



EKIN ENDUSTRIYEL

Hot Water Radiator  
User Manual



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**The first condition of innovation is to question.**

**And for the sustainable innovation, it is never quit questioning.**

The journey of innovation has started with a question for us too: "How can we develop value-added technologies in Turkey?". First turning point in this long journey was the birth of MIT (Made in Türkiye) brand. MIT made us the first plate heat exchanger producer of Türkiye and it's founding vision was not to become a local alternative however, it was to build a high-quality brand that can compete on a global level.

While we are working towards this goal in the past 17 years, our products and processes deemed worthy for documentation by many national and international quality assessment institutions such as ISO, TSE, CE, GOST and many more. This was the natural outcome of our constant questioning of the status-quo and our desire to outperform ourselves.

## **New Generation Engineering**

With our engineering approach that focuses on the process, not the problem, we do not just specialize in a product, but we consider the entire ecosystem of that product. Ergo, we produce all the other components of a system in addition to plate heat exchangers and we focus on the constant development of engineering staff required to provide an end-to-end application.

We provide a "solution" rather than a product with our business development, presales, sales and after sales services provided by our expert engineers.

In our 17th year, we continue to grow as a solution partner for projects that need high technology in more than 60 countries with our internationally approved high-quality plate heat exchangers; components such as accumulation tanks, boilers, industrial pumps and installation materials that completes these exchangers to form a system; and complementary services provided by our expert engineer staff.



## HEAT TRANSFER PRODUCTS

- Gasketed Plate Heat Exchangers
- Brazed Heat Exchangers
- Shell & Tube Heat Exchangers
- Evaporators and Condensers
- DC Fan Driven Oil Coolers
- Heat Coils
- Serpentine / Radiators / Economizers

## PRESSURE VESSELS

- Water Heater Tanks
- Water Storage Tanks
- Buffer Tanks
- Expansion Tanks
- Stainless Steel Tanks
- Balance Tanks / Dirt Separators / Air Separators / Air Tubes
- Steam Separators
- Pressured Air Tanks
- Neutralization Units

## INDUSTRIAL AND FOOD GRADE SYSTEMS

- Heat Stations
- Industrial Process Systems
- Dosing Systems
- Substations
- Thermoregulators
- Pasteurizers
- CIP and Hygienic Process Systems
- Hygienic Storage and Process Tanks
- Homogenizers
- Turn-key Projects

## FLUID TRANSFER PRODUCTS

- Lobe Pumps
- Hygienic Centrifugal Pumps
- Twin Screw Pumps
- Gear Pumps
- Magnetic Drive Pumps / Thermoplastic Pumps
- Dosing Pumps
- Air Operated Double Diaphragm Pumps (AODD)
- Drum Pumps
- Monopumps
- Centrifugal Blowers
- Roots Blowers
- Turbo Blowers

## FLOW CONTROL UNITS

- Butterfly Valves
- Ball Valves
- Globe Valves
- Knife Gate Valves
- Actuators
- Check Valves and Strainers
- Thermoplastic Valves

## ENERGY SYSTEMS

- Boilers
- Steam Generators
- Solar Collectors
- Chillers
- Cooling Towers

# PRODUCT RANGE



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## Hot Water Radiator



First, thank you for choosing the MIT brand. In this manual, you will find the usage information of the Ekin Industrial's hot water radiator.

Please review this manual carefully in order to operate your device with high efficiency and economy, and to use it comfortably and for a long time.

Do not touch any part or setting of your device for reasons such as operating, adjusting or maintaining other than those specified in this manual.

### Guidance

Ekin Industrial radiators are designed for the highest efficiency and trouble-free service with long years of technical and operational research.

The grouped serpentines are called as a radiator. Radiators are named according to the type of fluid that is used. Hot water radiators are products in which heat transfer is provided by a secondary fluid by utilizing the energy of hot water passing through finned serpentine pipes.

Radiators classified according to their serpentine structures can also be classified as non-galvanized, electro-galvanized coated serpentine and hot-dip galvanized serpentine radiators according to the galvanized coating process. The serpentine being used, according to the wing, mirror and collector material used, can be classified as full carbon steel, full stainless, full copper serpentine and radiators with different materials in the radiator group. Radiators, which are widely used in many areas from large industrial areas to small businesses today, are equipments that serve many different purposes in line with their designs.



### Handling

In order to lift the radiator, a carrier profile or a rope mechanism should be used to be connected to the lifting eye, if any.

If the contrary is done, the radiator may be damaged or the work safety of the working personnel will be risked. The radiator must never be lifted from pipe joints or flange studs.

## Installation

- When connecting the piping system to the radiator, it must be ensured that no tension or pressure is created on both the radiator and the piping system.
- Heavy pipes must be supported. This will hinder putting too much stress on the radiator.
- All connections on the radiator must be equipped with on-off valves so that they can be opened when needed.
- Thermometer and manometer should be placed at the inlet and outlet of the radiator.
- Welding pieces and similar solid materials that may come from the installation during the first start-up and rust, etc. particles can enter the device and damage it. They can also create blockage and impede flow and heat transfer. For this reason, it is highly recommended to put a strainer at the inlet of the radiator.
- Necessary measures must be taken to ensure that the highest pressure value allowed for the device is not exceeded during operation. Therefore, a safety sleeve adjusted to the prescribed design pressure and with a suitable discharge capacity should be used.
- It needs to be ensured that the plumbing system connected to the radiator is resistant to pressure fluctuations and thermal shocks.

## The start-up of the radiator

- It should be checked that all input-output connections are made correctly.
- The temperature and pressure values of the fluid should be checked and it should be ensured that it is not higher than the maximum value indicated on the nameplate.
- Before the radiator is started up, internal particle cleaning must be done and the first water regime water must be discharged to the drainage.
- Before operating, it must be absolutely checked that the radiator fluid outlet valves are open.

## Checkings for correct operation

- It should be checked that the pumps and control valves do not create pressure fluctuations (vibration). Continuous pressure fluctuations will cause fatigue in the pipes.
- While operating the radiator, the operating conditions should not be changed. It is vital that the radiator is not exposed to thermal and mechanical shocks so that the gaskets are not damaged.

## Short Term Shutdown

When closing, the flow of hot fluid must be stopped first. If it is necessary to stop the circulation of the cooling medium, the circulation of the hot medium must be stopped by by-pass or other means.

- While flow continues in the cold circuit, the control valve of the hot circuit should be closed slowly.
- The heat exchanger must be cooled below 40 °C.
- All remaining valves must be closed.





## Long Term Shutdown

- First, the steps in the “Short-Term Shutdown” section should be followed exactly.
- If the radiator has been disassembled, a warning should be written to remind the personnel that the tightening screws need to be adjusted again while taking it back into operation.

## Maintenance

- The recommended procedure should be followed with caution. Rapid start-up and shutting down the radiator without proper condensation removal is the main cause of radiator damage.
- The internal and external conditions of the radiator should be observed at regular intervals and should be kept clean.
- Failure in cleaning the radiators makes heat transfer difficult and reduces the efficiency of the radiator. It can cause complete cessation of flow through some tubes and this may cause the tubes to overheat. This overheating can cause severe expansion and leaking pipe joints.
- Appropriate means should be provided to clean the radiator at regular intervals.
- When cleaning a cylinder bundle, the coils should not be beaten to remove the slag and scale build-up outside the coil. When scrapers must be used, make sure that the scraper is not too sharp to cut the metal of the pipes.
- Gaskets and gasket surfaces must be thoroughly cleaned and must be free from scratches and other defects. Gaskets must be placed correctly before retightening the bolts. When a radiator is dismantled for any reason, it is recommended to reassemble it with new gaskets. When gaskets are re-used they become dry and brittle, and they do not always provide an effective seal. Metal or metal jacketed gaskets, when initially compressed, flow to conform to the contact surfaces. Gaskets that are removed and reused can provide a defective seal. Reused metallic gaskets can deform or damage the gasket contact surfaces of the radiator.

## Important Notices and terms of Warranty

- MIT products are under warranty for 2 years against manufacturing defects.
- Products that are not selected according to the installation pressure and do not have safety equipment as specified in this manual will be out of warranty.
- Automatic type safety valve specified according to product pressure classes in this manual should be used. Otherwise, the products will be out of warranty.
- MIT products are made of certified materials. Corrosive damages that the products undergo according to the fluid state are out of warranty.
- The mounting diagrams specified in the manual are advisory. Product assembly should be done by qualified persons in accordance with the system.
- Before putting into service, a sealing test should be implemented on all connections.
- Products that are not installed and used under the conditions specified in this guide will be out of warranty.



**EKIN ENDUSTRIYEL**

# CERTIFICATE OF WARRANTY



## The Document's Confirmation Date and Number:

The usage of this document has been authorized by T. C. Sanayi Bakanlığı İl Müdürlüğü in accordance with the Law No: 4077 on the Protection of Consumers and the Communiqué on the Implementation of the Guarantee Certificate put into effect based on this Law.

## WARRANTY CONDITIONS

1. Warranty period starts from the delivery date of the goods.
2. In case of malfunction of the products within the warranty period, the time spent in the repair is added to the warranty period. The repair period of the goods is maximum 30 working days. This period starts from the date of notification to the service station of the defect goods. In the absence of service station, this period starts from the date of notification to the seller, dealer, agent, representative, importer or manufacturer of the goods.
3. In case of malfunction of the goods within the warranty period due to material, workmanship or assembly defects, the goods will be repaired at no cost and no additional cost will be asked from buyer under the name of changed part price or any other name.
4. Defects caused by the use of the product contrary to the items in the user manual are out of the warranty.
5. For the problems that may arise regarding the Warranty Certificate can be applied to the Sanayi ve Ticaret Bakanlığı Tüketicinin ve Rekabetin Korunması Genel Müdürlüğü.
6. The manufacturer may request that the product be sent to its own production facility at its own discretion. The shipping cost to be spent by the customer belongs to the manufacturer if it is evaluated within the scope of warranty as a result of the examination made on the product. If the defect is not evaluated under the warranty, all costs incurred will be invoiced to the customer.
7. The manufacturer is not responsible for any damages and losses that may occur in the cargo or warehouse during the shipment of the product.
8. The manufacturer accepts no liability for the damage cause by the following reasons:
  - Failure to comply with temperature, pressure or other conditions specified in the technical specifications.
  - Incorrect applications and normal abrasion conditions.
  - Damages that may occur from sudden opening and closing of the fluid valves.
  - Damages cause by the usage of non-original spare parts.
  - Damages that may occur during shipping.
  - Damages that may arise from corrosion.
  - Blockages cause by the fluid passed through inside the product.
  - Damages that may arise from condensate discharge in products which are used in steam applications.
  - Damages that may occur by the blockages cause by the solid materials which can block the products.
  - Damages that may occur as a result of incorrect interventions by the un-authorized services.
  - Damages that may be caused by the lack of fixtures or not working properly.
  - Accidents and problems that may occur in the system if the safety fixtures (safety valve, thermostat, pressure sensors, temperature sensors etc.) are not used are not considered under warranty. The manufacturer is not responsible for any of the pecuniary and non-pecuniary damages that may occur.
9. Manufacturer is not responsible for secondary damages, loss of production and accidents whether it is under warranty or not.
10. All of the above items have been specified in our other and order confirmations and you have been informed that they supersede the contract. Commissioning of the product means acceptance of the contract.

For the product that was sold to ..... LTD. ŞTİ./A. Ş/ Legal Entity on .../.../20... with stated model, brand and serial number, all kinds of manufacturing and material defects are covered by the warranty of our company for 2 (two) years.

SELLER

DEALER

END USER

Brand :

Product Type :

Product Code :

Serial No. :

Product No. :

NOTE: User mistakes are not covered by warranty.  
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Please keep this certificate!

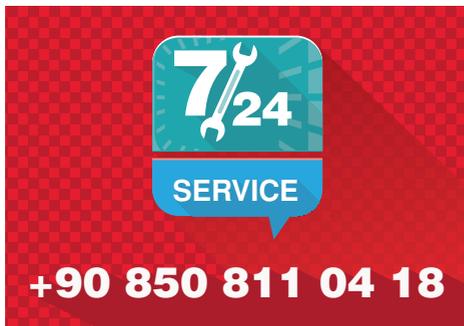
## Professional System Solution Center

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, 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.**



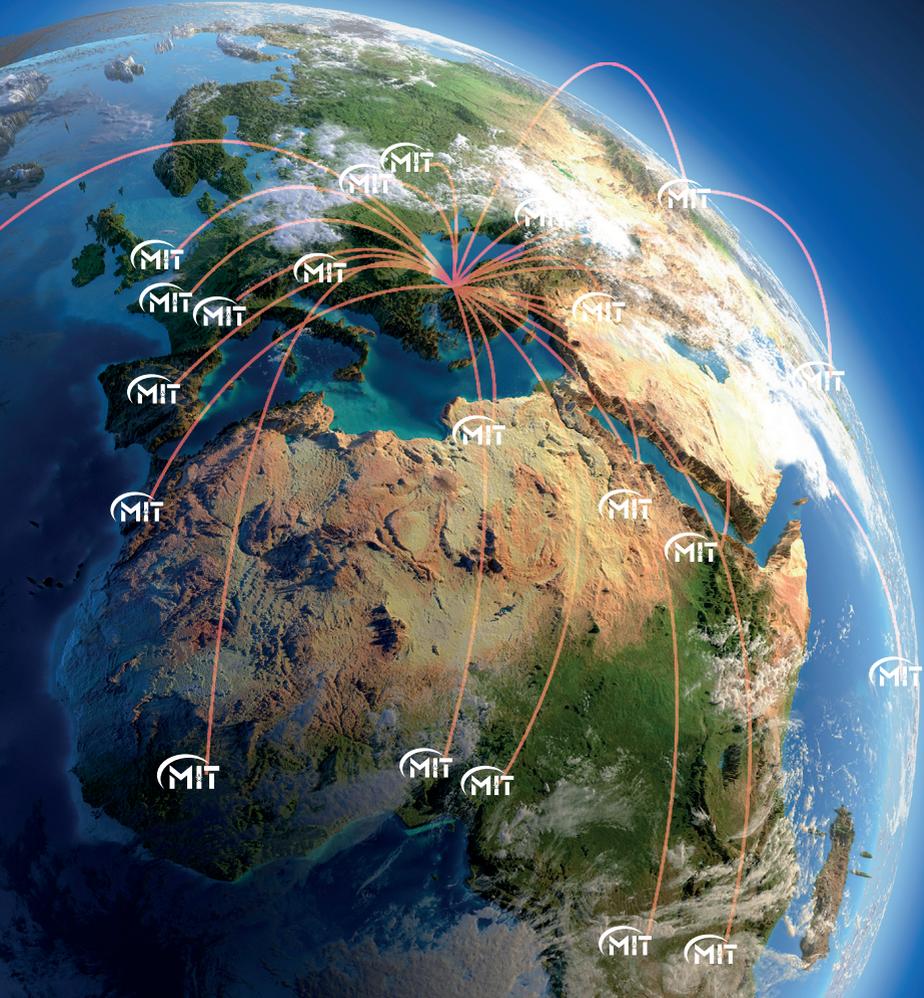
We would like to reiterate that we will be happy to share our knowledge accumulated over many years with our valued customers in order for your system to work correctly and performance.

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

 Producer; reserves the right to change the product features, technical dimensions and information and installation diagrams specified in this catalog without notice. No specified information can be copied and used without the permission of the manufacturer. In no way can the manufacturer be held responsible by giving examples of technical information and diagrams. In case of need, we request you to request a special technical drawing for your project for exact dimensions.



Today; **135 points** in the world.





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

+90 216  
**444** EKİN  
3546

