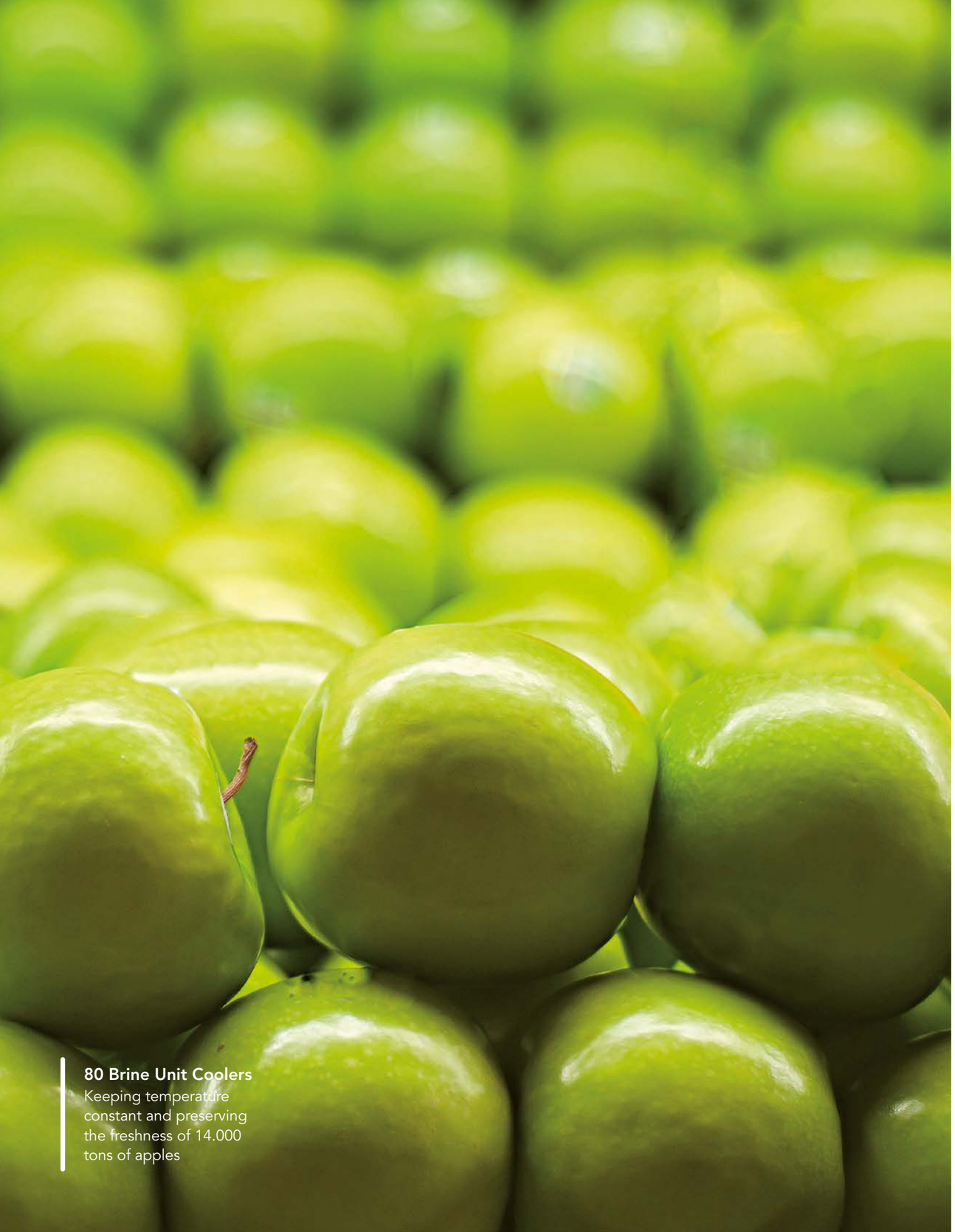
ThermoKey®

Heat Exchange Solutions

Refrigeration

Industrial and commercial solutions



80 Brine Unit Coolers
Keeping temperature constant and preserving the freshness of 14.000 tons of apples

We are committed to delivering advanced cooling solutions for a healthier world and people's wellbeing

What the market demands

NOISELESS OPERATIONS

In processing areas and cold rooms, low sound levels are crucial to ensure workplace comfort and guarantee operators health.

HYGIENE AND SANITIZATION

Cold rooms often contain sanitizing agents, food residues, and chemical derivatives. Long-term hygiene and safety can only be guaranteed by choosing the right materials and surface treatments, always in compliance with strict industry regulations.

MINIMUM PRODUCT WEIGHT LOSS

Reducing dehydration is vital to preserve product quality, appearance, and commercial value. Optimal air distribution, low air velocity, and reduced ΔT help minimize weight loss and maintain product integrity over time.

CONTROLLED FROSTING

In cold rooms running at or below 0 °C, minimizing brine accumulation is essential to ensure consistent performance and reduced maintenance needs.

FAST COOLING AND FREEZING

Strong air throw and uniform distribution accelerate the freezing process, helping preserve the product's natural freshness, taste, and nutritional properties.

ENERGY EFFICIENCY AND SUSTAINABILITY

Lower operating costs and reduced environmental impact are essential in modern plants. Units designed for low-GWP and natural refrigerants deliver high efficiency while ensuring compliance with the latest regulations.

ThermoKey responses

DUAL FLOW AND RADIAL UNIT COOLERS

ThermoKey offers high-performance cooling units specifically designed for operating rooms, featuring low-noise fans and low air velocity to prevent direct impact toward operators. We also provide unit coolers equipped with radial fans, capable of delivering additional static pressure of at least 150 Pa, ensuring optimal air distribution.

STAINLESS STEEL SOLUTIONS

ThermoKey provides full stainless steel units engineered for maximum cleanliness and long-term reliability. Stainless steel construction, combined with smooth surfaces and anti-corrosion treatments, ensures durability, easy sanitization, and full compliance with the strictest hygiene standards.

FRUIT COOLERS

ThermoKey fruit cooling units are designed to preserve the freshness and quality of fruits and vegetables through blow-through fans and optimized air distribution. The large heat exchange surface ensures the required cooling capacity, maintaining low temperature differentials for gentle and uniform preservation.

DEFROSTING SYSTEMS

ThermoKey offers a wide range of defrosting solutions, designed to ensure the most suitable choice for each application. Each system is engineered to guarantee energy efficiency, operational continuity, and long-term plant sustainability.

BLAST FREEZER

ThermoKey offers blast freezer unit coolers equipped with high external static pressure fans (from 100 to 400 Pa) and wide fin spacing geometries designed to minimize defrosting cycles and ensure reliable performance.

Specific solutions for specific needs

> With over 30 years of experience, ThermoKey has developed unmatched expertise to design tailor-made solutions driven by innovation and real market needs.

Choosing the right heat exchanger means looking beyond functional and technical requirements. The installation environment is equally crucial: corrosive agents, hygiene standards, and ambient conditions can all affect both performance and product lifespan.

From cold storage and refrigerated warehouses to freezing tunnels (IQF), cold chain logistics, and clean-room environments, ThermoKey unit coolers are engineered to ensure safety, performance, and sustainability, while guaranteeing energy efficiency and reliability.

For industries. For people. For the planet.

Main factors to consider for choosing the right solution:

Environmental conditions

Food processing needs

Chemical additives

Conservation requirements

Cleaning agents

Storage methods

Regulations and normatives

ENVIRONMENTAL CONDITIONS

Specific atmospheric conditions can significantly affect the long-term lifespan of the units. For example, high humidity levels may accelerate wear and reduce durability over time.

CHEMICAL ADDITIVES

Certain processes, especially in the pharmaceutical sector, involve the use of chemicals or the addition of additives that may have a corrosive impact on ventilated units.

CONSERVATION REQUIREMENTS

Specific products require precise thermo-hygrometric conditions for proper storage and processing — such as salt or vinegar — directly influencing the selection and design of refrigeration systems.

STORAGE METHODS

Each product requires a specific storage method (direct air contact, packaged, mixed, etc.), which directly influences the choice of the most suitable cooling unit.

FOOD PROCESSING NEEDS

Food processing activities can have a corrosive impact on air units, especially in environments with fumes, fermentation processes, or other chemical reactions. Proper material selection and treatments are therefore essential to ensure durability and performance.

CLEANING AGENTS

Maintenance activities aimed at ensuring long-lasting performance must also be taken into account, as they often require the use of harsh cleaning agents and aggressive detergents.

REGULATIONS AND STANDARDS

When direct chemical additives are used, national regulations establish strict limits to protect health and safety. These directives may vary from country to country and are continuously updated to meet increasingly stringent standards.

Sustainability at the core

> We design tailored solutions that maximize performance while minimizing consumption and emissions. This reflects ThermoKey's commitment to sustainability: creating refrigeration technologies that are future-proof, reliable, and environmentally responsible.

The efficiency and sustainability of a refrigeration system depend not only on its design but also on the fluids and refrigerants used in the heat exchange process.

Working fluids can vary greatly in their properties, directly influence both the choice of evaporator and the materials selected for the heat exchanger.

ThermoKey develops unit coolers engineered to operate with a broad spectrum of refrigerants — from traditional HFCs to low-ODP and low-GWP alternatives like CO_2 (R744), ammonia (NH_3/R717), and various glycol mixtures.

This flexibility ensures reduced environmental impact and full compliance with the most stringent international regulations.

Unit Coolers

Unit coolers are air-cooled systems widely used in air conditioning and refrigeration applications. Their primary function is to maintain optimal temperature, humidity, and air circulation in controlled environments such as cold rooms and refrigerated warehouses.

Beyond food preservation, unit coolers play a crucial role in the pharmaceutical industry, in the storage of sensitive or critical materials, and in specific agro-food processes where precise climate control is essential.

They are generally classified into industrial and commercial refrigeration solutions, mainly differing in cooling capacity, the size of the environments served, and the complexity of the systems.

Operating modes

Unit coolers can operate with different cooling methods allowing flexibility to meet various application requirements.

DIRECT EXPANSION (DX)

The refrigerant evaporates directly inside the coil tubes, ensuring fast and efficient heat exchange. A widely used and cost-effective solution for many refrigeration systems.

BRINE SYSTEM

Use of secondary fluids (glycol or water-solutions) circulating in a closed loop. Ideal for applications requiring separation between refrigerant and storage area, improving safety and maintenance.

PUMP CIRCULATION

Refrigerant is circulated with the aid of pumps, allowing better distribution inside the coil and improved efficiency in large-scale industrial plants.

AMMONIA (NH_3)

A natural refrigerant with zero ODP and very low GWP. Widely used in industrial refrigeration for its high efficiency and excellent thermodynamic properties.

CARBON DIOXIDE (CO_2)

An environmentally friendly refrigerant with GWP = 1. Increasingly adopted in food and pharmaceutical refrigeration, ensuring compliance with stringent regulations and sustainability goals.

Custom made solutions

Leveraging years of experience in the field, ThermoKey has built advanced expertise in industrial and commercial refrigeration, developing a wide range of standard solutions suitable for most applications that ensure outstanding quality, reliability, and performance.

These solutions provide a solid foundation while maintaining maximum flexibility. Thanks to their high level of customization, they can be adapted to the technical requirements of each project.

Alongside standard options, ThermoKey also designs tailor-made configurations to meet the unique needs of every customer. Each solution is developed in close collaboration with our customers, ensuring perfect integration with the specific application and operating environment.

Each ThermoKey unit cooler is built around a robust core that can be fully customized :

FINNED PACK

Engineered with optimized geometries for superior heat transfer, the standard design features ultra-thin aluminum fins combined with grooved tubes for direct expansion, or plain tubes for brine applications.

CASINGS

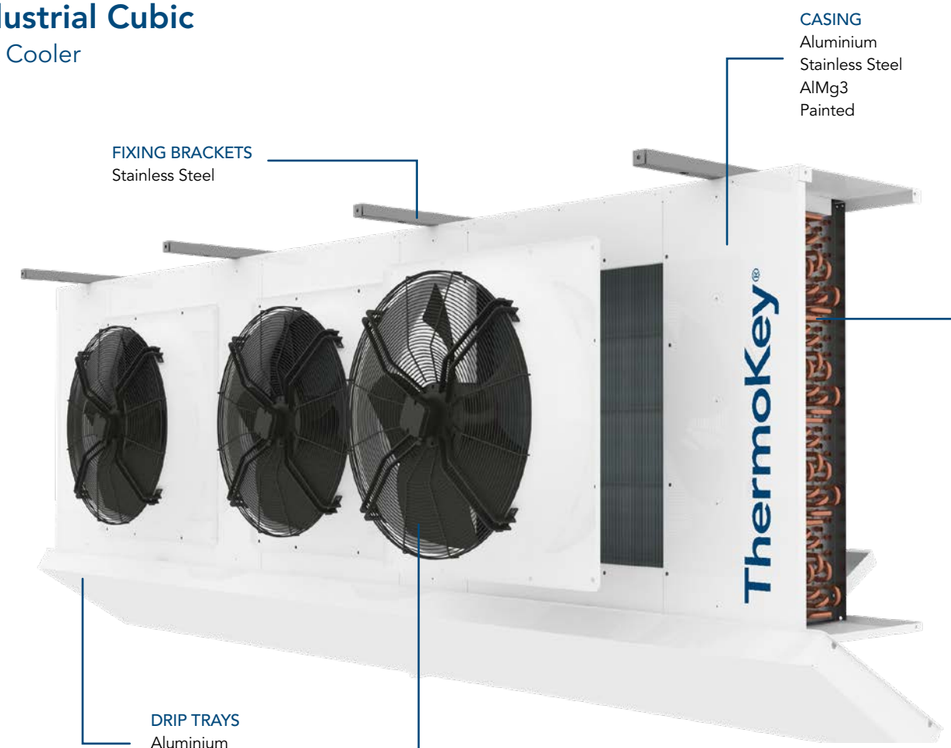
Constructed in aluminum alloy and galvanized steel for strength and corrosion resistance. For aggressive environments, options include stainless steel or painted metal sheets, ensuring long-term durability.

FANS

Available with axial AC or high-efficiency EC motors, with the possibility to integrate electrical components and connectivity accessories to match the specific needs of each installation.

Industrial Cubic

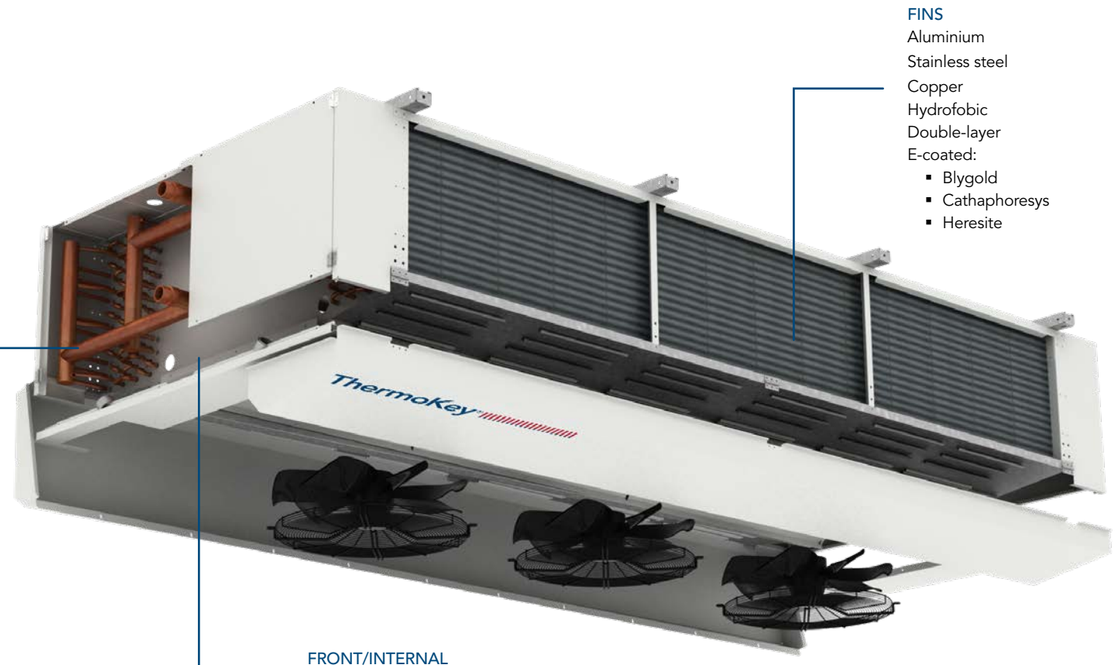
Unit Cooler



Industrial Dual Flow

Unit Cooler

Dual flow unit coolers are particularly effective in processing facilities, where airflow must follow a specific trajectory — for example, in food processing areas or loading warehouses.



How to choose the right material

> ThermoKey offers multiple finned pack configurations tailored to deliver optimal performance for each application.

The choice of materials has a direct impact on both the thermal performance and the cost of a unit cooler.

ThermoKey offers to its customers a wide range of treatments in order to protect the fins from corrosion (when needed) and to maintain the constant energetic efficiency.

Selecting the right combination of materials and protective treatments is essential to guarantee durability, efficiency, and long-term system reliability.

ThermoKey's expertise supports customers in identifying the most suitable solution for their application, balancing performance, sustainability, and cost-effectiveness.

FINS MATERIALS

TREATMENTS AND COATINGS

Stainless steel production

Stainless steel solutions are particularly recommended in applications where corrosion resistance, hygiene, and extreme conditions are critical, or where aggressive cleaning and sanitizing procedures are necessary. Stainless steel is also the preferred choice for systems operating at very low air temperatures (below –40 °C), continuous water exposure, hydrocooling or ammonia systems.

ThermoKey heat exchangers can be built with certified AISI 304 or AISI 316L tubes and casing, ensuring maximum durability and compliance with the strictest industrial and food safety standards.

Advanced production techniques such as orbital TIG welding with argon-controlled atmosphere guarantee superior quality, repeatability, and long-term reliability.

CORROSION RESISTANCE

HYGIENE STANDARDS

LONG-TERM RELIABILITY

The use of butt-welding — without return bends — prevents dirt and ice formation while reducing leakage risks, delivering minimized operating losses and extended product lifespan.

Stainless steel

ThermoKey has been producing stainless steel heat exchangers since 1995. This material — for both for tubes and fins — turns out to be the best choice with natural refrigerant like ammonia or CO_2

Defrosting systems

When unit coolers operate in cold or refrigerated rooms, frost can naturally accumulate on the finned pack. This ice build-up negatively affects the performance by reducing the heat transfer coefficient and increasing air-side pressure drops.

To ensure continuous operation and optimal operations, as well as safety and hygiene, an effective defrosting system is essential.

A — AIR DEFROSTING

W — WATER DEFROSTING*

E — ELECTRICAL DEFROSTING

H — HOT GAS DEFROSTING*

S — IMBRICATED GLYCOL DEFROSTING

*available with heating elements on the drip tray

The choice of the most suitable defrosting system depends on several factors.

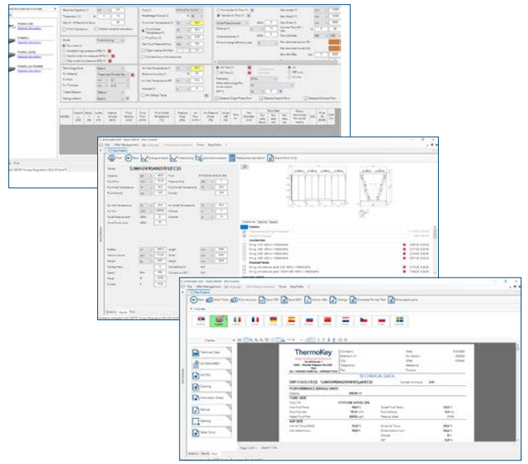
An inadequate system can introduce unwanted heat into the room — heat that must then be removed again by the refrigeration system — resulting in unnecessary energy consumption.

Each defrosting method differs in terms of energy efficiency, operating costs, system complexity, and sustainability.

TK Archimede

Archimede is ThermoKey's advanced configuration software, designed to assist customers in selecting the most suitable units for their applications.

The tool offers fast and precise configuration across the entire product range, combining a user friendly interface with comprehensive technical support from our expert team.



Precision and reliability

FREE DOWNLOAD

Scan the QR code or use the website link to download the Archimede software from www.thermokey.com

+ User friendly

+ Complete customization

+ Analysis and simulation

+ Data sheet and pricing

+ Bid management

Product range

	ENERGY & PROCESS COOLING	AIR CONDITIONING	REFRIGERATION	DATA CENTER
POWER-LINE DRY COOLERS				
POWER-J DRY COOLERS				
SUPER POWER-J DRY COOLERS				
POWER-J (V-TOWER) DRY COOLERS				
MODULAR DRY COOLERS				
TK MICRO LIQUID COOLERS				
POWERGEN RADIATOR				
TURBO-LINE CONDENSERS				
TURBO-J CONDENSERS				
GAS COOLER				
TKMICRO V-TYPE MODULAR REMOTE CONDENSER				
MICROCHANNEL CONDENSERS - TKSMART				
INDUSTRIAL DUAL FLOW UNIT COOLERS				
INDUSTRIAL UNIT COOLERS				
BLAST FREEZER UNIT COOLERS				
FRUIT COOLERS				
RADIAL UNIT COOLERS				
COMMERCIAL DUAL FLOW UNIT COOLERS				
LIGHT CUBIC UNIT COOLERS				
HEN UNIT COOLER				
PROCESS DUAL FLOW UNIT COOLER				
ROUND TUBE COILS				
MICROCHANNEL CORES				

NEEDS

- Tailor-made products
- Reliability and easy maintenance
- High capacity

NEEDS

- People wellness
- Proper practicality of equipment by removing generated heat
- High energy efficiency

NEEDS

- Preservation of food freshness and properties
- Continuous performance over time
- Sanitisable products

NEEDS

- Reliability
- Maintain a constant temperature

Unit Coolers

Units suitable for medium and large cold rooms, fast freezing tunnels, processing facilities, and refrigerated warehouses. These are designed for fresh and frozen goods storage, seasoning processes, and long-term preservation.

Industrial Refrigeration

Industrial Dual Flow Unit Coolers

AREA OF USE	Medium and large cold rooms and large refrigerated warehouses to preserve fresh or frozen products. Medium and large
PERFORMANCE RANGE	**Direct Expansion operation**: capacity up to 115 kW (R448A, Te= -8 °C, T1= 0 °C, RH = 85%) **Brine Operation**: capacity up to 160 kW (Glycol 30%, TW1= -10 °C, T1= 0 °C, RH = 85%) **Ammonia NH_3 Operation**: capacity up to 170 kW (NH_3, Te= -8 °C, T1= 0 °C, RH = 85%)
FANS	Diameter Ø 500-560-630 mm, AC motor
BENEFITS	Modular design, 1-5 fans Piping in copper or in AISI 304 or AISI 316L stainless steel Finned pack available in a wide range of materials Fin spacing: 4.5 mm - 12 mm Various defrosting systems available

Industrial Unit Coolers

AREA OF USE	Medium and large cold rooms
PERFORMANCE RANGE	**Direct Expansion operation**: capacity from 7 to 209 kW (R448A, Te= -8° C, T1= 0° C, RH = 85%) **Brine Operation**: capacity from 8 to 262 kW (Glycol 30%, TW1= -10 °C, T1= 0 °C, RH = 85%) **Ammonia c Operation**: capacity up to 170 kW (NH_3, Te= -8 °C, T1= 0 °C, RH = 85%) **Carbon Dioxide CO_2 Operation**: capacity from 6 kW to 150 kW (R744, Te= -8° C, Tr= 0°C, RH= 85%)
FANS	Diameter Ø 500-560-630 mm, AC motor
BENEFITS	Modular design, 1-5 fans Piping in copper or in AISI 304 or AISI 316L stainless steel Finned pack available in a wide range of materials Fin spacing: 4.5 mm - 12 mm Various defrosting systems available Casing available in AISI 304 or AISI 316L stainless steel or painted RAL 9010 on request

Blast Freezer Unit Coolers

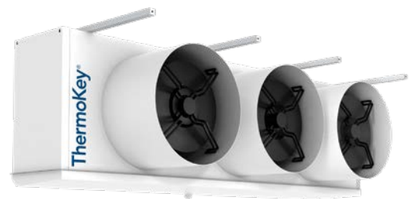
AREA OF USE	Fast freezing applications
PERFORMANCE RANGE	Capacity from 14 to 107 kW (R448A, Te = -40 °C, T1 = -35 °C, RH = 90%)
FANS	Diameter Ø 630 mm
BENEFITS	External static pressure of 100 Pa (standard) can arrive at 400 Pa with special tubular fans Piping in copper or in stainless steel AISI 304 Finned pack available in a wide range of materials Fin spacing 12 mm Various defrosting systems available Casing: aluminium, available in stainless steel AISI 304 or painted RAL 9010 on request

Fruit Coolers

AREA OF USE	Fruit and vegetables storage
PERFORMANCE RANGE	Capacity from 21 to 50 kW (R448A, Te= -8 °C, T1= 0 °C, RH= 85%)
FANS	Diameter Ø 400 and 450 mm
BENEFITS	Modular design, 3-6 fans Fin spacing: 6.0 mm Electric defrosting system available on request Solid frame in galvanized steel painted RAL 9010

Radial Unit Coolers

AREA OF USE	Air ducting
PERFORMANCE RANGE	**Direct Expansion operation**: capacity from 10 to 115 kW (R448A, Te= 2 °C, T1= 12 °C, RH= 75%) **Brine Operation**: capacity from 7 to 135 kW (Glycol 30%, Tw1= 0 °C, Tw2= 4 °C, T1= 12 °C, RH= 75%)
FANS	Radial ducted fans, Diameter Ø 630 mm EC
BENEFITS	Fin spacing: 4.5 - 7.0 mm Piping in copper or in stainless steel AISI 304 or AISI 316L External static pressure of 150 Pa Modular design, 1-4 fans Electric defrosting system available on request Casing in aluminium, available in galvanized steel painted RAL 9010 on request



Hen Unit Coolers

AREA OF USE	Potato and vegetables storage
PERFORMANCE RANGE	Capacity from 40 to 143 kW (R448A, Te = -5 °C, T1= 0 °C, RH = 90%)
FANS	Diameter Ø 800 high prevalence with differents ESP value
BENEFITS	Modular design, 2-4 fans Fin spacing 7 mm Electric defrosting system available on request Solid frame in galvanized steel

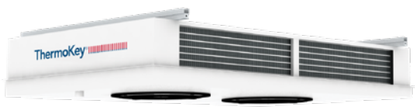
Commercial Refrigeration

Light Cubic Unit Coolers

AREA OF USE	Small and medium cold rooms
PERFORMANCE RANGE	**Direct Expansion operation**: capacity from 1,44 to 47 kW (R448A, T8e= -8° C, T1= 0° C, RH= 85%) **Brine Operation**: capacity from 1 to 20 kW (Glycol 30%, TW1= -10 °C, T1= 0 °C, RH = 85%)
FANS	Diameter Ø 300, 350, 400 and 450 mm
FANS	High efficiency in compact sizes Modular design, 1-4 fans Fin spacing: 4 mm, 6 mm or 8mm Solid frame in galvanized steel, cowlings in ABS (on request complete unit in galvanised steel), RAL 9010 Electric defrosting system available on request

Commercial Dual Flow Unit Coolers

AREA OF USE	Small and medium cold rooms
PERFORMANCE RANGE	Capacity from 1,5 to 20 kW (R448A, Te = -8 °C, T1= 0 °C, RH = 85%) RH
FANS	Single phase, Ø 350 mm
MODULES	Diameter Ø 800 mm, ac or ec motor
BENEFITS	Modular design, 1-4 fans Fin spacing: 3,0 mm 6,0 mm Electric defrosting system available on request Casing in aluminium, available in stainless steel AISI 304 or painted RAL 9010 on request



Process Dual Flow Unit Coolers

AREA OF USE	Processing rooms
PERFORMANCE RANGE	**Direct expansion operation:** capacity up to 115 kw (R448A, te= -8° c, t1= 0° c, rh = 85%) **Brine operation:** capacity up 160 kw (Glycol 30%, tw1= -10 °c, t1= 0 °c, rh = 85%) **Ammonia NH_3 operation:** capacity up 170 kw (NH_3, Te= -8 °c, T1= 0 °c, RH = 85%)
FANS	Diameter Ø 500-560-630 mm, ac motor
MODULES	Fans on top to improve working comfort The upper air intake does not generate the ascending current

All climate green-house

The center "World Horti Center" offers educational, research and presentation services for anyone active in the international greenhouse horticulture sector.

NEED

Precisely controlling the temperature in a greenhouse to recreate any type of cultivation condition.

SOLUTION

4 Brine Unit Coolers equipped with radial fan with External Static Pressure (ESP) and prepainted blue fins.

Sustainable fisheries

Processing and sale of fresh and chilled fish products from sustainable fisheries in Belgium - execution by Fieuw Koeltechniek.

NEED

Coldrooms around 0°C for processing fish.

SOLUTION

34 CO_2 unit coolers, 11 of which are Process dual flow unit coolers, 100% stainless steel 316L, designed for coldrooms to distribute air without drafts, enhancing worker conditions. It features passivated stainless steel welding with semi-automatic orbital TIG torches in a controlled atmosphere.

Remote condensers and gas coolers

> Designed for efficiency and sustainability, ThermoKey remote condensers dissipate process heat through ambient air in a closed circuit — ensuring reliable performance without water waste.

Turbo-Line Condensers

AREA OF USE	Gas condensation
PERFORMANCE RANGE	Capacity from 10 to 1249,8 kW (*)
FANS	Diameter Ø 500, 630, 800 mm, AC or EC motor
BENEFITS	High efficiency geometry Modular design, 1-16 fans Piping in copper or stainless steel AISI 304 Finned pack available in a wide range of materials Complete range of accessories, many sound levels configuration Premium series available for fans Ø 500 and 630 mm Casing in galvanized steel, powder painted

Turbo-J Condensers

AREA OF USE	Gas condensation
PERFORMANCE RANGE	Capacity from 100 to 1933 kW (*)
FANS	Diameter Ø 900 mm, AC or EC motor
BENEFITS	Maximum performance, minimum footprint High efficiency geometry Modular design, 2-16 fans Piping in copper or stainless steel AISI 304 or AISI316L Finned pack available in a wide range of materials Complete range of accessories, many sound levels configuration AFS (Air Fresh System), WFS (Wet Fin System) and EPS (Evaporative Panel System) available upon request Casing in galvanized steel, powder painted

(*) R448A, Tc= 40 °C, T1= 25 °C

Gas Coolers

AREA OF USE	Commercial refrigeration (supermarkets) and industrial refrigeration (production, packaging and distribution)
PERFORMANCE RANGE	• V-Type: double row range from 4 to 12 fans, capacity up to 1200 kW • Table-type: up to 10 fans, capacity up to 600 kW
FANS	Diameter Ø 500, 630, 800, 910 mm, AC or EC motor
BENEFITS	V-shaped structure allows to reduce the installation dimensions. Evaporative panel system increases capacity and efficiency of transcritical CO_2 systems Adiabatic cooling for effective operation also in regions with high ambient temperatures Management of the adiabatic system to minimize water consumption

TKMicro Microchannel Condensers (MPE 25mm, 32mm)

AREA OF USE	Gas condensation
PERFORMANCE RANGE	• V-Type: capacity from 5 to 560 kW • Table-type: up to to 10 fans, capacity up to 600 kW • TK Smart: capacity from 13 to 98 kW
FANS	• Diameter Ø 300, 400, 450, 500, 630, 800, 900 mm, AC or EC motor • TK Smart: diameter Ø 400, 500, 630 mm, AC or EC motor
FANS	Innovative high efficiency microchannel heat exchanger +30% Capacity vs same footprint traditional condenser Modular design, 1-8 fans (mpe 32 mm) Reduced dimensions and weight No galvanic corrosion through long-life-alloy Reduced refrigerant charge Low noise and low electrical power consumption Complete range of accessories (mpe 32 mm) TK Smart: modular design, 1-3 fans (mpe 25 mm); accessories: wiring, shock absorber

TK Smart

TKMicro V-Type Modular Remote Condensers

AREA OF USE	Gas condensation
PERFORMANCE RANGE	Capacity for each module: TKMicro 25: 148 kW TKMicro 32: 160 kW
FANS	Diameter Ø 800 mm, AC or EC motor
MODULES	From 1 to n
BENEFITS	Modularity Compactness (maximum lenght of 2245 mm) Low installation costs Regulation or partialisation of the whole unit Lower enviromental impact Less weight Reduced volume charge Easy-to-clean microchannel core Core coating possibility in case of aggressive ambient


REFRIGERATION

Meat production facility

Food freezing and storing for a leading company in Poland.

NEED

31 Cold rooms with a total surface of 3500 m^2 for the whole meat production process. Cooling capacity of 910 kW.

SOLUTION

23 Unit Coolers and 4 Microchannel V-Type Remote Condensers.


REFRIGERATION

Commercial refrigeration

The evaporative panel system was developed to enhance the capacity and efficiency of transcritical CO^2 systems.

NEED

Dissipated power of 570 kW in condensation and 114 kW in evaporation for the refrigeration of a supermarket in Belgium.

SOLUTION

12 EC fan V-shape unit with auxiliary evaporative rows for energy-saving heat recovery, and a treated heat exchanger for coastal environments, complemented by an EPS adiabatic system.

Hundreds of customers have been choosing us for years for our expertise and deep know-how, combined with the wide range of products and customization options we offer.

Codification

Unit Coolers

		* IMT	* 3	* 56	* 7	* 6	* D	6	E	R	(EC)

• CONFIGURATION

DIRECT EXPANSION

PH	LIGHT CUBIC unit cooler (4 mm fin spacing)
PM	PM LIGHT CUBIC unit cooler (6 mm fin spacing)
PL	LIGHT CUBIC unit cooler (8 mm fin spacing)
SHS	COMMERCIAL DUAL FLOW unit cooler (3 mm fin spacing)
SMS	COMMERCIAL DUAL FLOW unit cooler (6 mm fin spacing)
SHL	COMMERCIAL DUAL FLOW unit cooler (3 mm fin spacing)
SML	COMMERCIAL DUAL FLOW unit cooler (6 mm fin spacing)
IHT	INDUSTRIAL unit cooler (4.5 mm fin spacing)
IMT	INDUSTRIAL unit cooler (7 mm fin spacing)
ILT	INDUSTRIAL unit cooler (11 mm fin spacing)
THT	RADIAL unit cooler (4.5 mm fin spacing)
TMT	RADIAL unit cooler (7 mm fin spacing)
FLT	BLAST FREEZER unit cooler (12 mm fin spacing)

AMMONIA

AHT	INDUSTRIAL unit cooler for NH3 (4.5 mm fin spacing)
AMT	INDUSTRIAL unit cooler for NH3 (7 mm fin spacing)
ALT	INDUSTRIAL unit cooler for NH3 (11 mm fin spacing)
FLA	BLAST FREEZER unit cooler for NH3 (12 mm fin spacing)

CO2

AMC	INDUSTRIAL unit cooler for CO2 (7 mm fin spacing)
ALC	INDUSTRIAL unit cooler for CO2 (11 mm fin spacing)
FLC	BLAST FREEZER unit cooler for CO2 (12 mm fin spacing)

BRINE

PH	LIGHT CUBIC unit cooler (4 mm fin spacing)
PM	LIGHT CUBIC unit cooler (6 mm fin spacing)
BHT	INDUSTRIAL unit cooler (4.5 mm fin spacing)
BFT	INDUSTRIAL unit cooler (6 mm fin spacing)
BMT	INDUSTRIAL unit cooler (8 mm fin spacing)
THB	RADIAL unit cooler (4.5 mm fin spacing)
TMB	RADIAL unit cooler (7 mm fin spacing)

• NUMBER OF FAN

• FAN DIAMETERS

30=300mm, 35=350mm, 40=400mm, 45=450mm, 50=500mm
56=560mm, 63=630mm, 80=800mm

• FIN SPACING

3 - 4 - 4.5 - 6 - 7 - 8 - 11 - 12

• ROW NUMBER

• OPERATION SYSTEM

D	Direct Expansion
P	Pump
N	Flooded

• REFRIGERANT CONNECTIONS

5	right looking at finned pack
6	left looking at finned pack

• DEFROST SYSTEMS

G	Hot gas with heater elements
F	Water with heater elements
H	Hot gas
W	Water
A	Air
E	Electric

• HEATER ELEMENT ON DRAIN LINE

R	100 W

• FAN TYPE

-	AC fans
(EC)	EC fans

* Characters always present in the code

Industrial Unit Coolers

		* DFX	* 5	* 63	* 70	* 8	(Y)	S

• CONFIGURATION

DFX	**DIRECT EXPANSION** DUAL FLOW unit cooler for standard refrigerants
DFB	**BRINE** standard brine DUAL FLOW unit cooler
DFN	**AMMONIA** ammonia DUAL FLOW unit cooler
DFC	**CO2** carbon dioxide DUAL FLOW unit cooler
ICX	**STANDARD REFRIGERANTS** CUBIC unit cooler
ICB	**BRINE** standard brine CUBIC unit cooler
ICN	**AMMONIA** ammonia CUBIC unit cooler
ICC	**CO2** carbon dioxide CUBIC unit cooler

• NUMBER OF FAN

1, 2, 3, 4, 5

• FAN DIAMETERS

50=500mm, 56=560mm, 63=630mm

• FIN SPACING

45= 4.5 mm, 60=6 mm, 70=7 mm, 80=8 mm, 10=10 mm, 11=11 mm

• ROW NUMBER

04, 06, 08, 10

• FAN MOTOR CONNECTION

(Y)	Star
(D)	Delta

• S+4 NUMBERS - COMBINATION OF STANDARD OR SPECIAL OPTIONS

* Characters always present in the code

Applications

Cold rooms

Cold rooms for the preservation of apples in Poland.

NEED
Keeping a constant temperature and preserve the freshness of 14,000 tons of apples (40 cold rooms). Required capacity: 3,680 kW.

SOLUTION
80 Brine Unit Coolers model BFT550.66PA.

Green-house

Greenhouse of orchids, installation in Bleiswijk, Holland.

NEED
Controlling precisely the temperature in a greenhouse with a total surface of 23,500 m^2 for the growth of 2 million orchid plants.

SOLUTION
21 Brine Unit Coolers model BHT250.310P6AS equipped with Ec fans.

Food freezing

Plant in France for the processing and preservation of shrimps.

NEED
Keeping unchanged the freshness of shrimps. 9,000 m^2 plant. 9,000 tons of shrimps per year.

SOLUTION
16 including Brine Unit Coolers, Industrial Unit Cooler and Dual Flow Brine Unit Coolers equipped with double-insulated drip tray, stainless steel AISI 304 casing and double-layer coated fins.

Fast freezing

Plant for ice-cream deep-freezing in Austria.

NEED
Fast freezing ice-cream temperature from -6 °C to -15 °C. Deep-freezing capacity: 1,400 Kg/h. Work cycle: about 16 hours. Average treatment time: 120 min. Required capacity: 90 kW.

SOLUTION
Blast Freezer Unit with electric defrosting system and 150 Pa external static pressure.

Hen Unit Coolers
Preserve strawberry plants in a coldroom with controlled temperature around 0 °C

We design customized products to meet every need

We at ThermoKey know that specific environments require specific solutions, we are happy to help you to identify the best solution to your needs.

Our technicians assist the customer in the choice

Our technical staff is at your complete disposal to identify the best heat exchanger for you. We individually analyze your specific needs and the environment in which the heat exchanger will be installed for your needs.

After sales

ThermoKey stays at your side throughout the product life cycle for spare parts replacement and technical assistance

ThermoKey®

Heat Exchange Solutions

ThermoKey Spa
via dell'Industria, 1 - 33061
Rivarotta di Rivignano Teor (UD) - Italy

T. +39 0432 772300
F. +39 0432 779734
info@thermokey.com
www.thermokey.com

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