

# TerraFrigo heat exchange equipment

Our mission is to produce  
the equipment that would be useful  
all over the world.

Company Limited "TerraFrigo"  
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[terrafrigo.org](http://terrafrigo.org)

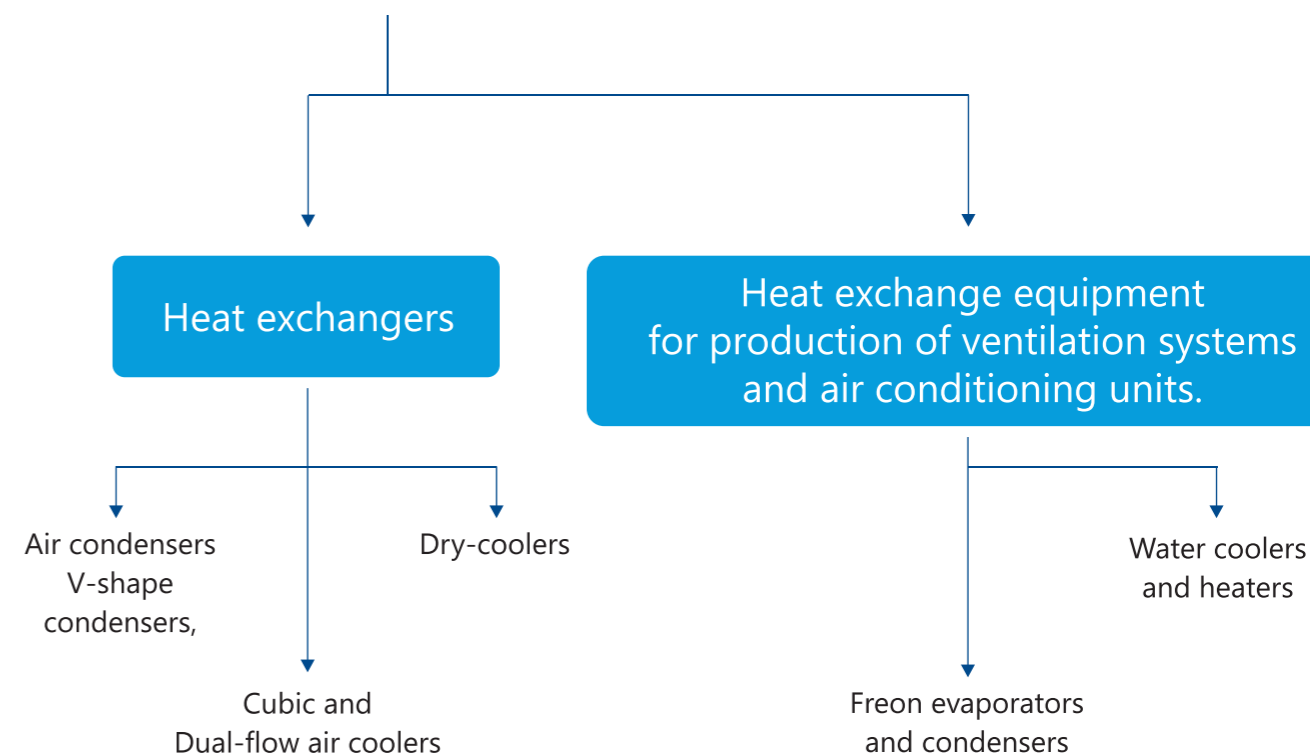


# TERRAFRIGO PLANT

Russian manufacturer of heat exchange and refrigeration equipment.

Company Limited "TerraFrigo" — enterprise focused on high work standards, import substitution and use of modern technologies in production aimed at maximum meeting of customer's needs all over the world.

## TERRAFRIGO HEAT EXCHANGE EQUIPMENT



17  
year  
experience

17  
countries

50  
dealers

12000+  
completed objects

Thanks to our own design office, the use of the latest modern technologies in production, and a team of specialists we produce standard and non-standard solutions that take into account the individual requirements and partners' industry features.



High localization degree in industry in Russian Federation.



Our clients save tens of thousands of dollars on expenses, increasing shelf life of products at all stages of distribution maintaining their high reputation.



TerraFrigo business processes are certified according to the quality management system ISO 9001: 2015.

### Key production areas

- \***Vehicle refrigeration-and-heating units** for perishable products transportation.
- \***Air conditioners** for commercial vehicles, special vehicles, and agricultural machinery.
- \***Heat exchangers** (air coolers, condensers, V-shaped condensers, dry coolers), ensure compliance with sanitary standards and safety at facilities of retail, logistics, manufacturing, and other industries.
- \***Heat exchange equipment** for production of ventilation systems and air conditioning units.

**60% of ventilation machines in Russia** are equipped with our heat exchangers.

**We offer an unlimited number of heat transfer solutions** for the food and processing industry.

**Thousands of refrigerated display cases and chests** use TerraFrigo units.

**Millions of tons of food products** are stored in the premises of distribution and logistics centers throughout Russia and the CIS, equipped with heat exchangers manufactured by TerraFrigo.

**We provide reliable heat exchangers** for public catering, trade and medical industry.

**We develop customized heat transfer solutions** for data center cooling systems.

# TERRAFRIGO AIR COOLERS

## TFE Series

99 models in standard range



### Stable cooling efficiency

High efficiency fans provide **high performance, long service life and safe equipment operation. Quiet operation and low power consumption.**

The liquid collector is designed to guarantee the **maximum efficiency of the heat exchanger** under various conditions, to ensure constant and stable operation of the air cooler and provide less frequent defrosting.

### Firm galvanized steel body

Protects units from external factors and aggressive environments, ensures low-noise operation. Maximum vibration resistance.

All parts are **protected from aggressive environments**: moisture, salts, acids.

**Does not require special care. Money savings on maintenance.**



### High reliability for the entire operation period

**SFT technology** - protects the heat exchanger tubes from damage, **eliminates the risk of premature equipment failure, downtime and loss of profit.** Each unit undergoes strict quality control inspection for 100% impermeability.

### High performance guarantee

Our own production copper-aluminum heat exchanger is **more durable than analogues.**

Unique tube finning technology in comparison with analogues creates a better distribution of freon flow and **increases air cooler's productivity by 15%.**

## Technical characteristics

| Fan diameter, mm | Number of fans | Capacity, kW       | Fin spacing     | Air flow m <sup>3</sup> /h | Heat exchange area, m <sup>2</sup> |
|------------------|----------------|--------------------|-----------------|----------------------------|------------------------------------|
| 250              | from 1 to 4    | from 0,91 to 6,41  | from 3,5 to 7,2 | from 700 to 2560           | from 4 to 37,27                    |
| 350              | from 1 to 5    | from 2,62 to 24,01 | from 4 to 7,2   | from 2500 to 12250         | from 8,58 to 93,84                 |
| 450              | from 1 to 4    | from 6,6 to 36,31  | from 4 to 7,2   | from 5000 to 22400         | from 14,15 to 127,49               |
| 500              | from 1 to 4    | from 5,85 to 48,22 | 7 and 9         | from 6750 to 29400         | from 24,17 to 144,62               |

### Name coding

**TFE 25.2.A.60**

fan diameter \_\_\_\_\_ | \_\_\_\_\_ | \_\_\_\_\_ fin spacing  
 number of fans      number of rows (A-4, B-6, C-8)



#### 100% impermeability control.

No leaks, reduced repair costs.



#### Fast defrosting using heating elements.

Stable refrigeration performance.



#### High, medium and low temperature series.

Compliance with the required modes of any facilities.



#### Simple installation and maintenance.

Protection against the possibility of incorrect intervention.

## Options



#### TFGuard® unique protective coating.

Protection against aggressive environments, moisture, ultraviolet radiation. Extends the service life of the air cooler up to 2-3 times.



#### Stainless steel body.

Long service life of equipment, corrosion resistance, environment-friendly, sanitary. Ideal for use in food industry.

# TERRAFRIGO DUAL-FLOW AIR COOLERS



## T2FE series

32 models in standard range

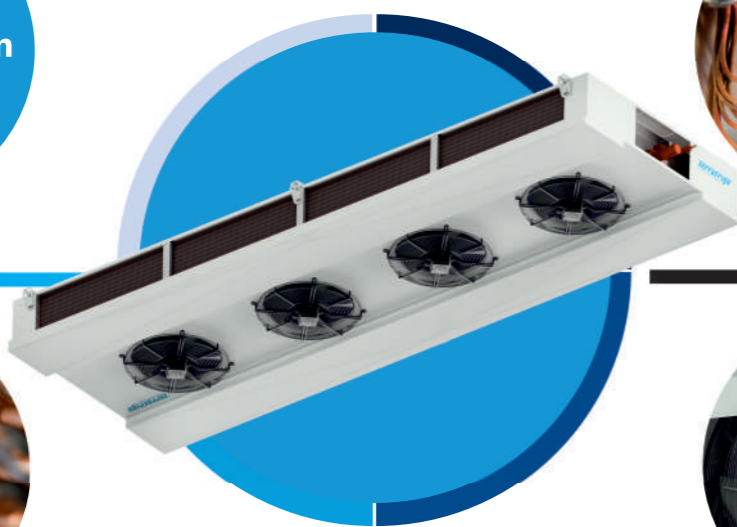
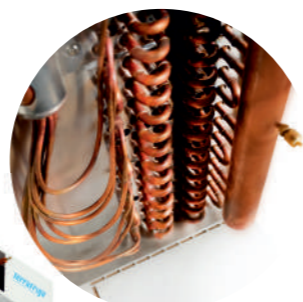
### The most compact

Probably the most compact air cooler on the market, allowing you to **accommodate more products while maintaining high performance**, better refrigerated air distribution and maintaining the required temperature conditions.



### Precise distribution of freon

The liquid collector is designed to guarantee the **maximum efficiency of the heat exchanger** under various conditions, to ensure constant and stable operation of the air cooler and provide less frequent defrosting.



### High reliability for the entire operation period

**SFT technology** - protects the heat exchanger tubes from damage, **eliminates the risk of premature equipment failure, downtime and loss of profit.**

### Stable cooling efficiency

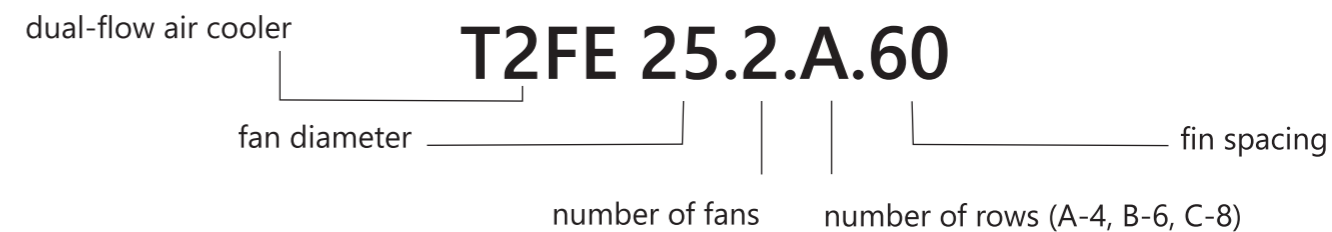
High efficiency fans provide **high performance, long service life and safe equipment operation.** Quiet operation and low power consumption.



## Technical characteristics

| Fan diameter, mm | Number of fans | Capacity, kW       | Fin spacing | Air flow m <sup>3</sup> /h | Heat exchange area, m <sup>2</sup> |
|------------------|----------------|--------------------|-------------|----------------------------|------------------------------------|
| 350              | from 1 to 4    | from 4,44 to 21,2  | from 4 to 7 | from 1900 to 8400          | from 5,86 to 50,48                 |
| 450              | from 1 to 4    | from 5,14 to 62,78 | from 4 to 7 | from 4400 to 19200         | from 19,14 to 165,86               |

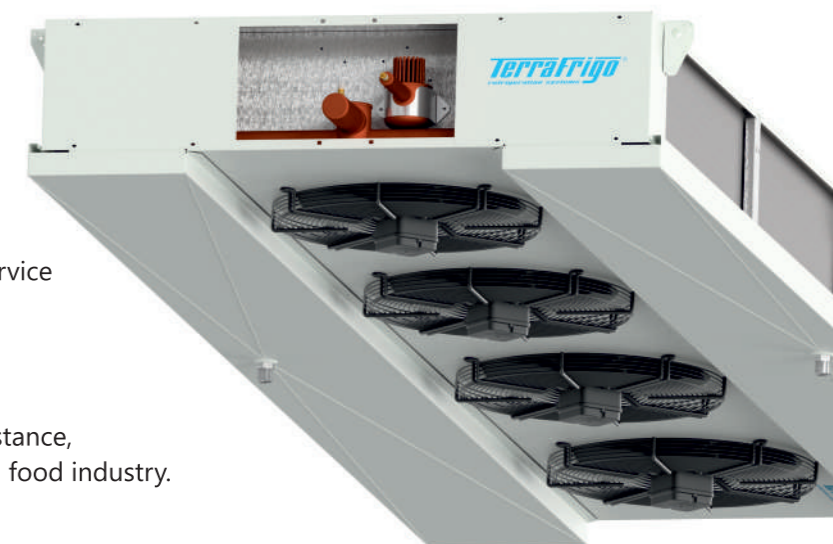
## Name coding



- Performance guarantee.**  
The required power calculations are checked by a special software module. The calculation error is less than 1%.
- Fast defrosting using heating elements.**  
Stable refrigeration performance.
- High, medium and low temperature series.**  
Compliance with the required modes of any facilities.
- Simple installation and maintenance.**  
Protection against the possibility of incorrect intervention.

## Options

- TFGuard® unique protective coating.**  
Protection against aggressive environments, moisture, ultraviolet radiation. Extends the service life of the air cooler up to 2-3 times.
- Stainless steel body.**  
Long service life of equipment, corrosion resistance, environment-friendly, sanitary. Ideal for use in food industry.





2  
year  
warranty

## TERRAFRIGO CONDENSERS

### High performance guarantee

Our own production copper-aluminum heat exchanger is **more durable than analogues**.

Unique tube finning technology in comparison with analogues creates a **better distribution of freon flow and increases air cooler's productivity by 15%**.

### Solid aerodynamic galvanized steel body

Protects nodes from external factors and aggressive environments, **provides low-noise operation excluding vibration**.

Optimal for use at retail facilities located in residential buildings.

### High reliability for the entire operation period

**SFT technology** - protects the heat exchanger tubes from damage, **eliminates the risk of premature equipment failure, downtime and loss of profit**.

Each unit undergoes strict quality control inspection for 100% impermeability.

### Stable cooling efficiency

High efficiency fans provide **high performance, long service life and safe equipment operation**. Quiet operation and low power consumption. The staggered condenser geometry increases heat dissipation.

**The condenser works more efficiently and longer than analogs.**



### Accordance to ENV standards

Precise selection of the required power.



### Damage protection

Reinforced collector protection excludes condenser damage during transportation and installation.

### Technical characteristics

#### Microflow series 24 models in standard range

| Fan diameter, mm | Number of fans | Capacity, kW      | Fin spacing | Air flow m <sup>3</sup> /h | Heat exchange area, m <sup>2</sup> |
|------------------|----------------|-------------------|-------------|----------------------------|------------------------------------|
| 350              | 1              | from 4,9 to 8     | 2,3 and 2,5 | from 1950 to 2950          | from 6,5 to 17,7                   |
| 450              | 1 and 2        | from 8,9 to 35,1  | 2,3 and 2,5 | from 3300 to 12200         | from 14,8 to 75,2                  |
| 500              | 1 and 2        | from 12,6 to 48,8 | 2,3 and 2,5 | from 3400 to 15400         | from 32,9 to 112,8                 |

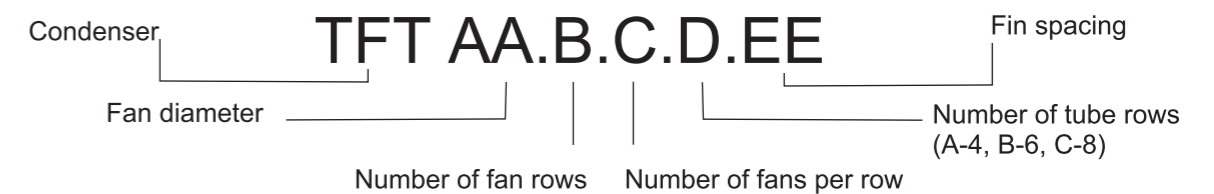
#### TFT Series 10 models in standard range

| Fan diameter, mm | Number of fans | Capacity, kW       | Fin spacing | Air flow m <sup>3</sup> /h | Heat exchange area, m <sup>2</sup> |
|------------------|----------------|--------------------|-------------|----------------------------|------------------------------------|
| 500              | 3              | from 36,3 to 60    | 2           | from 10717 to 21827        | 99,9                               |
| 630              | from 2 to 5    | from 33,4 to 252,2 | 2           | from 8450 to 85000         | from 129,4 to 561,6                |

#### TFC Series 25 models in standard range

| Fan diameter, mm | Number of fans | Capacity, kW        | Fin spacing | Air flow m <sup>3</sup> /h | Heat exchange area, m <sup>2</sup> |
|------------------|----------------|---------------------|-------------|----------------------------|------------------------------------|
| 630              | from 1 to 10   | from 17,4 to 532,4  | 2           | from 4600 to 173628        | from 71,2 to 949,9                 |
| 910              | from 2 to 10   | from 96,1 to 1080,8 | 2           | from 25148 to 337500       | from 331,9 to 2212,5               |

### Name coding



### Optimal space usage.

Two options for the arrangement of the condenser (horizontal and vertical) give excellent ergonomics and allow you to use the available space efficiently.

### Options



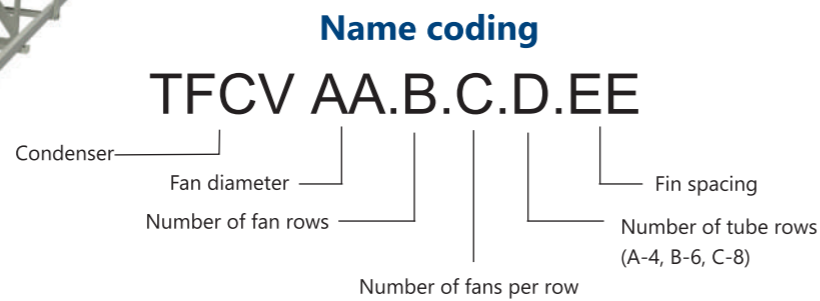
#### TFGuard® unique protective coating.

Protection against aggressive environments, moisture, ultraviolet radiation. Extends the service life of the air cooler up to 2-3 times.

# TERRAFRIGO V-SHAPE CONDENSERS



» One of the most powerful V-shaped capacitors at optimal price.



## Technical characteristics

| Fan diameter, mm | Number of fans | Capacity, kW         | Fin spacing | Air flow m <sup>3</sup> /h | Heat exchange area, m <sup>2</sup> |
|------------------|----------------|----------------------|-------------|----------------------------|------------------------------------|
| 910              | from 4 to 12   | from 197,5 to 1383,2 | 2           | from 51568,2 to 426000     | from 731,4 to 2925,8               |

- High performance guarantee.**  
The specific fin design allows to increase the productivity per square meter, while creating a compact size of the condenser at the same time.
- Solid aerodynamic galvanized steel body.**  
Protects units from external harmful factors and aggressive environments. The use of additional stiffeners eliminates vibration and reduces the noise level to a minimum.
- Consistently high performance.**  
High efficiency fans provide high performance, long service life and safe equipment operation. Quiet operation and low power consumption. A separate air chamber for each fan improves airflow, avoiding performance degradation due to condenser fouling.

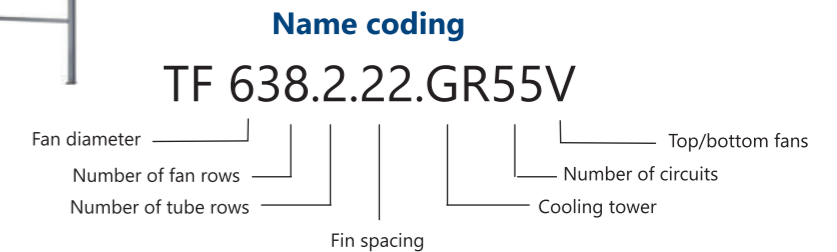
## Options

- TFGuard® unique protective coating.**  
Protection against aggressive environments, moisture, ultraviolet radiation. Extends the service life of the air cooler up to 2-3 times.

# TERRAFRIGO DRY-COOLERS



» Increased productivity even in the most hard conditions.



## Technical characteristics

| Fan diameter, mm | Number of fans | Capacity, kW        | Fin spacing | Air flow m <sup>3</sup> /h | Heat exchange area, m <sup>2</sup> |
|------------------|----------------|---------------------|-------------|----------------------------|------------------------------------|
| 630              | from 1 to 12   | from 29,76 to 586,6 | 2,2         | from 18690 to 206682       | or 88,46 to 1961,88                |

- High performance guarantee.**  
Optimum fin thickness combined with innovative tube finning technology provide the required performance. Unique inner surface of finned pipe, in comparison with analogues, creates a better distribution of fluid flow and thus increases the capacity of the dry-coolers by 15%.
- 24/7 Reliable operation 24/7.**  
SFT technology - protects the heat exchanger tubes from damage, eliminates the risk of premature equipment failure, downtime and loss of profit.
- Solid aerodynamic galvanized steel body.**  
Protects units from external harmful factors and aggressive environments, providing silent work, excluding vibrations. Optimal for use in large areas: retail premises, large warehouses, production facilities. The rigidity of the body is provided by special internal baffles and a balk.
- High performance in extreme conditions.**  
The bottom-mounted fans keep the dry-cooler from overheating and ensure consistent performance even in extreme heat.

## Options

- TFGuard® unique protective coating.**  
Unique TFGuard coating extends dry-coolers' life and protects against corrosion. Corrosion resistance tested by 500 hours of sea water test and 6000 hours in a salt mist chamber.

# TERRAFRIGO HEATERS



## Safety and long service life

The risk of overvoltage is eliminated. **Long service life, trouble-free work** due to a simple operating principle, high resistance to negative factors, **environmental protection, anti-corrosion resistance.**

## Economic efficiency

Use of duct water heaters for heating large space is profitable - heaters practically do not require electricity consumption and free from the use of natural gas, help to **increase the temperature and reduce financial costs for heat simultaneously.**

## Technical characteristics

| Capacity, kW   | Air flow m <sup>3</sup> /h | Liquid consumption, kg/h |
|----------------|----------------------------|--------------------------|
| from 13 to 143 | from 850 to 5350           | from 547 to 6132         |

TerraFrigo water heaters (coils) provide high heat transfer for efficient air heating in simple ventilation and complex air conditioning systems:

- administrative buildings;
- production workshops;
- healthcare institutions (hospitals, clinics);
- educational institutions (kindergartens, schools, universities);
- gyms and swimming pools;
- exhibition pavilions;
- warehouses;
- hangars;
- supermarkets;
- car dealerships;
- entertainment centers;
- agricultural structures (greenhouses, farms).

## Additional advantages

- \* **Modern design** and varied body colors.
- \* Devices organically **fit into any interior.**
- \* **Low noise level**, which expands the scope of use, including buildings and premises for residential, administrative and public purposes.
- \* The TerraFrigo air heater **can be used as an efficient fan in summer.**
- \* **Convenience in installation.**
- \* Modern devices are **easily integrated** into the ventilation system and are **perfectly combined** with its other elements. They are compact and do not need an excessively large space for installation. **They are quickly and safely connected to the heating system.**

## Options



**TFGuard® unique protective coating.**

Protection against aggressive environments, moisture, ultraviolet radiation. Extends the service life of the air cooler up to 2-3 times.

## High performance at low cost

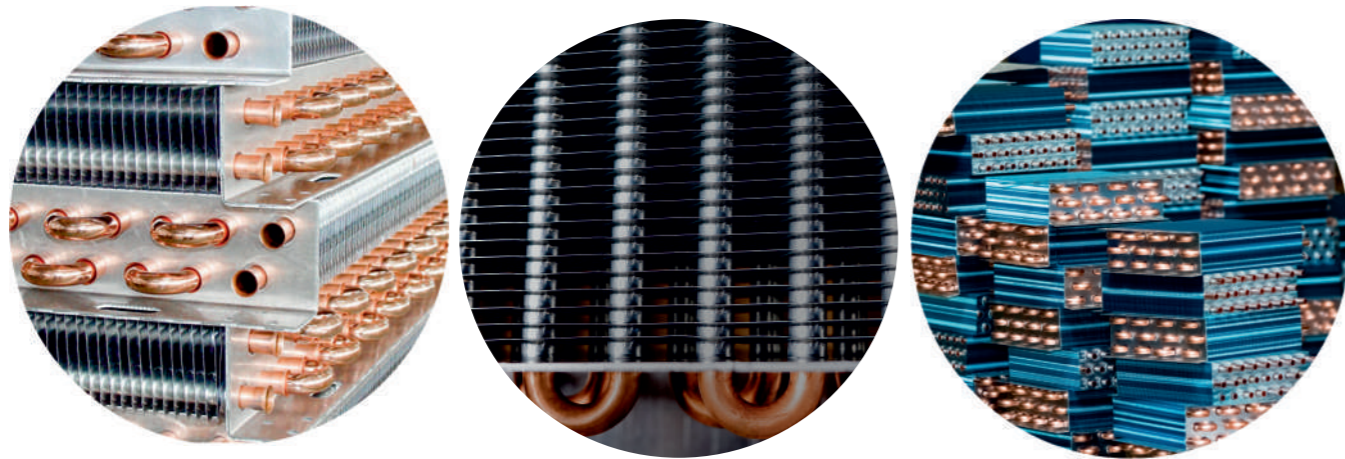
The unit contributes to significant savings in expensive electricity and is independent of gas. Ensures strong temperature drops and able to raise the **supply air temperature by 70-100 degrees** allowing to create and maintain an optimal indoor climate quickly.

## Versatility

There are conditions for productive functioning of water heaters in most large-area rooms equipped with water heating system. They can be mounted in any position, for example, on the surface of walls or ceilings. **Water heaters, unlike electric ones, do not burn oxygen.**

**One TerraFrigo heater can heat up to 10,000 square meters of premises.**

# TERRAFRIGO HEAT EXCHANGERS FOR PRODUCTION OF VENTILATION SYSTEMS AND AIR CONDITIONING UNITS



TerraFrigo plant is the manufacturer in Russia producing heat exchangers on non-standard geometries.

By using various types of materials in bodies, collectors and fins production, we create wide range of opportunities in use of heat exchangers.

## » High heat transfer efficiency

Thanks to the optimum fin thickness and innovative finned tube, the performance of the heat exchanger is increased up to 15%.

## » Application of SFT technology

Allows you to protect the heat exchanger from tubes damage, and eliminates the risk premature equipment failure, downtime and profit loss.

## » High performance guarantee

The required power calculations are checked by a special software module. Calculation error is less than 1%. Each unit undergoes strict quality control inspection for 100% leak proof.

## » A wide range of equipment

We provide wide range of equipment due to different tube diameters, fin spacing, and geometry options (10 types).

## » TFGuard® unique protective coating

The option increases the service life of the heat exchanger, protects against corrosion. Ideal for areas with high humidity. 500 hours of sea water test.

# TFGuard® ANTI-CORROSION COATING

The high performance TFGuard® coating extends the life of your heat exchanging equipment, ensures consistent performance in harsh environments, and provides significant savings in maintenance and operating costs.



## You need TFGuard® coverage if:

- \* You have a problem with equipment rotting
- \* You are worried about the durability of climate control units in sea transport
- \* You want to use advanced protection technology
- \* You regularly spend time and material resources to replace rotten heat exchangers
- \* You have forced downtime due to equipment repair



**6000 hours corrosion resistance**  
(salt mist tests)



**500 hours of sea water test**



**The 40 micron layer does not affect airflow**



**UV protection**



**Resistant to chemical environments**



**Bacteria protection**



**Does not reduce performance**

## Unique production technique

The special TFGuard® coating protects the heat exchanging part of the equipment, the collector and body from the affect of destructive substances using high-performance components in coating. TFGuard® is a cost-effective cover for easy maintenance. Does not contain hazardous components, dries quickly. The coating is applicable to Cu/Cu (copper/copper) and Al/Cu (aluminum/copper) heat exchangers.

## Withstands the toughest operating conditions.

The unique TFGuard® coating includes a multi-layer sewage resistant siloxane component to withstand operation at offshore oil rigs. This component in the coating has been tested on thousands of units of equipment and is the best alternative to analogues.

