Industrial provides exchangers with various threaded and welded connection.

Brazed Plate Heat Exchanger MB - 04



MB - 04 can be copper-brazed or nickel-brazed plate heat exchanger. The material of plate can be 304, 316L or SM0254.



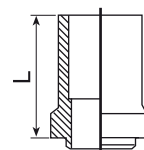
Brazed Plate Heat Exchanger MB - 04

Plate Number	A (mm)	Weight (kg)	Volume (L) Q1 Q2 side / Q3 Q4 side	Heat exchanger area (m2)
n	7+23n	1.1+0.09n	0.04x1/2n / 0.04 x 1/2 (n-2)	(n-2) 0.022

Parameters

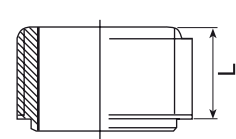
Design Pressure	10 bar (A type) 30 bar (B type)
Test Pressure	15 bar (A type) 45 bar (B type)
Design Temperature	-196 ~ +200°C
Plate Type	H. L. M.
Heat Load	2-10 KW
Number of max. plates	60

Welded Connection



Maximum Connection 7/8"

Threaded Connection



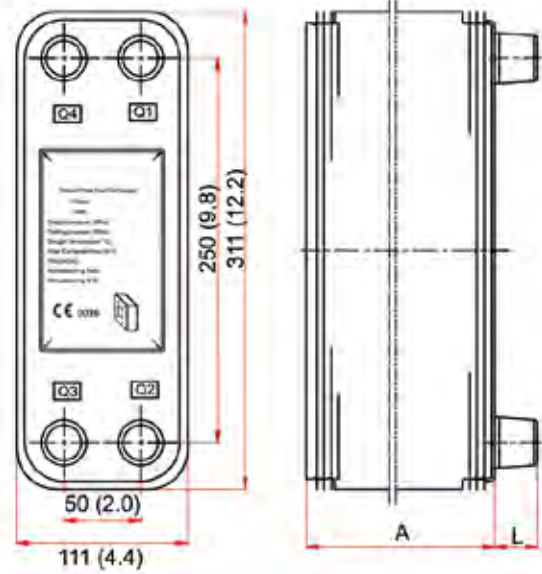
Maximum Connection 3/4"

Ekin Industrial provides exchangers with various threaded and welded connection.

Brazed Plate Heat Exchanger MB - 05



MB - 05 can be copper-brazed or nickel-brazed plate heat exchanger. The material of plate can be 304, 316L or SM0254.



Parallel flow

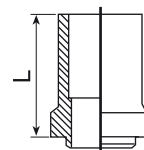
Brazed Plate Heat Exchanger MB - 05

Plate Number	A (mm)	Weight (kg)	Volume (L) Q1 Q2 side / Q3 Q4 side	Heat exchanger area (m ²)
n	9+24n	1.2+0.13n	0.05x1/2n / 0.05 x 1/2 (n-2)	(n-2) 0.026

Parameters

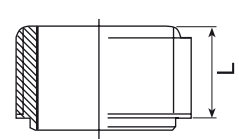
Design Pressure	30 bar (A type) 40 bar (B type)
Test Pressure	45 bar (A type) 60 bar (B type)
Design Temperature	-196 ~ +200°C
Plate Type	H. L. M.
Heat Load	4~25 KW
Number of max. plates	150

Welded Connection



Maximum Connection 1"3/8

Threaded Connection



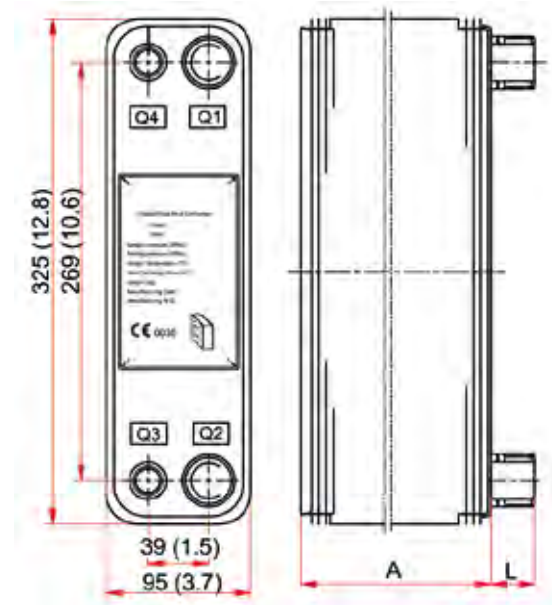
Maximum Connection 1"1/4

Ekin Industrial provides exchangers with various threaded and welded connection.

Brazed Plate Heat Exchanger MB - 06



MB - 06 can be copper-brazed or nickel-brazed plate heat exchanger. The material of plate can be 316L or SM0254.



Parallel flow

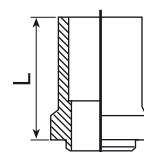
Brazed Plate Heat Exchanger MB - 06

Plate Number	A (mm)	Weight (kg)	Volume (L) Q1 Q2 side / Q3 Q4 side	Heat exchanger area (m2)
n	9+15n	1.0+0.09n	0.28x1/2n / 0.28 x 1/2 (n-2)	(n-2) 0.030

Parameters

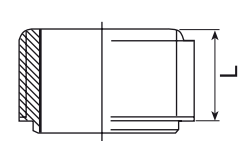
Design Pressure	30 bar (A type) 40 bar (B type)
Test Pressure	48 bar (A type) 60 bar (B type)
Design Temperature	-196 ~ +200°C
Plate Type	H
Heat Load	3~30 KW
Number of max. plates	150

Welded Connection



Maximum Connection 1"3/8

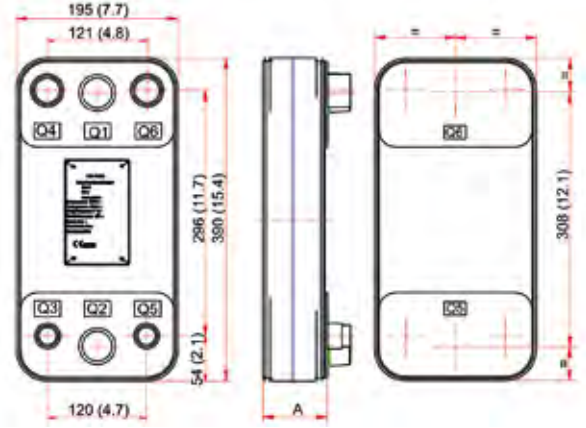
Threaded Connection



Maximum Connection 1"1/4

Ekin Industrial provides exchangers with various threaded and welded connection.

Brazed Plate Heat Exchanger MB - 07



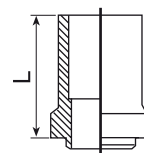
Brazed Plate Heat Exchanger MB - 07

Plate Number	A (mm)	Weight (kg)	Volume (L) Q1 Q2 side / Q3 Q6=Q4 Q5 side	Heat exchanger area (m ²)
n	10+2n	1.8+0.23n	0.094x1/2n / 0.094 x 1/4 (n-2)	(n-2) 0.048

Parameters

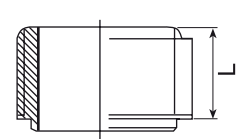
Design Pressure	30 bar
Test Pressure	45 bar
Design Temperature	-196 ~ +200°C
Plate Type	H
Heat Load	30-80 KW
Number of max. plates	118

Welded Connection



Maximum Connection 1"5/8

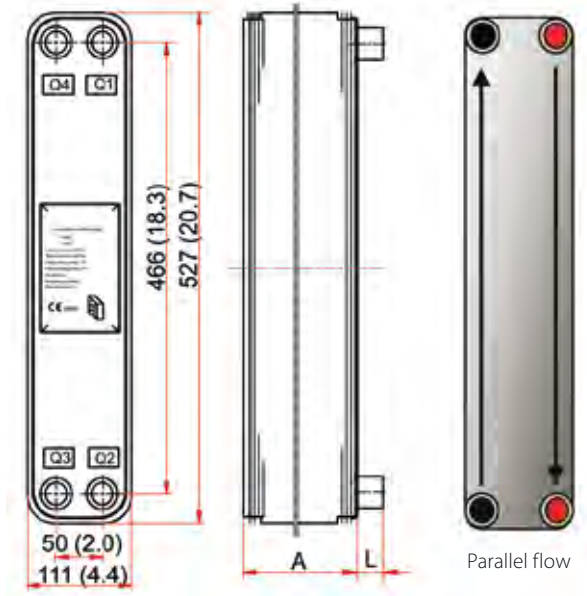
Threaded Connection



Maximum Connection 1"1/2

Ekin Industrial provides exchangers with various threaded and welded connection.

Brazed Plate Heat Exchanger MB - 08



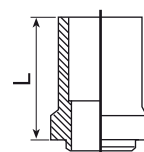
Brazed Plate Heat Exchanger MB - 08

Plate Number	A (mm)	Weight (kg)	Volume (L) Q1 Q2 side / Q3 Q4 side	Heat exchanger area (m2)
n	9+24n	1.8+0.23n	0.094x1/2n / 0.094 x 1/2 (n-2)	(n-2) 0.050

Parameters

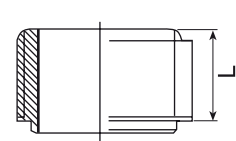
Design Pressure	30 bar (A type) 40 bar (B type)
Test Pressure	45 bar (A type) 60 bar (B type)
Design Temperature	-196 ~ +200°C
Plate Type	H. L. M.
Heat Load	10-60 KW
Number of max. plates	150

Welded Connection



Maximum Connection 1"5/8

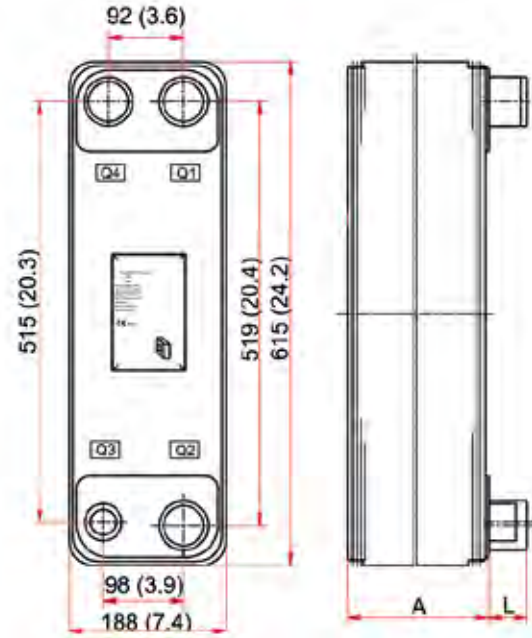
Threaded Connection



Maximum Connection 1"1/2

Ekin Industrial provides exchangers with various threaded and welded connection.

Brazed Plate Heat Exchanger MB - 09



Parallel flow

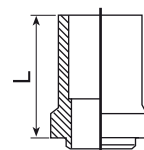
Brazed Plate Heat Exchanger MB - 09

Plate Number	A (mm)	Weight (kg)	Volume (L) Q1 Q2 side / Q3 Q4 side	Heat exchanger area (m2)
n	10+24n	4.6+0.41n	0.25x1/2n / 0.25 x 1/2 (n-2)	(n-2) 0.095

Parameters

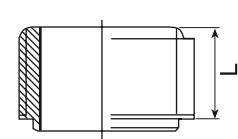
Design Pressure	30 bar (A type) 32 bar (B type)
Test Pressure	45 bar (A type) 48 bar (B type)
Design Temperature	-196 ~ +200°C
Plate Type	H. L. M.
Heat Load	30-200 KW
Number of max. plates	200

Welded Connection



Maximum Connection 2"1/8

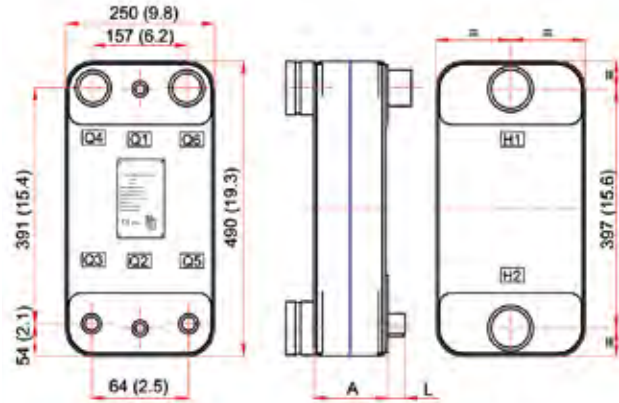
Threaded Connection



Maximum Connection 2"

Ekin Industrial provides exchangers with various threaded and welded connection.

Brazed Plate Heat Exchanger MB - 10



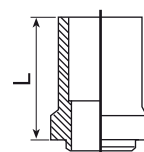
Brazed Plate Heat Exchanger MB - 10

Plate Number	A (mm)	Weight (kg)	Volume (L) Q1 Q2 side / Q3 Q6=Q4 Q5 side	Heat exchanger area (m2)
n	76+23n	6.5+0.386n	0.16x1/2n / 0.16 x 1/4 (n-2)	(n-2) 0.113

Parameters

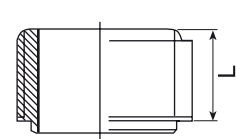
Liquid side design pressure	25 bar
Cooler side design pressure	34.5 bar
Liquid side testing pressure	37.5 bar
Cooler side test pressure	52 bar
Design Temperature	-198 ~ +200°C
Plate Type	H
Heat Load	60-200 KW
Number of max. plates	198

Welded Connection



Maximum Connection 2"5/8

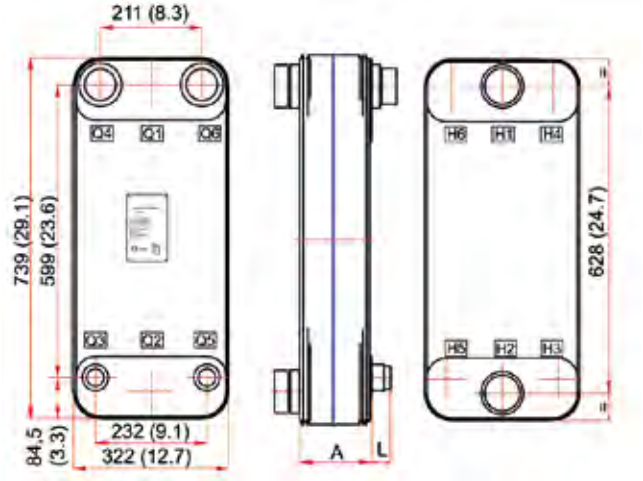
Threaded Connection



Maximum Connection 2"1/2

Ekin Industrial provides exchangers with various threaded and welded connection.

Brazed Plate Heat Exchanger MB - 11



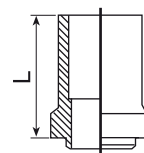
Brazed Plate Heat Exchanger MB - 11

Plate Number	A (mm)	Weight (kg)	Volume (L) Q1 Q2 side / Q3 Q6=Q4 Q5 side	Heat exchanger area (m ²)
n	13+28n	13+0.8n	0.4x1/2n / 0.4 x 1/4 (n-2)	(n-2) 0.210

Parameters

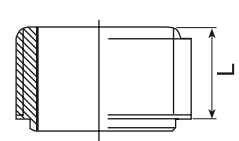
Liquid side design pressure	25 bar
Cooler side design pressure	30 bar
Liquid side testing pressure	37.5 bar
Cooler side test pressure	45 bar
Design Temperature	-196 ~ +200°C
Plate Type	H
Heat Load	150-450 KW
Number of max. plates	250

Welded Connection



Maximum Connection 3"1/8

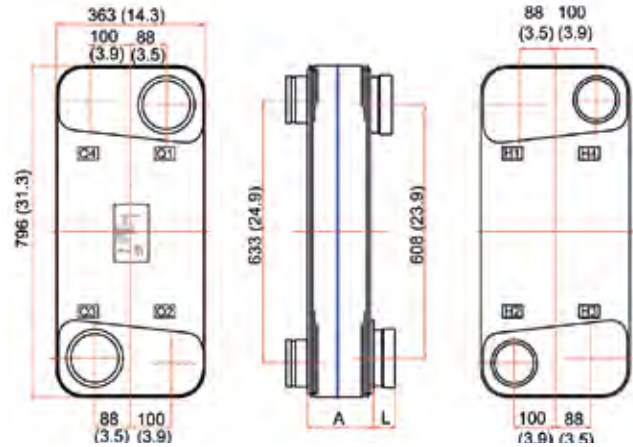
Threaded Connection



Maximum Connection 3"1/8

Ekin Industrial provides exchangers with various threaded and welded connection.

Brazed Plate Heat Exchanger MB - 12



Diagonal flow

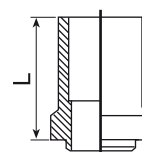
Brazed Plate Heat Exchanger MB - 12

Plate Number	A (mm)	Weight (kg)	Volume (L) Q1 Q2 side / Q3 Q6=Q4 Q5 side	Heat exchanger area (m ²)
n	13+28n	135+0.97n	0.6x1/2n / 0.6 x 1/4 (n-2)	(n-2) 0.260

Parameters

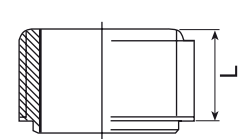
Liquid side design pressure	25 bar
Liquid side testing pressure	37.5 bar
Design Temperature	-196 ~ +200°C
Plate Type	H
Heat Load	150-450 KW
Number of max. plates	250

Welded Connection



Maximum Connection 4"

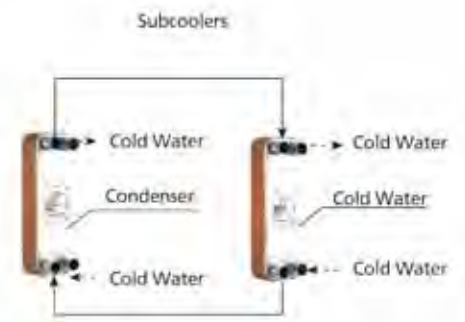
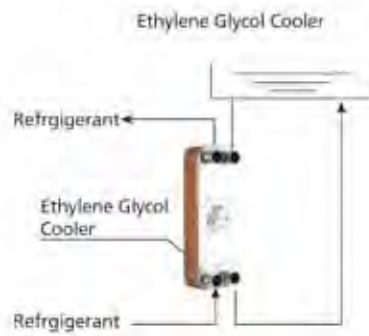
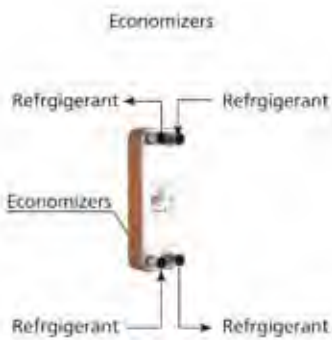
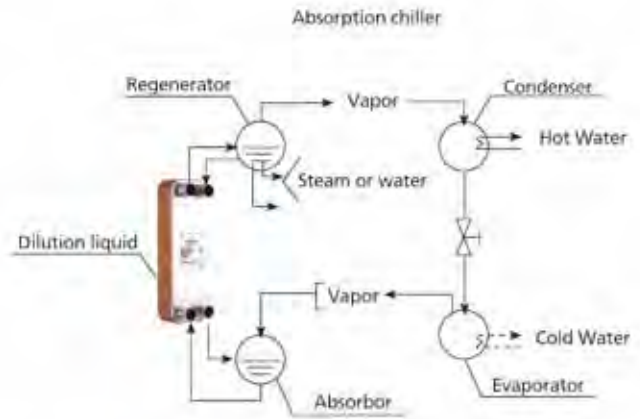
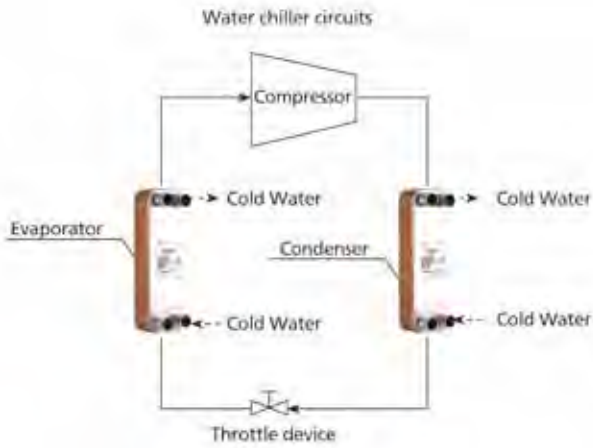
Threaded Connection



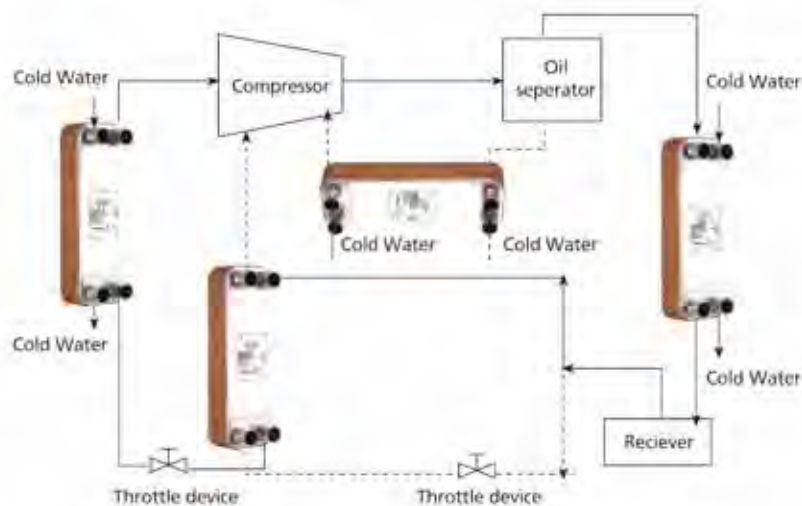
Maximum Connection 4"

Ekin Industrial provides exchangers with various threaded and welded connection.

Cooling

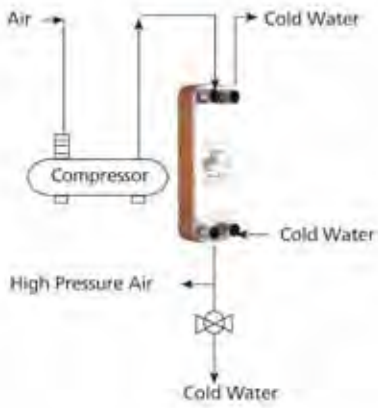


Refrigerate return circuits

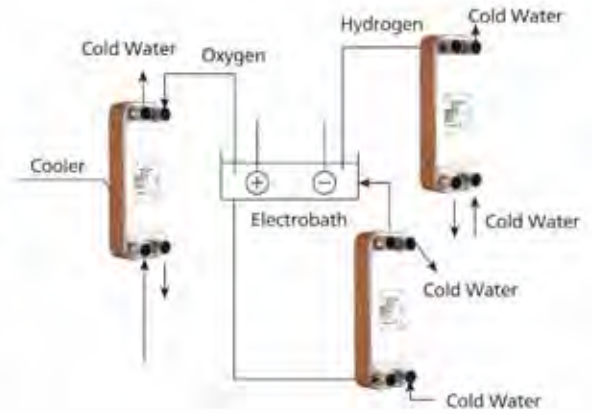


Cooling

Air Dryers for Compressed Air

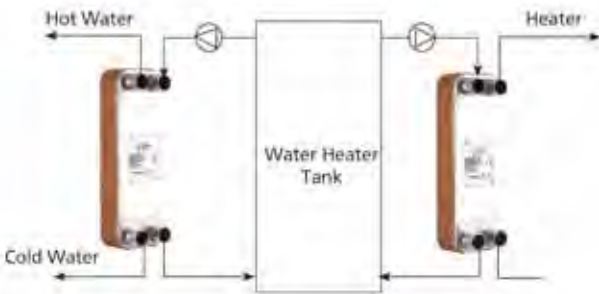


Hot circulation dryer circuit

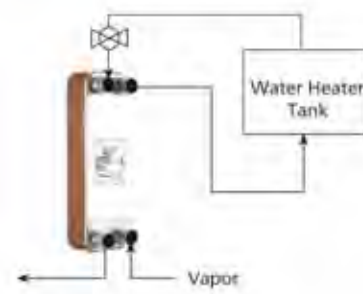


Heating

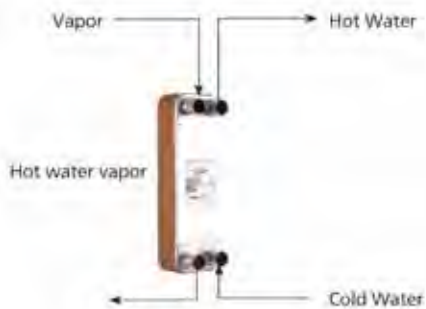
Hot water or heating system



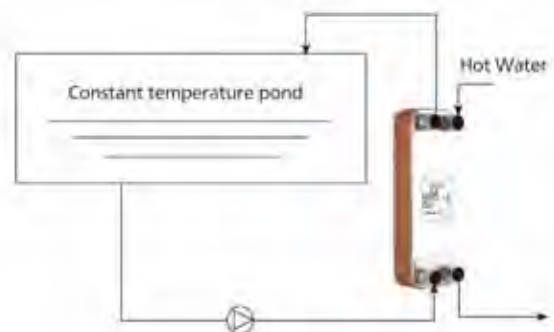
Hot water supply by water heater tank



Hot water supply by vapor heater



District heating



Brazed Plate Heat Exchanger

MB Series Brazed Plate Heat Exchanger



Description

Heat exchangers are used to exchange heat between two fluids. Plate heat exchangers are high performance components and provide a high level of efficiency combined with compact dimensions and low weight. Their efficiency reduces the amount of cooling water required for heat transfer which results in low operating costs.

Features

Plates and connections are manufactured from stainless steel to AISI 316, 1.4401, vacuum-brazed with copper. The special moulding of the plates produces the turbulent flow necessary for effective heat transfer and provides the plate heat exchanger with a high level of mechanical strength.

Operating Details

Medium:

- Water glycol (coolants)
- HFC operating fluids
- Water
- Oil

Contamination:

The quantity of particles in suspension should be less than 10 mg/l. Particle size < 0.6 mm. (spherical). Thread-like particles cause a rapid rise in pressure drops.

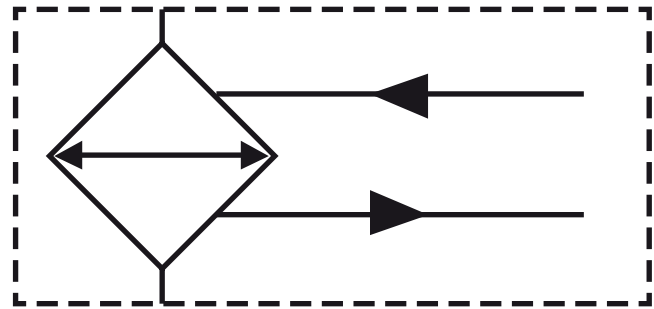
Temperature Range:

- 50°C to 437°F (10° to 225°C)
(freezing point and boiling point must be taken into consideration!)

Pressure:

- max. 49 psi (3 bar) (static) up to 257°F (125°C)
- max. 435 psi (30 bar) (static) up to 437°F (225°C)
- test pressure: 650 psi

Hydraulic Symbol



AIB cooler element bypass option for high viscosity applications.

Corrosion

The following limits refer to a pH value of 7

- free chlorine, CL₂ < 0.5 ppm
- chloride ions CL
< 700 ppm at 20°C
< 200 ppm at 50°C

Other limits

- pH 7 - 10
- Sulphate SO₄²⁻ < 100 ppm
- [HCO₃⁻] / [SO₄²⁻] > 1
- ammonia, NH₃ < 10 ppm
- free CO < 10 ppm

The following ions are not corrosive under normal conditions: phosphate, nitrate, nitrite, iron, manganese, sodium and potassium.

Applications



Brazed Plate Heat Exchanger

MB Series Brazed Plate Heat Exchanger

Model Code

Series											MB-05	10	C1
MB-05													
MB-08													
MB-09													
Number of Plates													
	10	20	30	40	50	60	70	80	100	120			
MB-05	x	x	x	x	x	x	x		x	x			
MB-08	x	x	x	x	x	x		x					
MB-09		x	x	x	x	x		x	x				
Connections													
C1	=	1"	NPT Male x 4	MB-05									
C1	=	1"	NPT Male x 4	MB-08									
C2	=	2"	NPT Male x 4	MB-09									

Pipes must be connected so that the connections are stress free.

Linear expansion and vibrations from the pipes to the heat exchanger must be avoided.

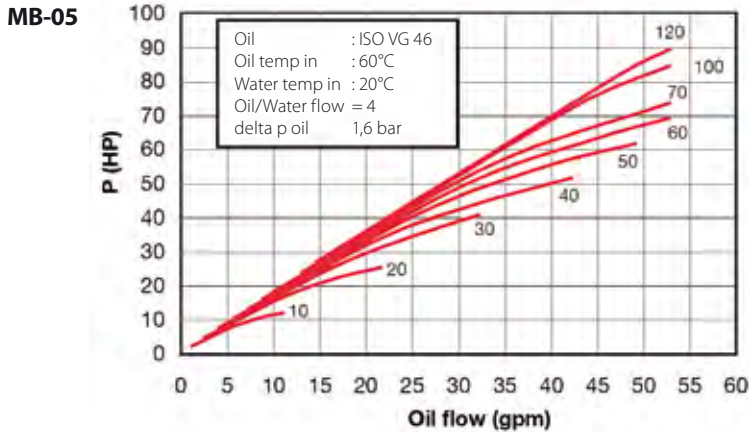
Pressure drop across heat exchanger

This table is based on an ISO VG45 oil at 130°F and shows the pump flows with the 1,800 RPM motors. If other grades of oil are to be used, consult the sizing software. When using the 72 psi clogging indicator the pressure drop should not exceed 15 psi max. across the heat exchanger. When using the 29 psi clogging indicator the pressure drop should not exceed 30 psi max. across the heat exchanger.

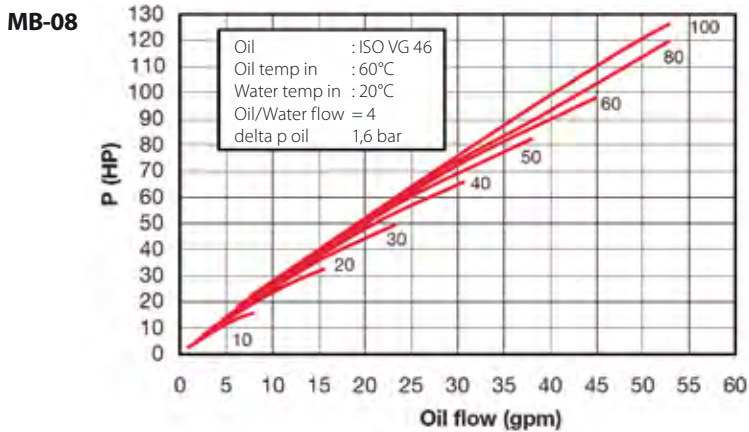
Heat Exchanger Size	Pump 3.5 1.6 gpm (6.3 l/min)	Pump 7.33 7.33 gpm (12.6 l/min)	Pump 10.475 10.475 gpm (18 l/min)	Pump 15.7 15.7 gpm (18 l/min)	Pump 20.95 20.95 gpm (18 l/min)	Pump 20.95 20.95 gpm (18 l/min)	Pump 30.145 30.145 gpm (55 l/min)	Pump 40.185 40.185 gpm (70 l/min)	Pump 50.235 50.235 gpm (90 l/min)	Pump 70.34 70.34 gpm (130 l/min)	Pump 100.475 100.475 gpm (180 l/min)
MB-05	3	5	8	-	-	-	-	-	-	-	-
MB-05	1	2	3	5	7	7	13.66	-	-	-	-
MB-05	-	-	-	2	3	3	735	9.85	13.4	-	-
MB-05	-	-	-	-	-	-	5.65	754	1027	1619	-
MB-05	-	-	-	-	-	-	4.1	5.2	7	11.1	168
MB-05	-	-	-	-	-	-	3	3.8	4.9	7.6	1166
MB-05	-	-	-	-	-	-	2.55	3.25	4.2	6.35	9.8
MB-08	4	9	15	-	-	-	-	-	-	-	-
MB-08	2	3.3	5	9	13	13	-	-	-	-	-
MB-08	-	-	-	4	5	5	1325	178	-	-	-
MB-08	-	-	-	-	-	-	8.15	10.8	14.75	-	-
MB-08	-	-	-	-	-	-	5.95	7.75	10.5	16.6	-

Brazed Plate Heat Exchanger

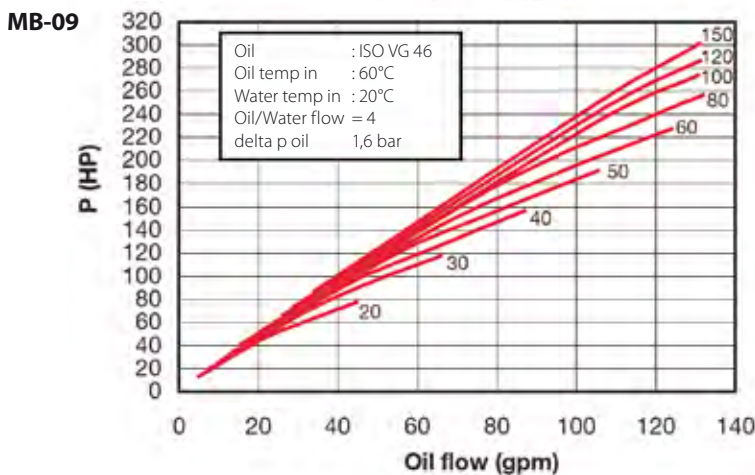
MB Series Technical Data



Number of plates (N)	H=10 + Nx2.4	lbs
10	34	2.5
20	58	3.8
30	82	5.1
40	106	6.3
50	130	7.7
60	154	9
70	178	10.3
100	250	14.2
120	298	16.8



Number of plates (N)	H=10 + Nx2.4	lbs
10	34	4.2
20	58	6.5
30	82	8.8
40	106	11
50	130	13.5
60	154	16.1
80	202	20.2



Number of plates (N)	H=10 + Nx2.85 (mm)	lbs
20	67	15.7
30	95.5	20.2
40	124	24.5
50	152.5	29
60	181	33.4
80	238	42
100	295	51

The cooling capacity is also dependent on the viscosity class. At a lower viscosity class the cooling capacity increases, at a higher viscosity class it decreases. In order to make an accurate calculation, the following details are required:

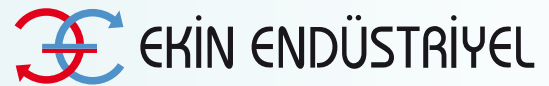
- type of oil
- permissible tank temperature
- required outlet temperature of the oil or necessary cooling capacity
- inlet temperature of the water and maximum water quantity.

Selection Program

The cooler selection program calculates the correct heat exchanger in the case of non-standard operating data. Please contact our technical sales department.



Apartment and Local Heating Network Transfer Stations



Apartment and Local Heating Network Transfer Stations

MIT Apartment and Local Heating Network Transfer Stations, combines the economy provided by central heating systems with the advantage of determining independently comfort conditions offered by individual systems. Thus, this system which significantly reduces energy consumptions, helps also to provide an individual sharing in central system fuel consumptions. Mounted in flat entrances, supplied directly with central hot water boiler, MIT Transfer Station prevent pressure differences in intra-apartmental heating installations as well as the problems which can emerge.

“Comfort and independent usage” era in central heating systems

The Building Energy Performance Regulation (BEP) obligated the use of a central heating system in residential buildings which have numerous independent parts. MIT Transfer Stations that enables sharing energy consumption costs for different usage choices and quantities of central systems with high energy efficiency; can be easily applied both in new built and existing buildings.

With its compact design, it occupies a small space and can be mounted to the wall. It is a charming solution which provides modern, energy efficiency, high comfort for central heating systems.



System Features

There is no boiler in boiler room, but instead of this, domestic hot water is produced in these units with exchanger at the flat entrances. These units involve the compact heat exchanger which instantly provides hot water and the differential pressure control valve that provides balance distribution of water between the radiators and the exchanger.

Different control courses can be pursued in apartment and local heating network transfer stations:

- Direct: Controls can only be made with differential pressure control elements and optionally, the help of control valves which are controlled by programmable thermostats.

Technical Parameters:

Nominal Pressure	: PN 16
Heating Line Temperature	: Max. 120°C
Min. Domestic Cold Water Pressure	: Pmin = 0,5 Bar
Exchanger Material	: AISI316 Stainless Steel
Pipes	: AISI316 Stainless Steel
Primary Circuit Pressure Loss	: 25-35 Kpa



The Advantages of Apartment and Local Heating Network Transfer Stations

- MIT apartment and local heating network transfer stations eliminate the disadvantages of the systems in which domestic hot water is obtained with central boiler. For instance it provides no need for hot water recirculation line, by saving boiler and pump spaces, to evaluate these spaces in a different way.
- It can be used with all kinds or combination of fuel used by central systems.
- It is adequate to install three pipe lines as heating delivery line, heating return line and cold water line.
- As the water is not stored and obtained in the time of need, it eliminates the risk of legionella.



- Thanks to thermostatic mixing valve, hot water is protected at the settled value.
- Thanks to thermostatic valve, overheating in exchanger is prevented.
- There is no risk of electricity short circuit and gas leaks.
- The room temperature can be controlled independently.
- As it does not require maintenance, service cost is low.
- Due to the calorimeter which can be integrated to the system, a fair billing between flats is provided.
- The risk of bacterial and lime formation is minimized.
- It can be specially designed and produced upon the individual need.



POINTS SAVED DURING THE INVESTMENT:

- There is no need for:
- Boilers and meters,
- Exchanger,
- The water meter, as the domestic and heating hot are fed from the same line,
- Sanitary pipes, circulation pumps and globe valves,
- Balancing valves and strainers as it takes place within the unit.
- Flue (architecturally important)



The Working Principle of Apartment and Local Heating Network Transfer Stations

Transfer Stations are units where one part of the water coming from the central boiler room provides heating, the other part heats the domestic water coming from the hydrophore by passing from exchanger.

As it operates on a “domestic hot water priority basis”, it offers a more comfortable hot water usage than boiler systems. Even in sudden and variable domestic hot water need, it provides water at intended flow and constant temperature.

The order followed during system design is as below:

- Flow for pump and pipe sizing
- The boiler or regional heating capacity
- The volume of reserve tank

The total flow relies on the speed of the heating system flow and determined through the primer feeding flow required for the exchanger. The maximum flow is seen in summer or winter depending on the parameters. When determining pipe diameters, equivalence factor and primary domestic hot water need in winter must be taken into consideration. If the domestic hot water control valve turns off mechanically the radiator/ floor thermal feeding system, 100 % need for domestic hot water need is apparent. If a valve that does not have mechanical balance feature is used in this line, it must be properly evaluated if domestic hot water will be of first priority or not.



The Components Which Compose Apartment and Local Heating Network Transfer Stations

HEAT EXCHANGER

The exchanger which is situated within the station, provides the domestic hot water obtained through passing the hot water coming from boiler room from the exchanger and heating city water.

Plate exchangers are devices that work based on generating heat transfer principle between two different fluids which have temperature difference. They are completely separated from each other with fluid plates which will heat and fluid plates which will be heated. Plate exchangers in transfer station applications; are the main equipments for domestic hot water.



THERMOSTATIC MIXING VALVE Thermostatic valve provides the domestic hot water, obtained by heating the cold water coming from city line in the exchanger, to go to the taps at the constant temperature. Besides, as temperature value can be regulated to the preferred level, boiling because of overtemp water reached to the tap is prevented. Moreover, as in floor heating systems, hot water coming from the central boiler room is not wanted to go directly to the floor heating line, the temperature is fixed at the required value with thermostatic mixing valve.



THERMOSTATIC VALVE

Thermostatic valve provides the domestic hot water, obtained by heating the cold water coming from city line in the exchanger, to go to the taps at the constant temperature.

Besides, as temperature value can be regulated to the preferred level, boiling because of overtemp water reached to the tap is prevented. It provides proportional work without the need for an external energy.



DIFFERENTIAL PRESSURE (ΔP) CONTROL VALVE

It is used in order to control the differential pressure at the radiator line.

One of its functions is; through generating an extra pressure in the radiator line according to the exchanger line, to orient the heating water to the exchanger when consumption occurs in the domestic water line. Thanks to this ΔP controlled valve, a parallel work between radiator and exchanger is provided. Thus, all the system is balanced and inter-floor pressure differences are prevented.



PM REGULATOR

When a usage in any flow at the mains line is subject, it orients the heating line to the exchanger in a proportional way according to the flow quantity. By controlling the pressure on the heating line, it performs sort of a balancing valve. When the use of hot water is ended, the flow from the central heating boiler room to the exchanger is interrupted and calcification in the exchanger is prevented.



The Components Which Compose Apartment and Local Heating Network Transfer Stations

IHPT THERMOSTATIC ROTARY VALVE

When a usage in any flow at the mains line is subject, it orients the heating line to the exchanger in a proportional way according to the flow quantity. Through its thermostatic control, it can fix domestic hot water at a constant temperature. Thus, legionella bacteria and boiling risks on the taps are prohibited.



CALORIMETER

It calculates the fair fuel consumption regarding each flat's usage quantity through calculating thermal loss of hot water coming from central boiler room in the exchanger and within the flat, and thanks to the M-BUS system, it is possible to monitoring, billing, even limiting the usage from a single center.



ROOM THERMOSTAT

The motorized valve within the station is controlled in such a way that provides comfort temperature in the flat thanks to the room thermostat, the flow rate of the hot water coming from the central boiler room is regulated proportionally with room thermostat control and extra saving and ease of use is provided in our economic system.



TEMPERATURE LIMITING VALVE FOR RETURN WATER

It provides the hot water coming from the central boiler room rising at the constant temperature when it exists from the exchanger. Thus, high efficiency is provided thanks to the low return temperature. Moreover, it insures the exchanger to stay always hot by providing a standing flow within the exchanger.



COLD WATER METER

It calculates the use of the water coming from mains before being conducted directly to the exchanger and taps, and as there is no need for and extra space in the installation, space saving is provided and our heat station is made compact. Besides, consumption quantity can be read through the meter and it can be remotely read or billed with M-BUS system.



COLLECTOR GROUPS

Before the hot water coming from the central boiler room is conducted to the heating line, it can be separated with delivery and return collector in order to have equal pressure in all the radiators within the flat. Including collector groups within the heat station, beside providing space advantage, removes the crowd at the flat entrance installation.



EQUIPMENTS THAT CAN OPTIONALLY BE ADDED TO THE PROJECT:

- Cutting valve
- Strainer
- Strainer at the mains water inlet
- Collector groups
- Room thermostats
- Hot water recirculation line and pump
- Thermostatic three-way mixing valve for floor heating
- Frequency controlled pump
- Cooling line
- Calorimeter
- Cold water meter
- Closed cabinet

STANDARD UNIT COVERAGE

- Galvanized or stainless steel installation sheet
- Plate exchanger
- Thermostatic valve
- Differential pressure (dP) control valve
- Rotary valves
 - IHPT Thermostatic Rotary Valve
 - Accelerator
 - PM Regulator

Types

MIT-FSD-001

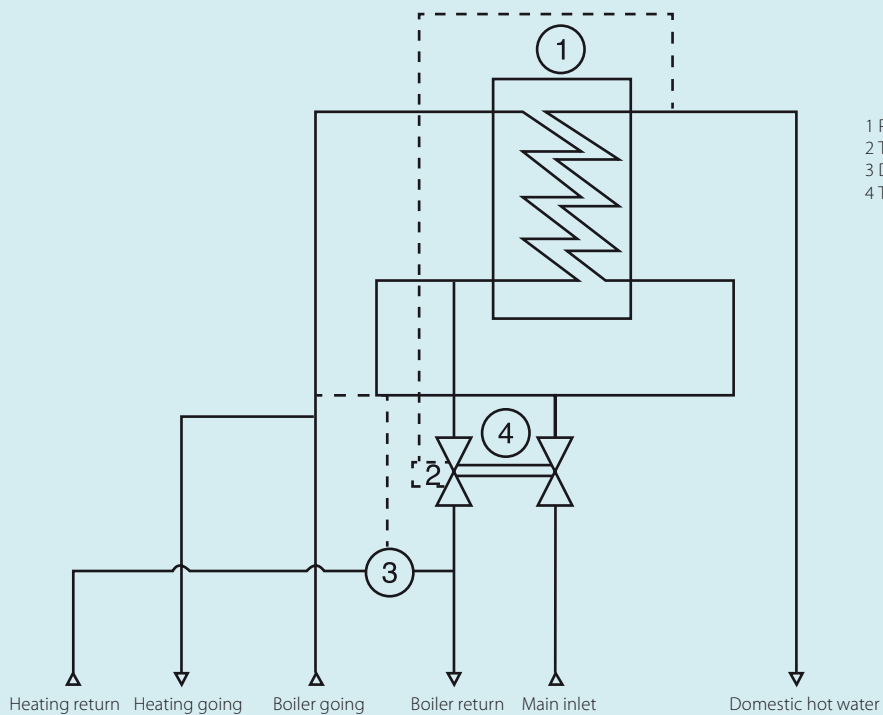


EQUIPMENT LIST:

- 1) Exchanger Primer 70-50 / seconder 10-45
 - 35 kW MIT MB-04-14 Plate Exchanger
 - 45 kW MIT MB-04-16 Plate Exchanger
 - 65 kW MIT MB-04-20 Plate Exchanger
 - 80 kW MIT MB-04-24 Plate Exchanger
- 2) Thermostatic valve
- 3) Differential Pressure Valve
- 4) Thermostatic Rotary Valve

CAPACITY SAMPLES

Capacity (kW)	Primary Circuit Temperature (°C)	Secondary Circuit Temperature (°C)	Secondary Flow Rate (lt/min)
35	70-50	10-45	14,39
45	70-50	10-45	18,54
65	70-50	10-45	26,73
80	70-50	10-45	32,80



Types

MIT-FSE-001

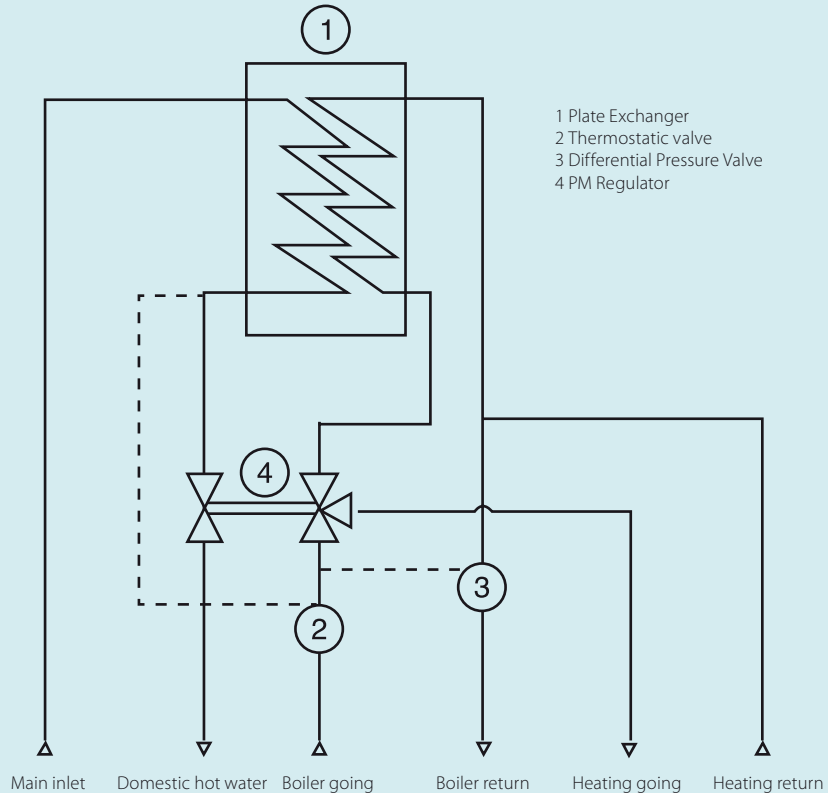


EQUIPMENT LIST:

- 1) Exchanger Primer 70-50 / seconder 10-45
 - 35 kW MIT MB-04-14 Plate Exchanger
 - 45 kW MIT MB-04-16 Plate Exchanger
 - 65 kW MIT MB-04-20 Plate Exchanger
 - 80 kW MIT MB-04-24 Plate Exchanger
- 2) Thermostatic valve
- 3) Differential Pressure Valve
- 4) PM Regulator

CAPACITY SAMPLES

Capacity (kW)	Primary Circuit Temperature (°C)	Secondary Circuit Temperature (°C)	Secondary Flow Rate (lt/min)
35	70-50	10-45	14,39
45	70-50	10-45	18,54
65	70-50	10-45	26,73
80	70-50	10-45	32,80



Types

MIT-FSDH-007

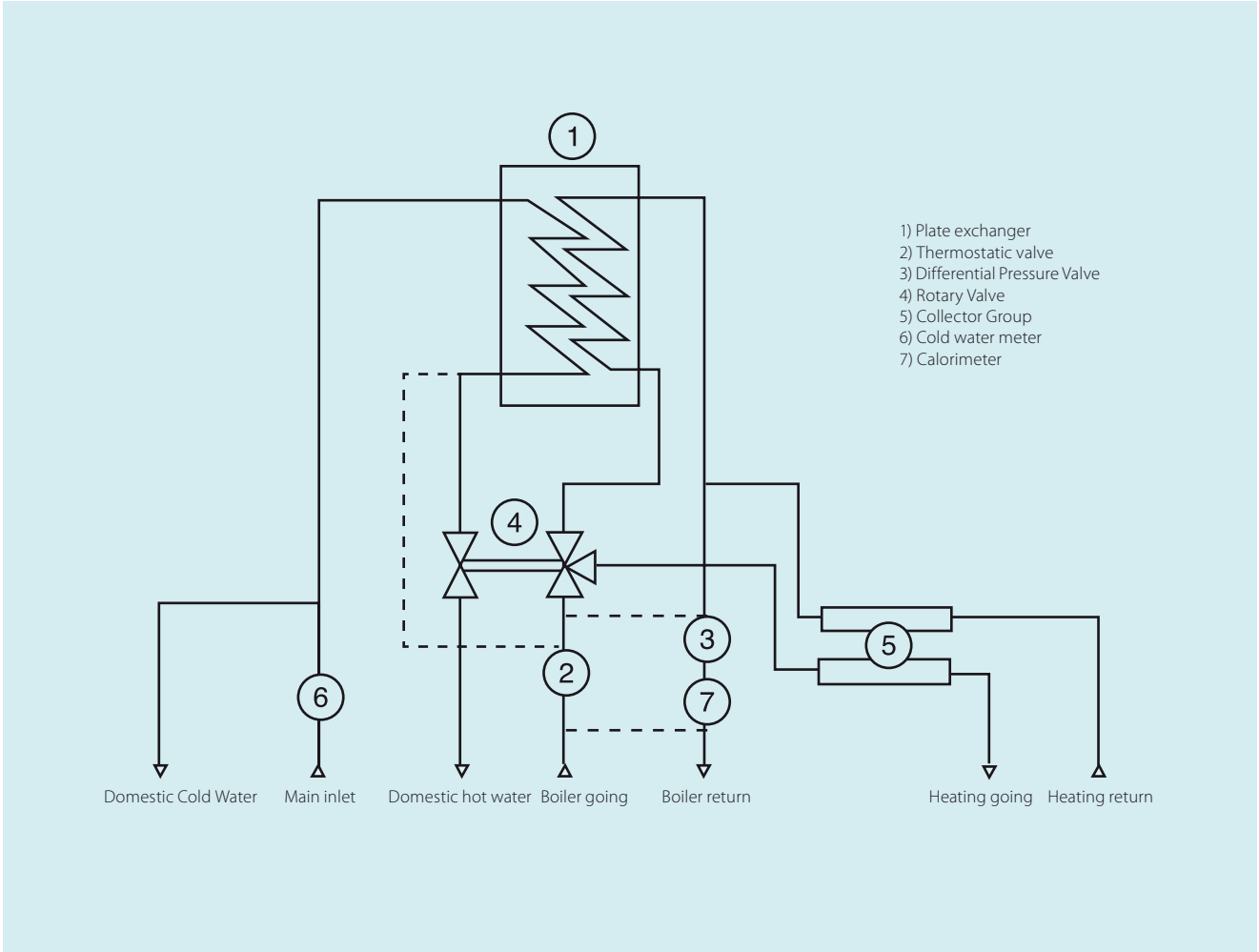


EQUIPMENT LIST:

- 1) Exchanger Primer 70-50 / seconder 10-45
 - 35 kW MIT MB-04-14 Plate Exchanger
 - 45 kW MIT MB-04-16 Plate Exchanger
 - 65 kW MIT MB-04-20 Plate Exchanger
 - 80 kW MIT MB-04-24 Plate Exchanger
- 2) Thermostatic valve
- 3) Differential Pressure Valve
- 4) Rotary Valve
- 5) Collector Group
- 6) Cold Water meter
- 7) Calorimeter

CAPACITY SAMPLES

Capacity (kW)	Primary Circuit Temperature (°C)	Secondary Circuit Temperature (°C)	Secondary Flow Rate (lt/min)
35	70-50	10-45	14,39
45	70-50	10-45	18,54
65	70-50	10-45	26,73
80	70-50	10-45	32,80



Types

MIT-FSED-001

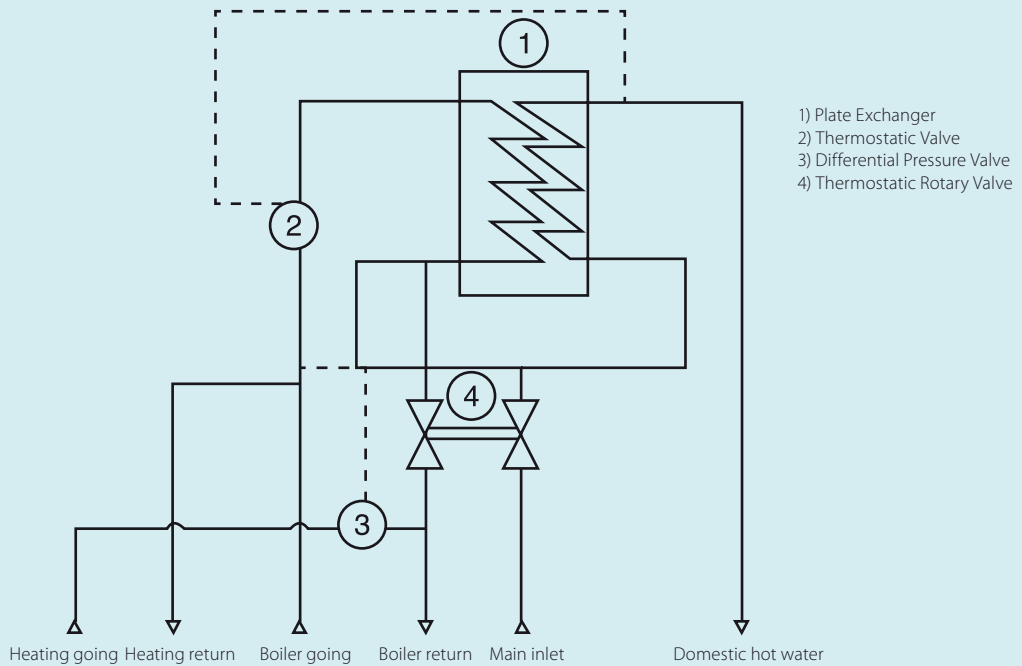


EQUIPMENT LIST:

- 1) Exchanger Primer 70-50 / seconder 10-45
 - 35 kW MIT MB-04-14 Plate Exchanger
 - 45 kW MIT MB-04-16 Plate Exchanger
 - 65 kW MIT MB-04-20 Plate Exchanger
 - 80 kW MIT MB-04-24 Plate Exchanger
- 2) Thermostatic Valve
- 3) Differential Pressure Valve
- 4) Thermostatic Rotary Valve

CAPACITY SAMPLES

Capacity (kW)	Primary Circuit Temperature (°C)	Secondary Circuit Temperature (°C)	Secondary Flow Rate (lt/min)
35	70-50	10-45	14,39
45	70-50	10-45	18,54
65	70-50	10-45	26,73
80	70-50	10-45	32,80



Types

MIT-FSE-009

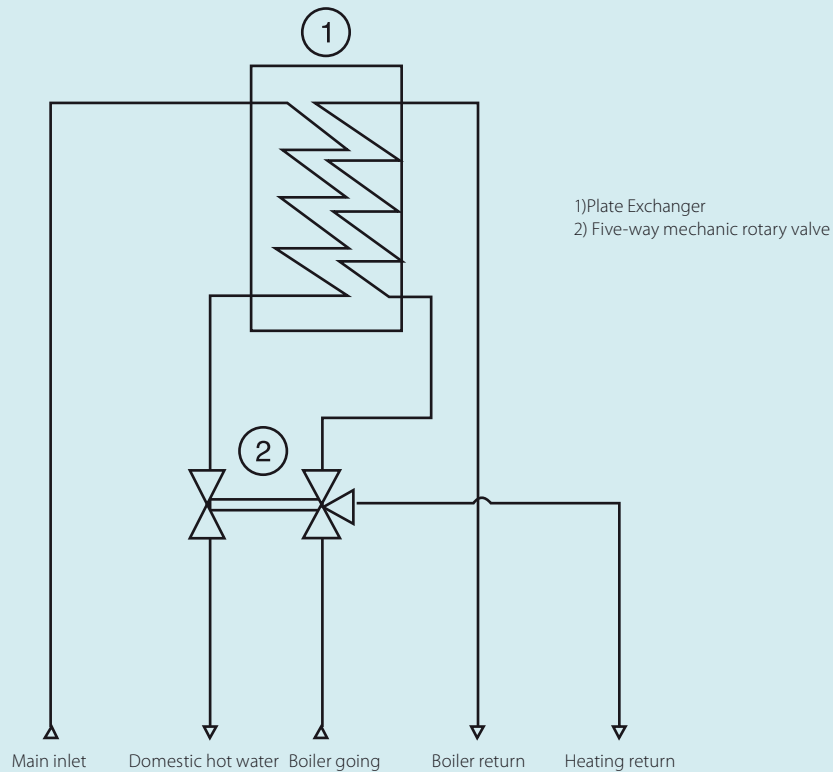


EQUIPMENT LIST:

- 1) Exchanger Primer 70-50 / seconder 10-45
 - 35 kW MIT MB-04-14 Plate Exchanger
 - 45 kW MIT MB-04-16 Plate Exchanger
 - 65 kW MIT MB-04-20 Plate Exchanger
 - 80 kW MIT MB-04-24 Plate Exchanger
- 2) Five-way mechanic rotary valve

CAPACITY SAMPLES

Capacity (kW)	Primary Circuit Temperature (°C)	Secondary Circuit Temperature (°C)	Secondary Flow Rate (lt/min)
35	70-50	10-45	14,39
45	70-50	10-45	18,54
65	70-50	10-45	26,73
80	70-50	10-45	32,80



Types

MIT-FSE-020

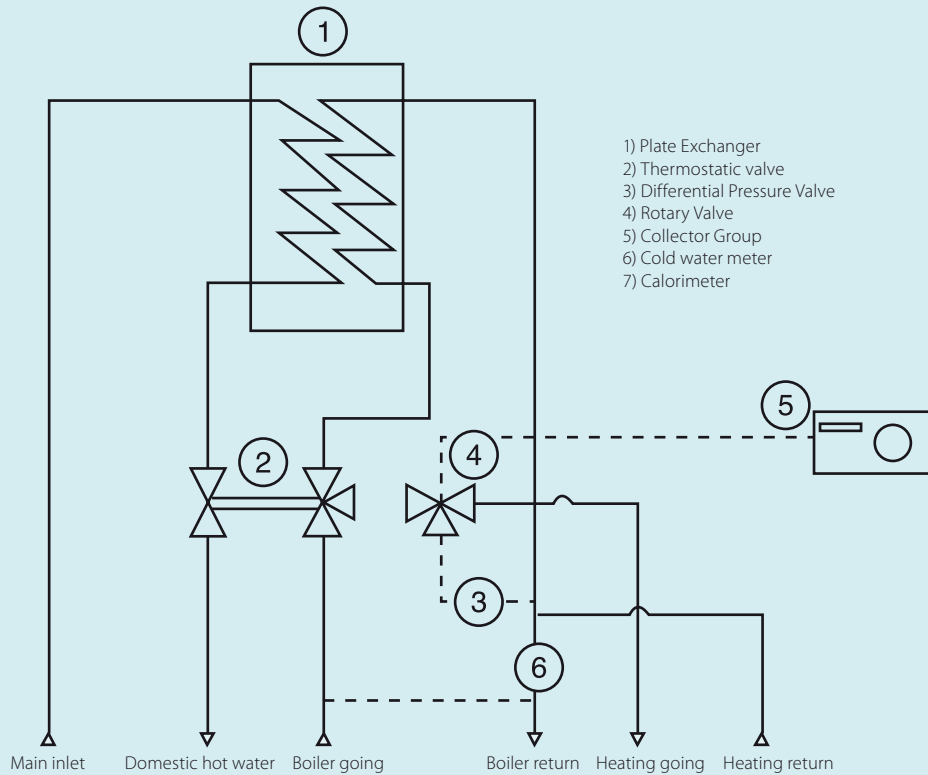


EQUIPMENT LIST:

- 1) Exchanger Primer 70-50 / seconder 10-45
 - 35 kW MIT MB-04-14 Plate Exchanger
 - 45 kW MIT MB-04-16 Plate Exchanger
 - 65 kW MIT MB-04-20 Plate Exchanger
 - 80 kW MIT MB-04-24 Plate Exchanger
- 2) Thermostatic valve
- 3) Differential Pressure Valve
- 4) Rotary Valve
- 5) Collector Group
- 6) Cold water meter
- 7) Calorimeter

CAPACITY SAMPLES

Capacity (kW)	Primary Circuit Temperature (°C)	Secondary Circuit Temperature (°C)	Secondary Flow Rate (lt/min)
35	70-50	10-45	14,39
45	70-50	10-45	18,54
65	70-50	10-45	26,73
80	70-50	10-45	32,80



Heat Station Model List



Model Collector	Balancing Valve		Thermostatic Valve		Calorimeter		Cold water Meter	Mixing Valve	Circulation Pump	Group
	Dynamic	Static	Thermostatic PM Control	Thermostatic +PM Regulator	Ultrasonic	Mechanic				
MIT-FSD-001	●		●							
MIT-FSD-002	●		●			●				
MIT-FSD-003	●		●		●					
MIT-FSD-004	●		●			●	●	●	●	
MIT-FSD-005	●		●		●		●	●	●	
MIT-FSD-006	●		●			●	●			●
MIT-FSD-007	●		●		●		●			●



Model Collector	Balancing Valve		Thermostatic Valve		Calorimeter		Cold water Meter	Mixing Valve	Circulation Pump	Group
	Dynamic	Static	Thermostatic PM Control	Thermostatic +PM Regulator	Ultrasonic	Mechanic				
MIT-FSE-001	●			●						
MIT-FSE-002	●			●		●				
MIT-FSE-003	●			●	●					
MIT-FSE-004	●			●		●	●	●	●	
MIT-FSE-005	●			●	●		●	●	●	
MIT-FSE-006	●			●	●		●			●
MIT-FSE-007	●			●		●	●			●

Heat Station Model List



Model	Balancing Valve		Thermostatic Valve	PM Regulator	Five-way Mechanic Valve	Mechanic Calorimeter	Cold Water Meter	Room Thermostat	Circulation Pump
	Dynamic	Static							
MIT-FSE-008				●					
MIT-FSE-009					●				
MIT-FSE-010			●		●				
MIT-FSE-011			●	●					
MIT-FSE-012		●	●		●				
MIT-FSE-013		●	●	●					
MIT-FSE-014				●				●	
MIT-FSE-015					●			●	
MIT-FSE-016		●		●				●	
MIT-FSE-017		●			●			●	
MIT-FSE-018		●	●	●		●	●		
MIT-FSE-019		●		●		●	●	●	
MIT-FSE-020					●	●		●	
MIT-FSE-021				●		●		●	
MIT-FSE-022						●		●	●
MIT-FSE-023		●				●		●	●



Services

Services

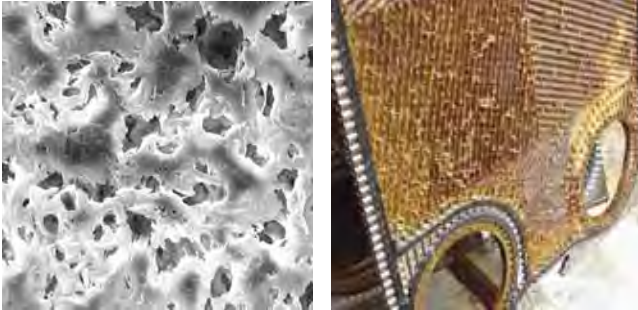


Heat exchangers, no matter which brand or model needs maintenance in time. That is shouldn't considered as a weakness of them. On the contrary, it happens from working conditions never create perfect conditions. Under these unprovided conditions SERVICE and MAINTENANCE is necessary to avoid disadvantages. To give a few examples for a detailed examination of environmental conditions and the difficulties mentioned.

Calcification:

Calcification is the biggest problem not only for plate heat exchangers but also it is for pipes, valves and even for all fitment. In our country almost all aqua source is limy. Against calcification new solutions is searching everyday and trying to hider this problem. Neither electromagnetic parts nor chemicals could block it exactly. Due to the the continuously variable fluid temperature and narrower fluid channels than other channels, the effects of calcification occurs more quickly and more effectively. Effects of calcification for plate heat exchangers:

- narrowing of the flow channels
- increase in pressure loss
- reduction of heat transfer



Lime is the most difficult type of pollution than other pollutants to clean. After the first grip, lime molecules multiply rapidly with accumulate top of each other as shown in the above photograph. Calcification increases with increasing amounts of lime. The most effective solution way to clean lime is completely disassembling plates of heat exchanger and cleaning with special chemicals separately.

An expert service team of Ekin Industrial provides your heat exchanger first day performance wheter in place or a fully equipped service area of Ekin Industrial with lime solvent solutions for your calcification problems.

Deposit Formation:

Deposit formation is directly related to the amount of pollution inside the fluid which is passed through the heat exchanger. To give an example of this pollution and ways of formation;

The dust which been in the surrounding air that used at the open cooling tower systems is drawn by the force of the cooling tower fan to cooled water and This powder dissolves in water and sent to installation.

Deposit formation begin in the heating installations over years, despite boiler and plumbing lines work of a closed system. Broken particles from line pipe is the reason of this deposit formation. In fact it could be solid particles which fleeing to system during revisions. The most effective solution way to deposit formation is completely disassembling plates of heat exchanger and cleaning with special chemicals separately.

Problems may be occur at heat exchanger as a result of deposit formation is;

- excessive pressure loss at system
- reduction on heat transfer
- narrowing of the flow channels



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Calcification:

The most common problem of heat exchanger is leakage out of the fluid which passing through the heat exchanger. Source of leaks is generally gaskets problem that been sealing member. These problems may occur kind of different. Gaskets may lose their sealing feature in time depending variable pressure and temperature. Also leaks may occur for a reason of wrong assembly at first mounting. With over-pressure fluctuations, fluid may throw out from safety channels located at the mouth of gaskets. To troubleshoot leaks may need gaskets replacement of partially or completely or disassembled and re-seating of the heat exchanger gaskets.



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Deposit Formation:

Another encountered problem of heat exchanger is mixing of two fluids which passing heat exchanger. Mixing problem is the biggest problem that encountered on heat exchangers. Only reason of mixing is puncture of plates. Such as factors that extremely corrosive fluids, complete operation life of the plates, ram pulse of the steam exchangers is the main cause of puncture of the plate. Mixing problem is not about gaskets. The only solution way of the mixing problem is remove or change the plate which caused problem. Problem plate may identify with eye but for the most accurate result may get with penetration test.

In penetration test, expendable two different color penetration dye squeeze two different side of plate and wait for expansion. Expanded dye passes to the other side when finds any hole and changes the colour of the other dye for its colour. So that leakage point is found.

Mixing problem may cause problems that indicated below:

- Oil - water mixing and deterioration of the characteristics of the oil at the oil cooling systems
- Sea water mixing with fresh water in the sea-water exchangers and it is damage to plumping elements
- With the installation of extra water to steam boiler, pressure increases on the steam heat exchangers.
- Mixing of boiler water with usage water depending on the pressure on the hot water heat exchangers or mixing of boiler water with usage water increases boiler pressure

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Problems and Solutions on the Heat Exchanger Systems;

EXCHANGERS FOR DOMESTIC HOT WATER

Problem:

- Can not producing enough water or no water are being produce.

Solution:

- Make sure that connection of heat exchanger is true.
- Make sure that sending hot water or steam from boiler to heat exchanger.
- It could be air tightness because of hot water side works in a closed circuit, make sure that there is running air-venting system on the highest point of the system.
- Turn off the other valves on the collector, if hot water line feeding from collector to feed heat exchanger and then to heat direct the water exchanger.
- If you have 3-way or 3-way proportional valve on the heat exchangers hot water supply line make sure that valves directs hot water to heat exchanger.
- Make sure the pumps is working and supplying enough flowrate.
- Do not forget hot water will arrive late at systems that has not recirculation line.
- Make sure that using check valve for avoid repulse on main water connection at the recirculation line systems.
- At accumulation tank system, make sure that there is a circulation line in operation between tank and heat exchanger.



Problem:

- The two fluid passing through heat exchanger is mixing.

Solution:

- One or more plates may be drilled. Mixing problem is not about gaskets.
- Turn off all input and output valves of heat exchanger. Contact with service department.

EXCHANGER FOR HEATING OR COOLING CIRCUIT;

Problem:

- Can not get enough temperature radiators or fan-coils.

Solution:

- Make sure that connection of heat exchanger is true.
- Make sure that sending hot water or steam from boiler to heat exchanger.
- Make sure cooling heat exchanger group has sufficient amount and degree of water.
- It could be air tightness because both of each sides of system running closed loop, make sure that there is running air-venting system on the highest point of the system.
- If you have 3-way or 3-way proportional valve on the heat exchangers hot water supply line make sure that valves directs hot water to heat exchanger.
- Turn off the other valves on the collector, if hot water line feeding from collector to feed heat exchanger and then direct the water to heat exchanger.
- Make sure the pumps is working and supplying enough flow rate

Problem:

- Heat exchanger leaking out water.

Solution:

- Control the tightening measure of between two outer body of the heat exchanger is not more than described at front sticker. If there is differences, bring to a minimum distance between two body.

Problem:

- Heat exchanger is not working as performed as first day.

Solution:

- Calcium deposit may have occurred blokage in time due to excessive lime waters at heat exchanger. Heat exchanger must be dissembled and must removed scaling.
- Due to the contamination, heat exchanger installation may have been collected and blokaged caused by dirt. Heat exchanger must be dissembled and must cleaned.
- Strainer in pipping may be clogged. Make sure the strainer is clean.
- Make sure that is there any change on capacity of pumps.

Problem:

- Heat exchanger leaking out water.

Solution:

- Control the tightening measure of between two outer body of the heat exchanger is not more than described at front sticker. If there is differences, bring to a minimum distance between two body.

Problem:

- Heat exchanger is not working as performed as first day.

Solution:

- Due to the contamination, heat exchanger installation may have been collected and blokaged caused by dirt. Heat exchanger must be dissembled and must be cleaned.
- Strainer in pipping may be clogged. Make sure the strainer is clean.
- Make sure that is there any change on capacity of pumps.



Problems and Solutions on the Heat Exchanger Systems;

Problem:

- The two fluid passing through heat exchanger is mixing.

Solution:

- One or more plates may be drilled. Mixing problem is not about gaskets.
- Turn off all input and output valves of heat exchanger. Contact with service department.

STEAM SYSTEM EXCHANGERS

Problem:

- Cannot getting enough temperature from hot water side.

Solution:

- Make sure that connection of heat exchanger is true.
- Make sure that sending enough steam rate from steam boiler to heat exchanger.
- It could be air tightness because of hot water side works in a closed circuit, make sure that there is running air-venting system on the highest point of the system.
- Make sure there is running thermostatic valve on the heat exchanger.
- Make sure steam and condensate is selected true and in operation.

Problem:

- Detonation sounds is heard while heat exchanger running.

Solution:

- There is ram stroke in heat exchanger. Plates and gaskets can be deformed in short time by ram stroke. Therefore shut down the system and turn off the valves.
- Control that is condensate tank lower than the lowest point of heat exchanger. If not, please revise in this manner.
- Make sure that is the steam pressure which comes from steam installation has a higher value than technical detail which reported.

Problem:

- Heat exchanger leaking out water.

Solution:

- Control the tightening measure of between two outer body of the heat exchanger is not more than described at front sticker. If there is differences, bring to a minimum distance between two body.

Problem:

- The two fluid passing through heat exchanger is mixing.

Solution:

- One or more plates may be drilled. Mixing problem is not about gaskets.
- Turn off all input and output valves of heat exchanger. Contact with service department.





Accumulation Tanks and Water Heater Tanks



MIT Accumulation Tanks and Water Heater Tanks

MIT, one of the most known and preferred brands of Turkey, has been continuing creating new ideas and developments to the sector. Ekin Industrial aims to develop its product range and the most concrete proof of this determination is MIT Accumulation Tanks and Water Heater Tanks.

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.



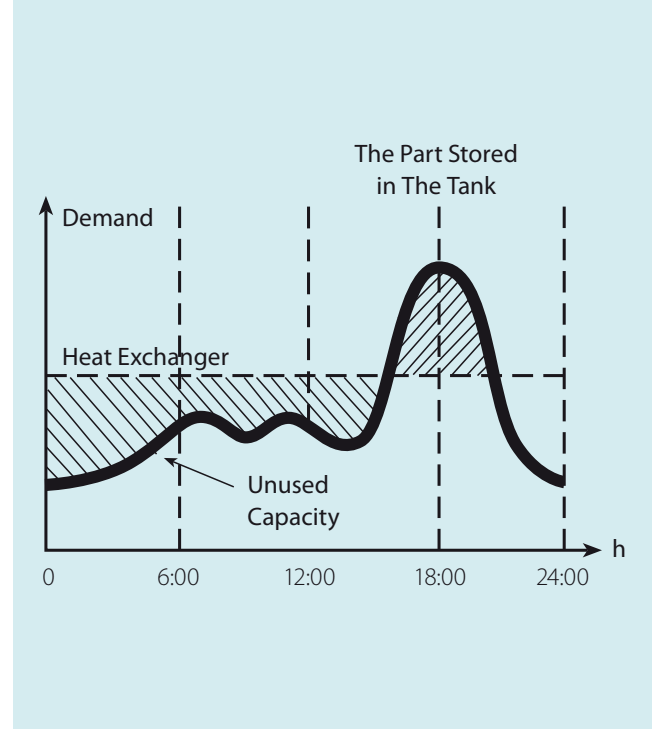
Where are the Accumulation Tanks Used?

Accumulation Tanks are used with plate heat exchangers to get utility water in community life areas such as, buildings, hotels, dorms and public administration.

In that kind of places, the utility hot water demand reaches its highest value in certain times of the day. In other words, the demand peaks. On the other hand, it stays under the average required flow in the other times of the day. That is why, all taps are considered as open at the same time and so the accumulation tank is needed in the circuit.

USAGE AREAS:

- Apartment
- Single Houses,
- Hospitals,
- Dorms,
- Sport Centers,
- Factories,
- Public Buildings , shortly in every place where hot water is required, accumulation tanks are used.



Accumulation Tanks are available from 100 lt to 10.000 lt and in different capacities

Standard accessories in material delivery:

- Anode bar
- Temperature indicator (thermometer)

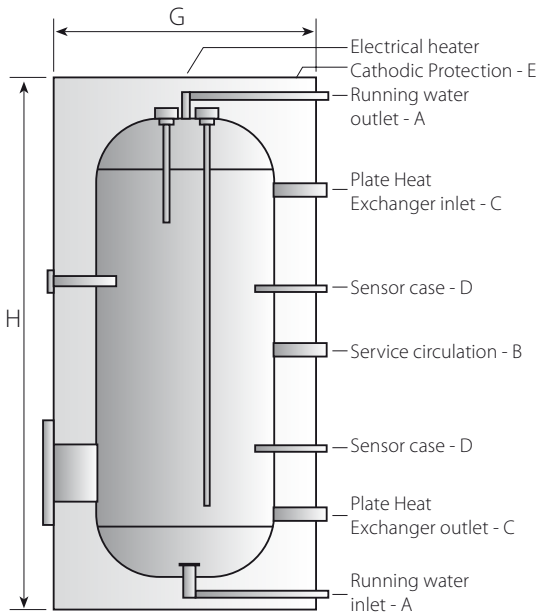
Accessories that can be included upon customer's demand:

- If required, safety valve can be assembled to tanks.
- Also, accumulation tanks in capacity of 500 liters or more are manufactured with electrical panelboard, if required.



Horizontal or Vertical Types

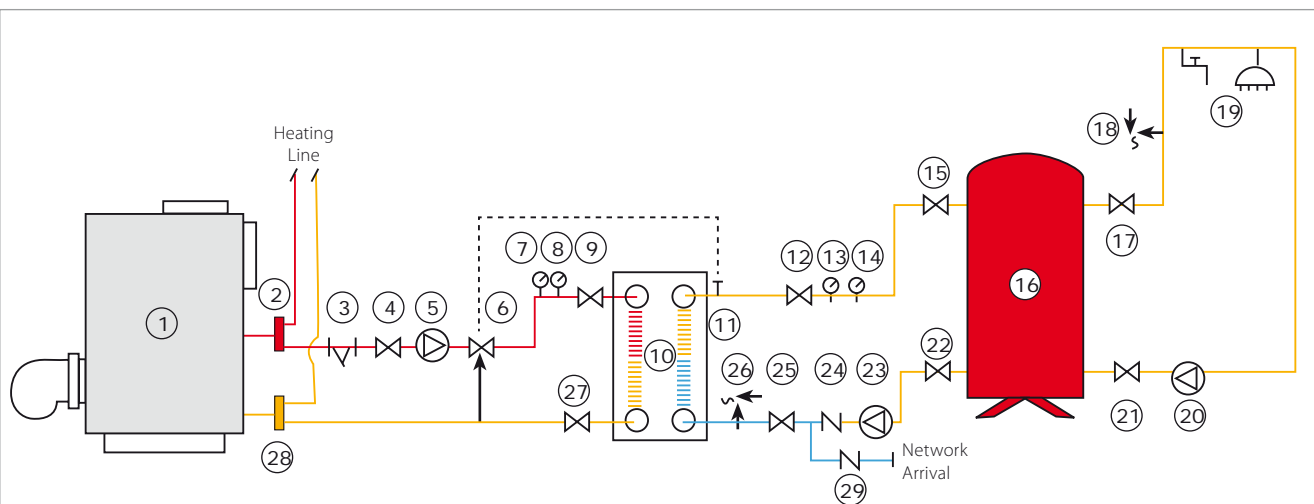
Accumulation Tanks



Model	MAT100	MAT160	MAT200	MAT300	MAT350	MAT400	MAT500	MAT600
Diameter (mm)	490	590	590	700	750	750	750	750
Height (mm)	1080	1125	1320	1210	1325	1450	1800	2040
In - Out Diameters	1"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"
Circulation	1"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"
Weight (kg)	55	68	80	105	125	135	165	180

Model	MAT800	MAT1000	MAT1500	MAT2000	MAT3000	MAT4000	MAT5000
Diameter (mm)	900	1000	1120	1260	1460	1660	1660
Height (mm)	2100	2070	2300	2230	2750	2480	2980
In - Out Diameters	1 1/2"	1 1/2"	1 1/2"	1 1/2"	3"	3"	3"
Circulation	1 1/2"	1 1/2"	1 1/2"	1 1/2"	2"	2"	2"
Weight (kg)	250	270	420	485	630	940	1080

Accumulation Tank Connection Scheme

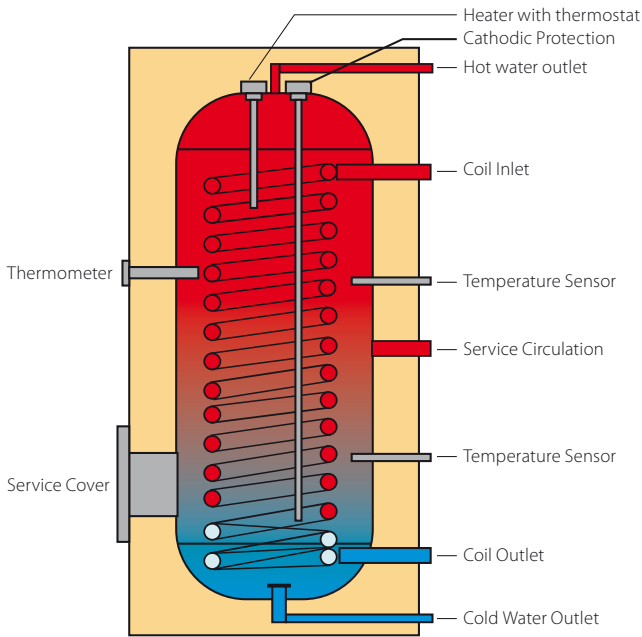


- | | | | |
|-----------------------------|------------------------|-----------------------|-------------------------|
| 1) Boiler | 8) Manometer | 15) Valve | 22) Valve |
| 2) Leaving Collector | 9) Valve | 16) Accumulation Tank | 23) Pump |
| 3) Dirt Holder | 10) Heat Exchanger | 17) Valve | 24) Check Valve |
| 4) Valve | 11) Temperature Sensor | 18) Safety Valve | 25) Valve |
| 5) Pump | 12) Valve | 19) Usage Areas | 26) Safety Valve |
| 6) Three Way Rational Valve | 13) Thermometer | 20) Pump | 27) Valve |
| 7) Thermometer | 14) Manometer | 21) Valve | 28) Returning Collector |
| | | | 29) Check Valve |

MIT Water Heater Tanks

Single Coiled Fast Water Heater Tanks:

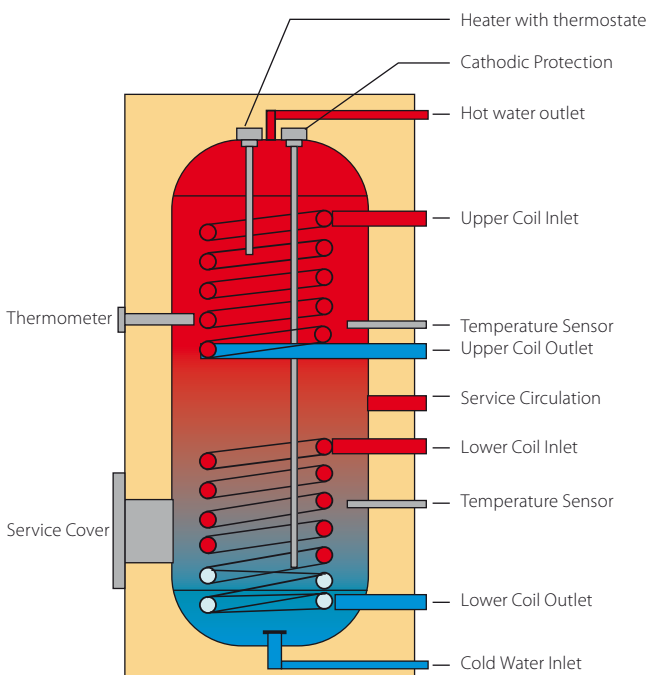
Single Coiled Fast Water Heater Tanks is used in single heat source systems (burner or solar energy with solid/liquid/gas fuel) to acquire hot water.



MIT Water Heater Tanks

Double Coiled Fast Water Heater Tanks:

Double Coiled Fast Water Heater Tanks is used in double heat source systems (burner or solar energy with solid/liquid/gas fuel) to acquire hot water.



Single Coil Water Heater Dimensions Chart

Model	MTB100	MTB160	MTB200	MTB300	MTB350	MTB400	MTB500	MTB600
Diameter (mm)	490	590	590	700	750	750	750	750
Height (mm)	1080	1125	1320	1210	1325	1450	1800	2040
Cold water inlet-outlet	3/4"	3/4"	3/4"	1"	1"	1"	1"	1"
Coils, inlet-outlet	1"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"
Coil surface area (m ²)	0,6	1,18	1,42	1,58	1,75	1,75	2,45	2,45
Weight (kg)	75	100	110	130	160	175	230	240

Model	MTB800	MTB1000	MTB1500	MTB2000	MTB3000	MTB4000	MTB5000
Diameter (mm)	900	1000	1120	1260	1460	1660	1660
Height (mm)	2100	2070	2300	2230	2750	2480	2980
Cold water inlet-outlet	1 1/4"	1 1/4"	1 1/4"	1 1/4"	2"	2 1/2"	2 1/2"
Coils, inlet-outlet	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/2"	1 1/2"
Coil surface area (m ²)	2,95	2,95	3,9	4,65	6,95	8,45	9,95
Weight (kg)	300	320	515	590	800	1200	1330

Water Heater Tank Types

A. Epoxy Painted Water Heater Tanks

Material: St 37 First Quality sheet metal is covered with epoxy die after sandblasting.

Insulation:

- Removable Type Polyurethane
- Solid Polyurethane
- Glass Wool
- Rock Wool

Advantages:

- More Suitable Prices Compared To Other Types
- Very Fast Delivery
- High Pressure Resistant
- High Heat Saving



B. Galvanized Immersion Water Heater Tanks

Material: St 37 First Quality sheet metal is applied hot galvanized immersion.

Insulation:

- Removable Type Polyurethane
- Solid Polyurethane
- Glass Wool
- Rock Wool

Advantages:

- More Suitable Prices Compared To Other Types
- Fast Delivery
- High Pressure Resistant
- Low Thermal Conduction





Water Heater Tank Types

C. Stainless Steel Water Heater Tanks

Material: 304 L or 316 L

Insulation:

- Removable Type Polyurethane
- Solid Polyurethane
- Glass Wool
- Rock Wool

Advantages:

- Very High Corrosive Resistant
- Very Long Lasting
- High Pressure Resistant
- Low Thermal Conduction

MIT Water Heater Tank Capacities

- They are enamelled.
- They have cathodic protection.
- They are PU (polyurethane) isolated up to 800 liters.
- They are isolated with soft polyurethane foam over 800 liters.
- Welded tube with coil.
- They have a cleanout.
- They have thermometers on.
- Electrical heater can be assembled in required sizes.

Boiler Capacity (lt)	Heating Fluid Temperature	Heating Capacity (lt/h) 10°C-60°C	Heating Capacity (lt/h) 10°C-45°C
100	90-70 °C	480	720
	80-60 °C	330	540
	70-50 °C	230	380
160	90-70 °C	875	1450
	80-60 °C	650	1160
	70-50 °C	445	820
200	90-70 °C	1070	1760
	80-60 °C	890	1320
	70-50 °C	560	1050
300	90-70 °C	1220	1940
	80-60 °C	930	1490
	70-50 °C	590	1140
350	90-70 °C	1290	2180
	80-60 °C	980	1670
	70-50 °C	635	1280
400	90-70 °C	1290	2180
	80-60 °C	980	1670
	70-50 °C	635	1280
500	90-70 °C	1510	2480
	80-60 °C	1120	1860
	70-50 °C	725	1440
600	90-70 °C	1510	2480
	80-60 °C	1120	1860
	70-50 °C	725	1440
800	90-70 °C	1760	2850
	80-60 °C	1400	2250
	70-50 °C	830	1700
1000	90-70 °C	1760	2850
	80-60 °C	1400	2250
	70-50 °C	830	1700
1500	90-70 °C	2080	3350
	80-60 °C	1640	2640
	70-50 °C	970	2000
2000	90-70 °C	2380	3750
	80-60 °C	1840	2960
	70-50 °C	1090	2230
3000	90-70 °C	3020	5820
	80-60 °C	2200	4400
	70-50 °C	1200	2810
4000	90-70 °C	4120	6870
	80-60 °C	3020	5220
	70-50 °C	1780	3790
5000	90-70 °C	5430	8750
	80-60 °C	4230	6600
	70-50 °C	2225	4880

Boiler Capacity (lt)	Heating Fluid Temperature	Heating Capacity (lt/h) 10°C-60°C	Heating Capacity (lt/h) 10°C-45°C
160	90-70 °C	450	740
	80-60 °C	320	560
	70-50 °C	230	390
200	90-70 °C	630	960
	80-60 °C	380	730
	70-50 °C	300	500
300	90-70 °C	780	1190
	80-60 °C	560	790
	70-50 °C	360	570
350	90-70 °C	930	1380
	80-60 °C	730	830
	70-50 °C	410	610
400	90-70 °C	930	1380
	80-60 °C	730	830
	70-50 °C	410	610
500	90-70 °C	980	1740
	80-60 °C	770	1360
	70-50 °C	440	1040
600	90-70 °C	980	1740
	80-60 °C	770	1360
	70-50 °C	440	1040
800	90-70 °C	1150	1850
	80-60 °C	930	1450
	70-50 °C	550	1100
1000	90-70 °C	1150	1850
	80-60 °C	930	1450
	70-50 °C	550	1100
1500	90-70 °C	1290	2000
	80-60 °C	980	1540
	70-50 °C	635	1180
2000	90-70 °C	1470	2380
	80-60 °C	1120	1770
	70-50 °C	725	1380
3000	90-70 °C	2100	4250
	80-60 °C	1230	3210
	70-50 °C	910	1980
4000	90-70 °C	3050	4800
	80-60 °C	1730	4010
	70-50 °C	1260	2750
5000	90-70 °C	4100	6100
	80-60 °C	2800	5100
	70-50 °C	1700	3250

80°C 90-70 Boiler 70°C 80-60 Boiler 60°C Solar Energy



Closed Expansion Tanks

Closed Expansion Tanks



MIT 10 Bar Tank Footless & Horizontal Series

Technical Specifications of Closed Expansion Vessels



Model	Volume	Pre-Charged	Pressure Connection	Dimensions(mm)	
				Dia	Height
MIT 10 K	8 LT	2	1"	220	320
MIT 10 K	12 LT	2	1"	220	380
MIT 10 K	19 LT	2	1"	280	430
MIT 10 K	24 LT	2	1"	280	470
MIT 10 K	24 LT Globe	2	1"	360	325
MIT 10 K	35 LT	2	1"	380	470
MIT 10 K	50 LT	4	1"	380	560

Technical Specifications of Horizontal Closed Expansion Vessels



Model	Volume	Pre-Charged	Pressure Connection	Dimensions(mm)	
				Dia	Height
MIT 10 Y	24 LT	2	1"	280	470
MIT 10 Y	50 LT	4	1"	380	620
MIT 10 Y	60 LT	4	1"	380	670
MIT 10 Y	80 LT	4	1"	430	720
MIT 10 Y	100 LT	4	1"	460	800

MIT 10 Bar Vertical Tank Series

Technical Specifications of Vertical Closed Expansion Vessels



Model	Volume	Pre-Charged	Pressure Connection	Dimensions(mm)	
				Dia	Height
MIT 10	50 LT	4	1"	380	750
MIT 10	60 LT	4	1"	380	810
MIT 10	80 LT	4	1"	430	960
MIT 10	100 LT	4	1"	460	990
MIT 10	150 LT	4	1"	500	1100
MIT 10	200 LT	4	1 1/4"	590	1120
MIT 10	300 LT	4	1 1/4"	640	1230
MIT 10	500 LT	4	1 1/4"	750	1550
MIT 10	750 LT	4	2"	750	1950
MIT 10	750 LT	4	2"	800	1850
MIT 10	900 LT	4	2"	800	1950
MIT 10	1000 LT	4	2"	800	2180
MIT 10	1500 LT	4	2"	960	2380
MIT 10	2000 LT	4	2"	1100	2520
MIT 10	3000 LT	4	2 1/2"	1200	2800
MIT 10	4000 LT	4	3"	1450	3100
MIT 10	5000 LT	4	3"	1450	3720
MIT 10	10000 LT	4	DN 100	1600	5750

MIT 16 Bar Vertical Tank Series

Technical Specifications of Vertical Closed Expansion Vessels



Model	Volume	Pre-Charged	Pressure Connection	Dimensions(mm)	
				Dia	Height
MIT 16	50 LT	4	1"	380	750
MIT 16	60 LT	4	1"	380	810
MIT 16	80 LT	4	1"	430	960
MIT 16	100 LT	4	1"	460	990
MIT 16	150 LT	4	1"	500	1100
MIT 16	200 LT	4	1 1/4"	590	1120
MIT 16	300 LT	4	1 1/4"	640	1230
MIT 16	500 LT	4	1 1/4"	750	1550
MIT 16	750 LT	4	2"	800	1850
MIT 16	900 LT	4	2"	800	1950
MIT 16	1000 LT	4	2"	800	2180
MIT 16	1500 LT	4	2"	960	2380
MIT 16	2000 LT	4	2"	1100	2520
MIT 16	3000 LT	4	2 1/2"	1200	2800
MIT 16	4000 LT	4	3"	1450	3100
MIT 16	5000 LT	4	3"	1450	3720
MIT 16	10000 LT	4	DN 100	1600	5750

MIT 25 Bar Vertical Tank Series

Technical Specifications of Vertical Closed Expansion Vessels



Model	Volume	Pre-Charged	Pressure Connection	Dimensions(mm)	
				Dia	Height
MIT 25	50 LT	4	1"	380	750
MIT 25	60 LT	4	1"	380	810
MIT 25	80 LT	4	1"	450	910
MIT 25	100 LT	4	1"	450	990
MIT 25	150 LT	4	1"	500	1100
MIT 25	200 LT	4	1 1/4"	600	1120
MIT 25	300 LT	4	1 1/4"	640	1230
MIT 25	500 LT	4	1 1/4"	750	1550
MIT 25	750 LT	4	2"	800	1850
MIT 25	900 LT	4	2"	800	1950
MIT 25	1000 LT	4	2"	800	2180
MIT 25	1500 LT	4	2"	960	2380
MIT 25	2000 LT	4	2"	1100	2520
MIT 25	3000 LT	4	2 1/2"	1200	2800
MIT 25	4000 LT	4	3"	1450	3100
MIT 25	5000 LT	4	3"	1450	3720
MIT 25	10000 LT	4	DN 100	1600	5750

MIT Membrane Series

Technical Specifications of Membranes



Size and Capacity	Rubber Material	Flange (mm)	Height (mm)
MIT 8-12 LT	EPDM	80-110	195
MIT 18-24 LT	EPDM	80-110	248
MIT 35-60 LT	EPDM	80-110	315
MIT 80-100 LT	EPDM	80-110	700
MIT 150 LT	EPDM	80-110	750
MIT 200 LT	EPDM	150-210	800
MIT 300 LT	EPDM	150-210	1000
MIT 500 LT	EPDM	150-210	1400
MIT 750 LT	EPDM	150-210	1600
MIT 1000 LT	EPDM	200-250	2000
MIT 1500 LT	EPDM	200-250	2000
MIT 2000 LT	EPDM	200-250	2000
MIT 8-12 LT	BUTYL	80-110	195
MIT 18-24 LT	BUTYL	80-110	248
MIT 35-60 LT	BUTYL	80-110	315
MIT 80-100 LT	BUTYL	80-110	700
MIT 150 LT	BUTYL	80-110	750
MIT 200 LT	BUTYL	150-210	800
MIT 300 LT	BUTYL	150-210	1000
MIT 500 LT	BUTYL	150-210	1400
MIT 750 LT	BUTYL	150-210	1600
MIT 1000 LT	BUTYL	200-250	2000
MIT 1500 LT	BUTYL	200-250	2000
MIT 2000 LT	BUTYL	200-250	2000
MIT 3000 LT	BUTYL	150-210	2515
MIT 4000 LT	BUTYL	250-300	2680
MIT 5000 LT	BUTYL	150-210, 250-300	3440
MIT 10000 LT	BUTYL	150-210, 250-300	5655



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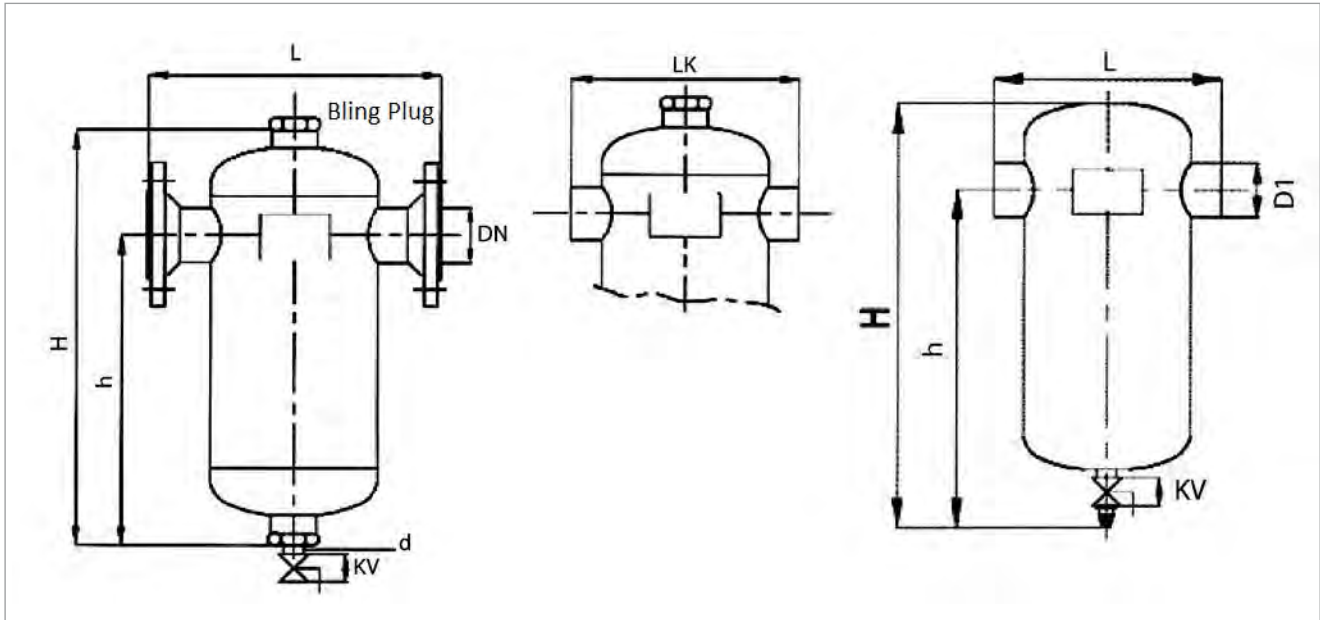


Separator Vessels

Separator Vessels



Sediment Separator



Dimensions (mm)					
DN	L	LK	H	h	d (KV)
50	300	270	475	330	1"
865	300	270	475	330	1"
80	400	360	600	400	1"
100	400	360	600	400	1"
125	600	520	8000	540	1"
150	600	520	800	540	1"
200	150	652	950	615	1"
250	850	750	1120	710	2"
300	950	850	1350	915	2"
350	1100	1000	1500	1050	2"
400	1200	1100	1700	1225	2"

Dimensions (mm)			
d1	L	H	h
1/2"	130	345	275
3/4"	130	345	275
1"	130	345	275
1¼	160	425	340
1½	160	425	340
2	160	425	340

Spherical Dirt Discharge Valve		
D	1"	2
KV	75 mm	40 mm



It is used to eliminate sediments and dirt in water coming from systems as well as corrosion, blockage and malfunctions.

**Threaded joint
(Central Heating Boiler System)**

Shell: St37 Steel
Tightness: PTFE

Assembly Information

Maximum Pressure: 10 Bar
Maximum Temperature: 110°C

Assembly Information

In heating systems: to boiler outlet
In cooling systems: to chiller inlet

Assembly Information

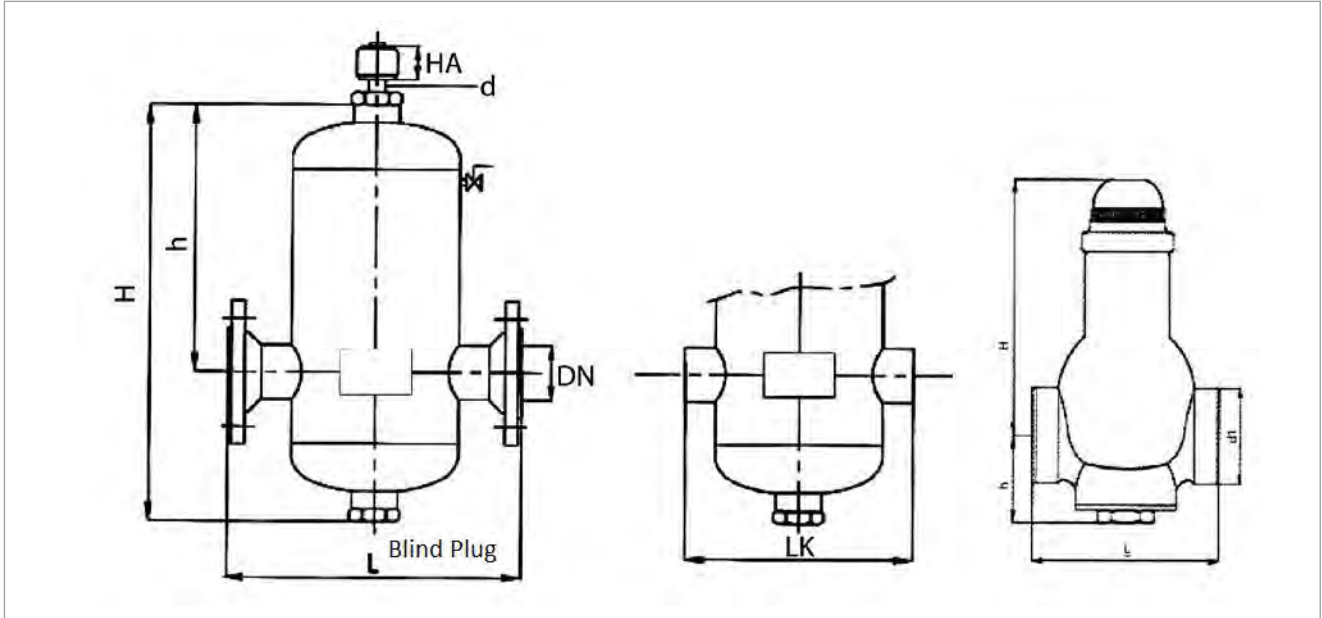
Maximum Pressure: 10 Bar
Maximum Temperature: 110°C

Material

Shell: St37 Steel
Separator: AISI 304

*Sizes are approximate thus may change. * Production is in accordance with the project and application sizes.

Air Separators



Dimensions (mm)					
DN	L	LK	H	h	d (HA)
50	300	270	475	330	1/2"
65	300	270	475	330	1/2"
80	400	360	600	400	1/2"
100	400	360	600	400	1/2"
125	600	520	800	540	1/2"
150	600	520	800	540	1/2"
200	750	625	950	615	3/4"
250	850	750	1120	710	3/4"
300	950	850	1350	915	1"
350	1100	1000	1500	1050	1"
400	1200	1100	1700	1225	1"

Air Vent			
DN	1/2"	3/4"	1"
DN	115 mm	156 mm	190 mm

Dimensions (mm)			
d1	L	H	h
1/2"	63	140	29
3/4"	69	143	33
1"	81	146	36
1¼"	93	145	41
1½"	111	156	45
2"	135	166	51



It is used to avoid damages that the present air in the installation could give to the system such as corrosion, cavitation and noise.

**Threaded joint
(Central Heating Boiler System)**

Shell; Brass, Nickel Plated
Tightness NBR

Assembly Information,
Maximum Pressure: 10 Bar
Maximum Temperature: 100°C

Assembly conditions

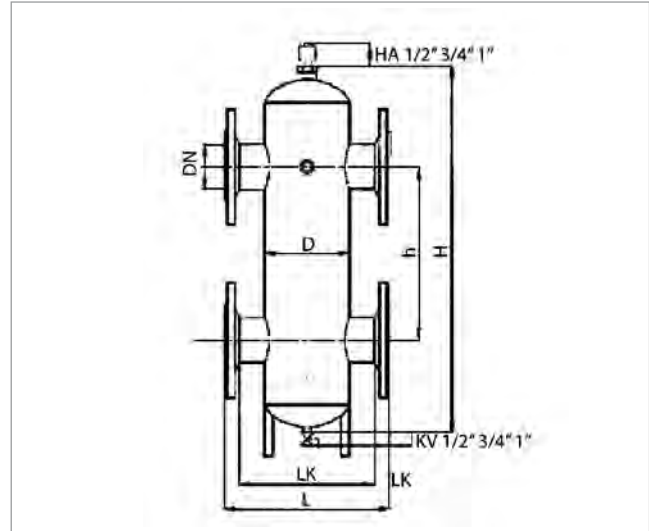
In heating systems: to boiler outlet
In cooling systems: to chiller inlet

Material;

Shell: St37 Steel
Separator: AISI 304

*Sizes are approximate thus may change. * Production is in accordance with the project and application sizes.

Balance Tank



Dimensions (mm)								
Kcal/h	KW	DN	D	m ³ /h	L	LK	H	h
25,000	29	25 / 32	65	1,7		180	370	250
37,000	43	40	80	2,5		200	460	250
52,000	60	50	100	4	300	220	600	350
74,000	86							
86,000	100							
104,000	120	65	125	8	330	240	650	400
120,000	140		150		400	310	750	450
180,000	210	80	200	12	500	420	950	600
300,000	350	100	200	20	500	420	1100	700
340,000	395	100	250	23	550	470	1300	850
473,000	550	125	250	32	550	470	1450	900
774,000	900	150	300	52	600	520	1670	1100
1,118,000	1300	150	350	74	670	570	1950	1230
1,505,000	1750	200	400	100	770	650	2200	1400
2,150,000	2500	200	450	145	870	710	2300	1570
2,580,000	3000	250	450	172	890	750	2600	1800
3,010,000	3500	250	500	201	950	820	2800	1900
3,440,000	4000	250	600	230	1050	900	2800	2100
3,870,000	4500	250	650	260	1150	1000	2900	2200
4,300,000	5000	300	700	290	1400	1150	3150	2400
4,730,000	5500	300	750	315	1400	1250	3300	2600

Air Vent			
D	1/2"	3/4"	1"
HA	112 mm	116 mm	190 mm

Spherical Dirt Discharge Valve			
d	1/2"	3/4"	1"
Kv	60 mm	70 mm	70 mm

It provides savings through thermal balance by mixing hot water coming out from the boiler and cold water coming out from the installation. It prevents thermal stress.

Operating Conditions

Maximum Pressure: To Boiler Outlet

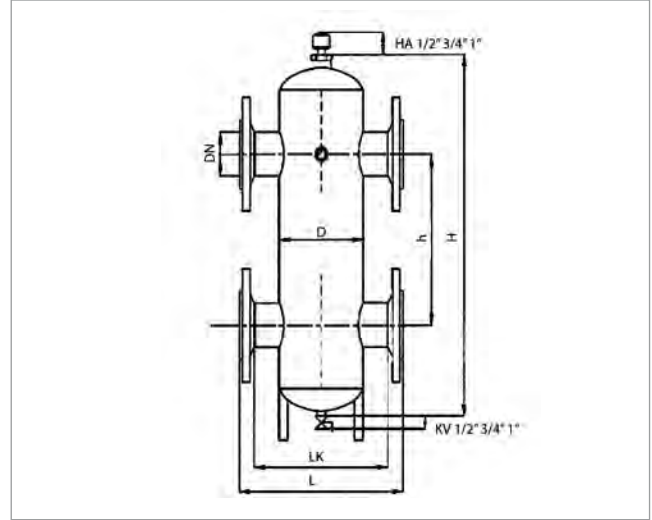
Maximum Temperature: To Chiller Inlet

Material

Shell: St 37 Steel

*Sizes are approximate thus may change. * Production is in accordance with the project and application sizes.

Package Balance Tank



Dimensions (mm)								
Boiler capacity			Flow					
Kcal/h	KW	DN	D	m ³ /h	L	LK	H	h
104.000	120	50	150	8	330	240	650	400
120.000	140	65	150	10	400	310	750	450
180.000	210	80	200	12	500	420	950	600
300.000	350	100	200	20	500	420	1100	700
340.000	395	100	250	23	550	470	1300	850
473.000	550	125	250	32	550	470	1450	900
774.000	900	150	300	52	600	520	1670	1100
1.118.000	1300	150	350	74	670	570	1950	1230
1.505.000	1750	200	400	100	770	650	2200	1400
2.150.000	2500	200	450	145	870	710	2300	1570
2.580.000	3000	250	450	172	890	750	2600	1800
3.010.000	3500	250	500	201	950	820	2800	1900
3.440.000	4000	250	600	230	1050	900	2800	2100
3.870.000	4500	250	650	260	1150	1000	2900	2200
4.300.000	5000	300	700	290	1400	1150	3150	2400
4.730.000	5500	300	750	315	1400	1250	3300	2600

Air Vent			
D	1/2"	3/4"	1"
HA	112 mm	116 mm	190 mm

Spherical Dirt Discharge Valve			
d	1/2"	3/4"	1"
Kv	60 mm	70 mm	75 mm

Its Advantages in Heating and Cooling Systems

- Package System of 3 in Each Unit
- Achievement of Hydraulic Balance
- Air Vent
- Sediment-Dirt Separator
- Easy Assembly
- Reasonable Prices
- Two-Year Guarantee

Operating Conditions

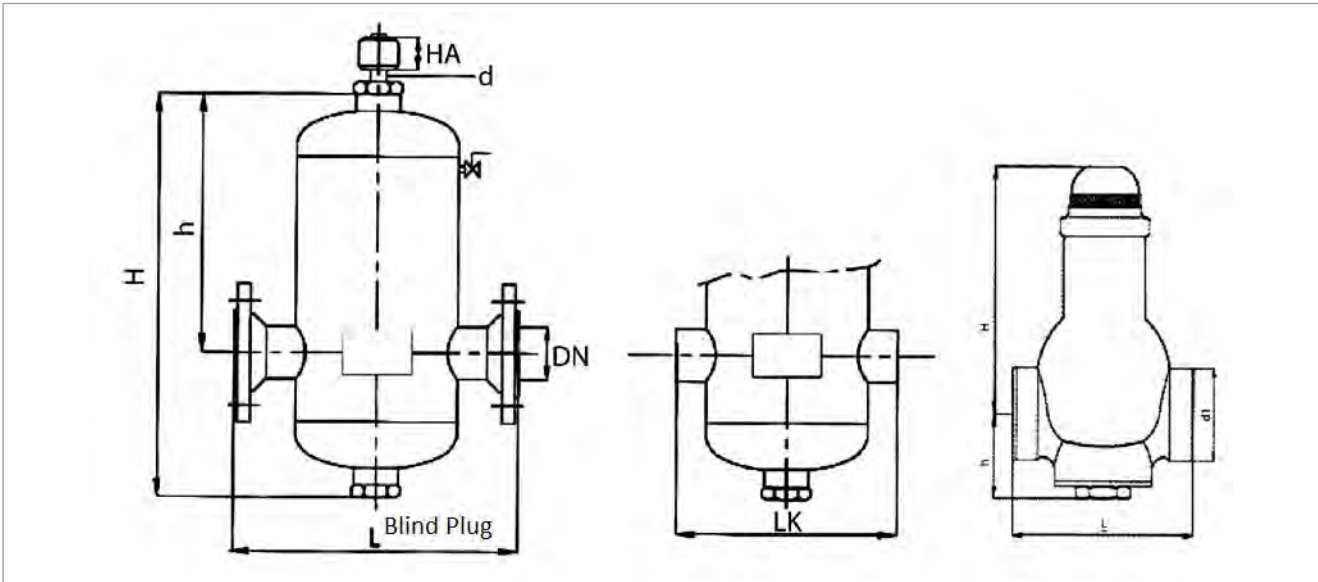
Maximum Pressure: 10 Bar
Maximum Temperature: 110°C

Material

Shell: St 37 Steel

*Sizes are approximate thus may change. * Production is in accordance with the project and application sizes.

Sediment-Air Separator



Dimensions (mm)					
DN	L	LK	H	h	d (HA)
50	300	270	475	330	1/2"
65	300	270	475	330	1/2"
80	400	360	600	400	1/2"
100	400	360	600	400	1/2"
125	600	520	800	540	1/2"
150	600	520	800	540	1/2"
200	750	625	950	615	3/4"
250	850	750	1120	710	3/4"
300	950	850	1350	915	1"
350	1100	1000	1500	1050	1"
400	1200	1100	1700	1225	1"

Dirt separator			
DN	1/2"	3/4"	1"
DN	115 mm	156 mm	190 mm

Air Vent			
DN	1/2"	3/4"	1"
DN	115 mm	156 mm	190 mm

Dimensions (mm)			
d1	L	H	h
1/2"	63	140	29
3/4"	69	143	33
1"	81	146	36
1¼	93	145	41
1½	111	156	45
2"	135	166	51



It is used in the separation of air and dirt present within heating and cooling systems with single equipment.

Assembly Information

In heating Systems:
Places close to boiler outlet

In cooling Systems:
Places close to Chiller

Operating Conditions,
Maximum Pressure: 10 bar
Maximum Temperature: 110°C

Material,

Shell: St37 Steel
Separator: AISI 304

Threaded joint (Central Heating Boiler System)

Shell; brass, nickel plated
Tightness NBR

Operating Conditions

Maximum Pressure: 10 bar
Maximum Temperature: 110°C

*Sizes are approximate thus may change. * Production is in accordance with the project and application sizes.

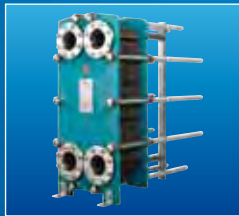


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Tube Heat Exchangers

Tube Heat Exchangers



Tube Heat Exchangers

Tube Heat Exchanger is a class of heat exchanger designs used in all processes. It has several variations within its own group.

In tube heat exchangers, heat transfer surface consists of tubes. While one fluid runs through the tubes, other fluid flows outside the tubes but inside the shell as parallel or across the tubes. So, heat is transferred over tube surfaces.

Components of Tube Heat Exchangers

- Straight or U bend tubes enabling heat transfer
- Shell manufactured from tube or bent plate
- Face plate or face plates by which the tubes are fixed
- Baffles directing the flow outside the tube but inside the shell and supporting the tubes
- Nozzles enabling the exit and entrance of shell side fluid
- Head and Head Nozzles enabling the exit and entrance of tube side fluid
- Flanges that detect mirror and heads

- Carrying legs enabling the assembly of heat exchanger on any base
- Isolation preventing heat loss from the outer surfaces of heat exchanger

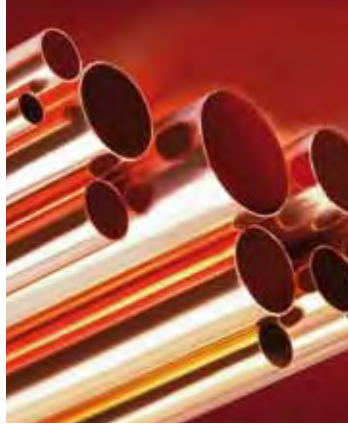
Advantages of tube heat exchangers

- They can be designed and manufactured to bear very high pressures
- They have extremely flexible and steady design
- They can be designed and manufactured to bear very high and very low temperatures
- They are resistant to thermal shocks
- They have no dimension limit
- They can be used in all applications
- Pressure loss is at a minimum and can be maintained at a minimum in line with the process purpose.
- They can easily be disassembled and assembled back for maintenance, repair and cleaning
- Easy maintenance and repair
- Pipe diameter, pipe number, pipe length, pipe pitch and pipe arrangement can be altered. So, the designs of tube heat exchangers are quite flexible



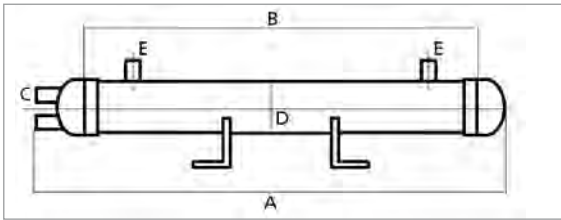
Oil Cooler Heat Exchangers

Many machines used in industry need to be cooled while running. Cooling process generally starts as a result of the clash of water coming either from cooling tower or chiller with hot oil in the heat exchanger coming from the machine. MIT Oil Coolers can be used in all applications with its wide range of capacity. Oil coolers can not only be manufactured in certain sizes as standard but can also be specially manufactured as per intended processes. Inner tubes in MIT Oil Coolers are manufactured from grooved copper ones and this way, heat transfer is much more compared to standard straight tube exchangers.



Outer tube material: St 35.8

Inner tube material: Copper



Model	Heat Transfer Surface Area (m ²)	Capacity (Kcal/h)	A (mm)	B (mm)	C (inch)	E (inch)	D (mm)
MIT 14-50	1,1	16500	500	430	1"	1"	140
MIT 14-75	1,6	24000	750	680	1"	1"	140
MIT 14-100	2,2	33000	1000	930	1"	1 1/4"	140
MIT 14-125	2,7	40500	1250	1180	1"	1 1/4"	140
MIT 16-50	1,3	19500	500	430	1"	1"	160
MIT 16-75	2,1	31500	750	680	1"	1 1/4"	160
MIT 16-100	2,7	40500	1000	930	1"	1 1/4"	160
MIT 16-125	3,4	51000	1250	1180	1"	1 1/2"	160
MIT 16-150	4,1	61500	1500	1430	1"	2"	160
MIT 22-75	3,2	48000	750	680	2"	1 1/2"	220
MIT 22-100	4,3	64500	1000	930	2"	2"	220
MIT 22-125	5,4	81000	1250	1180	2"	2"	220
MIT 22-150	6,5	97500	1500	1430	2"	2"	220
MIT 22-175	7,6	114000	1750	1680	2"	2"	220
MIT 22-200	8,7	130500	2000	1930	2"	2"	220
MIT 22-250	10,9	163500	2500	2430	2"	2"	220
MIT 25-75	5,6	84000	750	680	2"	1 1/2"	250
MIT 25-100	7,5	112000	1000	930	2"	2"	250
MIT 25-125	9,4	141000	1250	1180	2"	2"	250
MIT 25-150	11,3	169500	1500	1430	2"	2"	250
MIT 25-175	13,2	198000	1750	1680	2"	2"	250
MIT 25-200	15	225000	2000	1930	2"	2"	250
MIT 25-250	18,8	282000	2500	2430	2"	2 1/2"	250
MIT 25-300	22,5	337000	3000	2930	2"	2 1/2"	250

Specially Manufactured Heat Exchangers

Most of the time, different solutions are required to be offered for different processes in heat transfer applications. After obtaining the necessary information regarding the process, it is designed by mechanical engineers specialized in the field and schematic drawing is then produced. During controls made over schematic drawing, shop drawings are produced after confirmation that no dimensional problem is in question is received. Each heat exchanger whose shop drawings are confirmed is only special to the process they are designed for and is generally unique. After heat exchangers are manufactured, they can be isolated as well if required and heat loss can be minimized this way. There is no capacity limit in the manufacture of tube exchangers. Exchangers can be grouped in more than one way by series or parallel connection and their capacities can be increased. Ekin Industrial, who is a supplier to plants requiring great capacities such as petrochemical plants or power plants, is one of the leading companies in the sector with its broad experience.

Depending on their process requirements, the following materials can be used in tube exchanger

ST37

ST35.8

AISI304

AISI316

Copper

Titanium



Sanitary tube heat exchanger

In some food and chemical applications, heat treatment is applied at very high temperatures or pressures. At these temperatures and pressures, plate heat exchanger cannot be used since heat resistance and compressive strength limit of the gasket is exceeded. For such applications, MIT engineers developed demountable and sanitary tube heat exchangers. For this type of heat exchangers, the temperature limit reaches up to 350 °C. Welding of this type of heat exchangers should be done in a very sensitive manner to achieve a smooth flow surface. In MIT manufacturing plant, this type of welding is carried out by certified welders and is inspected by expert engineers during 3-phase quality control stage.

MIT engineers, who are experts in food processing, take capacity, location and type of the food to be processed into consideration while offering the most convenient solutions during design.

In high pressure applications, matters such as material thicknesses and welding technologies are of vital importance apart from the capacity calculations. So, each heat exchangers manufactured by Ekin Industrial are tested 72 hours long at a pressure 1.5 times more than normal operating pressure and are only dispatched if a problem does not occur during the test.



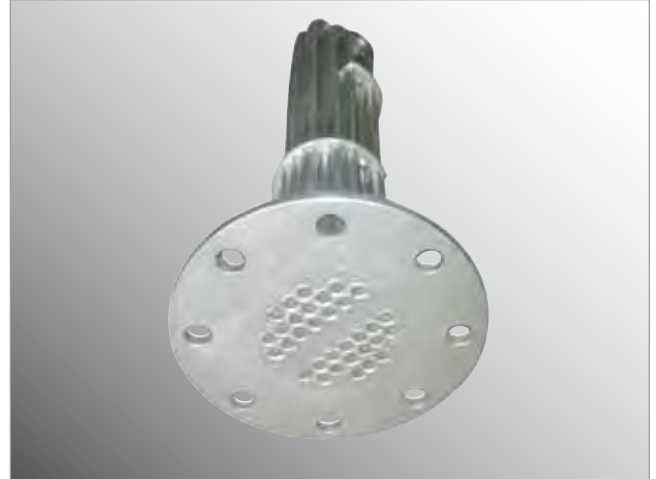
Maintenance and Revision of Tube Heat Exchangers

Although tube heat exchangers are long lasting and troublefree, they are subject to certain deformations and contamination resulting from external factors. Depending on the systems they are used in, they do need to go under cleaning and maintenance at regular intervals.

Cleaning done without correct methods and chemicals may damage the tubes and require greater revisions in the heat exchanger. So, it is of utmost importance for the cleaning and maintenance to be carried out by a team of experts.

For all types of tube heat exchanger, expert staff of MIT provides cleaning, maintenance and repair services. Maintenance and cleaning processes are completed as soon as possible and the product is delivered to your plant as its first day performance.

Apart from cleaning, inner tubes that are corroded and deformed in time can be changed individually or as a group depending on the structure of the heat exchanger. Tube materials can be selected as required during this process.



Professional System Solutions Center



Plate Heat Exchangers
Apartment and Local Heating Network Transfer Stations
Pumps
Brazed Heat Exchangers
Accumulation Tanks and Water Heater Tanks

+90 444 35 46

 **EKIN ENDÜSTRİYEL**



www.ekinendustriyel.com



Certificates

Certificates





Certificate of Registration

This is to certify that
Information Security Management System
of

**EKİN ENDÜSTRİYEL ISITMA SOĞUTMA
SAN. VE TİC. LTD. ŞTİ.**

ŞEKERPİNAR MAH. AYÇİÇEK SK. MARMARA GERİ DÖNÜŞÜM
KOOP. NO:15ÇAYIROVA /KOCAELİ/TÜRKİYE.

complies with the requirements of
ISO 27001:2005

This certificate is valid concerning all activities related to:

MANUFACTURE OF PLATE WITH EXCHANGER, ACCUMULATION TANK, BOILER,
BRAZED WITH EXCHANGER, TUBULAR WITH EXCHANGER, EXPANSION TANK,
HEAT STATION, BALANCE TANK, SEDIMENT TRAP, AIR SEPARATOR.

PLAKALI EŞANJÖR, AKÜMÜLASYON TANKI, BOYLER, LEHİMLİ EŞANJÖR,
BORULU EŞANJÖR, GENLEŞME TANKI, ISI İSTASYONU, DENGE TANKI,
TORTU TUTUCU, HAVA AYIRICI ÜRETİMİ.

SOA DETAILS: SOA/ R:0 Dated: 10.01.2012

I-1169
Certificate No.

Jan. 31, 2014
Date of this Certificate

Jan. 30, 2015
Certificate Expiry Date

Jan. 31, 2014
Date of Initial Registration

Jan. 30, 2017
*Recertification Due Date


Managing Director/Director



TRANSPACIFIC CERTIFICATIONS LIMITED

Website : www.tlccertifications.com E-mail : info@tlccertifications.com
Accreditation by Joint Accreditation System of Australia and New Zealand (Accreditation No. M2640303IN)
4 Phipps Close, DEAKIN, ACT 2600, AUSTRALIA
www.jas-anz.com.au/register

* Lack of fulfillment of conditions set out for the issuance of this certificate and timely completion of periodic surveillance audits may render this certificate invalid.
Version 1.10

TCS CERTIFICATE



EKİN ENDÜSTRİYEL ISITMA SOĞUTMA SAN.VE TİC. LTD.ŞTİ.

Şekerpınar Mah. Ayçiçek Sk. Marmara Geri Dönüşüm Koop. No:15/ Çayırova / Kocaeli

TCS Belgelendirme tarafından denetlenmiş ve uygulamakta olduğu Kalite Yönetim Sisteminin
is audited by TCS Certification and applied Quality Management System meet the requirements of

ISO 9001:2008

standardına aşağıdaki kapsamda uymakta olduğu gözlenmiştir.
standard for the following activities:

Plakalı Eşanjör, Akümülayon Tankı, Boyler, Lehimli Eşanjör, Borulu Eşanjör, Genleşme Tankı, Isı İstasyonu, Denge Tankı, Tortu Tutucu, Hava Ayırıcı Üretimi

Manufacturer of Plate with Exchanger, Accumulation Tank, Boiler, Brazed with Exchanger, Tubular with Exchanger, Expansion Tank, the with Stations, Balance Tank, Sediment Trap, Air Separator

Sertifika No / Certificate No: QM-0090- 120546-TR

12.07.2012

Sertifika Tarihi
Certificate Date

02.06.2013

Sertifika Son Basım Tarihi
Certificate Last Issue Date

11.07.2015

Belgelendirme Periyodu Bitiş Tarihi
Certification Period Expiration Date

10.07.2014

Sertifika Geçerlilik Tarihi
Certificate Expiry Date



Ali Nihat Tartan Cad. No: 103 D: 9 Küçükbakkalköy Ataşehir / İstanbul
T: 0216 573 55 53 F: 0216 573 88 01 info@tcsbelgelendirme.com www.tcsbelgelendirme.com

Bu belge müşterinin TCS prosedürlerine uyduğu sürece geçerlidir.
This certificate is valid during the customer obeys the TCS procedures.



Sertifika No
26

T.C.
BAŞBAKANLIK
DIŞ TİCARET MÜSTEŞARLIĞI
ORTA ANADOLU İHRACATÇI BİRLİKLERİ
GENEL SEKRETERLİĞİ

Sertifika Tarihi
24.10.2013

TU R QUM[®]
TURKISH QUALITY OF MACHINERY

ÜRÜN UYGUNLUK SERTİFİKASI

ORTA ANADOLU İHRACATÇI BİRLİKLERİ GENEL SEKRETERLİĞİ

bu sertifika ile

EKİN ENDÜSTRİYEL ISITMA SOĞUTMA SANAYİ LİMİTED ŞİRKETİ

kuruluşunun üretmekte olduğu
"Plakalı Isı Eşanjörleri"

model ürünlerin **TU R QUM**[®]

"Ürün Uygunluk Şartnamesi - İklimlendirme-Soğutma-Klima

şartlarına uygun olduğunu onaylar.



Yürütme Komitesi
Başkanı

ÖZKAN AYDIN



Bu Belge, periyodik denetimler başarılı sonuçlandıği sürece geçerlidir.
(Geçerlilik "www.turqum.com" adresinden takip edilebilir.)

TÜRK STANDARLARI ENSTİTÜSÜ



HİZMET YETERLİLİK BELGESİ

Belge No	:34-HYB-4258
İlk Veriliş Tarihi	:06.05.2010
Son Geçerlilik Tarihi	:06.05.2014
Firmanın Adı	:EKİN ENDÜSTRİYEL ISITMA SOĞUTMA SANAYİ VE TİCARET LTD ŞTİ.
Firmanın Adresi	:Şekerpınar Mah.S.S. Marmara geri dönüşümcüler toplu işyeri koop.Ayçiçek Sok.No:15 ÇAYIROVA-İSTANBUL/TÜRKİYE
Hizmet Yeri Adresi	:Şekerpınar Mah.S.S. Marmara geri dönüşümcüler toplu işyeri koop.Ayçiçek Sok.No:15 ÇAYIROVA-KOCAELİ KOCAELİ/TÜRKİYE
Sicil No	:568931

Verilen Hizmetin Kapsamı

TS 12676 (10.04.2013) YETKİLİ SERVİSLER - KAZANLAR VE ISI DEĞİŞTİRİCİLER (EŞANJÖRLER) İÇİN - KURALLAR STANDARDINA UYGUN HİZMET VEREN
* EKİN ENDÜSTRİYEL ISITMA SOĞUTMA SANAYİ VE TİCARET YETKİLİ SERVİSİ (1106404)
(30.06.2011)
(MIT) MARKALI



Türk Standardları Enstitüsü Hizmet Belgelendirme Yönergesine göre yapılan inceleme neticesinde, firma işyerinin, kapsamında belirtilen, hizmetler için yeterli olduğu tespit edilerek bu belge verilmiştir.

24.06.2013

AZİZ YAĞCI

İSTANBUL HİZMET YERİ BELGELENDİRME MÜDÜRÜ

TSE Kalite Kampüsü Cumhuriyet Mah. 2258 Sk. No:10 A-Blok, Çayyova Tren İstasyonu Yanı Gebze-KOCAELİ Telefon: 262 7231313 Faks: 262 7231615



РОССИЙСКАЯ ФЕДЕРАЦИЯ
СЕРТИФИКАТ СООТВЕТСТВИЯ
(обязательная сертификация)

№ C-TR.AB28.B.03403 ТР 0903360
(номер сертификата соответствия) (учетный номер бланка)

ЗАЯВИТЕЛЬ «Ekin Endustriyel Isitma-Sogutma San.Tic.Ltd.Sti.» Адрес: DES San. Sitesi 117 Sk.
(наименование и место нахождения заявителя) C24 Blok No:13 Dudullu / ISTANBUL, Турция. Телефон (+90 216) 444 35 46, факс (+90 216) 660 13 08.

ИЗГОТОВИТЕЛЬ «Ekin Endustriyel Isitma-Sogutma San.Tic.Ltd.Sti.» Адрес: DES San. Sitesi 117 Sk.
(наименование и место нахождения изготовителя продукции) C24 Blok No:13 Dudullu / ISTANBUL, Турция. Телефон (+90 216) 444 35 46, факс (+90 216) 660 13 08.

ОРГАН ПО СЕРТИФИКАЦИИ ПРОДУКЦИИ ОБЩЕСТВО С ОГРАНИЧЕННОЙ ОТВЕТСТВЕННОСТЬЮ
(наименование и местонахождение органа по сертификации) "СЕРКОНС" РФ, 115114, г. Москва, ул. Дербеневская, д. 20, стр. 16, тел. (495) 782-17-08, e-mail: info@serkon-rus.com. ОГРН: 1077746279665, Аттестат рег. № РОСС RU.0001.11AB28 выдан 09.06.2011г. Федеральным агентством по техническому регулированию и метрологии.

ПОДТВЕРЖДАЕТ, ЧТО ПРОДУКЦИЯ Теплообменники т.м. «MIT Plate Heat Exchanger»
моделей: 514, 504, 502, 637, 647, 662, 665, 6100, 6130.
(информация об объекте сертификации, позволяющая идентифицировать объект) Серийный выпуск.

код ОК 005 (ОКП)
36 1259

СООТВЕТСТВУЕТ ТРЕБОВАНИЯМ ТЕХНИЧЕСКОГО РЕГЛАМЕНТА (ТЕХНИЧЕСКИХ РЕГЛАМЕНТОВ) «О безопасности машин и оборудования»
(наименование технического регламента (технических регламентов), на соответствие требованиям которого (которых) проводилась сертификация) (Постановление Правительства Российской Федерации от 15 сентября 2009 г. № 753); ГОСТы (см. приложение на 1 листе, бланк № 0224703)

код ЕКПС
код ТН ВЭД России
8419 50 000 0

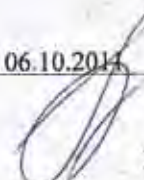
ПРОВЕДЕННЫЕ ИССЛЕДОВАНИЯ (ИСПЫТАНИЯ) И ИЗМЕРЕНИЯ Протокол сертификационных испытаний № 3210 от 06.10.2011
г. Испытательный центр ООО «АКАДЕМСИБЬ», рег. № РОСС RU.0001.21AB09 от 01.08.2011, адрес: 630024, Новосибирская обл., г. Новосибирск, ул. Бетонная, д. 14

ПРЕДСТАВЛЕННЫЕ ДОКУМЕНТЫ Схема сертификации: Зс.
(документы, представленные заявителем в орган по сертификации в качестве доказательств соответствия продукции требованиям технического регламента (технических регламентов))

СРОК ДЕЙСТВИЯ СЕРТИФИКАТА СООТВЕТСТВИЯ с 06.10.2014 по 05.10.2016



Руководитель
(заместитель руководителя)
органа по сертификации
подпись, полностью фамилия



И.Л. Еникеев

Эксперт (эксперты)
подпись, инициалы, фамилия



А.Н. Лукьянов

CE

PUSHEL
International certification

ATTESTATION OF COMPLIANCE

The technical file and test results of the following product have been checked and found in compliance with the Parliament and Council Directive 2006/95/EC of 12 December 2006 on the harmonization of the laws of Member States relating to electrical equipment designed for use within certain voltage limits

Reference No:PICC- 2011-0309

Applicant: EKİN ENDÜSTRİYEL ISITMA SOĞUTMA SAN. TİC. LTD. ŞTİ.
Eseşehir Mah. 117 Sok. DES Sanayi Sitesi C24 Blok No:5 K:2 Ataşehir
Ümraniye / İSTANBUL, Türkiye

Manufacturer: EKİN ENDÜSTRİYEL ISITMA SOĞUTMA SAN. TİC. LTD. ŞTİ.
Eseşehir Mah. 117 Sok. DES Sanayi Sitesi C24 Blok No:5 K:2 Ataşehir
Ümraniye / İSTANBUL, Türkiye

Trade Mark: MIT

Product Type/Model: *SINGLE SERPENTINE WATER HEATER - Tek Serpantinli Hızlı Boyler*
MIT 101 / MIT 161 / MIT 201 / MIT 351 / MIT 501 / MIT 601 /
MIT 801 / MIT 1001 / MIT 1501 / MIT 2001 / MIT 2501 / MIT 3001 /
MIT 3501 / MIT 4001 / MIT 5001 /
DOUBLE SERPENTINE WATER HEATER - Çift Serpantinli Hızlı Boyler
MIT 162 / MIT 202 / MIT 352 / MIT 502 / MIT 602 / MIT 802 /
MIT 1002 / MIT 1502 / MIT 2002 / MIT 2502 / MIT 3002 / MIT 3502 /
MIT 4002 / MIT 5002
ELECTRICAL WATER HEATER - Elektrik Isıtıcı Boyler
MIT 103 / MIT 163 / MIT 203 / MIT 353 / MIT 503 / MIT 603 / MIT 803 /
MIT 1003 / MIT 1503 / MIT 2003 / MIT 2503 / MIT 3003 / MIT 3503 /
MIT 4003 / MIT 5003 /
HOT WATER STORAGE - Akümülyasyon Tankı
MIT 104 / MIT 164 / MIT 204 / MIT 354 / MIT 504 / MIT 604 / MIT 804 /
MIT 1004 / MIT 1504 / MIT 2004 / MIT 2504 / MIT 3004 / MIT 3504 /
MIT 4004 / MIT 5004 /
DOUBLE WALL WATER HEATHER - Yatık Cidarlı Güneş Enerjisi Boyleri
MIT 085 / MIT 175 / MIT 205 / MIT 305 / MIT 505

Test Laboratory :ELDAŞ Test lab.(EMC-TS EN 55014-1)(LVD-EN 60335-2-21)

Harmonized Stand.:EN 60335-2-21, TS EN 55014-1,EN 12897

Test Engineering :Levent Bozgan/ 13.02.2008

Expiry Date : 31.03.2016

Base of attestation: File of technical documentation, test report Ref.No.PC-1103

The referred technical file(s) shows that product complies with Standard(s) recognized as giving presumption of compliance with the essential requirements listed EU Directive(s) above.

Other relevant Directives have to be absorbed.this attestation does not abrogate the compulsory obligation of the manufacturer to issue the declaration of conformity. İzmir,Date 31.03.2011

General Manager



www.pushel.com info@pushel.com

Pushel International Certification
Independent Control, Supervision, Training Services Company
On the Ankara Street Number: 75 İnsaniye Plaza
Floor:4 Flat:401-402-403 Bayraklı/İzmir/TURKEY
Tel: +90 232 462 20 51 - 52 Fax: +90 232 462 20 61



**РОССИЙСКАЯ ФЕДЕРАЦИЯ
СЕРТИФИКАТ СООТВЕТСТВИЯ
(обязательная сертификация)**

№ C-TR.AB28.B.04035 ТР 1647621
(номер сертификата соответствия) (учетный номер бланка)

ЗАЯВИТЕЛЬ «EKIN ENDUSTRIYEL ISITMA SOGUTMA SAN.TIC.LTD.STI.»
(наименование и место нахождения заявителя) Адрес: Des San. Sit.B.14 Blok 107 Sok.No.2 Y.Dudullu /ISTANBUL, Турция.
Телефон (+90 850)811 04 18, факс (+90 216)660 13 08.

ИЗГОТОВИТЕЛЬ «EKIN ENDUSTRIYEL ISITMA SOGUTMA SAN.TIC.LTD.STI.»
(наименование и место нахождения изготовителя продукции) Адрес: Des San. Sit.B.14 Blok 107 Sok.No.2 Y.Dudullu /ISTANBUL, Турция.
Телефон (+90 850)811 04 18, факс (+90 216)660 13 08.

ОРГАН ПО СЕРТИФИКАЦИИ ПРОДУКЦИИ ОБЩЕСТВО С ОГРАНИЧЕННОЙ ОТВЕТСТВЕННОСТЬЮ "СЕРКОНС". РФ.
(наименование и местонахождение органа по сертификации) 115114, г. Москва, ул. Дербеневская, д. 20, стр. 16. Телефон (495) 782-1708, e-mail:
info@serconsrus.com, факс (495) 782-1701. ОГРН: 1077746279665. Аттестат аккредитации №
РОСС RU.0001.1AB28 выдан 09.06.2011 Федеральным агентством по техническому регулированию и метрологии.

ПОДТВЕРЖДАЕТ, ЧТО ПРОДУКЦИЯ Накопительные баки и котлы т.м. «EKIN», «MIT»
(информация об объекте сертификации, позволяющая идентифицировать объект) типы (см. приложение на 1 листе, бланк № 0484388).
Серийный выпуск.

код ОК 005 (ОКП) 36 1500
код ЕКПС
код ТН ВЭД России 7309 00 300 0

СООТВЕТСТВУЕТ ТРЕБОВАНИЯМ «О безопасности машин и оборудования»
ТЕХНИЧЕСКОГО РЕГЛАМЕНТА (Постановление Правительства РФ от
(ТЕХНИЧЕСКИХ РЕГЛАМЕНТОВ) 15.09.2009 N 753), ГОСТ 12.2.003-91
(наименование технического регламента (технических регламентов), на соответствие требованиям которого (которых) проведена сертификация)

ПРОВЕДЕННЫЕ ИССЛЕДОВАНИЯ Протокол сертификационных испытаний № 2189 от 08.02.2013
(ИСПЫТАНИЯ) И ИЗМЕРЕНИЯ г. Испытательный центр ООО «АКАДЕМСИБ», аттестат
аккредитации № РОСС RU.0001.21AB09 от 01.08.2011 до 01.08.2016, адрес: 630024,
Новосибирская обл., г. Новосибирск, ул. Бетонная, д. 14

ПРЕДСТАВЛЕННЫЕ ДОКУМЕНТЫ Сертификат системы менеджмента качества ISO 9001:2008 №
(документы, представленные заявителем в орган по сертификации в качестве доказательства соответствия продукции требованиям технического регламента (технических регламентов)) 10004 от 31.01.2014 г., выданный ОС «ТСЛ».
Схема сертификации: 3с.

СРОК ДЕЙСТВИЯ СЕРТИФИКАТА СООТВЕТСТВИЯ с 08.02.2013 по 07.02.2018

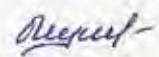


Руководитель
(заместитель руководителя)
органа по сертификации
подпись, инициалы, фамилия



И.Л. Еникеев

Эксперт (эксперты)
подпись, инициалы, фамилия



Б.П. Чумаков

РОССИЙСКАЯ ФЕДЕРАЦИЯ

ПРИЛОЖЕНИЕ

к СЕРТИФИКАТУ СООТВЕТСТВИЯ № С-TR.AB28.B.04035

(обязательная сертификация)

ТР **0484388**

(учетный номер бланка)

Перечень продукции, на которую распространяется действие сертификата соответствия

код ОК 005 (ОКП) код ТН ВЭД России	Наименование, типы, марки, модели однородной продукции, составные части изделия или комплекса	Обозначение документации, по которой выпускается продукция
36 1500 7309 00 300 0	Накопительные баки и котлы т.м. «EKIN», «MIT» типы	
	MIT104, MIT164, MIT 204, MIT 304, MIT 354, MIT 404, MIT 504, MIT 604, MIT 804, MIT 1004, MIT 1504, MIT 2004, MIT 2504, MIT 3004, MIT 4004, MIT 5004.	



Руководитель
(заместитель руководителя)
органа по сертификации
подпись, инициалы, фамилия

И.Л. Еникеев

Эксперт (эксперты)
подпись, инициалы, фамилия

Б.П. Чумаков

СИСТЕМА СЕРТИФИКАЦИИ ГОСТ Р
ФЕДЕРАЛЬНОЕ АГЕНТСТВО ПО ТЕХНИЧЕСКОМУ РЕГУЛИРОВАНИЮ И МЕТРОЛОГИИ



СЕРТИФИКАТ СООТВЕТСТВИЯ

№ РОСС TR.AB28.H16805

Срок действия с 29.05.2014 по 28.05.2017

№ **1599218**

ОРГАН ПО СЕРТИФИКАЦИИ рег. № РОСС RU.0001.11AB28 **ОРГАН ПО СЕРТИФИКАЦИИ ПРОДУКЦИИ ОБЩЕСТВО С ОГРАНИЧЕННОЙ ОТВЕТСТВЕННОСТЬЮ "СЕРКОНС"**, 115114, г. Москва, ул. Дербеневская набережная, д. 11, пом. 60. Телефон (495) 782-1708, e-mail: info@serconsrus.com, факс (495) 782-1701.

ПРОДУКЦИЯ Электрические водонагреватели (бойлеры) т.м. «EKIN», «MIT», типы (см. приложение на 1 листе, бланк № 0818363).
 Серийный выпуск.

код ОК 005 (ОКП):

34 6841

СООТВЕТСТВУЕТ ТРЕБОВАНИЯМ НОРМАТИВНЫХ ДОКУМЕНТОВ
 ГОСТ ИЕС 60335-2-15-2012, ГОСТ 30805.14.1-2013, ГОСТ 30805.14.2-2013,
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код ТН ВЭД России:

8516 10 190 0

ИЗГОТОВИТЕЛЬ «EKIN ENDUSTRIYEL ISITMA SOGUTMA SAN.TIC.LTD.STI». Адрес: Des San. Sit.B.14 Blok 107 Sok.No.2 Y.Dudullu /ISTANBUL, Турция. Телефон (+90 850)811 04 18, факс (+90 216)660 13 08.

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НА ОСНОВАНИИ протокола сертификационных испытаний № 10434 от 27.05.2014 г. Испытательный центр ООО «АКАДЕМСИБ», аттестат аккредитации № РОСС RU.0001.21AB09 от 01.08.2011 до 01.08.2016, адрес: 630024, Новосибирская обл., г. Новосибирск, ул. Бетонная, д. 14

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Сертификат не применяется при обязательной сертификации

**СИСТЕМА СЕРТИФИКАЦИИ ГОСТ Р
ФЕДЕРАЛЬНОЕ АГЕНТСТВО ПО ТЕХНИЧЕСКОМУ РЕГУЛИРОВАНИЮ И МЕТРОЛОГИИ**

№ **0818363**

ПРИЛОЖЕНИЕ

К сертификату соответствия № РОСС TR.AB28.H16805

**Перечень конкретной продукции, на которую распространяется
действие сертификата соответствия**

код ОК 005 (ОКП) код ТН ВЭД России	Наименование и обозначение продукции, ее изготовитель	Обозначение документации, по которой выпускается продукция
34 6841 8516 10 190 0	Электрические водонагреватели (бойлеры) т.м. «EKIN», «MIT», типы:	
	MIT101, MIT161, MIT 201, MIT 301, MIT 351, MIT 401, MIT 501 MIT 601, MIT 801, MIT 1001, MIT 1501, MIT 2001, MIT 2501, MIT 3001, MIT 4001, MIT 5001, MIT102, MIT162, MIT 202, MIT 302, MIT 352, MIT 402, MIT 502 MIT 602, MIT 802, MIT 1002, MIT 1502, MIT 2002, MIT 2502, MIT 3002, MIT 4002, MIT 5002, MIT103, MIT163, MIT 203, MIT 303, MIT 353, MIT 403, MIT 503, MIT 603, MIT 803, MIT 1003, MIT 1503, MIT 2003, MIT 2503, MIT 3003, MIT 4003, MIT 5003.	
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Professional System Solution Center

You can take assistance about problems you have from MIT Plate Heat Exchanger Solution Center. Our solution center having qualified mechanical engineers will be happy to help you. These are some of the subjects that we can happily help you:

Steam installations

- Utility hot water installations
- Central and local heating systems
- Milk, yogurt, airan heating, cooling and pasteurization
- Industrial heating and cooling systems
- Oil cooling installations
- Energy recycle systems
- Pool heating systems



+90 444 35 46

In Plate Heat Exchanger systems, it is vital to setup the system correctly to get the desired capacity. That is why, when you setup your system you can take needed assistance from first hand just using a phone **(+90 444 35 46)** for 7 days and 24 hours.

To make your system and heat exchangers work correct and full performance, we want to share the information we've had through the long years. It really is a big happiness for us.

We want to emphasize that again and again. Ekin Endüstriyel will continue being the best solution partner in every place where heat exchanger is used.

50 Reasons for Choosing MIT

When you buy a MIT Heat Exchanger;

You have a worldwide known product.

When you buy a MIT Heat Exchanger;

You have most longterm and comprehensively guaranty.

When you buy a MIT Heat Exchanger;

You have the best delivery time.

When you buy a MIT Heat Exchanger;

You have the best quality.

When you buy a MIT Heat Exchanger;

You pay the best price.

When you buy a MIT Heat Exchanger;

You contact with the main producer.

When you buy a MIT Heat Exchanger;

You have the fastest spare part's procuring.

When you buy a MIT Heat Exchanger;

You have fastest and widespread service network.

When you buy a MIT Heat Exchanger;

You have a certificated product as ISO, CE, GOST, TSE, etc.

When you buy a MIT Heat Exchanger;

There is a opportunity to contact with directly the producer.

When you buy a MIT Heat Exchanger;

If you don't satisfied our products, warranteed giving back the product implicitly in three months.

When you buy a MIT Heat Exchanger;

Our service technicians who are well experienced , genuine and solution oriented in their field, at your service in 7 days and 24 hours.

In MIT Heat Exchangers;

There is a safety washer for easy service.

In MIT Heat Exchangers;

We use the chocolate pattern on plates for the most homogeneous distribution.

In MIT Heat Exchangers;

Trust of our trade mark has supported with CE, ISO

In MIT Heat Exchangers;

We use rubber outlets for hygenic applications.

In MIT Heat Exchangers;

All of our products test carrefully and labelling.

In MIT Heat Exchangers;

There are fixing foot for supporting the exchanger.

In MIT Heat Exchangers;

There are set pin inlets for easy maintenance.

In MIT Heat Exchangers;

It is used three way seals for high resistance.

In MIT Heat Exchangers;

It is used non-plast Clip-On seals which are warrant easy assembling.

In MIT Heat Exchangers;

There is directly producer warranty.

In MIT Heat Exchangers;

It is used different seals for different applications.

In MIT Heat Exchangers;

It is used various plate thicknesses due to customer's demands.

In MIT Heat Exchangers;

It is used various plate materials due to customer's demands.

In MIT Heat Exchangers;

It is used special body alternatives due to application fields.

In MIT Heat Exchangers;

It is used cross-line and straight link alternatives due to applications.

Our MIT Heat Exchangers;

Are sent with opposite flanges.

In MIT Heat Exchangers;

There are radius alternatives in plates for special applications.

When you would like to buy a MIT Heat Exchanger;

You contact to our experienced staff whosed proficiency is heat exchangers.

When you would like to buy a MIT Heat Exchanger;

You contact to our sales network in Turkey and the world.

When you would like to buy a MIT Heat Exchanger;

There are supplying opportunities also other equipments with heat exchangers.

When you would like to buy a MIT Heat Exchanger;

We argue; "Our priority is customer satisfaction."

When you would like to buy a MIT Heat Exchanger;

Our sales made and followed up by mechanical engineers deliberately.

When you would like to buy a MIT Heat Exchanger;

You have an opportunity to work with a team who serve to you every day and every hour.

When you would like to buy a MIT Heat Exchanger;

We provide solutions fastly.

When you would like to buy a MIT Heat Exchanger;

You inform not only about the heat exchanger , but also all of your system.

When you would like to buy a MIT Heat Exchanger;

We afford to you the best solution about your system with our survey service.

When you would like to buy a MIT Heat Exchanger;

You are spared to handle unnecessary procedures.

When you would like to buy a MIT Heat Exchanger;

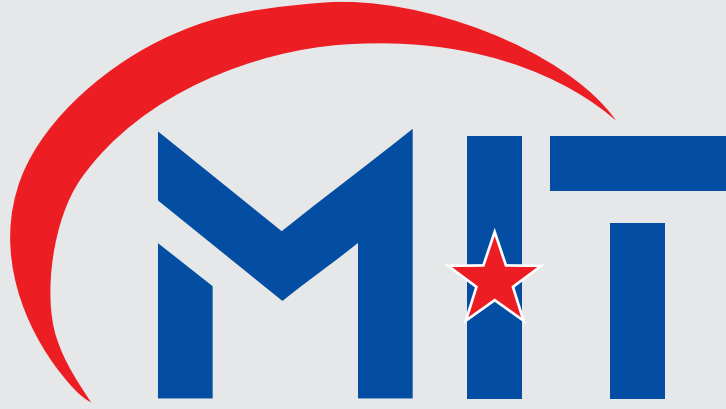
You can receive training from us about heat exchanger whether in your company or in our head office.

When you would like to buy a MIT Heat Exchanger;

You can take wide knowledge and documentation support.

When you would like to buy a MIT Heat Exchanger;

You can take consulting service from us about all problems you have related to your HVAC&R System.



You are in exact point where quality,
experience and technology meet

Our Quality Certificates:





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