



**SUBSTATIONS  
PRODUCT CATALOGUE**

# Follow us on social media!



[www.instagram.com/ekinendustriyel](http://www.instagram.com/ekinendustriyel)



[www.facebook.com/ekinendustriyel](http://www.facebook.com/ekinendustriyel)



[www.youtube.com/ekinendustriyel](http://www.youtube.com/ekinendustriyel)



[www.linkedin.com/company/ekinendustriyel](http://www.linkedin.com/company/ekinendustriyel)



[www.twitter.com/ekinendustriyel](http://www.twitter.com/ekinendustriyel)



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





## Sustainable Innovation, Quality Standardization and Dynamism

Ekin Endüstriyel, 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

- Water Heater Tanks • Water Storage Tanks • Buffer Tanks • Expansion Tanks • Stainless Steel Process Tanks • Balance Tanks / Dirt Separators / Air Separators • Pressured Air Tanks • Neutralization Tanks • Air Tubes • Steel IBC Tanks with ADR



## COMPLETE SYSTEMS UNITS

- Heat Stations • Steam Package Systems • Special Designed Systems • Dosing Systems • Substations • Thermoregulators



## 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

- Thermoplastic Valves • Plastomatic Valves



## ENERGY SYSTEMS

- Solar Collectors • Water Heater Tanks for Solar

# Contents

1

Heat Stations



## 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.



- 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.



## 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).





## 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 are 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 ( $\Delta P$ ) 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.  $\Delta P$  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



#### Product Features

- 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 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.







**WELDING PROCEDURE QUALIFICATION RECORD (PQR)**  
(Section IX, ASME Boiler and Pressure Vessel Code)


**TUV NORD**

**CERTIFICATE 09-702-01-C-10-2017-211402991**

Procedure Qualification Record No: wPQR-TK-BW-01

Company Name: Ekin Endüstriyel Isıtma Soğutma San. Tic. Ltd. Şti. Address: DES Sırası/Site: 107/34, B14 Blok No:2-4-6-8 Ümranyeri/İST  
Welding Process(es): GTAW Type(s): Manual

**JOINTS (QW-402) Cross Section of Test Coupon**



BASE METALS (QW-403)		POSTWELD HEAT TREATMENT (QW-407)	
Material Spec.	ASTM 316 (321/MS/7-22-2)	Temperature	-
Type or Grade, or UNS Number	316 (321/MS/7-22-2)	Time	-
P. No./P. No.	4/1 NO M/1	Other	-
Thickness of Test Coupon	5	<b>GAS (QW-408)</b>	
Diameter of Test Coupon	N/A	Percent Composition	
Max. Pass Thickness (≤ 13 mm)	No pass over 13mm	Shielding - GTAW	Gas(es) Mixture Flow Rate
Other	-	Shielding - FCAW	Ar 99.9 6-9 l/min
<b>FILLER METALS (QW-406)</b>		Travel	-
SFA Specification	AS.B	Backing	-
AWS Classification	ER 308 L	<b>ELECTRICAL CHARACTERISTICS (QW-405)</b>	
Trade Name	SG 308 L	Current	DC
Filler Metal P-No.	6	Polarity	EN
Weld Metal Analysis A-No.	1	Amps.	95-110
Size of Filler Metal	2	Volts	10-12
Filler Metal Product Form	Solid Rod	Tungsten Electrode Size	2
Supplemental Filler Metal	N/A	Heat Input	0.61-1.75 kJ/mm
Weld Metal Thickness	5	Mode of Metal Transfer (for GMAW (FCAW))	N/A
Flux Type	N/A	Other	-
Flux Trade Name	N/A	<b>TECHNIQUE (QW-410)</b>	
Other (QW-404.14)	N/A	Travel Speed (mm)	See below table
<b>POSITION (QW-405)</b>		String or Weave Bead	String Bead
Position of Groove	1G	Shielding	N/A
Weld Progression (Up/Hil, Down/Hil)	N/A	Multi/ Single Pass (per side)	Multi/ Pass
Other	-	Single or Multiple Electrodes	Single
<b>PREHEAT (QW-406)</b>		Initial and Interpass Cleaning	Grinding and Brushing
Preheat Temperature (Min.)	Min. 10°	Method of Back-Gouging	Grinding
Interpass Temperature (Max.)	Max. 200°	Other (QW-410.11 / QW-410.61)	-
Other	-	<b>Actual Values</b>	

Weld Layers	Process	Filler Metal		Current		Voltage (V)	Travel Speed (mm/min)	Heat Input (kJ/cm)
		Class	Dia. (mm)	Type / Polarity	Amps Range			
1	GTAW	ER 308 L	2	DC EN	205-210	11-12	1.87	0.61-0.71
2	GTAW	ER 308 L	2	DC EN	205-210	11-12	1.76	0.51-0.59
3	GTAW	ER 308 L	2	DC EN	205-210	11-12	0.77	1.5-1.71
4	GTAW	ER 308 L	2	DC EN	205-210	10-11	0.8	1.15-1.37

TUV Teknik Kontrol ve Belgelendirme A.Ş.  
Atatürk Cad. Paaz Sk. Barış Plaza No: 3-4 Kat: Ekin Endüstriyel, İstisay-TÜRKİYE  
Telefon: +90 212 225 20 42 Fax: +90 212 225 20 44 E-mail: tas.mtd@tuv.turkey.com



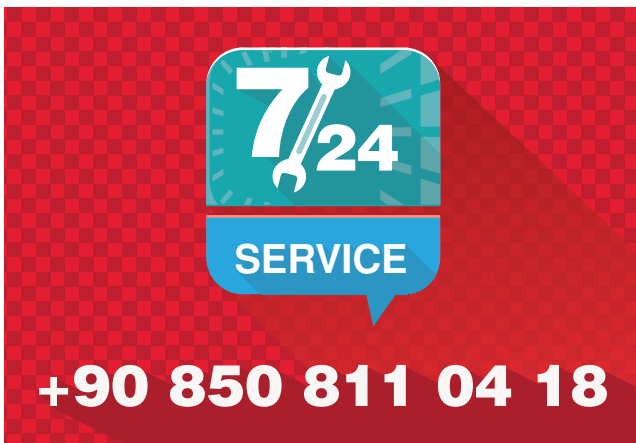
## PROFESSIONAL SYSTEM SOLUTION CENTER

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.



/ekinendustriyel

Follow us on  
social media...



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





**EKİN ENDÜSTRİYEL**

Isıtma-Soğutma San. Tic. Ltd. Şti.

Dudullu Organize Sanayi Bölgesi - Des Sanayi Sitesi  
107. Sk. B14 Blok No: 2 Ümraniye / İstanbul / Turkey  
**Phone:** +90 216 232 24 12 **Fax:** +90 216 660 13 08  
[info@ekinendustriyel.com](mailto:info@ekinendustriyel.com) - [www.ekinendustriyel.com](http://www.ekinendustriyel.com)

**444 EKİN**  
**3546**

