

COOLING

REQUIRES EXPERTISE!

COOLING SYSTEMS | MACHINERY MANUFACTURING | TURNKEY INSTALLATION



MAKTERM
COOLING SYSTEMS

CONTENTS

About Us	2
Our References and Completed Projects	3
Our Projects and Service Areas	6
Slaughterhouse Equipment Group	7
Ice Bank	8
Blast Freezing Tunnels	9
Air-Cooled Chiller	11
Air Handling Unit	11
Rooftop Air Conditioning and Incubation System	12
Thermal Analysis and Automation Products	13
Our Certifications	14

ABOUT US

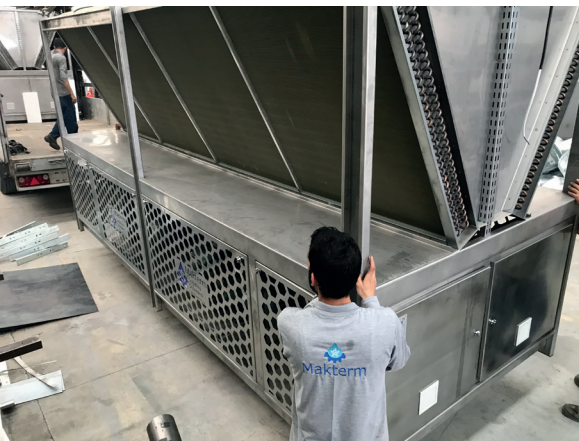


CUSTOMER SATISFACTION

Makterm is a project contracting company that has adopted customer satisfaction as its mission and aims to lead the way in the industrial and commercial cooling sector. With our young and dynamic structure, we strive to stay one step ahead, follow innovations, and engage in R&D activities. For us, producing coolers that consume less energy and have a longer lifespan is not a choice, but a necessity.

OUR ACHIEVEMENTS

We are aware of the value of every project we undertake and never compromise on discipline. Our team believes that success comes more naturally when doing what you love — and we truly love what we do. Drawing strength from the projects we have successfully completed in various countries around the world, we not only serve the domestic market but also contribute to our country's economy through international exports.



SOLUTION-ORIENTED

With our flexible working approach, we strive to overcome challenges and focus on producing solutions, not excuses. Backed by years of experience and expertise, we continue our journey under the Makterm brand.

OUR REFERENCES



Slaughterhouse Facilities

- 🇹🇷 Beyza Piliç**
 - Rendering Industrial Coolers
 - Odor Removal System
 - Conveyor Belt System
- 🇹🇷 Pilyem / Doyum Piliç**
 - 4,000 Units/hour Fully Equipped Slaughterhouse
 - Automatic Weighing Unit
- 🇸🇦 Tariyah For Poultry**
 - Air-Cooled Chillers for -35°C Blast Freezing Room, -18°C Frozen Storage Rooms
- 🇹🇷 Bak Piliç**
 - Fully Equipped Air-Cooled Chiller
- 🇸🇦 Al Nokbah Al Watania**
 - Slaughterhouse Facility
- 🇹🇷 Tad Piliç**
 - Rendering Industrial Coolers
 - Odor Removal System
- 🇸🇦 Alnoqbah Alvataniyyeh**
 - Fully Equipped Poultry Slaughterhouse Facility with Cold Storage Rooms at -18°C and -35°C
- 🇹🇷 Garip Tavukçuluk**
 - Screw Type 130 kW (2 Units)
- 🇹🇷 Öznesil Tavukçuluk**
 - Industrial Coolers for Rendering Systems
 - Deodorization System
- 🇸🇦 Safa Chicken**
 - Turnkey Poultry Slaughterhouse Installation
- 🇹🇷 Hicaz Poultry MMC**
 - Full Poultry Slaughterhouse Facility Installation



Cooling

- 🇹🇷 Hamza Efendi Baklava**
 - Blast Freezing Tunnel – 3 Tons / 11 Hours
 - Frozen Storage Room -20°C
 - Crate Conveyor Belt
- 🇹🇷 Beyza Piliç**
 - 0°C, -18°C, and -40°C Cold Storage Rooms
- 🇹🇷 ÜLKER**
 - Food Cold Storage Rooms
 - Tezcan Food Cold Storage Room
 - Birlik Food Cold Storage Room
- 🇹🇷 Peysa Gıda**
 - Blast Freezing Tunnel – 3 Tons / 11 Hours
- 🇹🇷 Karaoğlu Tavukçuluk**
 - Cold Storage Rooms
- 🇸🇦 Amt Enterprise**
 - Cold Storage Rooms
- 🇸🇦 Al Sayyad Food Products Company**
 - -40°C Spiral Freezer Installation
- 🇸🇦 Al-Awael Poultry Butchery / Kerkük**
 - -40 Spiral Freezer Kurulumu
- 🇸🇦 Al Taawoon**
 - Legume Processing Facilities – 100 Ton Truck Unloading Platform
- 🇹🇷 Garip Tavukçuluk**
 - 0°C, -18°C, and -40°C Cold Storage Rooms
 - Air-Cooled Chiller Group
- 🇹🇷 Özgü Piliç**
 - Cold Storage Rooms
- 🇹🇷 Şahap Et**
 - Cold Storage Rooms
- 🇹🇷 Harbiye Piliç**
 - Cold Storage Rooms
- 🇹🇷 Şahin Tavukçuluk**
 - Cold Storage Rooms
- 🇸🇦 Büyük Erbil Oteli**
 - Cold Storage Rooms (15 Units)
- 🇸🇦 Galaxy Company**
 - Cold Storage Rooms
- 🇸🇦 Sama Albaydha**
 - -18°C Frozen Storage Rooms (2 Units)
- 🇸🇦 Ghammazi Farm**
 - Feed Factory Truck Unloading Platform
- 🇸🇦 Emin Döner**
 - Cooling Unit with Energy Recovery
- 🇹🇷 Mizan Tavukçuluk**
 - Cold Storage Rooms
- 🇹🇷 Yörem Gıda**
 - Cold Storage Rooms
- As Sahil Company**
 - Cold Storage Rooms
- 🇹🇷 Köseoğlu Mandıra**
 - Cold Storage Rooms
- 🇹🇷 Tad Piliç**
 - Cold Storage Rooms
- 🇹🇷 Tavpa Tavukçuluk**
 - Cold Storage Rooms
- 🇮🇶 Mohamad Farm**
 - Full-Fat Production Plant
- 🇮🇶 Al Wasi**
 - Cold Water Chillers for Electric Cable Manufacturing Facility
- 🇸🇦 Golden Chicken**
 - 3 Tons/Hour Spiral Freezer Installation



Air Conditioning

🇹🇷 Beyza Piliç

- Hatchery Climate Control – 1 Million Eggs/Week Capacity

🇸🇦 Arta Joojeh

- Hatchery Climate Control

🇹🇷 Cıvkur

- Hatchery Climate Control – 460,000 Eggs/Week Capacity

🇸🇦 Hoşzaman Kuşçuluk

- Hatchery Ventilation, Water Chillers, and Cold Room Installations

🇹🇷 Garip Tavukçuluk

- Hatchery Climate Control – 460,000 Eggs per Week Capacity

🇸🇦 Diyar Qushi

- Complete Hatchery Facility with Ventilation Units, Water Chillers, and Cold Rooms



Chick Transport Systems

🇸🇦 Diyar Qushi

- Transport Trucks for 60,000 Chicks

🇸🇦 Ommat Grup / Cidde

- Chick Transport Trucks with 60,000 Capacity

🇸🇦 Al İttihad

- 60,000-Chick Capacity Transport Trucks (3 Units)



Blast Freezing Tunnels and Industrial Deep Freezer

🇹🇷 Beyza Piliç

- Blast Freezing Tunnel 10 TON/11hrs (7 Units)

🇹🇷 Şahin Tavukçuluk

- Blast Freezing Tunnel 10 TON/11hrs (2 Units)

🇹🇷 Saray Piliç

- Blast Freezing Tunnel 10 TON/11hrs

🇸🇦 Maşeyt Yem Fabrikası

- Granulator Machine Installation

🇹🇷 Siyazen Tavukçuluk

- Blast Freezing Tunnel 10 TON/11hrs

🇹🇷 Öznesil Tavukçuluk

- Blast Freezing Tunnel 10 TON/11hrs

🇹🇷 Sima Gıda

- Blast Freezing Tunnel 10 Tons/11 Hours

🇸🇦 Emin Döner

- Blast Freezing Tunnel
- 18°C Frozen Storage Rooms
- Fresh Storage

🇹🇷 Özlokmacı

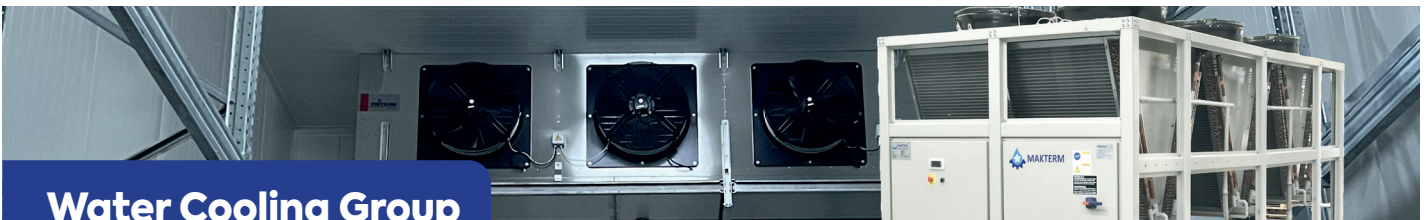
- Blast Freezing Tunnel 5 Tons/12 Hours

🇹🇷 İslamoğlu

- Blast Freezing Tunnel 2.5-3 Tons/11 Hours

🇹🇷 Akdeniz Entegre

- Blast Freezing Tunnel 2.5-3 Tons/11 Hours



Water Cooling Group

🇹🇷 Sunar Mısır

- Screw Type 163 kW Chiller (7 Units)

🇹🇷 Beyza Piliç

- Screw Type 1600 kW Chiller

🇹🇷 Garip Tavukçuluk

- Screw Type 130 kW (2 Units)



Our References



OUR PROJECTS AND SERVICE AREAS

Service Areas

- DAIRY AND DAIRY PRODUCTS FACILITY
- AGRICULTURE, LIVESTOCK, AND POULTRY
- CHEMICAL AND PHARMACEUTICAL INDUSTRY, LABORATORY
- HOSPITALS
- ALL TYPES OF FOOD PRODUCTION FACILITIES
- FISH AND SEAFOOD INDUSTRY
- HOTELS AND RESORTS
- HYPERMARKETS
- CATERING FACILITIES
- MEAL PRODUCTION PLANTS AND RESTAURANTS
- MEAT PROCESSING PLANTS



SLAUGHTERHOUSE FACILITY
MANUFACTURING AND
INSTALLATION



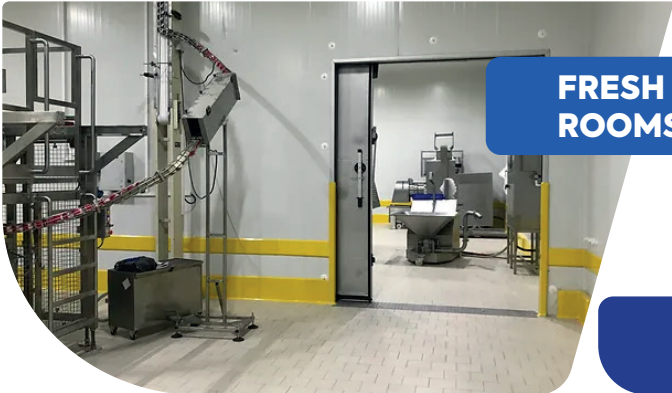
COLD STORAGE
ROOMS



BLAST FREEZING
TUNNELS



FROZEN STORAGE
ROOMS



FRESH STORAGE
ROOMS



ICE
BANK

SLAUGHTERHOUSE GROUP



FULLY EQUIPPED SLAUGHTERHOUSE MACHINERY INSTALLATIONS

CLAW SKINNING MACHINE MANUFACTURING

ODOR REMOVAL SYSTEMS

RENDERING PLANTS

AIR COOLER



ICE BANK

In meat and dairy processing plants, the ice bank allows for the storage of more energy in the form of ice during times when electricity is cheaper, and it can be used when needed with less power consumption. The operating principle involves the ice formed on copper pipes being circulated by pumps and then used by being agitated in the heat exchanger.

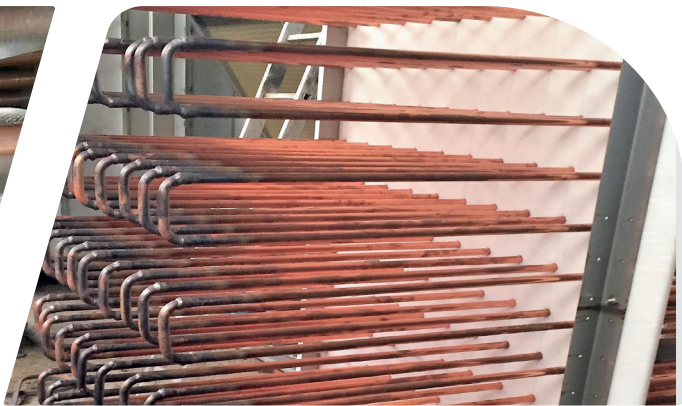
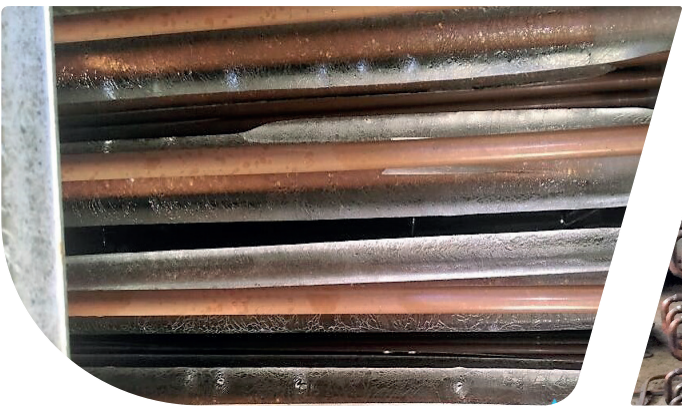
The tank’s internal volume is made of corrosion-resistant, food-grade 304 stainless steel (chrome) with a minimum thickness of 2.5mm.

The tank’s outer shell is filled with polyurethane, with a thickness of 70-100mm, ensuring maximum heat insulation.

The outer surface of the tank is optionally covered with 1mm aluminum sheet or stainless steel.

The copper pipes, specially manufactured for the cooling battery, provide rapid heat transfer, allowing for time savings in the ice-making process.

As standard, a mixer or air diffusers are placed in our ice water banks to ensure faster melting of the ice, or they can be added upon request.



Dairies, Slaughterhouses, Factories, and Food Production Facilities are typical businesses benefiting from our expertise, but we have also successfully applied systems for cooling industrial machinery.

The sizes range from small cooling systems suitable for food producers to large ice makers requiring hundreds of thousands of liters of cooling water per day for bulk load industries.

Facilities with multiple cooling zones, such as fermentation vessels at different temperatures, seafood tanks, or cooking boilers, can be served by a single central cooling system, designed to match the process working parameters exactly.

Please contact us to discuss your requirements.

PRODUCT CODE CAPACITY / DESCRIPTION		
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BSJ5	5 Tons	Ice-Water Mixture
BSJ10	10 Tons	Ice-Water Mixture
BSJ20	20 Tons	Ice-Water Mixture



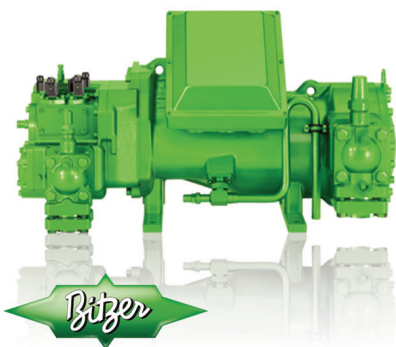
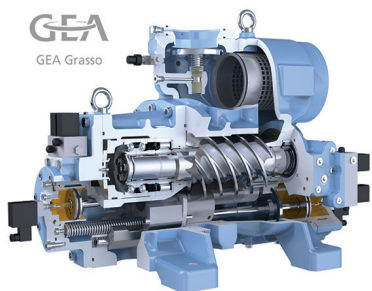
BLAST FREEZING TUNNEL

Freezing, one of the food preservation methods, is preferred because it allows long-term storage and provides practical use.

Advantages of Frozen Foods:

- They do not contain additives as they are preserved in their natural state.
- They can be stored for a long period when the required conditions are met.
- Since they are washed, sorted, and ready to cook, they provide practical use in fast-paced living conditions.

Although frozen foods were not preferred in the past, they are now preferred in almost all products due to current conditions.

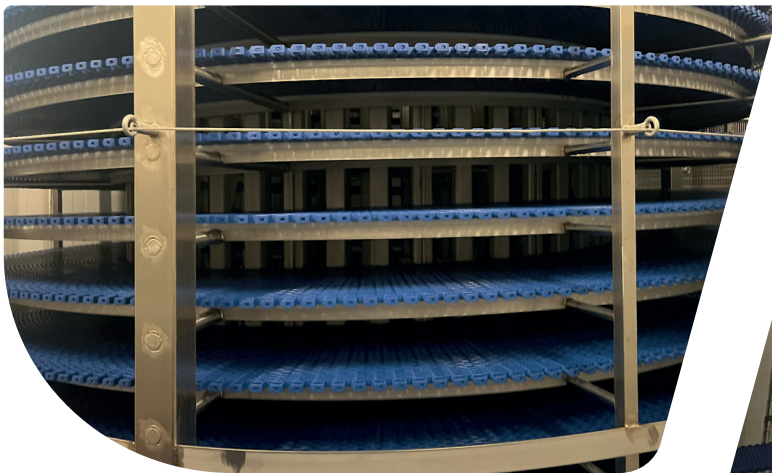


What Does Cold Chain Mean in the Frozen Food Industry?

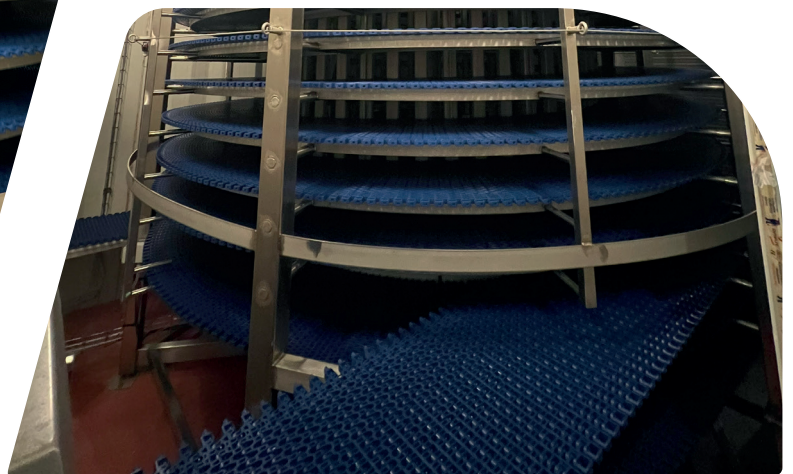
The process of preserving frozen food products in cold environments to prevent any changes in their characteristic properties from freezing to consumption is referred to as the cold chain.

The cold chain, which is crucial for frozen food products, ensures that the foods are frozen at -36°C and maintained at -18°C (this temperature may vary depending on the product type) until consumption.

Frozen foods are stored in the factory warehouse after being packaged post-freezing to maintain their quality. There is a strict requirement that the temperature in the distributor, retailer warehouses, and supermarket deep freezers must be kept at -18°C during the storage of frozen goods.



Spiral Freezer



IQF



Blast Freezer

AIR-COOLED CHILLER



- | The Chiller has two independent gas circuits and one water circuit.
- | The Chiller's electrical and operating system is automatically controlled and operated by a microprocessor.
- | Fans operate with a driver, providing energy savings.
- | The Chiller's compressors are twin screw type and operate with capacity control ranging from 18% to 100% of their capacity.
- | The expansion valves (Expansion Valves) are electronic, ensuring electricity savings.
- | It is specially designed for operation in hot regions (Oil cooler is air-cooled type).
- | The Chiller has a fault signal output, and in case of failure, a lamp indicator or siren will activate.
- | The evaporators are freeze-controlled, and the heater automatically activates when needed.
- | The Chiller control screen is designed to be controlled and operated from up to 75 meters away.
- | The Chiller can be controlled via computer, and any potential faults can be sent to the computer.

AIR HANDLING UNIT

Our Industrial & Comfort Air Handling Units are produced in the capacity range of 1,200 - 125,000 m³/h. The units have heating, cooling, and humidification processes.

They are manufactured for facilities that require 24/7 conditioned ventilation (such as schools, office buildings, hotels, shopping malls, etc.).

Industrial & Comfort Air Handling Units are produced after undergoing Eurovent and TSEK testing.



BODY AND PANELS

The panels are manufactured using galvanized steel and stainless steel sheets for the inner surfaces, and polyester film-coated painted sheets for the outer surfaces, with thicknesses of 40 and 60 mm.

Between the panels, rock wool insulation material with a density of 70 kg/m³ is used.

The frame of the unit is made of 1.8 mm thick electrostatic powder-coated aluminum profiles, and aluminum and plastic corners can be optionally used for the corner joints.

MECHANICAL PROPERTIES

Our air handling units are tested according to EN 1886 standards.

ROOFTOP AIR CONDITIONING UNIT



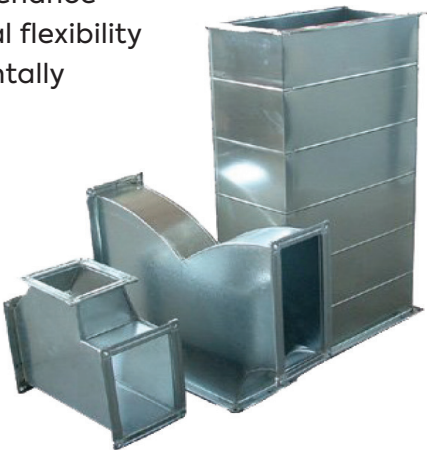
Our Ventilation Ducting Systems

Our Ventilation Ducting Systems are made of galvanized, stainless steel, or aluminum sheets, and high-strength, leak-proof flanges and corner pieces.

- Preventing the reduction of oxygen content in the air
- Preventing the increase of carbon dioxide, body odors, cigarette smoke, and moisture content in the air
- Removing heat gain from machines, people, and lighting from the environment
- Removing moisture gain from machines, cooking processes, and people from the environment
- Removing toxic gases and dust from the environment
- Reducing the number of bacteria and harmful microorganisms

The Rooftop is extremely lightweight with an elegant design. It is easy to install and takes up minimal space, making it ideal for use in shopping malls, warehouses, offices, and large workplaces. Its compact design allows it to blend decoratively into any environment.

- Heating and cooling with a single unit
- Production with desired air flow rates
- Best energy efficiency
- High corrosion resistance
- Modular structure
- High-quality parts
- Easy maintenance
- Dimensional flexibility
- Environmentally friendly



INCUBATION SYSTEM

INCUBATION: Incubation is the process of holding milk at a specific temperature to turn it into yogurt by adding a starter culture. The taste, aroma, and consistency of the yogurt are directly related to this process. The ideal temperature for starter cultures is between 42–45°C, and the pH of the milk drops from 6.7 to 4.6 within 3–3.5 hours. This is referred to as short-term incubation.

In our fully automated system, the products are:

- | Heated at 45°C for 3 hours
- | Rested with filtered air for 20 minutes
- | Cooled to 4°C within 4 hours



Discover Makterm Quality: Innovative Cooling Solutions

At Makterm, we work to differentiate ourselves in the industrial and commercial cooling sector and ensure customer satisfaction. We continue to introduce innovations to the industry in our journey focused on quality, energy efficiency, and sustainability.

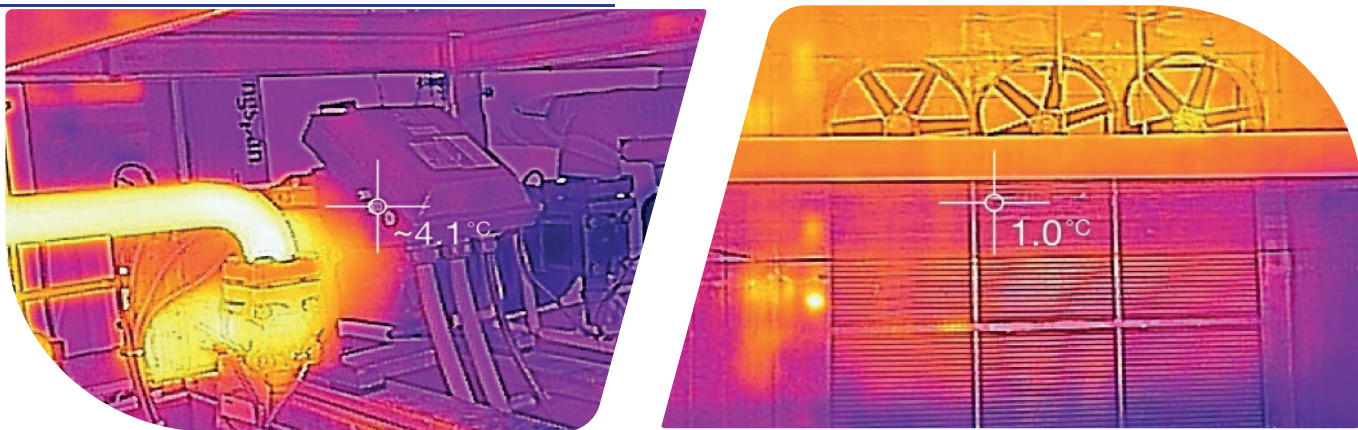
Smart Solutions for a Sustainable Future

With our young and dynamic team, we follow the latest technologies and invest in R&D to develop low-energy-consumption, long-lasting systems. Our goal is to offer environmentally friendly and cost-effective solutions.

ONLINE TRACKING



THERMAL ANALYSIS AND AUTOMATION PRODUCTS



Our Automation Products



Carel Pco and Prack PLC Systems: These systems provide control options in various areas, such as P, PI, PID, double PID, and neutral zone control with thermostat for cooling group compressors, set point compensation for compressors, and sliding set point. They also offer proportional band (P, PI) control for condensers.

Electronic Expansion Valves:
ExV, EVD evo are electronically controlled expansion valves. These valves are classified according to their capacity, with the lowest being E2V and the highest being E7V.

Expansion Valve Drivers: The EVD Evolution module is a control device that manages electronic expansion valves in the refrigeration circuit. The valve opening is optimized using PID control and some special auxiliary control processes.

SIEMENS

Schneider
Electric

SPORLAN
TV

CAREL

eliwell

Room Thermostat

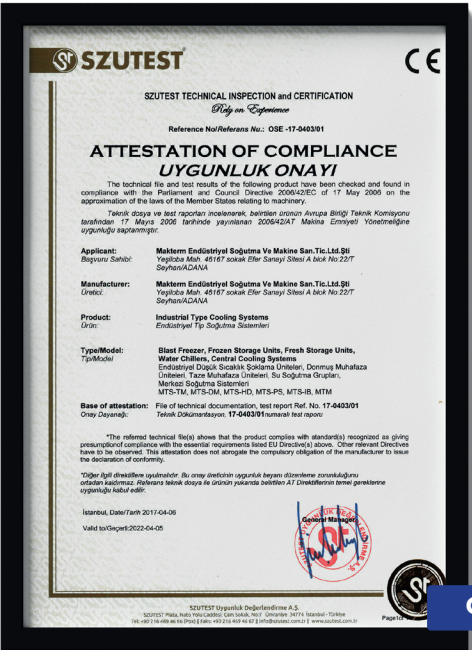
The new cold room thermostat is used for room temperature control in cold storage rooms, but it offers even more. It stands out with its simple installation, ease of use, and a wide range of convenient features. Different models of room temperature thermostats are available.



OUR CERTIFICATIONS



TRADEMARK REGISTRATION CERTIFICATE



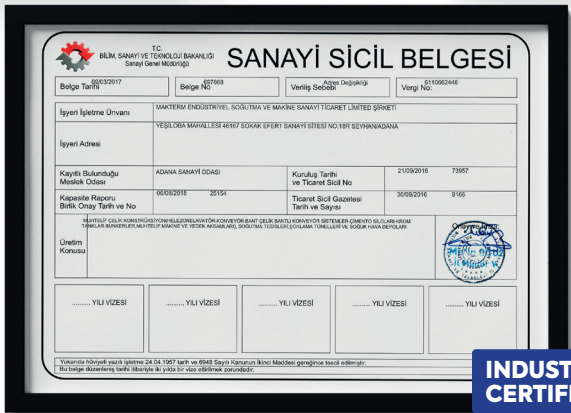
CE



TSE



ISO 9001



INDUSTRIAL REGISTRY CERTIFICATE



MAKTERM
COOLING SYSTEMS

