EKİN ENDÜSTRİYEL

Heat Coils
User Manuals

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

The first condition of innovation is to question.
And the first condition of sustainable innovation is to question constantly.

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 Turkey and it’s founding vision was not to become a local alternative, 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, 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.

ISO 9001:2015 CE TSE TSEK EAC FDA ADR YERLİ ÜRETİM

PRODUCT RANGE

HEAT TRANSFER PRODUCTS

- Gasketed Plate Heat Exchangers
- Brazed Heat Exchangers
- Shell & Tube Heat Exchangers
- Evaporators and Condensers
- DC Fan Driven Oil Coolers
- Heat Coils
- Serpentines / 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
- Peristaltic (Hose) Pumps
- 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

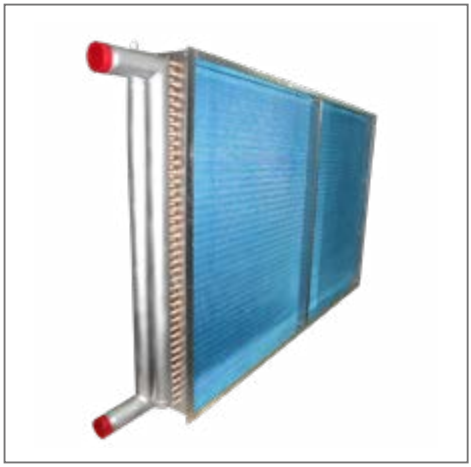
ENERGY SYSTEMS

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

MIT mitrojen DORIS magneto AIROO TRUEVALVE inoxen DINO Ruby FERRBEST pumps GemmeCotti INJECTA INNSUN

Contents

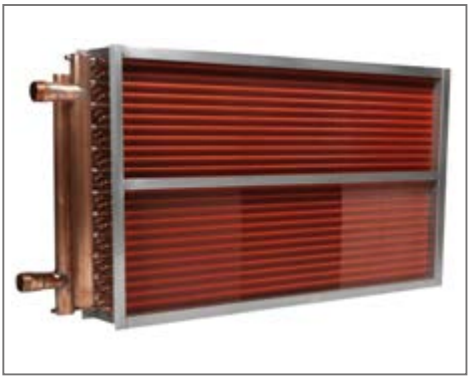
Heat Coils



First of all, thank you for choosing the MIT brand. In this manual, you will find the usage information of the coils produced by Ekin Industrial. Please review this manual carefully in order to operate your product 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 the operations specified in this manual.

During the assembly, use and maintenance of the product, the following instructions must be strictly followed for the system to run smoothly for all health and safety reasons.

Introduction



Ekin Industrial coils are designed for the highest efficiency and trouble-free service with years of technical and operational research. Coils are named according to the type of fluid used. They are products in which heat transfer is provided by means of a secondary fluid by utilizing the energy of the fluid passing through the pipes, such as hot water coils, steam coils, evaporators, condensers. They can be classified separately according to the inner tube, lamella, mirror, cassette and collector material used. Coils, which are widely used in many areas from large industrial areas to small businesses today, are equipment that serve many different purposes in line with their designs.

Transport and Storage

- Until the product is installed, it should be kept in a dry place, in its package or stretch etc., in such a way that it will not absorb dirt and dust in the environment. Ensure that the coverslips are protected from dust, dirt and other external factors by wrapping them with packaging materials.
- Do not expose the product to extreme heat or cold.
- Store the product as it came from production with the mouths of the pipes closed.
- Place the coils, which are placed on top of each other for transportation or storage, by raising them with materials such as styrofoam, so as not to damage the drainage pipe and outlet pipes.

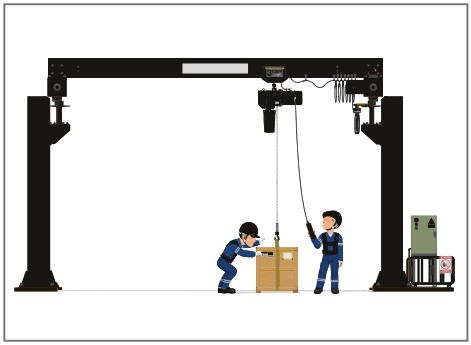
- While the coil is being transported, be careful not to hold it by the inlet-outlet copper pipes.
- Protect the lamellas from impacts during transportation

Lamels can cut your hand, use work gloves.

You can transport heavy coolers with suitable transport equipment such as forklifts and pallet trucks.

- Transport by overhead crane, forklift or suitable equipment as shown below.

Forklift Use



Overhead Crane Usage

If applications other than the above-mentioned details are made, the coils may be damaged or the occupational safety of the working personnel will be put at risk. The coils should never be lifted from pipe joints or flange studs.

Assembly

- The working place should be adequately ventilated and there should be no dangerous and explosive substances in the environment.
- The product is designed for working in a fixed position.
- When connecting the piping system to the coil, it must be ensured that no tension or pressure occurs in both the coil and the pipe system.
- Heavy pipes should be supported. This will prevent heavy loads from being placed on the coil.
- On-off valves must be installed on all connections so that the coils can be opened when needed.
- Thermometer and manometer should be placed at the inlets and outlets of the coil.
- 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 clogging and impede flow and heat transfer. Therefore, it is highly recommended to put a strainer at the inlet of the coil.

- Necessary precautions must be taken to ensure that the highest pressure value allowed for the product 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 must be ensured that the plumbing system connected to the coil is resistant to pressure fluctuations and thermal shocks.

Initial Start-up and Activating

- Before assembly, the product should be checked for possible damages (crushing/puncturing pipes, tearing lamellas) during shipment.
- Protective work gloves should be used during assembly.
- Air flow should not be obstructed while positioning.
- In order for the product to work smoothly, it must be flat and stable. This condition must be met.
- Installation should be done in such a way that external vibrations are not transmitted to the product. Care should be taken not to damage the outlet pipes during the assembly of the product.
- Coils are shipped with pressurized gas. Welding should not be done before the gas inside is evacuated.
- 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 coil is activated, internal particle cleaning must be ensured and the first water regime water must be discharged to the drainage.
- Before operating, it must be absolutely checked that the coil fluid outlet valves are open.

Checks for Correct Operation

- Pumps and control valves should be checked to not create pressure fluctuations (vibration). Continuous pressure fluctuations will cause fatigue in the pipes. coil is not exposed to thermal and mechanical shocks so that the seals are not damaged.
- Due to the working principle of the coil, the air circulation in the cabinet should not be obstructed and the products in the cabinet should be stocked in a way that does not hinder the air circulation.
- It should not be forgotten that the air will pass through the device and circulate in the cabin, accordingly, the front of the fans and the bottom of the battery should not be completely covered in order not to interrupt the airway

Filling and Operating the Coils

- Before adding fluid to the coil, the nitrogen in the battery must be discharged.
- After the coil is connected to the installation, the air inside must be evacuated by the system installer with a vacuum pump.
- Ensure that all drain plugs are closed and all air vents are fully open before putting any liquid into the coil.
- When the system reaches operating temperature, stop the pump and bleed air through the vents.
- Depending on system and/or fluid characteristics, this process may need to be repeated several times in the early stages of system operation.

Discharge and Drainage of Coils

- Taking out / evacuating the product from plant should be done by authorized persons using protective gloves.
- The product must be disconnected from all electrical and other systems and the fluid in the system must be completely discharged with the help of the Retrieval Unit. During this process, the fluid in the coil should never be left to the air / environment.
- In cases where the ambient temperature drops below the freezing point of the fluid used or fluids in the coils that will be out of service for a long time should be discharged.
- To allow drainage, close all air holes connected to the coil and open the drain plugs.
- After the discharging process is completed, in order to discharge the small amount of fluid remaining inside, close the collector holes and inject compressed air (5-6 bar) through the air hole to 3 times the internal volume of the battery.

Periodic Maintenance and Repair Instructions

- Maintenance and repair of the product should only be done by authorized persons.
- It should be checked once a year whether there is wear on the lamella and pipe parts.
- The system should be turned off during maintenance-repair.
- Care should be taken when cleaning as the coil fins have a delicate structure. Lamels can cut your hand, work gloves should be used during this process.
- Warn your system installer if there is a risk of wear or leaks, the system should not be restarted until the leak or wear is repaired.
- The recommended procedure should be followed carefully. Fast activating and coil shutdown without proper drainage is the main cause of product damage.
- The internal and external conditions of the coil should be observed at regular intervals and kept clean.
- Negligence in cleaning the coils makes heat transfer difficult and reduces the efficiency of the product. 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 coils at regular intervals.
- 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 coil is disassembled for any reason, it is recommended to reassemble it with new gaskets.

- Gaskets become dry and brittle when reused, not always providing an effective seal. Metal or metal jacketed gaskets, when initially compressed, flow to conform to their contact surfaces. Gaskets that are removed and reused can provide a defective seal. Reused metallic gaskets can cause deformation or damage to the battery's gasket contact surfaces.

Short Term Shutdown

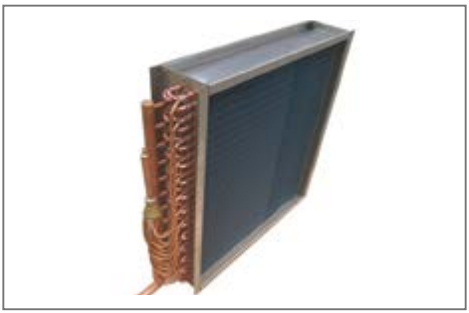
- When closing, the flow of hot fluid must be stopped first. If it is necessary to stop the circulation of the cooling medium, the circulation of the hot medium must be stopped by by-pass or other means.
- While flow continues in the cold circuit, the control valve of the hot circuit should be closed slowly.
- The heat exchanger should 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 coil has been removed, a warning should be written to remind the personnel that the tightening screws must be re-adjusted when taking it back into operation.

Warnings 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 excluded from the warranty.
- Automatic type safety valve should be used in capacities specified in this manual according to product pressure classes. Otherwise, the products will be out of warranty.
- MIT products are produced from certified materials. Corrosive damages suffered by the products depending on the fluid state are not covered by the warranty.
- The assembly diagrams specified in the manual are advisory. Product assemblies must be done by qualified persons in accordance with the system.
- Leakage of all connections should be checked before activaiting.



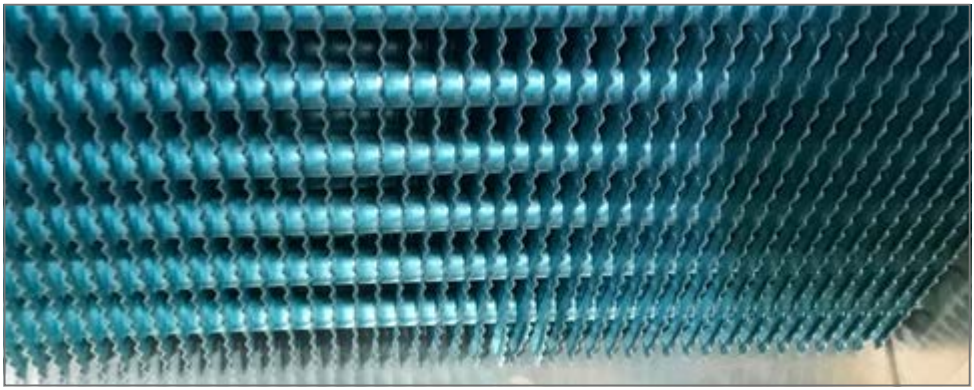
- Products that are not installed and used under the conditions specified in this manual will be out of warranty.

Quality Control Label

Indicates that the products passed the quality control without any problems.

Air Flow Direction Label

Indicates the air inlet direction of the product.



Notes

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 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 offer and order confirmations and you have been informed that they supersedes 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 : _____

Please keep this certificate!

NOTE: User mistakes are not covered by warranty.
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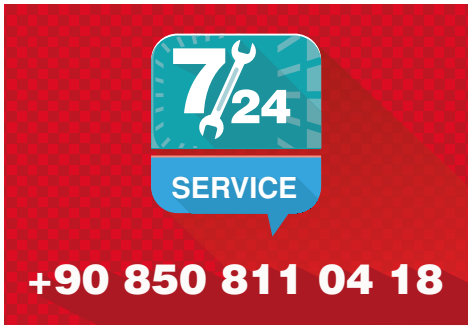
Professional System Solution Center

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.

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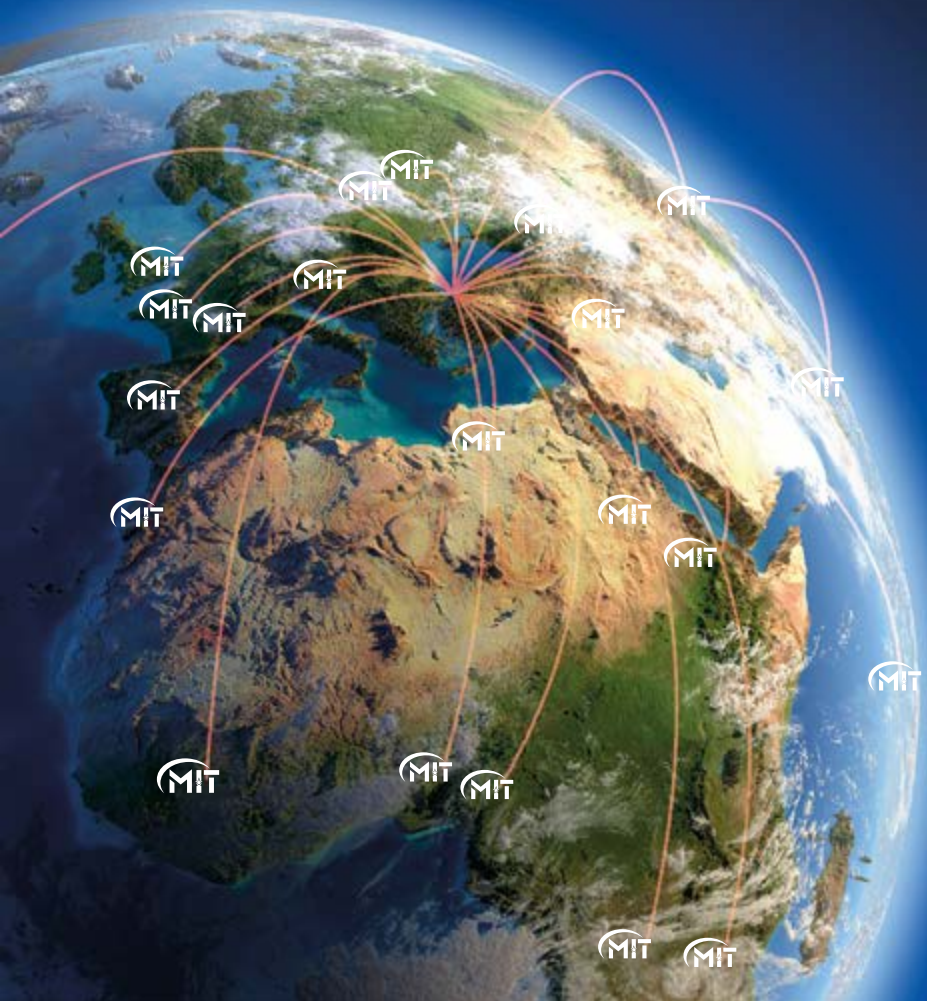

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