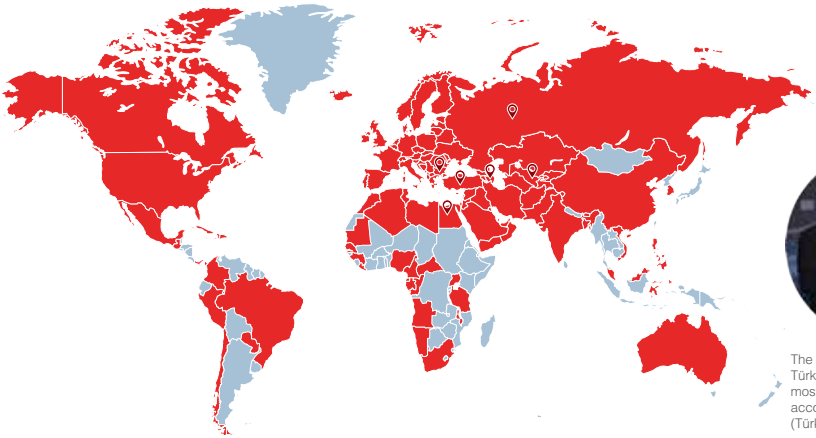
EKIN ENDUSTRIYEL

Homogenizers
User Manual

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).

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 AIRCO TRUEVALVE myra GP GEARYMAX inoxen INNSUN

Contents

General

It is applied to keep the emulsion state of milk intact for a long time. With this application, the fat particles emulsified in milk are fall into smaller particles. Thus, the fats are prevented from rising to the upper surface of the milk and forming a layer of cream by clumping here.

Raw Milk

1 Hour Next
Cold Raw Milk

Homogenized and
Stored Milk

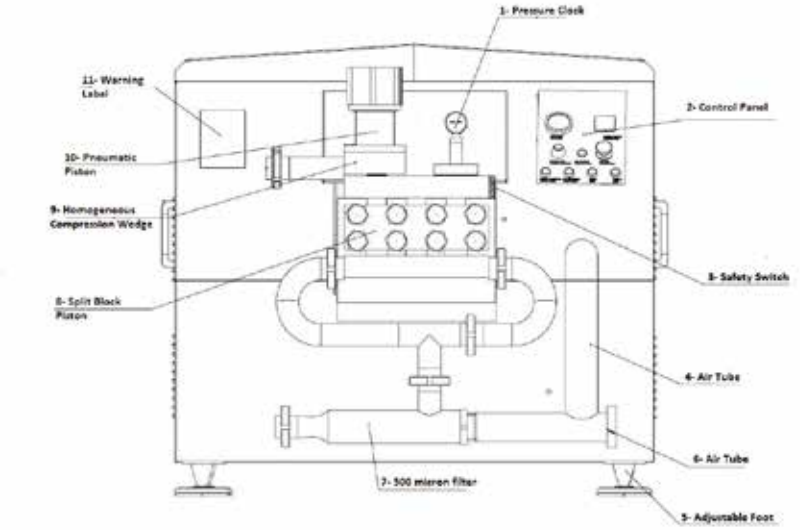
Homogenization is carried out with the help of devices called homogenizers. The fat globules are broken into pieces with a diameter of less than 1 μ as they pass through the part of the homogenizer known as the homogenizing head.
Factors Affecting Homogenization
Homogenization temperature 60-75 °C is the ideal temperature. Homogenization pressure is 100-200 kg/cm2 at 65 °C for pasteurized milk and 150-250 kg/cm^2 at 65 °C for UHT milk.

Benefits of MIT Homogenizers

- Ensures homogen distribution of milk fat throughout the mass.
- Provides a partial increase in milk viscosity.
- Milk appears whiter as the ability of milk to reflect light changes.
- The milk become more flavorful .
- Milk fat is easier to digest.
- Overall, the quality of milk improves thanks to MIT homogenizers.

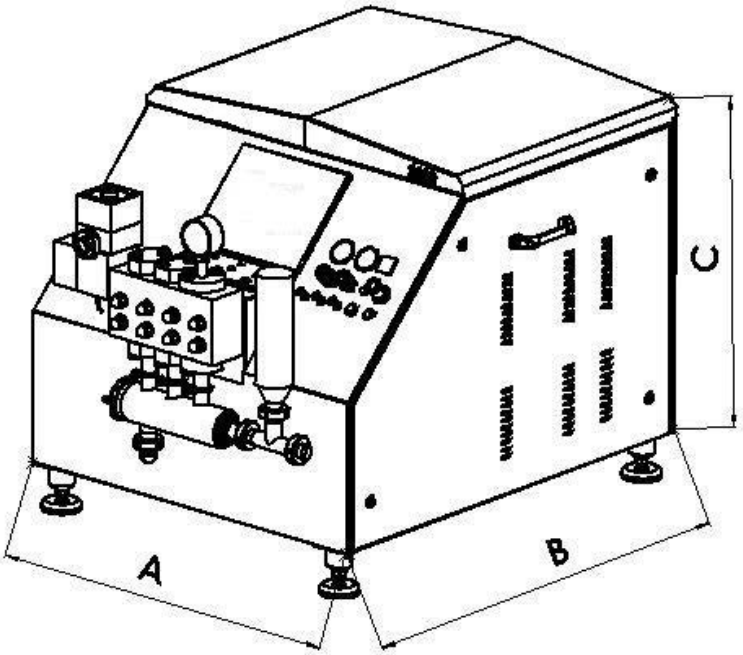
Product Introduction

General Information					
Capacity (tons/hour)	1 t/s	2 t/s	3 t/s	5 t/s	10 t/s
Working Pressure (bar)	250	250	250	250	250
Power (kW)	11	15	22	37	55
Connection Diameter	DN40	DN40	DN40	DN40	DN50
RPM	180	155	155	145	145
Water Supply (lt/h)	50	60	60	80	80
Air Supply (bar)	5	6	6	8	8
Cable Dimension	5x4	5x6	5x6	5x10	5x35
Weight (kg)	680	800	1000	1250	1750

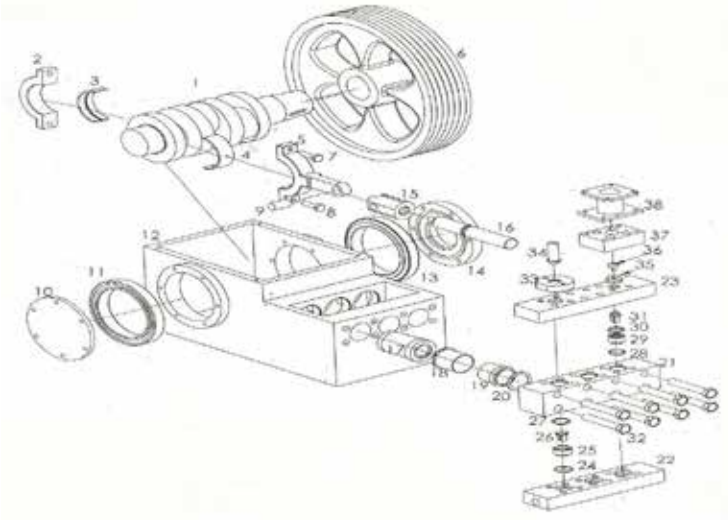


Dimensions and Weights

Capacity (tons/hour)	A (mm)	B (mm)	C (mm)	Weight (kg)
1 t/h	950	1250	900	680
2 t/h	1100	1500	1100	800
3 t/h	1100	1500	1100	1000
5 t/h	1300	1750	1150	1250
10 t/h	1450	1950	1200	1750



Crank and Block



No	Part Name	No	Part Name
1	Crankshaft	20	Gasket 1
2	Connecting Rod Cover	21	Middle Block
3	Trunnion Bearings	22	Lower Block
4	Trunnion Bearings	23	Upper Block
5	Connecting Rod	24	Gasket 5
6	Big Pulleys	25	Check Valve Bottom Inlet
7	Connecting Rod Bolts	26	Check Valve Top Inlet
8	Connecting Rod Bolts	27	Gasket 4
9	Connecting Rod Pin	28	Gasket 3
10	Gearbox Cover	29	Check valve bottom outlet
11	Bearing	30	Gasket 2
12	Gearbox	31	Check Valve Top Outlet
13	Bearing	32	Center Block Bolts
14	Transmission Cover Rear	33	Bar clock reduction
15	Connecting Rod Bearing Shaft	34	Bar hour spindle
16	Piston	35	Homogenized bottom valve
17	Yellow Hive	36	Homogenized top valve
18	Front Yellow Sleeve	37	Output Block
19	Chrome Sleeve	38	Pneumatic connection

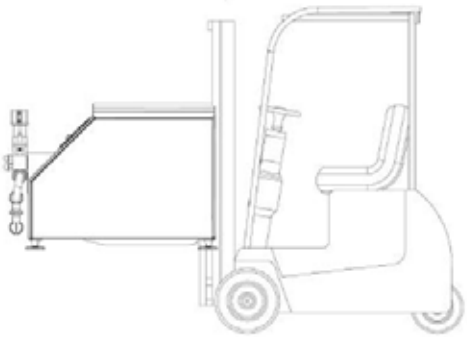
Dashboard Introduction

Dashboard Introduction	
Normal	Lights up after pressing the Start button. Indicates that there is no problem in the process.
Water	The piston goes out when the cooling water is turned on. Do not start before the light goes out.
Air Pressure	Air Pressure is increased or decreased with this button.
Air pressure Gauge	Pressure can be monitored from this screen. It should be increased gradually.
Start	Starts the machine. It is used after the water warning lamp turns off.
Stop	It is used to shut down the machine. First the air must be gradually reduced and then the air valve must be closed.
Air Valve	Opens and closes the air valve.
Clock	Indicates the operating time.

Transportation

- Do not lift the machine by the cover handles.
- Never lift the machine by tying it under the block and output block.
- Do not lift the machine by tying it from the 40x40 profiles holding the sheets covering the machine.
- Do not lift the engine by connecting it from the transport pin, gearbox cover, lifting arm, engine and gearbox, pulley and belts.

Lift and transport the machine in the following ways



Operating Instructions

Warning

Always perform the first operation with water. Make all checks and adjustments with water.

1) The product temperature should be max. no higher than 60 °C and min. Not less than 20 °C. (Unless otherwise stated in the Technical Specifications)
2) Check all connections again and again.
3) Supply electricity to the machine.
4) When the machine is electrically activated, the system starts to give a warning because there is no water and air pressure. Water and air will stop when pressure comes.
5) Turn on the air and water.
   If you turn on the air and water but the warning sounds, adjust the air and water pressure sensors on the aluminum chock with the electrical panel. Reduce the air and water pressure until the warning lamp stops sounding and leave the setting where it stops. Do not lower it further.
6) The air conditioner that feeds the system is next to the electrical panel.
7) The total air pressure required for the machine is (8 Bar).
   (Unless otherwise stated in the technical specifications)
8) Fill half of the oil tube on the right side of the air conditioner with thin No. 10 oil.

Press the Start Button

1) Supply water or product to the product inlet of the machine with a pump between 2 and 3 Bar.
2) Make sure that the solenoid valve on the machine panel is not pressed (Pressure should be 0)
3) Press the main pressure solenoid check valve on the machine panel.
4) Turn the regulator on the machine panel to the right. Turn it until the 4 to 6 Bar air pressure reaches the 180-200 Bar range.

Attention!
In our Double Drive machines, first activate the first valve and regulator. 125-150 bar, then activate the second valve and regulator (180-200 Bar).

Stop

1) At the end of the product, the machine will depressurize because there is no product. Immediately return the pressure valve pull it out.
2) Provide clean water behind the product.
3) Press the Stop button.
4) Pull back the water valve.
5) As the air and water are turned off, the twin whistle lamp will work, press the emergency button to silence it.
6) Turn off the electricity.

General Warnings

- Warnings
- Never stop the machine under pressure while the machine is running.
- Do not start the machine under pressure while it is stopped.
- Never remove parts from the main block while the machine is running and the machine is pressurized.
- Keep the side covers closed while the machine is running.
- When the machine is working under pressure or idle, there should be no valve-type blockers in front of the product after the product exit and should not be closed.
- Do not shut off the cooling water and air from the outside while the machine is running. If even one of them is closed, the system will shut itself off automatically.
- Never keep the processed product inside the machine for a long time.

Frequently Asked Questions

Question.	Answer
The machine does not work even though all connections were made during the first installation.	Replace R.S.T. connections whose electrical connections are not properly aligned
The warning lamp gave a warning when the machine stopped working.	The air and water connected to the machine does not come in sufficient flow rate. Adjust the sensitive settings of the switch sensors in the machine according to the water and air flow rate
The machine shakes a lot when pressurized, the pressure gauge vibrates excessively.	Do not pressurize the machine before the block air is discharged, prevent possible air inlets.
There is a leak in the block.	When the machine is running hot-cold at high pressure, expansion examination occurs in the derlin gaskets between the parts. The screws that tighten the blocks become loose and leak. To prevent this malfunction, tighten all screws in the block regularly.
There is a leak under the outlet block.	Disassemble the pneumatic group, remove the outlet wedge, replace the oring under the homogeneous check valve at the outlet.
The machine is low-speed at high pressure.	The V-belts that provide drive from the engine to the crank loosen as they heat up and the engine cannot transmit its power through the belts to the crank. Under the belt, the engine pulley skids, this situation both consumes the life of the belts and cannot transfer the necessary power and cannot handle the pressure, tighten the belts from the adjustment screws of the table under the engine.
Pressure safety switch is leaking product.	The safety switch is set for a maximum of 225 bar. Tighten the adjustment screw on the switch, if it is still leaking, replace the joint that holds the pressure inside the part.
There is no water coming from the system that irrigates the pistons.	Water first enters the pneumatic chock from the back of the machine, then flows through the copper coil inside the gearbox to cool the crank oil and flows to the piston watering. Press the solenoid valve on the panel. The air passing through the valve opens the small pneumatic valve next to the pneumatic wedge and flows the water. Technically, either the solenoid valve is faulty or the pneumatic valve, check.
The machine stops running and the contactor trips.	Strengthen the thermal setting on the contactor on the electrical panel of the machine.
The machine does not homogenization.	If the machine is not homogeneous under high pressure, check the check valve in the outlet block (Pitting). If there is corrosion, replace the check valve.
The machine can't pressurize or stays at low pressure while the machine is running.	Check the piston supplying air flow to the pneumatic piston on top of the block. Check the air conditioner pressure regulator and solenoid valve near the electrical panel. Make sure that there is sufficient air flow.
Piston seal bursts and milk leaks.	First remove the filter connections. Unscrew the M20 Knobby nuts securing the block from the front, lower the block down. Remove the pistons from the housing. Remove the parts from the gasket housing. First derlin-then teflan-worn packing seals, lastly yellow bearing, clean the housing, reassemble first yellow bearing, then panckin seals teflon-derlin-80's derlins-block-filter connection.

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.

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!

Profesyonel Sistem Çözüm Merkezi

Ekin profesyonel sistem çözüm merkezimizden, pompalarınız, eşanjörleriniz ve sisteminizle ilgili yaşadığınız problemlere cevap alabilir, alanında uzman mühendislerimizden oluşan çözüm merkezimiz ile de 7/24 kesintisiz hizmetimizden faydalanabilirsiniz.

- Kullanım sıcak suyu tesisatları.
- Merkezi ve bölgesel ısıtma sistemleri.
- Süt, yoğurt, ısıtma, soğutma ve pastörizasyon sistemleri.
- Endüstriyel soğutma ve ısıtma sistemleri.
- Yağ soğutma tesisatları.
- Enerji geri kazanım sistemleri.
- Havuz ısıtma sistemleri.
- Buhar tesisatları.

Sisteminizin istediğiniz kapasitede çalışması, sorunsuzluğu ve uzun ömürlü olabilmesi için ilk kurulumda doğru olarak dizayn edilmesi ve uygulanması hayati önem taşımaktadır. Bu sebeple sisteminizin kurulum aşamasında ve işletmede ortaya çıkabilecek sorunlarda ihtiyacınız olan teknik desteği birinci elden alabileceğiniz telefon numaramız **+ 90 (216) 232 24 12**'den bize **7 gün, 24 saat** ulaşabilirsiniz.

Sisteminizin doğru ve performanslı çalışabilmesi için, uzun yıllar içinde topladığımız bilgi birikimimizi siz değerli müşterilerimizle paylaşmaktan mutluluk duyacağımızı tekrar belirtmek isteriz.

Her türlü ısıtma ve soğutma uygulamasının olduğu bütün uygulamalarda Ekin Endüstriyel, sizin için en iyi çözüm ortağı olmaya devam edecektir.

Üretici; bu katalogda belirtilen ürün özelliklerini, teknik ölçü ve bilgilerini ve tesisat şemalarını haber vermeden değiştirme hakkını saklı tutar. Belirtilen hiçbir bilgi üreticinin izni olmadan kopyalanamaz ve kullanılamaz. Hiçbir şekilde teknik bilgi ve şemalar örnek gösterilerek üretici sorumlu tutulamaz. İhtiyaç halinde net ölçüler için projenize özel teknik resim istemenizi rica ederiz.

/ekinendustriyel

Bizi sosyal medyada takip edin...

Türk mühendislik teknolojisi ile üretilen ürünlerimiz;
Bugün, dünyada **135 ülkede...**

444 EKİN 3546

EKİN ENDÜSTRİYEL
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