



EKİN ENDÜSTRİYEL

Hygienic Centrifugal Pump
User Manual

inoxen



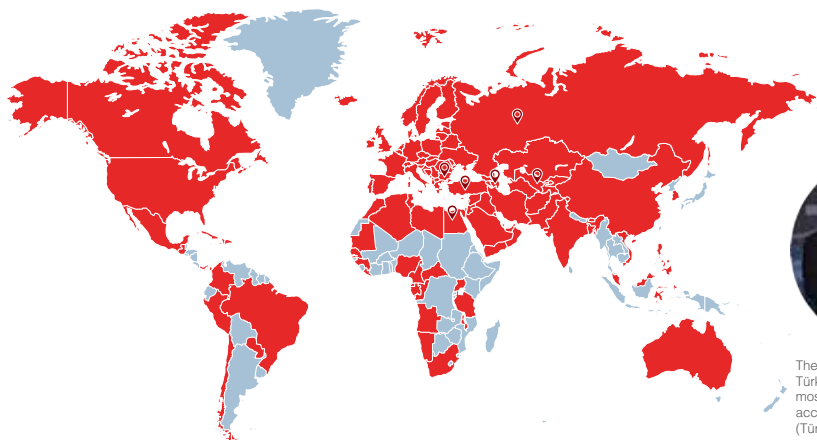
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Your Satisfaction Is Our Priority;
Globalization Is Our Goal!



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



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Safety

Important Information

Always read the manual before using the pump.

- Indicates that special procedures must be followed to avoid severe personal injury.
- Indicates that special procedures must be followed to avoid damage to the pump.
- Indicates important information to simplify or clarify.

Safety Precautions

Installation

Always read the technical data thoroughly.

- Always remove pump casing before deliver the pump. use a lifting crane when handling big size pump.
- Always have the pump electrically connected by authorized personnel (See the motor instructions).

Operation

The motor will be overload if the flow, concentration and viscosity of the liquid exceed the value in the parameter sheet. It will cause motor overloaded. Never touch the pump or the pipelines when pumping hot liquids or when sterilizing. Never run the pump with both the suction side and the pressure side blocked. Always handle alkali and acid with great care.

Maintenance

Always disconnect the power supply when servicing the pump.

- Never service the pump when it is hot.
- Never service the pump with pump and pipelines under pressure.

Installation

Unpacking / Delivery



We cannot be held responsible for incorrect unpacking.

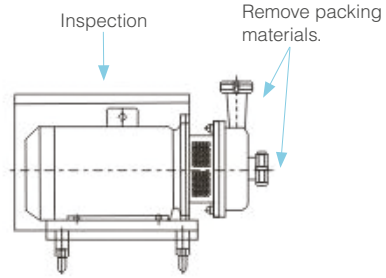
Step 1:

Check the delivery for:

1. Pump surface in good condition.
2. Parts on packing list.
3. Pump instruction.

Step 2:

Remove possible packing materials from the inlet and the outlet. Inspect the pump for visible transport damages. Make sure pump inlet and outlet are in good condition.



Step 3:

Always remove pump casing before move the pump. Always use a lifting crane when handling big size pump. Remove the pump casing, if fitted, before lifting the pump.

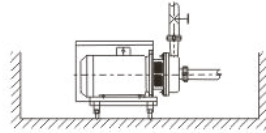
Installation

Step 1:

Please use a lifting crane when handling large size pump. Always have the pump electrically connected by authorized personnel. (see the motor instructions)

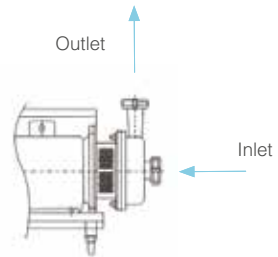
Step 2:

Ensure that there is sufficient space around the pump. (min.0.3 - 0.5m)



Step 3:

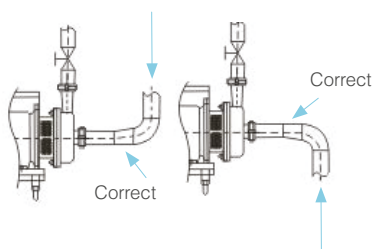
Ensure correct flow direction.



Correct flow direction.

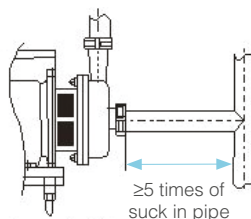
Step 4:

- Suction tube should be as short as possible.
- As few elbows as is better in the suction tube. The elbow with big radius of curvature ($R \geq 2D$) is a good choice.
- Avoid air gathered in the suction tube or suck the air.



Step 5:

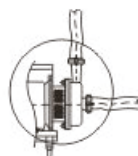
- Ensure fluid flow rate steady.



Step 6:

Support the inlet and outlet pipe properly and Avoid stressing the pump.
Pay special attention to:

- Vibrations of tube.
- Thermal expansion of the tubes.
- Excessive welding.
- Overloading of the pipelines.



Pre-use Check

Step 1:

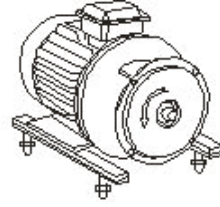
Always remove the impeller before checking the direction of rotation. Never start the pump if the impeller is fitted and the pump casing is removed.

1. Remove screws, gasket (16), and pump casing (9).
2. Remove impeller (14).

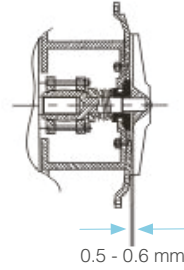
Step 2:

See the indication label.

1. Start and stop the motor momentarily.
2. Ensure that the direction of rotation of the stub shaft (5) is anticlockwise as viewed from the inlet side.

**Step 3:**

1. Use a feeler to measure the clearance between the back cover and impeller.
2. If the clearance is not correct, please adjust it according to the methods mentioned in the article.

**Adım 4:**

Clean the impeller, and fit and tighten impeller.

**Step 5:**

1. Install the pump according to structure drawing.
2. Clean pump casing and install it (9).
3. Install gasket and fit the screw (16)

Operation

Operation / Control**Step 1:**

The motor will be overload when the flow goes over the rated value since the resistance of the tube system become to smaller. We cannot be held responsible for incorrect operation/control.

Step 2:



Never touch the pump or the pipelines when pumping hot liquids or when sterilizing.

Step 3:

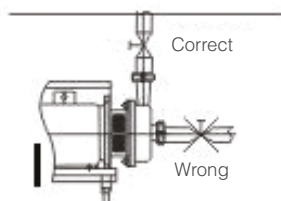


Never run the pump with both the suction side and the pressure side blocked.

Step 4:



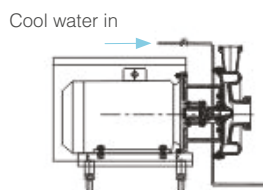
The shaft seal must not run dry. Double seal pump, must feed in cool water before start pump. Never throttle the inlet side.



Step 5:

Double Seal

1. Connect the inlet of the flushing liquid correctly.
2. Regulate the water supply correctly.
3. Keep outlet open.

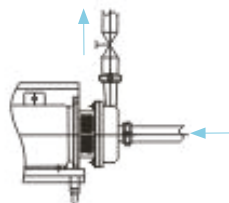


Step 6:

Control

Reduce the capacity and the power consumption by means of:

1. Throttling the pressure side of the pump.
2. Reducing the impeller diameter.
3. Reducing the speed of the motor.



Troubleshooting

Problem	Reason	Solution
Motor overload.	• Low outlet pressure and too large flow rate. • Pumping of viscous liquids. • Pumping of liquids with high density. • Rotary speed of the motor is too higher. • Lamination of precipitates from the liquid.	• Throttling using outlet valve. • Larger motor or smaller impeller. • Check the frequency of the circuit. • Frequent cleaning
Flow small, shortage of lift, no water pumped.	• The pump and suction tube are unfilled with liquid. The impeller or pipes is blocked. • Suction tube is leak. • Pipe resistance exceeds the lift of pump. • Lower voltage, small rotary speed of the motor. • The liquid temperature is too higher.	• Check the bottom valve for leaks and refill it. • Take apart the pump to remove the deposit. • Reseal the suction tube. • Reduce the pipe resistance or use the larger pump instead. • Check the motor wiring and the voltage, frequency of the circuit. • Decrease the liquid temperature or increase the pressure of the suction inlet or outlet.
Shock and noise increased to produce foul air.	• The suction is shortage or the pressure of suction inlet is too lower. • The liquid temperature is too higher. • Suction tube is leak. • There are foreign matters jam in impeller and pump shell. • Fraction between the impeller and pump shell. • The motor shaft is damaged.	• Reduce the resistance of the suction tube or the height of the suction inlet and liquid level. • Reinstall the suction tube or replace the seals. • Take apart the pump to remove the foreign matters. • Adjust the clearance between impeller and pump shell. • Replace the motor shaft.
Shaft seal is leak to cause foul air.	• Shaft seal working without liquid. • Rotary or stationary ring worn-out. • O-shape seal ring is old or material selection is wrong. • There are abrasides in the liquid. • The material liquid.	• Replace all wearing parts to make sure the liquid material feeding continuous. • Replace the rotary ring or stationary ring. • Replace the O-shape seal ring or reselect the material. • Stationary ring or rotary ring is made of silicon carbide or graphite. • Take apart to clean the pump or use water to rinse the seal.
Rubber seal is leak.	• Material of the rubber seal is selected wrong.	• Reselect the material.

Recommended Cleaning

Step 1:



Always handle alkali and acid with great care. Be sure to cover your hands with rubber gloves and wear safety glasses.



Step 2:



Never touch the pump or the pipelines when sterilizing.

Step 3:

Examples of cleaning agents:

Use clean water, free from chlorides.

1. 1% by weight NaOH at 70 °C (158 °F).

2. 0.51% by weight HNO_3 at 70 °C (158 °F).

1 kg NaOH	+	100 l water	=	Detergent
2.2 l 33% NaOH_3	+	100 l water	=	Detergent

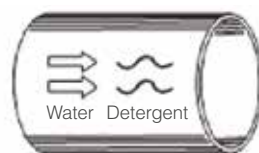
0.7 l 53% NaOH_3	+	100 l water	=	Detergent
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Step 4:

1. Avoid excessive concentration of the detergent.
 - Dose gradually!
2. Adjust the cleaning flow to the process. Sterilization of milk/viscous liquids.
 - Dose gradually!

Step 5:

Always rinse well with clean water after the cleaning.



Step 6:



The detergent must be stored/disposed of in accordance with current rules/directives.

Maintenance

General Maintenance

Step 1:

Always follow technical data. Always disconnect the power supply when servicing the pump.



All scrap must be stored/disposed of in accordance with current rules/directives.

Step 2:



Never service the pump when it is hot.

Step 3:



Service the pump with pump and pipelines under atmospheric pressure.

Step 4:



Fit the electrical connections correctly if they have been removed from the motor during service.

Maintenance

	Shaft Seal	Rubber Seal Ring	Motor Shaft
Preventive Maintenance	• Replace all shaft seals every 12 months. (one shift) Complete shaft seal.	• Replaced when replacing shaft seal.	-
Leakage	• Replace at the end of the day. Complete shaft seal.	• Replaced when replacing shaft seal.	-
Planned Maintenance	• Regular inspection for leakage and smooth operation. • Keep a record of the pump • Use the statistics for planning of inspections. • Replace after leakage complete shaft seal.	• Replaced when replacing shaft seal.	• Yearly inspection is recommended.
Lubrication	• Before installation lubricate the o-rings with silicone grease or silicone oil and rubber seals.	• Before installation silicone grease or silicone oil.	• Replace complete bearing if worn. • Ensure that the bearing is axially locked.

Pre-use Check

Fit the electrical connections correctly if they have been removed from the motor during maintenance.

- Start and stop the motor momentarily.
- Ensure that the pump operates smoothly.

Removal of The Pump / Shaft Seal

1. Take off the nut (16), remove the gasket (10) and cover (9).
2. Take off the O-shaped ring (11) from the back cover.
3. Take off the coupling guard (6).
4. Thrust a screwdriver against the nut (12) of the coupling. Then turn the impeller (14) in an anticlockwise direction (Opposite the impeller) and remove the impeller. If it is necessary, adjust the blade of impeller to loose it.
5. Remove the rotary ring (18) from the impeller with the complimentary spanner. (Opposite the impeller, turn in an anticlockwise direction).
6. Double-end seal pump: Remove the water in and out tube.
7. Take off the locknut of the back cover, remove gasket (11) and pump body (10).
8. Double-end mechanical seal pump:
 - Take off the auxiliary rotary ring from the water seal holder.
 - Take off the bolt from the pump body.
 - Take off the water seal holder and O shaped ring.
 - Take off the auxiliary rotary ring from the shaft (5).
9. Take off the stationary ring and O shaped ring from the pump body.

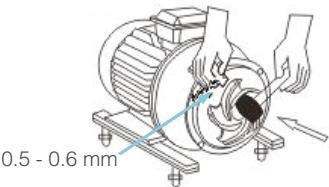
Inspection of The Pump Shaft

1. Measure the pulsation frequency of the shaft by the dial indicator.
2. If the pulsation frequency exceeds 0.06mm, the shaft seal should be replaced.

Reassemble of The Pump

- 1. Double-end mechanical seal:
 - Lubricate the O shaped ring of the auxiliary stationary ring and put the rotary ring back to the shaft seal.
 - Press the auxiliary stationary ring into the water seal ring.
 - Lubricate the O shaped ring of the auxiliary rotary ring and install it to the shaft seal.
 - Put the water seal ring back to the pump body and tighten the bolt.
- 2. Install the pump body and tighten the nut. (Pay an attention to the inlet direction of the pump).
- 3. Lubricate the O-shaped ring of the stationary ring and screw it back to the pump body together with stationary ring. Tighten it with the spanner.

4. Screw the impeller back to the shaft (5). The clearance between the impeller and back cover should be 0.5-0.6mm. Adjust it by loosen the coupling bolt (4) if it is not correct. Tighten the bolt (4) after adjustment.



- 5. Lubricate O shaped ring (11) and round it to the pump body (9).
- 6. Double-end mechanical seal pump: Put back the water in and out tube.
- 7. Install the coupling guard.
- 8. Put the pump cover (9) back and screw the nut (16).
- 9. All bolts should be screwed according to the list below during installation:

Strength Grade	NM					
	M6	M8	M10	M12	M16	M20
8.8	10	25	49	85	210	420
A2 - 70	7.3	17	35	69	144	281

Assembly Sheet

Code	Qty	Items
1	1	Motor
2	1	Pump Guard
3	4	Bolt, Gasket
4	1	Coupling
5	1	Shaft
6	1	Coupling Guard
7	1	Connection Base
8	4	Bolt, Gasket
9	1	Pump Cover
10	1	Pump Body
11	1	O Shaped Ring
12	2	Nut, Gasket
13	1	Impeller
14	2	Support
15	4/6	Bolt, Gasket
16	4	Nut, Bolt, Gasket
17	1	Mechanical Seal
18	1	Water Cooled Double-end Seal

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 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.
 - Blockages 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 unauthorized 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 supersede the contract. Commissioning of the product means acceptance of the contract.

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

SELLER

DEALER

END USER

Brand :

Product Type :

Product Code :

Serial No. :

Product No. :

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

Please keep this certificate!

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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