EKİN ENDÜSTRİYEL

Separator
User Manual

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EKİN ENDÜSTRİYEL
Isıtma - Soğutma San. Tic. A.Ş.

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.

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 / 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

EKIN

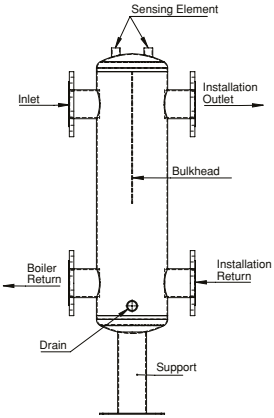
MIT mitrojen DORIS magneto AIROO TRUEVALVE myra GP GEARYMAX inoxen INNSUN

Contents

Important Notices

- 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.
- Installation and assembly should be done only by qualified persons.
- 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.

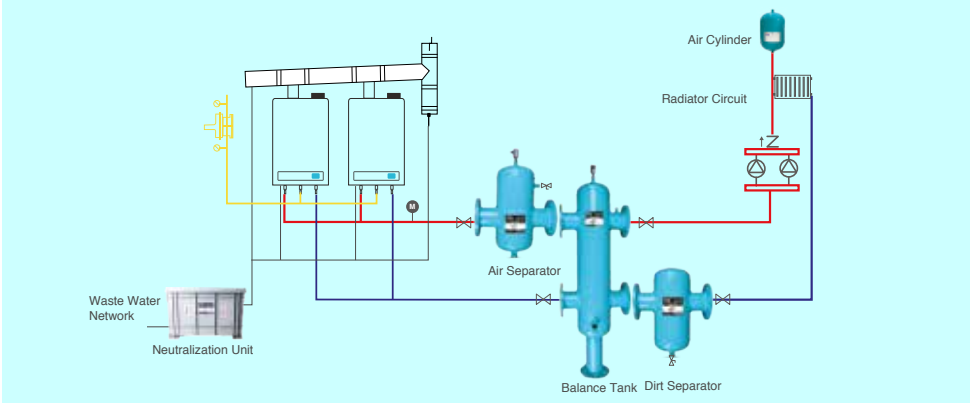
MIT Balance Tank



- Balance tanks are the equipment which provide the thermal balance between the boiler flow line and the boiler return line. In order to be able to function properly it is necessary to choose the right capacity, choosing the wrong capacity can cause depressurisation and degradation. **You can get support from experienced MIT sales engineers for the selection of the appropriate capacity.**
- MIT balance tanks are produced to be compatible with different pressure classes. Attention should be paid while selecting the product type suitable for the installation pressure.
- MIT balance tanks can be produced as flange joint, threaded joint and welding neck according to your appropriate mounting preference.
- In order to obtain maximum efficiency, it is of great importance that it is installed in accordance with the installation.
- It has a structure that does not require cleaning and maintenance. It is necessary that the dirt and dirty water accumulating at the bottom of the separator to be discharged from the drainage outlet at the bottom.
- The product was designed for water installations. Do not use in gas phasic fluid installations such as steam and air.
- For product and installation safety, it is necessary to use an automatic type safety valve with an appropriate capacity.

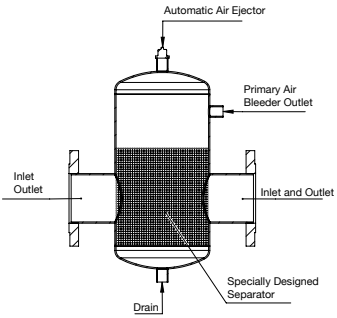
Product Pressure Class	Safety Valve Pressure Class
10 Bar	8 Bar
16 Bar	12 Bar
25 Bar	20 Bar

Connection Diagram



*This is the recommended connection diagram for the balance tank.
Installation of other equipment that should take part in the installation should be done according to the installation specifications.

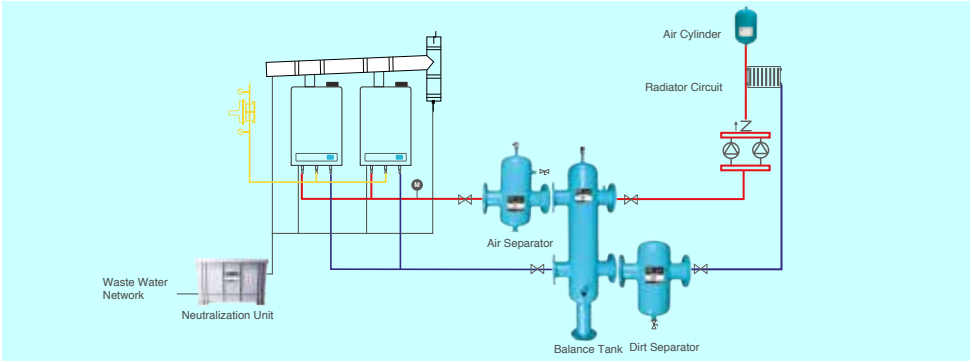
MIT Air Separator



- MIT air separators reduce the velocity of the fluid directed from the system thanks to the larger body diameter than the installation diameter and thanks to its special internal structures, it provides turbulence and rotational movement without causing circulation problems. In this way, air/gas bubbles move upwards with the effect of pressure and flow and are thrown out with the help of the automatic purge valve at the top.
- MIT air separators are produced in accordance with different pressure classes. Attention should be paid while selecting the product type suitable for the installation pressure.
- MIT air separators can be produced as flange joint, threaded joint and welding neck according to your appropriate mounting preference.
- There is no need to interrupt the flow for effective air discharge. It continuously discharges the air.
- For effective separation, the flow direction has no effect, it can separate in both directions.
- For effective efficiency, air separator installation should be done where the water temperature is highest (as close as possible to the boiler outlet).
- During the water filling to the installation, it is necessary to discharge the high volume air in the installation from the discharge valve located at the top.
- It has a structure that does not require cleaning and maintenance. It is necessary that the dirt and dirty water accumulating at the bottom of the separator to be discharged from the drainage outlet at the bottom.
- The product was designed for water installations. Do not use in gas phasic fluid installations such as steam and air.
- For product and installation safety, it is necessary to use an automatic type safety valve with an appropriate capacity.

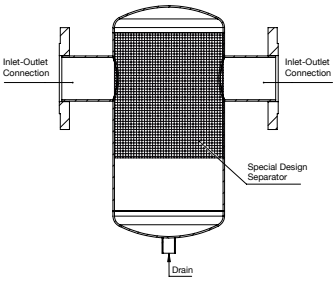
Product Pressure Class	Safety Valve Pressure Class
10 Bar	8 Bar
16 Bar	12 Bar
25 Bar	20 Bar

Connection Diagram



*This is the recommended connection diagram for the air separator.
Installation of other equipment that should take part in the installation should be done according to the installation specifications.

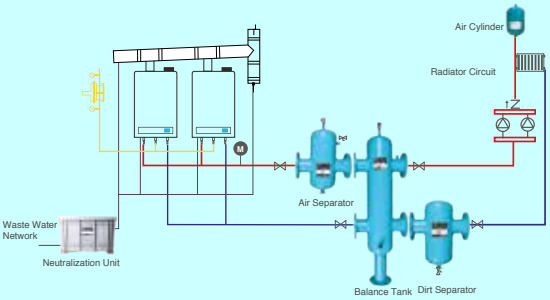
MIT Dirt Separator



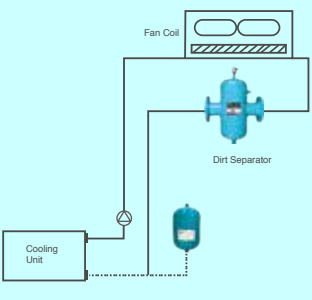
- MIT dirt separators have the same working principle with air separators. Thanks to its body diameter larger than the installation diameter, it reduces the velocity of the fluid directed through the system, and thanks to its special internal structures, it provides turbulence and rotational movement without causing circulation problems. In this way, heavy sludge/dirt and metal particles move downwards and they are discharged from the drainage outlet located under it.
- MIT dirt separators are produced in accordance with different pressure classes. Attention should be paid while selecting the product type suitable for the installation pressure.
- MIT dirt separators can be produced as flange joint, threaded joint and welding neck according to your appropriate mounting preference.
- For effective separation, the flow direction has no effect, it can separate in both directions.
- It has a structure that does not require cleaning and maintenance.
- It is necessary that the dirt and dirty water accumulating at the bottom of the separator to be discharged from the drainage outlet at the bottom.
- The product was designed for water installations. Do not use in gas phasic fluid installations such as steam and air.
- For product and installation safety, it is necessary to use an automatic type safety valve with an appropriate capacity.

Product Pressure Class	Safety Valve Pressure Class
10 Bar	8 Bar
16 Bar	12 Bar
25 Bar	20 Bar

Connection Diagram



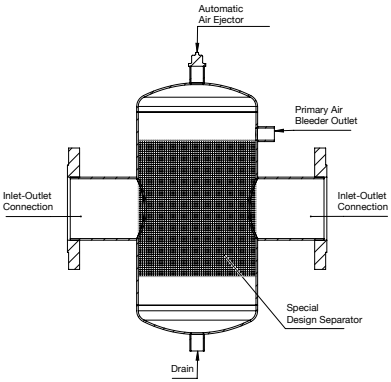
Connection diagram for heating installations



Connection diagram for cooling installations

*This is the recommended connection diagram for the dirt separator.
Installation of other equipment that should take part in the installation should be done according to the installation specifications.

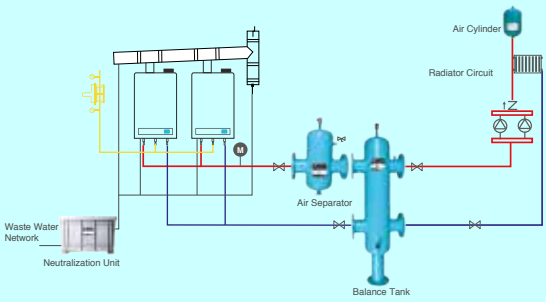
MIT Air and Dirt Separator (Coupled)



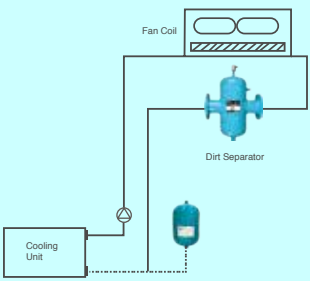
- MIT air and dirt separators (coupled) have the same working principle as air separators and dirt separators. It is produced for narrow spaces that do not allow it to be mounted separately to the installation. It provides space and cost advantage.
- MIT air and dirt separators (coupled) are produced in accordance with different pressure classes. Attention should be paid while selecting the product type suitable for the installation pressure.
- MIT air and dirt separators (coupled) can be produced as flange joint, threaded joint and welding neck according to your appropriate mounting preference.
- For effective separation, the flow direction has no effect, it can separate in both directions.
- It has a structure that does not require cleaning and maintenance.
- During the water filling to the installation, it is necessary to discharge the high volume air in the installation from the discharge valve located at the top.
- It is necessary that the dirt and dirty water accumulating at the bottom of the separator to be discharged from the drainage outlet at the bottom.
- The product was designed for water installations. Do not use in gas phasic fluid installations such as steam and air.
- For product and installation safety, it is necessary to use an automatic type safety valve with an appropriate capacity.

Product Pressure Class	Safety Valve Pressure Class
10 Bar	8 Bar
16 Bar	12 Bar
25 Bar	20 Bar

Connection Diagram



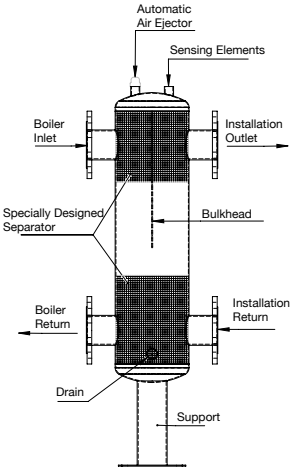
Connection diagram for heating installations



Connection diagram for cooling installations

*This is the recommended connection diagram for the Air and Dirt separator (Coupled).
Installation of other equipment that should take part in the installation should be done according to the installation specifications.

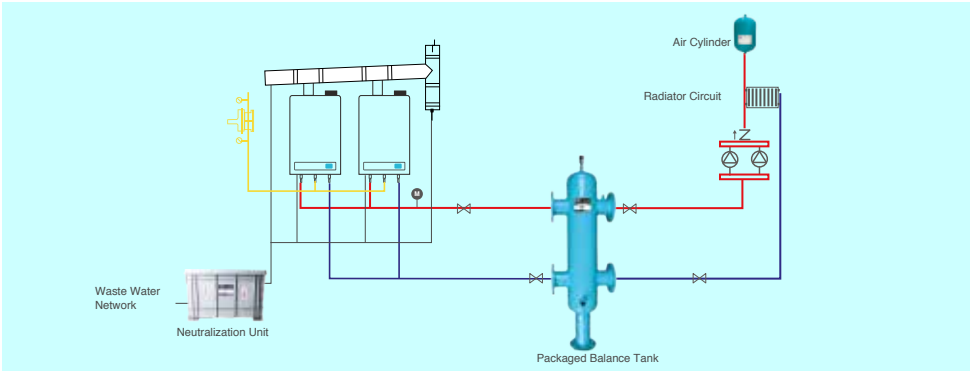
MIT Packaged Balance Tank



- MIT package balance vessels provide the thermal balance between the boiler flow line and the boiler return line, as well as separate the air, dirt and dirt in the installation thanks to its special internal structure. It is produced for narrow spaces that do not allow it to be mounted separately to the installation. It provides space and cost advantage.
- In order to be able to function properly it is necessary to choose the right capacity, choosing the wrong capacity can cause depressurisation and degradation. You can get support from experienced MIT sales engineers for the selection of the appropriate capacity.
- MIT Packaged Balance Tank is produced to be compatible with different pressure classes. Attention should be paid while selecting the product type suitable for the installation pressure.
- MIT Packaged Balance Tank can be produced as flange joint, threaded joint and welding neck according to your appropriate mounting preference.
- In order to obtain maximum efficiency, it is of great importance that it is installed in accordance with the installation.
- There is no need to interrupt the flow for effective air discharge.
- It has a structure that does not require cleaning and maintenance.
- For effective separation, the flow direction has no effect, it can separate in both directions.
- It is necessary that the dirt and dirty water accumulating at the bottom of the separator to be discharged from the drainage outlet at the bottom.
- The product was designed for water installations. Do not use in gas phasic fluid installations such as steam and air.
- For product and installation safety, it is necessary to use an automatic type safety valve with an appropriate capacity.

Product Pressure Class	Safety Valve Pressure Class
10 Bar	8 Bar
16 Bar	12 Bar
25 Bar	20 Bar

Connection Diagram

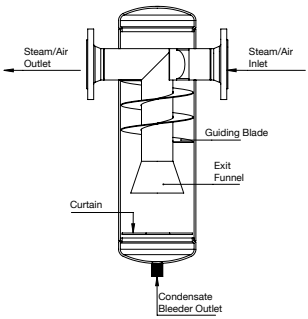


*This is the recommended connection diagram for Packaged Balance Tank.
Installation of other equipment that should take part in the installation should be done according to the installation specifications.

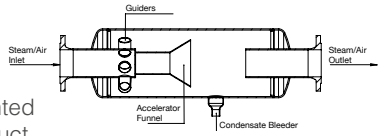
MIT Steam and Air Separator

Important Information on Product and Usage

- MIT steam and air separators are fittings that provide clean and dry steam/air to the system by separating the water droplets and particles carried in the steam/air with the vortex effect.
- MIT steam and air separators are produced in accordance with different pressure classes. Attention should be paid while selecting the product type suitable for the installation pressure.
- MIT steam and air separators can be produced as flange joint, threaded joint and welding neck according to your appropriate mounting preference.
- In order to obtain maximum efficiency, it is of great importance that it is installed in accordance with the installation. It should be as close as possible to the system where dry steam/air is required.



Vertical Type



Horizontal Type

Installation and Operation

- In order for the separator to fulfil its duty, it must be mounted according to the flow direction sign indicated on the product.
- It has a structure that does not require cleaning and maintenance.
- Condensate water separated from steam/air must be discharged from the drainage outlet.
- It is necessary to implement a sealing test before putting into service.
- For product and installation safety, it is necessary to use an automatic type safety valve with an appropriate capacity.

Product Pressure Class	Safety Valve Pressure Class
16Bar	12 Bar
25 Bar	20 Bar
40 Bar	32 Bar

- Installation pressure values should be monitored with measuring and monitoring devices.
- Installation temperature values should be monitored with measuring and monitoring devices, and the temperature exceeding the allowable operating temperature value for the device should be prevented with appropriate control devices.
- When the system is deactivated, the condensation of the steam must be prevented from creating a vacuum effect. Otherwise, the device and installation may be damaged.
- Before the device is dismantled, the steam flow must be stopped and the condensate must be completely discharged.
- While the device is in operation, it should not be interfered with, repaired or modified for any reason.

Transport and Assembly

As seen in the figure, the device should be transported horizontally and on a pallet so that no load is placed on the nozzles.

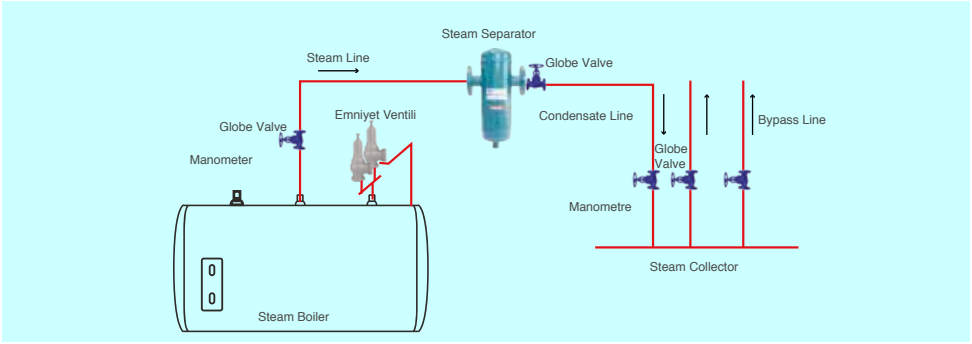
During lifting and transporting, the device should be connected as shown in the figure, taking into account the equal load distribution.

Periodic Maintenance

MIT steam and air separators do not cause stopping and operating costs with their maintenance-free structure.

However, in order to ensure the continuity of safe use of pressure equipment, periodic inspections by authorized institutions are required, at least once a year.

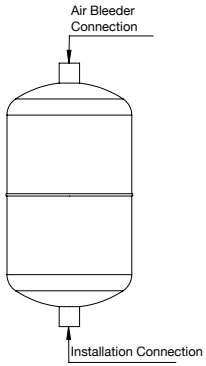
Connection Diagram



*This is the recommended connection diagram for the Air and Dirt separator (Coupled).
Installation of other equipment that should take part in the installation should be done according to the installation specifications.

MIT Air Cylinder

- MIT air cylinder ensures that the air formed in the radiator (heating) installations, pipes and radiators is easily collected and discharged from the top manifold. In short, it allows the air in the system to be discharged. The system discharges the air continuously while it is running.
- MIT air cylinders are produced in accordance with different pressure classes. Attention should be paid while selecting the product type suitable for the installation pressure.
- In order to obtain maximum efficiency, it is of great importance that it is installed in accordance with the installation. It should be mounted on the top manifold in the installation.
- It should be mounted vertically and the air vent/relief valve should be located at the top.

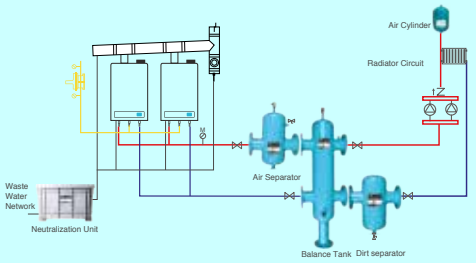


- Products that are not mounted vertically cannot provide healthy air discharge, and air bubbles remaining in blind spots cause corrosion, shortening the product's service life.
- The product was designed for water installations. Do not use in gas phasic fluid installations such as steam and air.
- For product and installation safety, it is necessary to use an automatic type safety valve with an appropriate capacity.

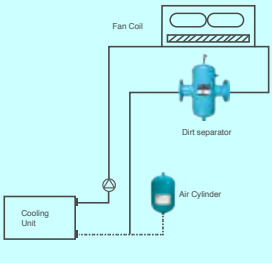
Product Pressure Class	Safety Valve Pressure Class
10 Bar	8 Bar
16 Bar	12 Bar
25 Bar	20 Bar

It is necessary to use an automatic type safety valve.

Connection Diagram



Connection Diagram for Heating Installations

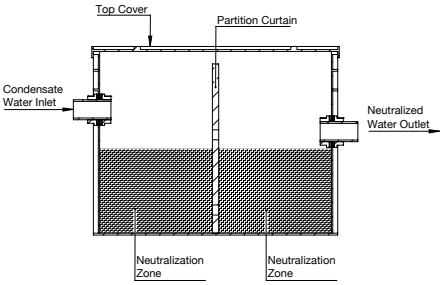


Connection Diagram for Cooling Installations

*This is the recommended connection diagram for the air cylinder.
Installation of other equipment that should take part in the installation should be done according to the installation specifications.

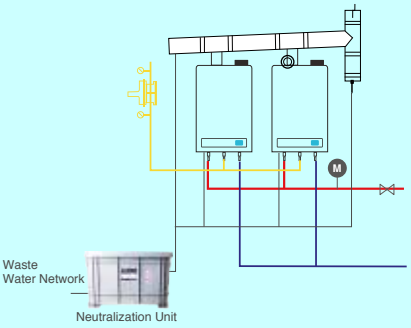
MIT Neutralization Unit

- MIT neutralization units neutralize the condensed harmful water to the environment which is formed in condensing combi boilers and boilers and having acidic properties, by eliminating the corrosive effects and reducing it to appropriate discharge values for its release to the environment.
- The pH value should be measured regularly and its suitability should be checked.
- In case the pH value is low, it is necessary to renew the calcium carbonate (CaCo3) stones in the neutralization unit.



- pH measurements should be made with calibrated devices.
- The unit is made of high density polyethylene (HDPE) material to be resistant to corrosive conditions. Care should be taken not to receive any impacts during transportation and assembly.
- The unit should not be stepped on or loaded.
- The unit must be installed in accordance with the specified connection direction.

Connection Diagram



*This is the recommended connection diagram for neutralization unit.
Installation of other equipment that should take part in the installation should be done according to the installation specifications.

Notes

EKİN ENDÜSTRİYEL

CERTIFICATE OF WARRANTY

2 YEARS 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 : _____

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

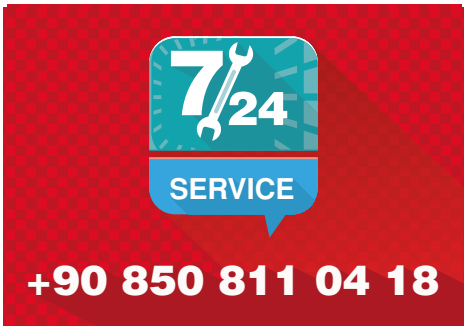
Please keep this certificate!

Professional System Solution Center

MFrom 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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EKİN ENDÜSTRİYEL

CERTIFICATE OF WARRANTY

2 YEARS 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 : _____

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

Please keep this certificate!

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