



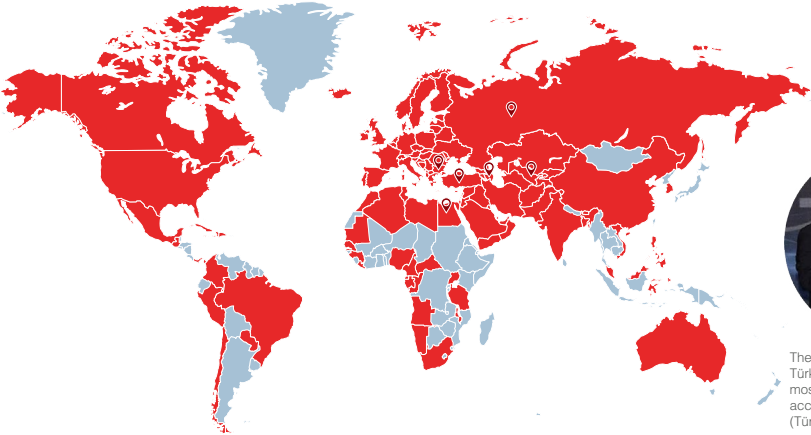
EKİN ENDÜSTRİYEL

Knife Gate Valves  
User Manual

*TRUEVALVE*



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.



## 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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The product you will use is manufactured to high quality standards and has passed 100% quality tests. However, the Valves carry potential risks and may pose a hazard as a result of improper use or installation. Therefore, it is the responsibility of everyone who will be exposed to the same environment as the valves to read and fully understand this User Manual.

## Before Opening

The package, check the packaging for external damage. Make sure that there is no damage to the valve and accessories that may have occurred during transportation. MARKINGS Dimension and short material specifications are marked on the valve body.

## Installation and Installation Direction

- a. Check whether the product is suitable for the desired installation by looking at the flow direction on the product.
- b. Check the maximum values of pressure and temperature. If the pressure in the system is higher than the maximum values of the product, do not use the product.
- c. Determine the direction of liquid flow and the correct installation position. Otherwise, bending of the knife bolt and leaks may occur.
- d. Remove all materials used for packaging operations. Ensure that foreign parts on the pipeline and valve are removed and impurities are cleaned if necessary before installation.
- e. Knife valves are full bore valves due to their structure and design. However, single side sealing valves are manufactured in such a way that the blade support surface (the ring on the opposite side of the flow direction of the blade) is narrowed at the inlet and outlet parts of the valve. This may vary according to the valve size. This application is a compulsory design for the health of the knife bolt and to prevent warping.

## Caution

Make sure that the valve is accessible from all sides for operation and maintenance. Make sure to take the necessary precautions against external influences during valve installation. When connecting the valve, the distance between the pipeline flanges must be at least 20 mm larger (to allow the installation of functional strips and gaskets). Flanges and pipeline must be parallel and equal to each other. The connecting bolts must be tightened evenly and diagonally (without tension). Under no circumstances may the pipe be pulled to the valve. During the installation of the valve, make sure that the valve is closed and the distance between the flanges is appropriate. When using valves with loose flanges, the opposite flanges of the pipeline must be suitable for valve replacement. In this case, the loose flange should be connected by cross tightening as described above with the pipeline drawn to the opposite flange.

## Circuiting Materials

### Level Valves With Actuator

- Connect the air, preferably through an air filter regulator of adequate size. The optimum air supply pressure is 5-8 bar (80-120 psi).
- Make sure that the supply air is free from moisture, dirt and other foreign particles. Drain the filter regulator before starting the actuator so that pipe rust and debris are removed from the air path before starting. Warranty coverage is void in applications where a filter regulator is not used.
- If the valves are supplied with electrical accessories, e.g. limit switch and solenoid valve, make sure that the wiring complies with local electrical safety codes and regulations. Provide the correct supply voltage to the electrical accessories for proper operation and safety of the equipment.
- Energize the solenoid valve to supply air to the cylinder, open the valve and operate the valve 2-3 times. Caution: Incorrect power supply to accessories will damage the equipment.
- After the installation is completed, the full travel (open - closed) condition must be carefully tested.

### Manual Knife Valves

- Manually open/close the valve and observe the valve operation
- The packing nuts are tightened to hold the specified pressure and tested for leaks before shipment.
- However, this may require some adjustments in the field due to loosening during transportation. Check for packing leakage after the valve has been subjected to pressure. If leakage is observed, tighten the seal evenly in a cross pattern until the leakage stops.
- Caution: Do not overtighten the packing nuts as this may cause excessive friction and premature damage to the packing.

## Maintenance

### Care

Maintenance and Inspection Our Knife Gate valves must be inspected according to the frequency of use of the valve and at 4-month periodic maintenance times.

Check the area where the sealing adjustment bolts on the valve body are located. Leakage may occur from this area as a result of wear / loosening of the seals in seasonal transitions and frequency of use.

If necessary, tighten the adjusting bolts on the body by tightening them mutually (crosswise) a quarter turn to ensure sealing.

## Lubrication

For proper operation of the valve, the manual valve stem and thrust bearing must be lubricated at regular intervals, the recommended period is 4 months.

A lubrication nipple is provided on the collar. Actuator operated valves do not require routine lubrication. However, if disassembled for repair, the cylinder wall and seals should be lubricated with lithium-based grease.

## Seal Replacement Caution

- To avoid personal injury and/or equipment damage, relieve line pressure before loosening packing nuts.
- Release line pressure.
- Close the valve completely.
- Make sure the line is empty. Flush the line if necessary. For actuator operated valves
- Turn off the power supply to the solenoid valve and limit switches.
- Remove the actuator hose and bleed the air from the cylinder.
- Remove the piston rod from the housing by removing the bolts and nuts.
- Slowly apply air to the lower port of the actuator so that the piston rod retracts from the body.
- Remove the actuator assembly from the valve by removing the fasteners connecting the yoke to the valve body.
- Close the valve completely.
- Disconnect the body from the gate by removing the clamp bolts and nuts.
- Remove the union nuts and gland.
- Using a screwdriver, remove the old packing from the packing chamber one at a time.
- Insert the new packing one layer at a time. Stagger the cut ends of each packing so that they meet but are flush.
- If a nitrile quad seal is provided, this should be inserted as an intermediate layer.
- Place each packing ring firmly and evenly in the chamber before installing the next ring. The ends of each ring should meet but not overlap.
- Reinstall the packing gland and packing nuts.
- Finger tighten the packing nuts half a turn. If leakage is observed from the packing area after installing the valve in the pipeline and after applying pressure to the valve, tighten the packing nuts enough to stop the leakage. Do not over tighten the packing nuts.

## Seal Replacement

**Caution:** To avoid personal injury and/or equipment damage, relieve line pressure before attempting to remove the valve from the line. If the valve is equipped with a pneumatic actuator, solenoid valve, limit switches or other accessories, first disconnect the electrical and pneumatic supply.



- Release line pressure and close the valve. Flush the line if necessary.
- Remove the valve from the line by loosening the flange mounting bolts, studs and nuts.
- Remove the actuator from the valve.
- Remove the gland and packing.
- Remove the damaged gasket from the valve body.
- Place new gasket on clean body.
- Install the actuator (manual or pneumatic) with the valve in vertical position.
- Assemble the actuator or handwheel to ensure perfect alignment of the seal
- Tighten the stem fasteners diagonally from the bottom (flange side) upwards.
- Disconnect the actuator from the valve.
- Install the packing as described in the “Packing Replacement” instructions.
- Mount the actuator to the valve. Operate the valve several times to test for seat leakage.

## Pneumatic Actuators

The pneumatic actuator does not require any routine maintenance. The cylinder is lubricated for life with a special coating on the inner wall. However, if the actuator is disassembled, lubricate the cylinder wall, piston seal and cylinder seals according to the instructions. Filtered dry instrument quality air (unlubricated) must be used for operation at the specified air supply pressure.

## Storage

For long storage periods, store the valves in a closed, safe and dry place and protect them from any shock and/or vibration.

- Storage temperatures: -10 °C to +40 °C
- Valves should be stored in the fully open or fully closed position.
- For the health of the valve packing and seals, valves should not be exposed to direct sunlight.

## Warranty General Terms

- Errors in use are not covered by the warranty.
- Whether the failure of the product is covered by the warranty is determined by the tests to be carried out in our factory. During this period, the product will not be replaced. If the customer wishes, he/she can buy and install a new one, and if it is decided that the product is covered by the warranty as a result of the test, the customer will be refunded.

## Situations Excluded from the Scope of Warranty

- Products of unknown origin, products without an invoice or products supplied from persons and organizations not authorized by our company
- Products without a commissioning form, warranty certificate or invoice
- Damages and malfunctions caused by misuse
- Incorrect installation, Damage and malfunctions caused by incorrect or incomplete installation
- Damage and malfunctions caused by transportation, vibration, storage, physical impacts, chemical factors and environmental conditions
- Damage and malfunctions caused by fire, lightning strike, flood, earthquake, freezing and other disasters
- Damage and malfunctions caused by fluid pollution and particles,

## Suitable Fluid

Knife valves are effective in controlling fibrous and highly viscous fluids due to their structure and design. However, external factors (nails, wires, screws, etc.) that may be present in the line will damage the gasket and blade surfaces of the valve and will be out of warranty.

Knife valves can be designed as double side sealed and single side sealed according to the fluid that will pass through it. In both designs, it is mandatory to use appropriate filters in the lines in case of particle clogging on the sit surface, which is the knife seating area of the knife valve. Otherwise, leaks may occur because the knife will not close completely. Valve leaks in applications where filters are not used on the line will be out of 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. Anadolgu 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 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 : \_\_\_\_\_

Please keep this certificate!

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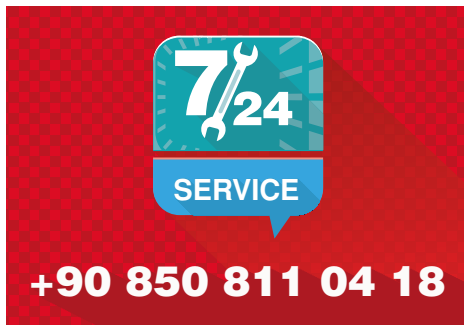
## Professional System Solution Center

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 that may arise in the business; You can reach us **24 hours +90 (216) 232 24 12 in 7 days.**



**+90 850 811 04 18**

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.

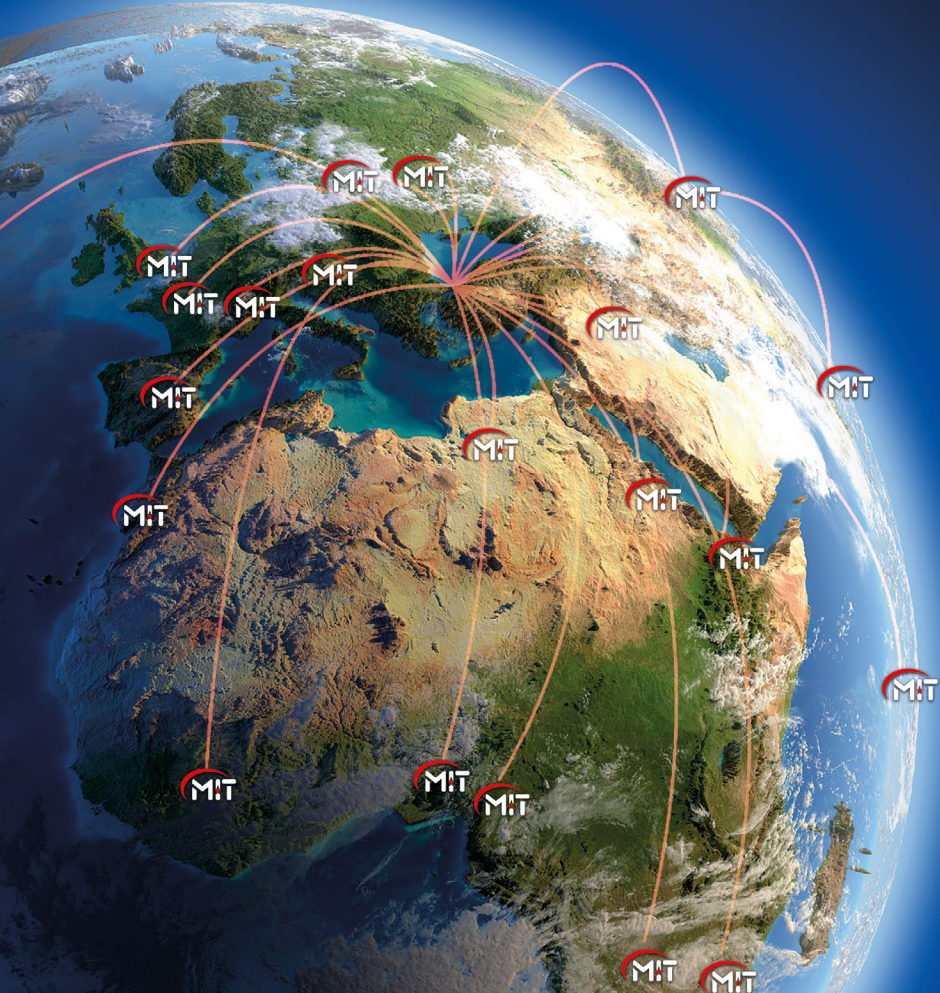
Ekin will continue to be the best solution partner for you in all applications with all kinds of heating and cooling applications.

 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.





Today; **135 points** in the world.



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