



**Economizers
User Manual**



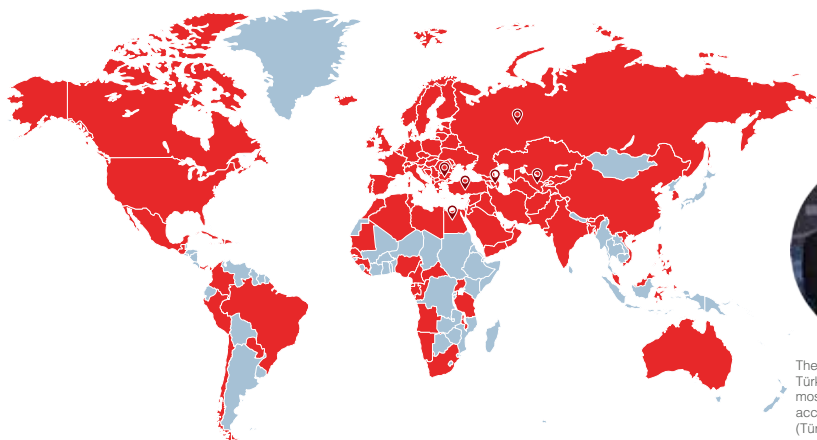
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Your Satisfaction Is Our Priority;
Globalization Is Our Goal!



The second-rated company in Türkiye has exported to the most different countries in 2021, according to ISIB (Türkiye HVAC-R).



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The first condition of innovation is to question. Sustainable innovation is to never stop questioning.

For us, the journey of innovation started with a question: “Why not produce value-added technology in Türkiye?”. The first turning point in this long journey was the birth of the MIT (Made In Türkiye) brand. The founding vision of MIT, which enabled us to become Türkiye’s first domestic manufacturer in the field of “Plate Heat Exchanger”, was not to be a domestic “alternative”, but to create a quality brand that could compete in the global market.

By working for this goal, we have been entitled to receive many international quality certificates such as ISO, TSE, CE, GOST... for our products and processes over many years. For us, questioning the current situation was a natural result of our desire to exceed ourselves.

New Generation Engineering

With our engineering approach that focuses on the process, not the problem, we do not only specialise in one product, but also consider the entire ecosystem of that product. Therefore, we provide an end-to-end application by producing all other components that will form a system as well as the plate heat exchanger. For this, we focus on the continuous development of the necessary engineer staff. With our business development, pre-sales, sales and after-sales services provided by our expert engineers, we produce not only products but also “solutions”.

At the point we have reached; we offer complementary services with our internationally approved plate heat exchangers, components such as accumulation tanks, boilers, industrial pumps and installation materials that turn these heat exchangers into a system. With our team of more than 100 expert engineers, we continue to develop as a solution partner for projects requiring high technology in more than 60 countries.



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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 / Automatic Pump Controlled Expansion System
- 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 / Reactors
- 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
- Pneumatic Piston Valves

ENERGY SYSTEMS

- Domestic and Industrial Boilers
- Steam Generators
- Chillers
- Cooling Towers

PRODUCT RANGE



mitröjen

DORIS

magneto

AIRGO

TRUEVALVE

MYRA

GP GEARYMAX

inoxen



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Economizer

First of all, thank you for choosing the MIT brand. In this manual you will find information on how to use the MIT Economizer. Please read 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 other than the operations specified in this manual, such as operation, adjustment or maintenance.

The MIT economizer is a device designed to improve energy efficiency and is typically used in large energy consumers such as boilers or HVAC systems.

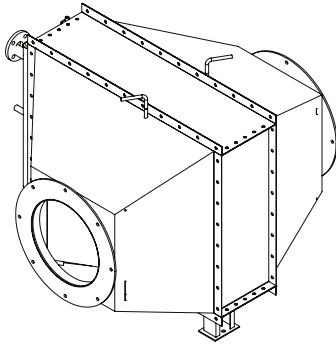


Its function is to recover waste heat so that less energy is used. MIT economizers are designed for the highest efficiency and trouble-free service through many years of technical and operational research. Below you can find a general economizer user manual. However, as each equipment and system may have different characteristics, you should always follow the product-specific instructions.

Installation

- Position the MIT Economizer so that correct air and water flow is ensured.
- Make sure that all pipe and air connections are correctly and tightly connected. Ensure that gaskets suitable for the process are used to prevent leaks.
- Check that the MIT Economizer is properly supported and that vibrations are minimized.
- When connecting the piping and ventilation (flue) system to the MIT Economizer, make sure that there is no stress and strain on both the economizer and the piping system.
- Heavy pipes must be supported. This will prevent heavy loads being placed on the economizer.
- MIT On-off valves should be installed on all connections so that the economizer can be opened when needed.
- MIT Economizer inlet and outlet should be equipped with thermometer and manometer.
- Welding parts and similar solid materials that may come from the installation during the first start-up and particles such as rust, etc. that break off from the inner surface of the pipes as a result of corrosion that may occur during operation can enter and damage the device. These may also create blockage and prevent flow and heat transfer. For this reason, it is strongly recommended to install a strainer at the inlet of the MIT Economizer.
- Precautions must be taken to ensure that the maximum permissible pressure value for the device is not exceeded during operation. For this reason, a safety sleeve with a suitable discharge capacity and adjusted according to the design pressure must be used.
- MIT Make sure that the installation system connected to the economizer is resistant to pressure fluctuations and thermal shocks.

Economizer-Assembly



Commissioning

- Check that all inlet-outlet connections are made correctly.
- Check the temperature and pressure values of the fluid and make sure that they are not higher than the maximum value indicated on the nameplate.
- Before commissioning the MIT Economizer, the internal particles must be cleaned and the first water regime water must be discharged into the drain.
- Before starting up, it must be checked that the MIT Economizer fluid outlet valves are open.

Controls for Correct Operation

Check that pumps and control valves do not generate pressure fluctuations (vibration). Persistent pressure fluctuations will cause fatigue in the pipes.

MIT The operating conditions must not be changed while the economizer is in operation. It is vital that the MIT Economizer is not exposed to thermal and mechanical shocks to prevent damage to the seals.



Short Term Shutdown

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

Long Term Shutdown

- First, the steps in the "Short Shutdown" section must be done exactly the same.
- If the MIT Economizer has been dismantled, a warning should be written to remind the personnel that the tightening screws should be readjusted when it is put back into operation.

Maintenance

- The recommended procedure must be followed carefully. Switching off the MIT Economizer without rapid commissioning and proper condensate removal is the main cause of product damage.
- The internal and external conditions of the radiator should be observed at regular intervals and kept clean.
- Negligence in cleaning the economizer complicates heat transfer and reduces the efficiency of the product. It can cause a complete cessation of flow through some tubes and this can cause the tubes to overheat. This overheating can lead to severe expansion and leaking tube joints.
- MIT Economizer should be provided with the appropriate tools necessary to clean it at regular intervals.
- When cleaning a tube bundle, to remove slag and sediment from the outside of the coil serpentines must not be hammered. Where it is necessary to use scrapers, make sure that the scraper is not sharp enough to cut the metal of the pipes.
- Gaskets and gasket surfaces must be thoroughly cleaned and free from scratches and other defects. The gaskets must be correctly positioned before retightening the bolts. When the MIT Economizer is dismantled for any Maintenance reason, it is recommended to reassemble it with new gaskets. Gaskets become dried out and brittle, not always providing an effective seal when reused. Metal or metal jacketed gaskets, when initially compressed, flow to fit the contact surfaces. Seals that are removed and reused may provide a defective seal. Reused metallic gaskets may cause deformation or damage to the seal contact surfaces of the MIT Economizer.



Safety

- Wear the necessary personal protective equipment (e.g. gloves, eye protection) during work.
- Know how to quickly and safely deactivate the system in case of an emergency.
- Train all operators and maintenance personnel on the use of the economizer and the potential hazards. These instructions are intended as a general guide.
- MIT products are covered by a 2-year warranty against manufacturing defects.
- Products that are not selected in accordance with the installation pressure and do not have safety equipment as specified in this manual will not be covered by the warranty.
- Automatic type safety valves must be used in the capacities specified in this manual according to the product pressure classes. Otherwise, the products will be out of warranty.
- MIT products are made of certified materials. Corrosive damages suffered by the products according to the fluid condition are not covered by the warranty.
- The assembly diagrams given in the manual are advisory. Product installations must be performed by qualified persons in accordance with the system.
- Check the tightness of all connections before commissioning.
- Products that are not installed and used under the conditions specified in this manual will not be covered by the warranty.

General Terms Of Use and Important Warnings

- Our products are guaranteed for 2 years against material and manufacturing defects. The warranty period starts with the delivery of the product to the user. Consumables and parts worn out in normal use (Gasket, shaft seal, stator, rotor, diaphragm, membrane, resistor, springs, electrical circuit elements, etc.) are not covered by the warranty. Warranty conditions are void if the product is used outside of the specified operating conditions.
- Failures caused by the product's installation, commissioning and use contrary to the items in the user's manual are not covered by the warranty. Ekin Industrial sends the user manuals with the product. It also publishes it on its website. In cases where the user manual does not reach the Buyer, the product should not be commissioned and must be requested in writing from Ekin Industrial. Otherwise, it is accepted that you are aware of the installation, maintenance and usage conditions, that you have this competence and that you have taken responsibility for all problems that may arise, and Ekin Industrial is not responsible for any problems that may arise.
- Periodic maintenance and repairs should be done using original parts supplied by Ekin Industrial or authorized services. Otherwise, the Warranty Terms are void.
- When procuring the product, the type of the product, the type of fluid used, pressure, temperature, density, etc. All information must be given completely and accurately. Otherwise, our company is not responsible for the problems that may occur.
- Problems, blockages and contaminations caused by the quality of the fluid used in our products or the installation are not covered by the warranty. Damages that may occur as a result of corrosion, cavitation, vibration, water hammer and freezing are not covered by the warranty.
- The reason for the damages that may occur due to the absence or malfunction of the armatures in the system or the non-use of the safety armatures (safety valve, thermostat, pressure sensor, temperature sensor, etc.) cannot be determined later and is not covered by the insurance. Our company is not responsible for material and moral accidents and losses that may occur.
- Any products and accessories that we trade or use in our products that are not our own production are not under the guarantee of Ekin Industrial. The warranty of these products and the responsibility of the damages that may occur are under the commitment of the manufacturers of the products.
- Our company is not responsible for process, production or real estate losses that may arise from our products. Claims for compensation will not be accepted unless the damage caused by us is the result of willful or gross negligence. The compensation amount for the damages that may occur, the delay penalty or any penalty that may arise for any reason cannot exceed the invoice amount.
- After receiving the products, the buyer; For obvious defects, the period of direct or indirect control, inspection and notification is 2 business days, for hidden defects, the period of direct or indirect control, inspection and notification is 8 business days. Products that are not notified in writing by the buyer within this period are deemed to have been accepted..
- Except for assembly and usage errors, we have the right and obligation to improve in the event of a manufacturer's defect and the product's lack of guaranteed features. We also have the right to choose to replace the product with a new one. However, the buyer has no right to demand a new one. In case of no improvement, repair or new delivery, the buyer may request the termination of the contract or a refund of the product price.
- The system designer and user are responsible for the selection of the appropriate product, its suitability for specific applications, its safe and trouble-free installation, operation and maintenance. Otherwise, we are not responsible for any damage or work accidents that may occur.
- Our company is only responsible for making the products to be delivered carefully ready for shipment. Since our company does not provide engineering services, product selection should be made after the application details, suitability of the material to the system and product features are technically evaluated by the buyer. Improper selection, installation or misuse of products may result in property damage or injury. Our company does not accept responsibility for product selection.
- If the buyer is a merchant or public law legal entity, all legal disputes will be resolved by the court over which we have jurisdiction. Anadolu Adliyesi / Turkey is exclusively authorized and competent authority in all disputes arising from joint legal relations. In case of dispute, Istanbul Anatolian courthouse courts and enforcement offices are authorized.



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 caused 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 caused by the usage of non-original spare parts.
 - Damages that may occur during shipping.
 - Damages that may arise from corrosion.
 - Blockages caused 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 caused 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 property.
 - 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 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 : _____

Please keep this certificate!

NOTE: User mistakes are not covered by warranty.
www.ekinendustriyel.com

7

Notes

Professional System Solution Center

You can get answers to the problems you experience with your pumps, heat exchangers and system from our MIT professional system solution center. You can also benefit from our 7/24 uninterrupted service with our solution center consisting of our expert engineers.

- 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 each us



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e 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.



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