

COMPLETE SYSTEMS UNITS GENERAL CATALOGUE

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Sustainable Innovation, **Quality Standardization and Dynamism**

Ekin Endustriyel, which has entered Turkish heating sector by exporting of plated heat exchangers, is known with customer focused vision and dynamism. Ekin has expanded into new and upcoming investments. One of the main steps was gaining the identity of being a producer. Ekin has started the production of plate heat exchangers with the brand of "MIT". We have grown in the philosophy of quality, through initially adapting to ISO Quality Management.

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

Engineering Approaches, Integrated Solutions

Ekin has expanded into the production of components, sales, and after-sales service by employing expert engineers. The factors that guided Ekin 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 is an expert company which has a wide product range which includes plate heat exchangers, accumulation tanks, water heater tanks, installation, and its service group and submit competitive advantages to mechanical installation sector in Turkey and all around the world.











APPLICATION FIELDS



HEAT TRANSFER PRODUCTS

• Gasketed Plate Heat Exchangers • Brazed Heat Exchangers • Shell&Tube Heat Exchangers • Air Fan Oil Cooler • Economizers • Coils and Radiators



PRESSURE VESSELS

- Steel IBC Tanks with ADR



COMPLETE SYSTEMS UNITS



FOOD GRADE SYSTEMS

- Pasteurizers with plate heat exchangers Hygienic Pasteurizers with Shell & Tube Heat Exchangers
- Cheese and whey Systems UHT Sterilization Systems
- CIP Systems Hygienic Storage and Process Tanks
 Homogenizers Standartization Systems Evaporators
- Turn-key Projects



FLUID TRANSFER PRODUCTS

- Lobe Pumps Hygienic Centrifuge Pumps Turbo / Roots / Centrifuge Blowers • Drum Pumps • Acid Pumps
- Dosing Pumps Monopumps Air operated Double Diaphragm Pumps (AODD)



VALVES



ENERGY SYSTEMS

- Solar Collectors
- Water Heater Tanks for Solar







HEAT STATIONS



MIT COMPLETE SYSTEM UNITS

MIT complete system units are used in houses, factories, geothermal plants, pool systems, industrial and marine areas, steam water heating, steam systems, chiller lines, radiator heating and similar applications. With these applications, we provide you with the package systems in the requested features.

MIT complete system units are designed according to your request and are offered in 3D. Thus, you can provide a pre-information to your customer or manager, you can get approval. At the same time, you will be informed about how much space you will have in your facility.informed about how much space you will have in your facility.



Usage Areas

Radiator Heating Systems with Steam and Hot Water

While steam is an enormous source of energy for heating, it is a very dangerous source of heat in the system leaks. Installed steam must be manufactured with the right materials and should be designed and prepared carefully by experts.

By utilizing the existing steam system, the heating needs of the plant are opened and closed automatically at the desired temperature and low energy is used to keep the temperature constant to the desired degree. Full and semi-automatic package systems are designed to serve for many years by creating first-class products.

In addition, in facilities with hot water supply instead of steam, package systems can be installed to heat the space in the same place or elsewhere using this energy. Factories, power plants, geothermal resources, dwellings can be mentioned as examples.

The existing hot water supply system utilizing the hot water supply system to keep the heating temperature constant, at the desired temperature and maximum performance systems are provided.



Steam and Hot Water Treatment Systems

In facilities with steam and hot water sources, bundling systems can be installed to heat the space using these energies.

Installations containing steam should be carefully manufactured with the right materials and should be designed by experts. By using the steam flow in the installation, it is a system that allows the hot water need in the plant to be kept constant at the desired temperature automatically by opening and closing itself and by using low energy, keeping the temperature constant to the desired degree. Full and semiautomatic packet units are designed to serve for many years by creating first-class products.

In the same way, the use of hot water supply, the need for hot water is obtained by using this type of package systems.

Water and Oil Cooling Systems with Chiller

Since chiller systems work at lower gas pressures, they are more efficient than other refrigeration units. In cooling systems with chiller, heat exchanger is used between the chiller and the device to protect the circuit and devices.

The packet unit connected to the chiller systems ensures maximum cooling performance. Oil, water and so on. It is formed with all the equipments necessary to keep the temperature constant in order to keep the temperature constant by ensuring minimum energy consumption by turning off and turning on and off by turning on and off with automation.

Induction Cooling Systems

Induction heating is a non-contact heating process. By this method, metals having electrical conductivity are heated using carbon-based materials using high-frequency electricity. Induction heating cannot be applied to plastic materials. Since the heating process is non-contact, any distortion, stain, distortion of the heated materials does not occur. As the heat is produced in the material, the energy efficiency is very high. It is used in automotive and aerospace industries, material processing applications and various engineering fields.

Pure water is used as a coolant in induction devices. Depending on the electrical current supplied, this water is cooler. Plate heat exchangers are frequently used for cooling the water.

Automated package systems are frequently used to keep the temperature of the water heated from induction furnaces stable.

Other Complete System Units

Almost everything in the field of industrial heating and cooling system can be designed and produced.

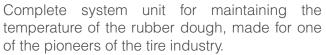
There are models designed for various customer demands, including user defined heating package systems for residences; waste heat recovery package units for your textile factories; automatic tuned package systems for your pools.

With the help of touch screen panels added on your request, you can see the process on the screen and intervene. You can also get reports, make calculations and make a cost report.

MIT Packet Units, which always provide practical solutions for the user, are offered with 100% customer satisfaction and cost-effective prices.









Complete system unit used for hot water and district heating, made for a cement factory.



Complete system unit for use in space heating with high steam temperature.



Automatic water heating packet unit produced for a global pharmaceutical company.





Complete system unit that triples production speed with the award of the year project.

Petro chemical unit for steam heating.



Textile recycling and waste water heat recovery system.



A complete system for mold cooling and testing.







Fan coil heating system with steam, designed for textile company.



Water heating system with steam temperature.



It is a hygienic complete system for foodstuff and heating liquid material.produced for a company serving in food sector.







Vacuum furnace cooling complete system prepared for a leading automotive spare parts manufacturer.

Hygienic complete system unit for food solutions and used in food heating.



Temperature control unit for a plastic factory in Russia.



Steam hot water treatment unit, designed for chemical factory.





Project used for high-efficiency apartment heating with a geothermal source.



Compact heating system for olympic pools.



Bearing oil cooling system, made for cement factories.



Bearing oil cooling system, made for cement factories.







Automatic system for the heating of water by steam, produced for one of the leading food factories of Turkey.





Product cooling unit for food process with chiller.







A complete system unit designed for our pharmaceutical manufacturer customer to maintain the vacuum pump temperature.



Induction furnace cooling system.







Unit for heating the tank coil with steam heat.



Induction furnace cooling system with double heat exchanger.



Textile washing water preparation system.









Circuit breaker between units with chiller.



SOME OF RUNNING SYSTEMS















ADVANTAGES OF COMPLETE SYSTEM UNITS

The commissioning of the complete system units prepared by the professional teams should be carried out by a specialized technical personnel.

Because of incorrectly launched applications, heat exchangers and other equipment damage and high maintenance costs occur. Our MIT personnel, who are experts in their fields, are commissioned under the MIT brand. It is possible to save an average of 20-25% energy with waste heat recovery package systems.



Ekin, which constantly renews and improves itself, provides the most efficient solutions to its customers with its MIT packet units.

- MIT packet units provide water at constant temperature, even with sudden and extremely variable hot or cold water requirements.
- Precise temperature control can be performed regardless of hot water load. It is perfectly suited to load changes in accordance with heating process.
- High load requirements can be met.
- There is no need to spend time on system design.
- Requires a small space.
- Solution is reached with a single system.
- Adapts to any business.
- Provides high efficiency, low maintenance and installation costs.











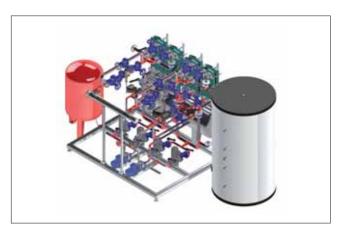


COMPLETE SYSTEM UNITS

Ekin, MIT complete system units are designed according to the demands and expectations of our customers. Equipments are prepared according to requests and data, drawn by technical artists and presented to our customers.



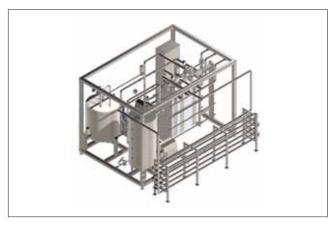
Steam Radiator Heating System



Steam Water and Radiator Heating System



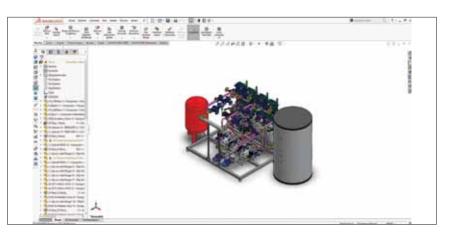
Water Preparation System with Boiler



Egg Pasteurizer

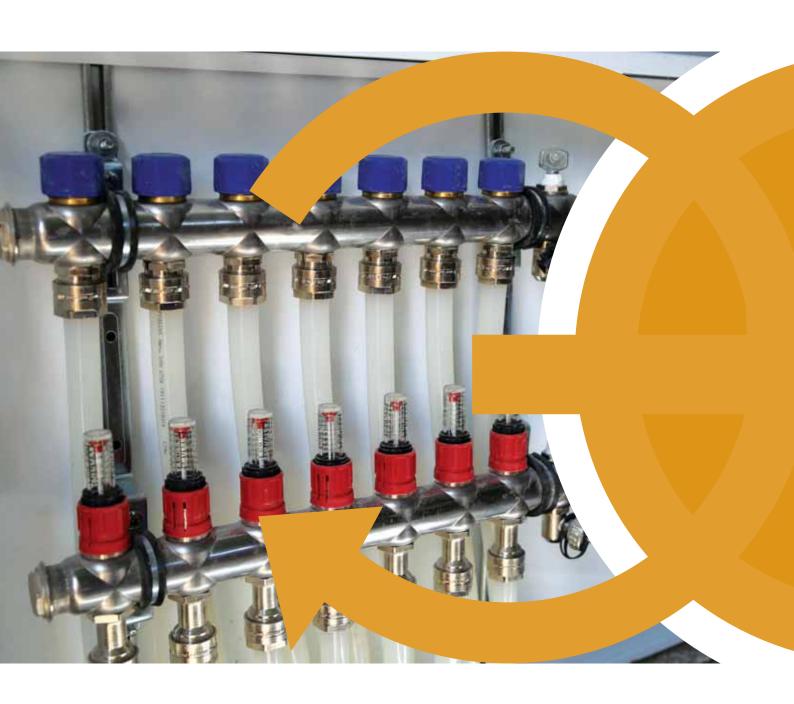


Cooling System



Technical Drawing Program







SUBSTATIONS



MIT SUBSTATIONS

MIT apartment hot water supply stations combine the economy provided by central heating systems with the advantage of independently determining the comfort conditions of individual systems. Thus, this system, which significantly reduces energy expenditure, helps to maintain a fair balance in central system fuel expenditures.

The MIT apartment hot water supply stations, which are installed in the entrance of the apartment and fed directly from the central hot water boiler, also prevent pressure differences in the apartment heating installation and thus the problems that will arise.

"Comfort and Independent Use" in Central Heating Systems

With the Regulation on Energy Performance with Buildings (BEP), central systems have become mandatory in the housing structures with a large number of independent sections. MIT hot water stations can easily be applied to existing structures as well as in newly constructed buildings, allowing central energy systems to share their energy consumption costs for different usage preferences and quantities. Its compact design takes up little space and can be wall mounted. It is an attractive solution that provides modern, energy efficient, high comfort level for central heating systems.









System Features

There is no boiler in the boiler room; instead, the domestic hot water is produced with these heat exchanger units at the entrance of the building. These units include a compact heat exchanger providing instant hot water and a differential pressure control valve that provides a balanced distribution of water between the radiators and the heat exchanger.

Different control paths can be monitored in hot water stations

Direct: The controls are made only by the differential pressure control elements and by the control valves which are controlled by the programmable thermostats.

Technical Parameters

Nominal Pressure : PN16 Heating Line Temperature : Max.120 °C Min. Domestic Cold Water Pressure : Pmin=0,5 Bar

Exchanger Material : AISI 316 Stainless Steel
Tubes : AISI 316 Stainless Steel

Primary Circuit Pressure Loss : 25-35 Kpa











Advantages

- MIT hot water stations eliminate the disadvantages of systems where domestic hot water is obtained by central boiler. For example; hot water recirculation line not to be drawn; and to save different areas of the boiler and pump.
- Can be used with any type or combination of fuel used by central systems.
- It is sufficient to draw only three pipelines, heating line, heating return line and cold water line
- Eliminates the risk of legionellae due to the fact that water is not stored at the time of need.

Savings

- Boilers and counters.
- Heat Exchanger.
- Hot water meter because heating and usage of hot water is fed from the same line.
- Plumbing pipes, circulation pumps and ball valves.
- Since it is located in the unit, it is equipped with balancing valve and strainers.
- No chimney requirement (architecturally important).





- Thanks to the thermostatic mixing valve, the hot water is maintained at the set value.
- Thermostatic valve prevents overheating in the heat exchanger.
- There is no risk of electrical short circuit and gas leakage.
- Room temperature can be controlled independently.
- Service costs are low as maintenance is not required.
- Circumferential invoicing is provided by the integrated calorimeter.
- The risk of lime and bacteria formation is minimized.
- Can be customized and manufactured to meet the requirements.









Working Principle

While the hot water stations at the entrance are heated by a portion of the water coming from the central boiler room, the other units are the units where the heat exchanger is heated by the water from the hydrophore. Flat entrance stations are primarily domestic hot water and offer more comfortable hot water than boiler systems. Sudden and variable usage provides water at desired flow rate and constant temperature even in hot water demand.

The sequence followed in designing the system is as follows;

- Flow rate for pump and pipe sizing
- Boiler or district heating capacity
- Volume of reserve tank

The total flow rate depends on the flow rate of the heating circuit and is determined by the primary feed rate required for the heat exchanger. Depending on the parameters, the maximum flow rate is seen in summer or winter. When determining the pipe diameters, the equivalent factor and the domestic hot water need should be taken into consideration in the winter months.

If the domestic hot water control valve mechanically closes the radiator / underfloor heating supply circuit, it is understood that it needs 100% domestic hot water. If a valve without a mechanical stability feature is used, it should be considered and weighed whether domestic hot water is a priority









Components

Heat Exchanger

The heat exchanger located in the station allows the hot water from the central boiler room to be heated through the heat exchanger to heat the water supply and to obtain domestic hot water. Plate Heat Exchangers are the devices that operate according to the principle of heat transfer between two different fluids with temperature difference between them. It is completely separated from each other by the fluid to be heated and the fluid plates to be heated.

In hot water station applications, plate heat exchangers are the main equipment in the use of hot water.



Thermostatic Mixing Valve

It ensures that the cold water coming from the network line is heated in the heat exchanger and the domestic hot water obtained goes to the taps at constant temperature. In addition,

the temperature can be adjusted to the desired value of the hot water to reach the taps prevented from scalding. In addition, since the hot water coming from the central boiler room is not required to go directly to the underfloor heating system in underfloor heating systems, the temperature is fixed to the desired value by the thermostatic mixing valve.



Thermostatic Valve

It ensures that the cold water coming from the network line is heated in the heat exchanger and the domestic hot water obtained goes to the taps at constant temperature. In addition, the temperature can be adjusted to the desired value of the hot water to reach the taps are prevented from scalding.



Provides proportional operation without the need for any external energy.

Differential Pressure (△P) Control Valve

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

One of its tasks is to generate an extra pressure in the radiator line according to the heat exchanger line and to direct the heating water to the heat exchanger when there is consumption in the

water line. ΔP controlled valve ensures parallel operation in radiator and heat exchanger circuit. Furthermore, the entire system is balanced and pressure differences between the coats are prevented.



PM Regulator

When there is any flow in the network line, it directs the heating line to the heat exchanger in a proportional manner according to the flow rate. By controlling the pressure in the heating line, it acts as a balancing valve. As soon as hot water is used, the flow from the central heating boiler room to the heat exchanger is interrupted and the heat exchanger is prevented from calcining.





IHPT Thermostatic Directional Valve

When there is any flow rate in the network line, it directs the heating line to the heat exchanger in a proportional manner according to the flow rate. By means of thermostatic control

on it, it is possible to set the domestic hot water to a constant temperature and prevent the scald risk and the legionella bacteria in the taps.



Calorimeter

It calculates the heat loss of the hot water coming from the central boiler room and the heat loss of the

heat exchanger in the circle. It is possible to view, bill, or even limit the usage. The bacteria will be prevented.



Room Thermostat

The motorized valve inside the station is controlled by the room thermostat to ensure the comfort temperature in the circle.

The flow rate of the hot water coming from the central boiler room is proportional to the room thermostat control and it is ensured to be extra savings and ease of use in our economical system.



Standard Unit Coverage

- Galvanized or stainless steel mounting plate
- Plate heat exchanger
- Thermostatic valve
- Differential pressure (dP) control valve
- Directional valves
 - IHPT ermostatik Directional Valve
 - Accelerator
 - PM Regulator

Thermostatic Valve

It ensures that the cold water coming from the network line is heated in the heat exchanger and the domestic hot water obtained goes to the taps at constant

temperature. In addition, the temperature can be adjusted to the desired value of the hot water to reach the taps are prevented from scalding. Provides proportional operation without the need for any external energy.





Cold Water Meter

It calculates the use of the water from the grid directly before being guided to the taps and the heat exchanger, and there is no need for an extra

space in the installation, saving space and making our heat station compact. The amount of usage can be read on the meter or it can also be read or billed via M-BUS system.



Collector Groups

Before the hot water from the central boiler room is directed to the heating line, it can be separated by the return and return collector so that all radiators in the Before the hot water

from the central boiler room is directed to the heating line, it can be separated by the return and return collector so that all radiators in the.



Optional Equipment

- Cutting beads
- Strainer
- Strainer at the entrance to the water
- Collector groups
- Room thermostats
- Hot water recirculation line and pump
- Thermostatic 3-way

- mixing valve for underfloor heating
- Frequency controlled pump
- Cooling line
- Heat meter (calorimeter)
- Cold water meter
- Cabinet with lid



TYPES

MITx D Features



MIT the difference

- MIT the difference in pressure valve DN15 (5-25 kPa)
- MIT Thermostatic valve DN20 (20-70 °C) with special sensor
- MIT brazed heat exchanger
- Isolation of heat exchanger AISI 316 stainless steel piping
- Galvanized Sheet

Equipment That Can Be Added As An Option

- Protection Cover
- Ball Valve (DN20)
- Silt Trap (DN20)
- Motor Operated Valve (DN20)
- Place the Calorimeter Assembly
- Place the Water Meter Assembly

Types

- MIT-1D (35 kW)
- MIT-2D (45 kW)
- MIT-3D (55 kW)
- MIT-4D (60 kW)
- MIT-5D (65 kW)
- MIT-6D (70 kW)

MITx S Feature



Product Features

- MIT Thermostatic valve DN20 (20-70° C) with special sensor
- MIT brazed heat exchanger
- Isolation of heat exchanger AISI 316 stainless steel piping
- Galvanized Sheet

Equipment That Can Be Added As An Option

- Protection Cover
- Ball Valve DN20
- Silt Trap DN20

Types

- MIT-1S (35 kW)
- MIT-2S (45 kW)
- MIT-3S (55 kW)
- MIT-4S (60 kW)
- MIT-5S (65 kW)
- MIT-6S (70 kW)



MITx DY Features



Product F

- MIT the difference in pressure valve DN15 (5-25 kPa)
- MIT Thermostatic valve DN20 (20-70° C) with special sensor
- MIT brazed heat exchanger Isolation of heat exchanger
- Underfloor heating kit (WILO 15-6) frequency controlled
- Circulating pump + Thermostatic valve + Check valve
- AISI 316 stainless steel piping
- Galvanized Sheet

Equipment That Can Be Added As An Option

- Protection Cover
- Ball Valve DN20
- Silt Trap DN20
- Motor Operated Valve DN20
- Place the Calorimeter Assembly
- Place the Water Meter Assembly

Types

- MIT-1D-Y (35 kW)
- MIT-2D-Y (45 kW)
- MIT-3D-Y (55 kW)
- MIT-4D-Y (60 kW)
- MIT-5D-Y (65 kW)
- MIT-6D-Y (70 kW)





EKIN ACADEMY



Ekin is aware that the progress in its sector is possible through continuous development and learning.

Ekin Academy, established with this awareness, aims to provide high-quality and sustainable development with its modern education methods, to provide successful employees and to provide value to the society through social responsibility projects.

Training and development programs that will make a direct contribution to the results of our employees' work processes and which will make a difference in their personal development are prepared by Ekin Academy.

For our business partners and customers, our training modules prepared by our expert staff provide training support for pre-sales and post-sales issues such as commissioning, operation, maintenance and repair of our products.

In cooperation with universities within the scope of corporate social responsibility projects, we are experiencing the happiness of adding value to the society by allowing the engineer candidate, who aims to take place in the fields where Ekin is active, to meet with the sector and to experience the theoretical knowledge acquired in the fields of application.

In-Company Trainings

Ekin Academy conducts technical, leadership, strategy development, sales and training and development programs for different tasks in the fields of heat transfer, pressure vessels, package systems, food systems and liquid transfer.





Out-of-Company Trainings

We are realizing conferences and training activities to our business partners, professional groups and institutions where we carry out social responsibility projects in various locations of Turkey.



SALES TEAM

At Ekin, we produce a proactive solution by our engineering staff who are specialized in their field. Our team, which works with the aim of unconditional customer satisfaction, works selflessly in order to gain customer loyalty by raising the bar of success in products, services and processes.

We are happy to share our accumulated knowledge with our valued customers. Ekin will continue to be the best solution partner for you in all applications with all kinds of heating and cooling applications.





Customer Satisfaction

Customer rights are protected in all circumstances.



Privacy Policy

Aware of the importance of protecting personal information, personal information is not shared with third parties.



Information Security

The requirements of ISO 27001 information security management system are fulfilled at Ekin.



Ethical Values

In all our business relations, our principle of mutual benefit by adhering to laws and ethics is our principle.



CERTIFICATES





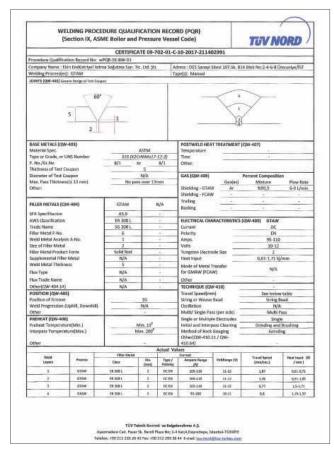
















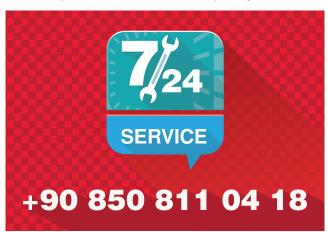
PROFESSIONAL SYSTEM SOLUTION CENTER

From our MIT professional system solution center, you can get help with problems with your pumps, heat exchangers and your system. Our solution center consisting of our expert engineers will be happy to help you.

- Domestic hot water installations.
- Central and district heating systems.
- Milk, yogurt, buttermilk heating, cooling and pasteurization systems.
- Industrial cooling and heating systems.
- Oil cooling systems.
- Energy recovery systems.
- Pool heating systems.
- Steam installations.



It is vital for your system to be designed and implemented correctly in the first installation in order to be able to operate at the desired capacity, smoothness and long life. For this reason, you can get first-hand



the technical support you need during the installation phase of your system and the problems that may arise in the business; You can reach us 24 hours +90 (216) 232 24 12 in 7 days.

We would like to reiterate that we will be happy to share our knowledge accumulated over many years with our valued customers in order for your system to work correctly and performance.

Ekin will continue to be the best solution partner for you in all applications with all kinds of heating and cooling applications.











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Our products are produced with Turkish engineering technology in **135 countries** in the world today...







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