
FENCO
Food Machinery
's
Twist Solution

Fenco's Twist Solutions

FENCO Food Machinery

Cold division

- **Twist Cooler** Mod. TC ..... "with ambient air"; customized design;
- **Twist Air Cooler** Mod. TAC.... "with cold air"; customized design; working temp., between 2÷5°C
- **Twist Compact Freezer** Mod. TCF.... "with chilled air"; pre assembled delivery; working temp., between -35/-40°C
- **Twist Freezer** Mod. TF.... "with chilled air"; customized design; working temp., between -35/-40°C
- **Twist Water Cooler** Mod. TWC.... "with well-cold or chilled water"; customized design

Hot division

- **Twist Water Pasteurizer** Mod. TWP .... "with hot water up to 96-98°C
- **Twist Air Pasteurizer** Mod. TAP .... "with hot air"; customized design; working temp., up to 120°C
- **Twist Steam Pasteurizer** Mod. TSP.... "with steam chamber"; customized design; working temp., up to 95÷98°C
- **Twist Proofer** Mod. TP.... "with warm air"; customized design; working temp., up to 40÷50°C with humidity control
- **Twist Dryer** Mod. TD ..... "with warm/hot air"; customized design; working temp., up to 90÷120°C with humidity control

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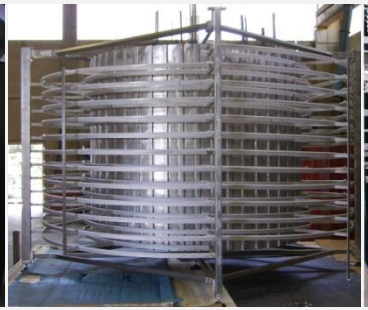
Various pictures of earlier installations







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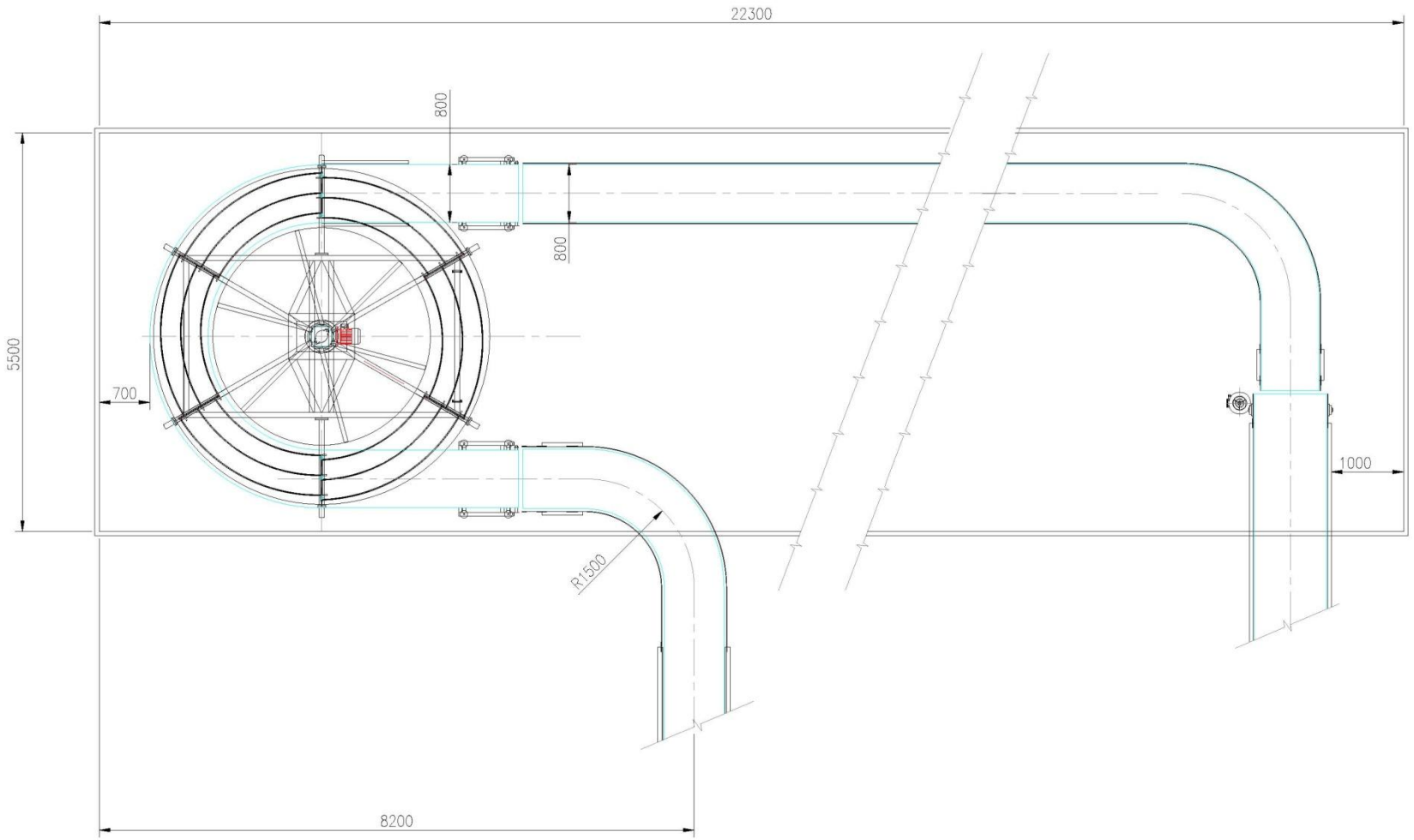

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customer: LINEA RAFFREDDAMENTO PRODOTTI DA FORNO

title: RAFFREDDATORE A SPIRALE x IDP srl

offert | location: ITALIA | date: 13-05-08 | designer: JCC | format: A1 | scale: 1:35 | AC-LY-8042

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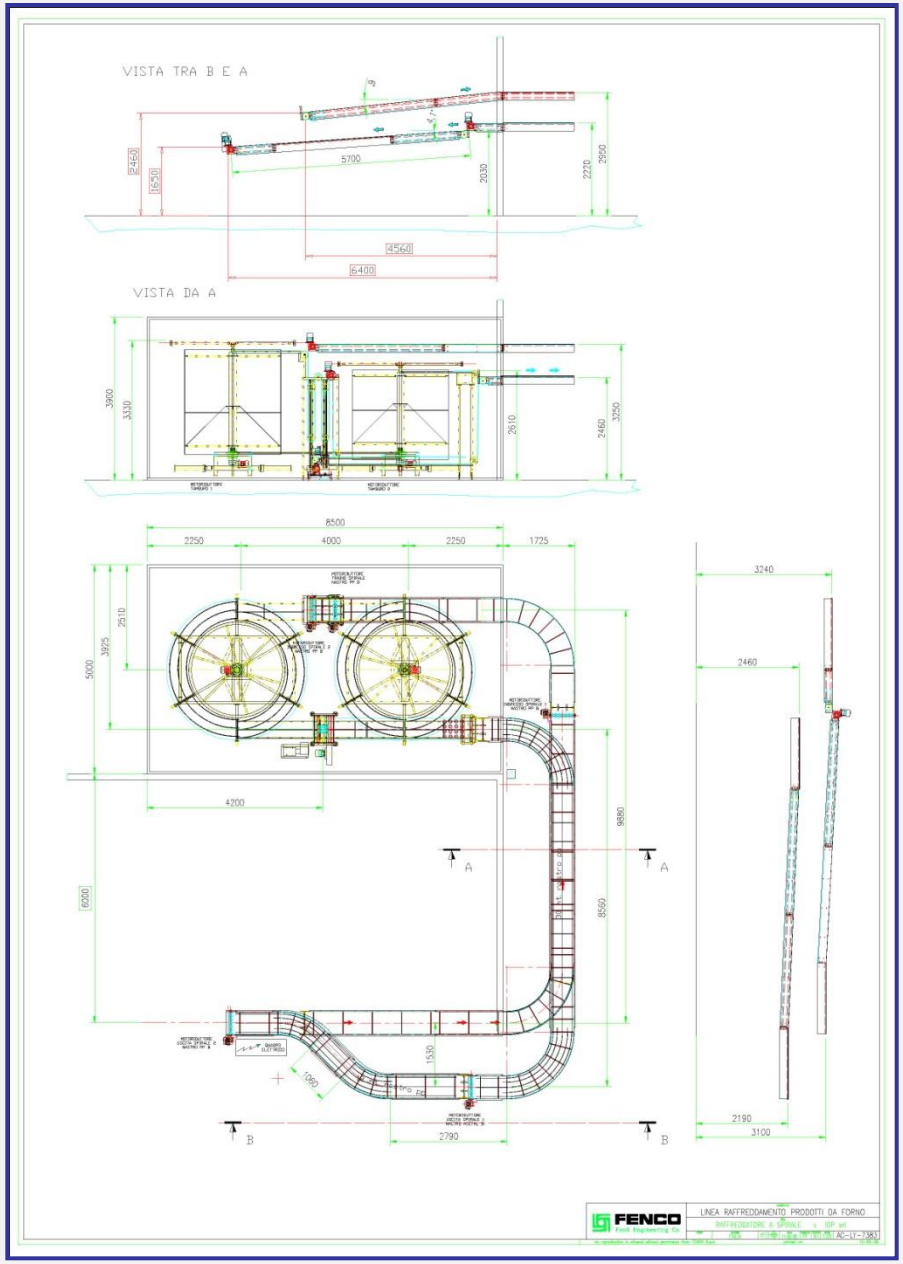

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Twist Air Cooler

Mod. TAC..-...VOT-EC

"VOT" - Horizontal Tangential Ventilation
"EC" - Easy Clean Design

MAIN FEATURES:

- TWIST AIR COOLER is arriving completely installed, and can be positioned directly into the factory floor without any specific preparations;
- Easy handling in case you have to move from one place to another;
- Full installation is completed in few days and only utilities connections are needed;
- "Hygienic Insulated Hermetic Cabin Design" made in Fiberglas and special resins;
- External "body" with one full open able side allowing easy access for inspections, all corners are rounded - bended, all corners are with reinforced inner parts, surfaces are sloped toward the opening allowing easy cleaning operations;
- Self supporting basement allowing easy easily lift able by crane or fork-lift;
- Central Drum drive supported by roller bearings;
- Stainless steel flexible belt or plastic belt for special application such as sticky or tender products with low water content products;
- Spiral structures made of stainless steel;
- Low pressure fans to increase air speed and heat exchange;
- Flat fin evaporators with low air pressure drop;
- Fully automatic washing system (option) with loose water;
- C.I.P. "Cleaning in Place" system with the possibility to use basic - acid - detergent and disinfectant solutions (option);
- PLC and touch-screen supervision system (option);
- Belt driving gears positioned outside the insulated cabin;
- Main fans driving system positioned outside the insulated cabin (optional);

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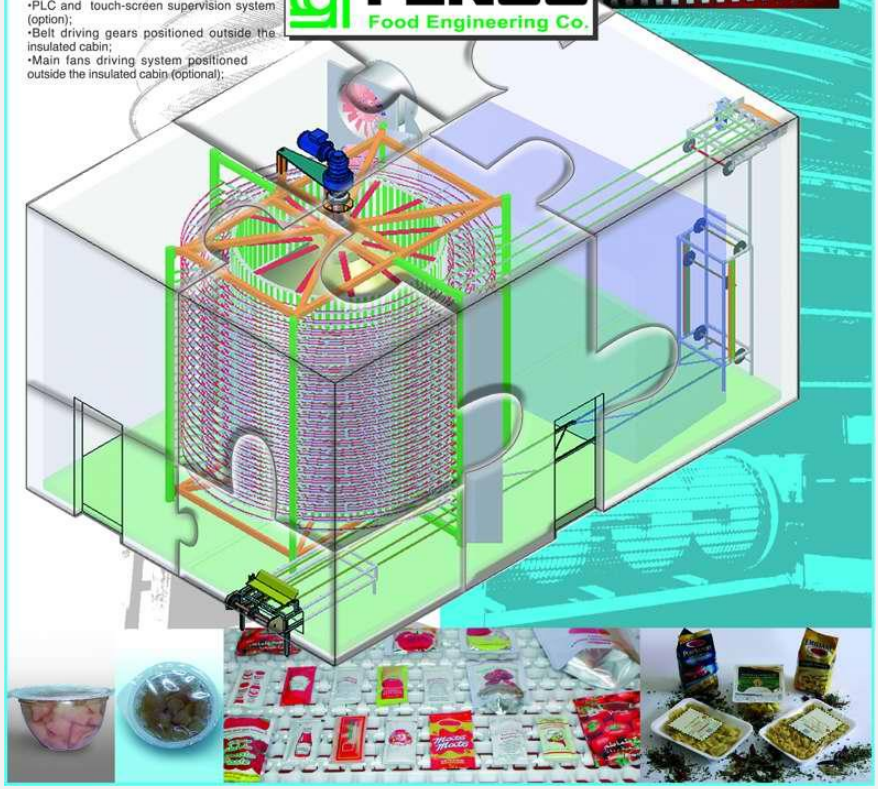
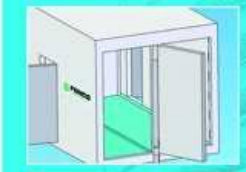
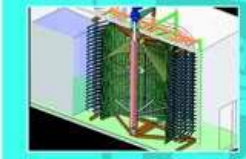


Twist Air Cooler "TAC"





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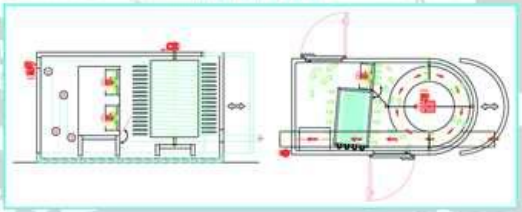
TWIST AIR COOLER



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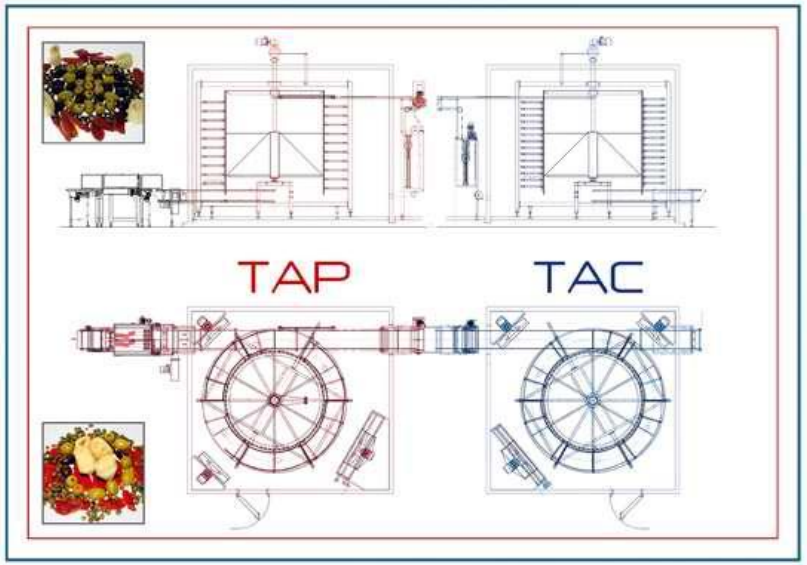
Optional available
- Fully automatic washing system (optional) with loose water;
- C.I.P. "Cleaning in Place" system with the possibility to use basic - acid - detergent and disinfectant solutions (optional);
- PLC 10" colour type with touch-screen supervision system (option);
- Ethernet configuration;
- Modem for teleservice assistance;
- Reverse osmosys system for HMA configuration;

Example how to read it:

Twist Air Pasteurizer – Cooler Mod. **TAP & TAC 700-20-2-VOT-EC**

• Name of the machine:	Twist Air Pasteurizer – Cooler
Pasteurizing Section	
• Code:	TAP
Cooling Section	
• Code:	TAC
Mod. TAP & TAC 700-20-2-VOT-EC	
• Belt width:	700
• N°. of Tiers:	20
• N°. of Drum:	2
• VO:	Horizontal Ventilation Type
• T:	Tangential Air Flow
• EC:	Easy Clean design – execution

Optional available
- code: TAP HMA
- "HMA" "High Moisturized Air", mainly in the TAP chamber, to improve the thermal exchange and minimize the time;
- code: TAC A/C
- "A/C" identify the cooling chamber divided in two halfs:
  - A = with Ambient Air in the 1st half;
  - C = with Chilled Air in the 2nd half;



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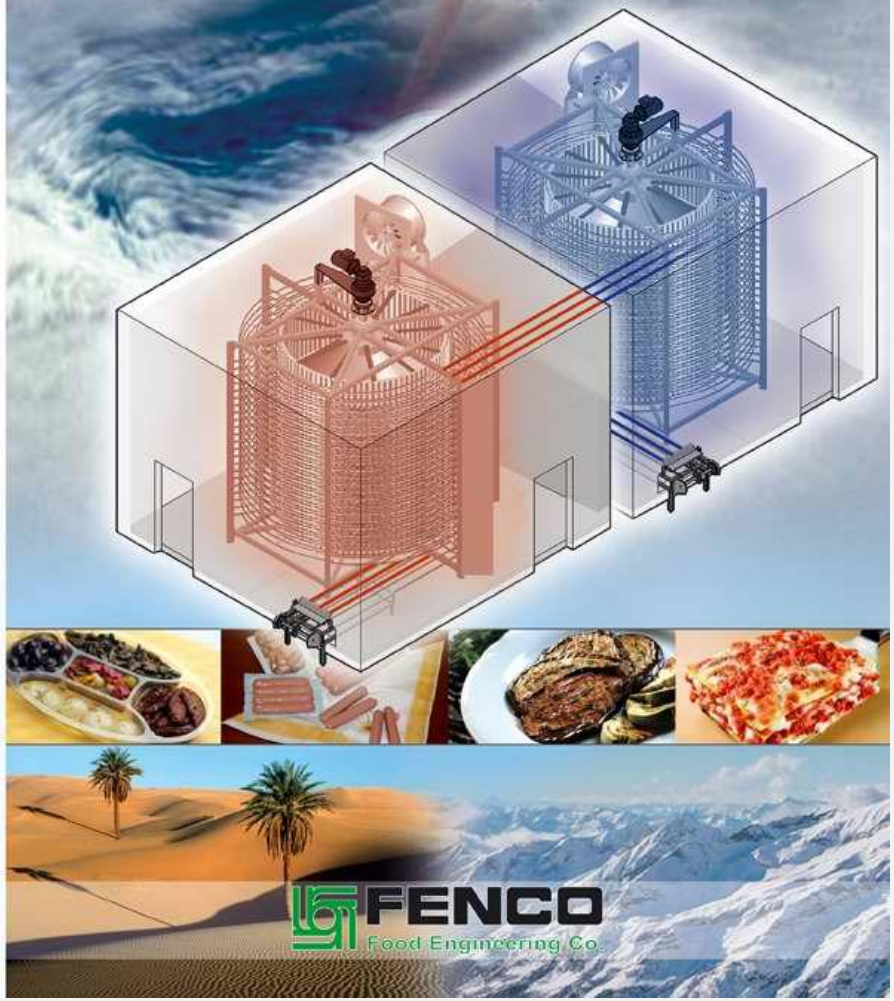
TAP & TAC

Twist Air Pasteurizer & Twist Air Cooler



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Why TAP & TAC solution

The "**TAP & TAC**" **TWIST AIR PASTEURIZER – COOLER** is a reliable alternative solution to the traditional linear "pasteurizing and cooling tunnel" working with water, at different temperatures, etc.

The "**TAP & TAC**" solution is particularly indicated whereas:

- Water is not available or very costly;
- In the dry ambient where water can create troubles in the production and/or in the environmental conditions;
- Absolutely water free consumption;
- Very easy and friendly cartining – packaging operation in line, with riscks of water damages in the final pallet;
- Less maintence costs, due to the less parts/components in motion as "wear and tear" compared to traditional tunnel;
- Huge useful surface available compared to the traditional linear tunnels;
- Factory space saving compared to the traditional linear tunnels;
- Possibility to change working level – floor during the same processing phases - cycles;
- Minimizing and/or optimizing the production costs due to the continuous operation – running cycles, and lower manpower involved;
- Possibility to treat different type of products and/or packed products in the same time – same belt;
- Final product standardization;

TAP & TAC applications

The "**TAP & TAC**" can find easily applications into:

- the traditional preserved food factory as fruits or vegetables;
- in the pasta sector for long shelf life type pasta "stabilized";
- meat sector;
- ready meals sector;
- bakery sector;
- sweet bakery sector;
- chemical or pharmaceutical sector;
- etc.

Main concept

The "**TAP & TAC**" **TWIST AIR PASTEURIZER – COOLER** here included basically is solution made by a "twin" spiral conveyors where the:

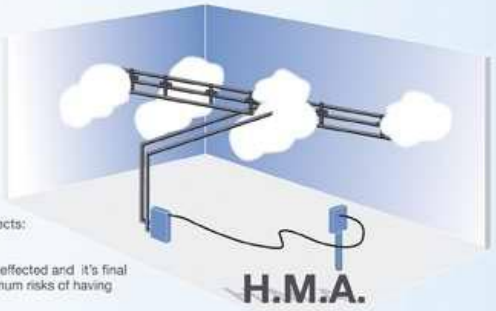
"Pasteurization cycle" take place in the 1st spiral,
and
"Cooling cycle" take place in the 2nd spiral.

- Each spiral is located inside an insulated cabin made out of sandwich panels, specifically designed for each application **TAP – TAC** working conditions.
- The chambers are positioned keeping a certain distance in the between to avoid interference and/or any "Thermal Bridges".
- Both system are using either "Hot Air" or "Cold Air" recycle air flow.
- "Hot Air" or "Cold Air" are generated through heat excahgers using steam or Freon/Ammonia.
- In case of special packaging and/or products the passage between the two belt is provided by a smooth passage thanks to "pen type belt".
- Belt/s can be in flexible stainless steel type or in modular flexible plastic material, upon specific preference and applications.
- In order to obtain the quickest and the most efficient thermal process **TWIST AIR PASTEURIZER COOLER** is designed for:
  - air speed circulation (4 -10 m/sec) of hot and cold air in the chambers.

Specific configuration

Upon specific application "**TAP & TAC**" can be provided with:

- **HMA "High Moisturized Air"**, mainly in the TAP chamber, to improve the thermal exchange and minimize the time;
- due to some particular locations TAC can have the A/C design, with allow to have a double cooling circuit, using external ambient air in the 1st half, and a refrigerated air in the 2nd half for the final cooling. This configuration depends on the type of product and to the geographical and weather conditions, but when ever this application can take place give a big saving in terms of cost of production – energy saving.



Through this combination we can obtain the following effects:

- higher thermal exchange on the product surface;
- quicker and faster thermal "hot and cold" penetration;
- due to this the quality of the final product is not particularly effected and it's final characteristics are like the fresh one, and mostly with minimum risks of having "brownish and/or coocked" effected final products;
- Standardization of the final product;

Main design

The "**TAP & TAC**" solution reassume the conditions and the parameters needed to approach correctly the modern food industry.

Machine design concept applied in this unit is the:

- ***Easy Clean Design***; our code ***EC***

- The unit doesn't have any mezzanine floor and or intermediary platform, to avoid any excess of points where dirtiness can be accumulated making more difficult the cleaning operations;
- Drum is without lateral openings to improve the air guidance and to minimize the possibility to accumulate dirtiness, in points where access is not easy if not possible;
- Central Drum drive supported by roller bearings;
- Stainless steel flexible belt or plastic belt for special application such as sticky or tender products with low water content products;
- Spiral structures made of stainless steel;
- Very high mechanical reliability of spiral belt conveyor.
- Reduced belt wear and elongation thanks to low tension drive system (the belt is pulled by means of dynamic friction on the total length);
- Machines design "maintenance free";
- Low maintenance cost and low spare parts cost due to utilisation of high quality commercial components;
- Machine design "lubrication free";
- No possibility of product contamination;
- Belt and drum driving gears usually positioned outside the insulated cabins, avoiding any risks of contaminations due to some oil leakages;
- PLC 6" black and white type with touch screen supervision system
- All mechanical parts are in stainless steel, food grade plastic material, special anodized aluminium;

Air - flow concept applied in this units is the:

- ***Horizontal Tangential Ventilation type*** our code ***VOT***

- The lateral aprons to guide the airflow on the opposite side of the evaporators are on easy access design like door openable or sliding, but in any case easy acces is granted all around;
- Possibility to have bi-directional air flow due to the a special axial resersable fans;
- Axial fans to optimize the energy consumption;
- Flat fin evaporators – heat exchangers with low air pressure drop with decreasing flat fins spacing;
- Heat exchanger are usually either in stainless steel or aluminium or copper or galvanized steel (upon specific applications and/or as per customer preference)

As conseguence we can obtain:

- Longer working cycle due to:
- THE EVAPORATOR DIMENSIONS AND DESIGN WITH DEACREASING SPACING
- VERY LOW Δ T° IN THE RECYCLE AIR FLOW
- As (option) we can provide "symmetrical " bi-directional air flow design evaporators on the air entrance assuring the same performances even once we revert the air flow. This solution is particularly appreciate in the factory which are seasonally working, and provide quite long running time delaying the stoppages due to the defrost cycle, increasing enormously the daily production.

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TWIST WATER COOLER

The ideal cooling system for pouches – sachets – cups and all packaging solutions

Advantages

- Very compact design too minimize space occupied in factory
- No need of any special floor preparation, and/or concrete or specific building modifications for a proper positioning and water recycle;
- Very low water consumption due to the temperature controls and the logic applied, and with the possibility to use Cooling Tower and/or Chilling unit and/or Dry Cooling equipments, separately or integrated in the same circuit;
- Possibility to have "customized" solution to address special space, products or environmental conditions,including using more then one spiral system, etc.;
- Reduced belt wear and elongation thanks to low tension drive system (the belt is pulled by means of dynamic friction on the total length);
- Various temperatures steps can be provided in the same unit and/or to have separated units for independent cycles, like:
  - -Hot Hold stage and/or;
  - -Pasteurization/Cooking stage;
  - -(*)2nd Pasteurization/Cooking stage;
  - -1st Cooling stage;
  - -(*)2nd Cooling stage;
- Water is sprayed in different conditions with different nozzles and disposition; each configuration is tailored for the specific application
- Very high mechanical reliability of spiral belt conveyor;
- No belt lubrication and no possibility of product contamination;
- Low maintenance cost and low spare parts cost due to utilisation of high quality commercial components;
- Belts gear motors protection positioned away from process areas;

(*) this depends on the size of the system and/or the environmental situation and factory need.

Features

- Collecting tanks and recycle pump positioned at the lower part of the spiral (underneath);
- Lateral protection in stainless steel easy operable washing and maintenance (these are different for Hot and Cold application)
- Central Drum drive supported by roller bearings;
- "Stainless steel" or "Plastic" type flexible belt for special application;
- Spiral structures made of stainless steel;
- PLC and touch-screen supervision system (option);

Processing line

Warm filling

Hot filling

Aseptic filling

Twist Pasteurizer Cooker

Twist Water Cooler

Twist Water Cooler

Drying

TWC - Twist Water Cooler

Aligner - Driver

Hot Holding

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Processing line

- Warm filling → Twist Pasteurizer Cooker → Twist Water Cooler
- Hot filling → Twist Water Cooler
- Aseptic filling

Cooking & Pasteurizing System

"LONG SHELF LIFE PRODUCTS"

Pouches & Cups

TWP system

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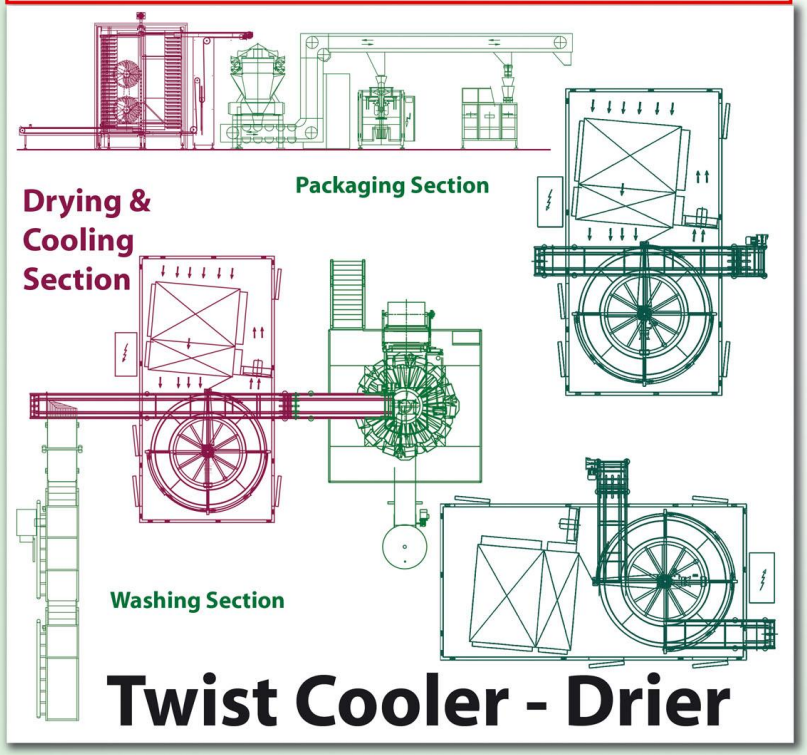
Models	Capacity based on "ICEBERG"	Installed power	Overall dimensions
TCD/MW 320-31 VOT-EC	500 Kg/h = 1100 Lbs/h	A = 21 kW B = 27 kW	(L) 3400 x (W) 2200 x (H) 1750 mm
TANDEM TCD/MW 320-12-1 VOT-EC	2000 Kg/h = 4400 Lbs/h	A = 69 kW B = 92 kW	(L) 3400 x (W) 2200 x (H) 3500 mm
TCD/MW 650-7-1 VOT-EC	4000 Kg/h = 8800 Lbs/h	A = 125 kW B = 171 kW	(L) 5400 x (W) 3900 x (H) 2700 mm
TANDEM TCD/MW 650-12-1 VOT-EC	8000 Kg/h = 13200 Lbs/h	A = 247 kW B = 340 kW	(L) 5400 x (W) 3900 x (H) 3800 mm
TANDEM TCD/MW 650-16-1 VOT-EC	10000 Kg/h = 22000 Lbs/h	A = 304 kW B = 420 kW	(L) 5400 x (W) 3900 x (H) 4800 mm

PATENT PENDING



Twist Cooler - Drier

Drying & Cooling

"Compact System" in

Cold Ambient

Fresh Cut Salads

FENCO Food Engineering Co.

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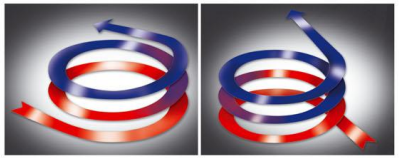
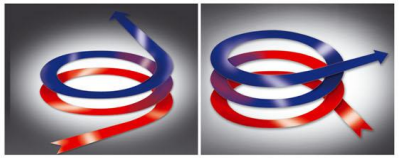
Example how to read it:

- Twist Cooler - Drier Mod. **TCD/MW 650-7-1 VOT-EC**
- Twist Cooler - Drier TANDEM Mod. **TCD/MW 320-12-1 VOT-EC**

• Name of the machine:	**Twist Conveyor Belt** **Twist Cooler Drier**
• Code:	**TANDEM = Two Belts in One Unit** **TCD = Twist Cooler Drier** **MW = Microwaves**
• Belt width:	**650 mm**
or	**320 mm**
• N°. of Tiers:	**7**
or	**12 (6+6)**
• N°. of Drum:	**1**
• VO:	**Horizontal Type Ventilation**
• T:	**Tangential Type**
• EC:	**"easy clean" design - execution**

all possible configurations





Drying and cooling system in cold ambient

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Twist COOLER- DRIER Mod. **TCD/MW ... - ... -1 VOT-EC**

A) This is full complete system complete with heating elements using microwaves system and cooling - drying system, with final product temperature control.
B) This is full complete system like solution A, but with Freon motocondensing unit, as full turn-key installation.

Performance:

• "Nominal" product quantity m^2:	**1 Kg (approx.)**
• "Nominal" product layer:	**single leave (approx.)**
• "Nominal" Cooling - Drying time:	**2 - 4 minutes** (adjustable)
• Product Inlet temperature:	**2 - 10°C** (approx.)
• Final product temperature:	**2 - 3°C** (approx.)
• Free water into product "Inlet":	**10%** (approx.)
• Free water into product "Output":	**2%** (approx.)

Main concepts design

This solution has been studied and designed for ....

EXTREME CARE FOR THE SALADS ....

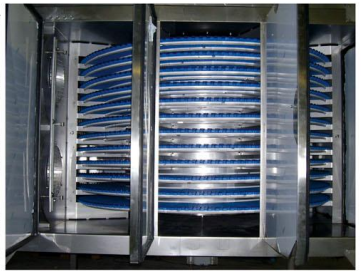
• a very delicated and gentle treatment on delicated product such as the fresh cut salad is,
• Avoiding any mechanical stress and excess of thermal heats transferred to leaves, while is working on a very low product layer, almost "single layer - leaf";
• As consequence final product will have better shape and longer shelf life;
• Very quick and fast treatment;

SPACE SAVING ....

• very compact design, easy to be located in most of the existing processing rooms, then due to it's own design the useful surface is much bigger then any other solutions;

ERGONOMIC DESIGN ....

• in-feed point at a very accessible and convenient position;
• out-feed point just at the correct height of the packaging system, "multihead weigher" without any extra elevator and/or conveyor, in the between;
• Maintenance free and/or extremely low spare parts cost due to utilisation of high quality commercial components;
• Belts gear motors positioned outside the insulated cabin avoiding any risks of contaminations;
• Very high mechanical reliability of spiral belt conveyor.
• Reduced belt wear and elongation thanks to low tension drive system (the belt is pulled by means of dynamic friction on it's total length)
• Possibility to have different IN & OUT machine configuration
• Twist Cooler Dryer could be delivered pre-installed, within certain dimensions/capacity;
• If delivered with "Easy Handling"configuration will be very easy, in future in case of needs to move it from one place to another;
• Full installation is completed in few days and only utilities connections are needed;
• PLC and touch-screen supervision system (option);



SANIFICATION ....

• System has been design as Easy Clean "to made easy" the cleaning and sanification, to match the highest standard required by the fresh cut market;
• All components are designed to be "easily accessible" and cleanable;
• Possibility to have fully automatic washing system, PLC controlled;
• Continuous washing of the conveyor belt, if necessary/needed;
• Possibility to have full C.I.P. system, PLC controlled;
• Lubricant contamination free;
• Compressed air contamination free;
• Labour/operator contamination free;

ENERGY SAVING .....

• very low production costs and short payback period for the total investment;

LABOUR SAVING ....

• This system does not need any manual operation while fully automatically controlled;
• This allow to obtain huge saving in the production cost;

Features:

Spiral unit design with drum driving and plastic mesh belt type. Completely in stainless steel AISI 304, food grade heat resistant plastic material, with low grip coefficient. Heating elements using microwaves system, in a cold ambient. Heat exchangers for cooling and condensing the moisture - water.

WATER HEATING ELEMENT

• Microwaves system: Magnetron units properly positioned to warn-up the leafs. Protection and microwaves barriers.

COOLING AND "WATER - MOISTURE" CONDENSING HEATING ELEMENT

Ventilation "VOT"

• *Fan type:* Axial type directly coupled with electric motors, clock wise and counter clock wise.
• *Air ducts and air distribution chambers:* Made from stainless steel or corrosion-proof aluminium profiles and sheets.

In-Feed System by Dewatering Belts to provide the best mechanical de-watering action, able to remove as much as possible water from leaves surface.

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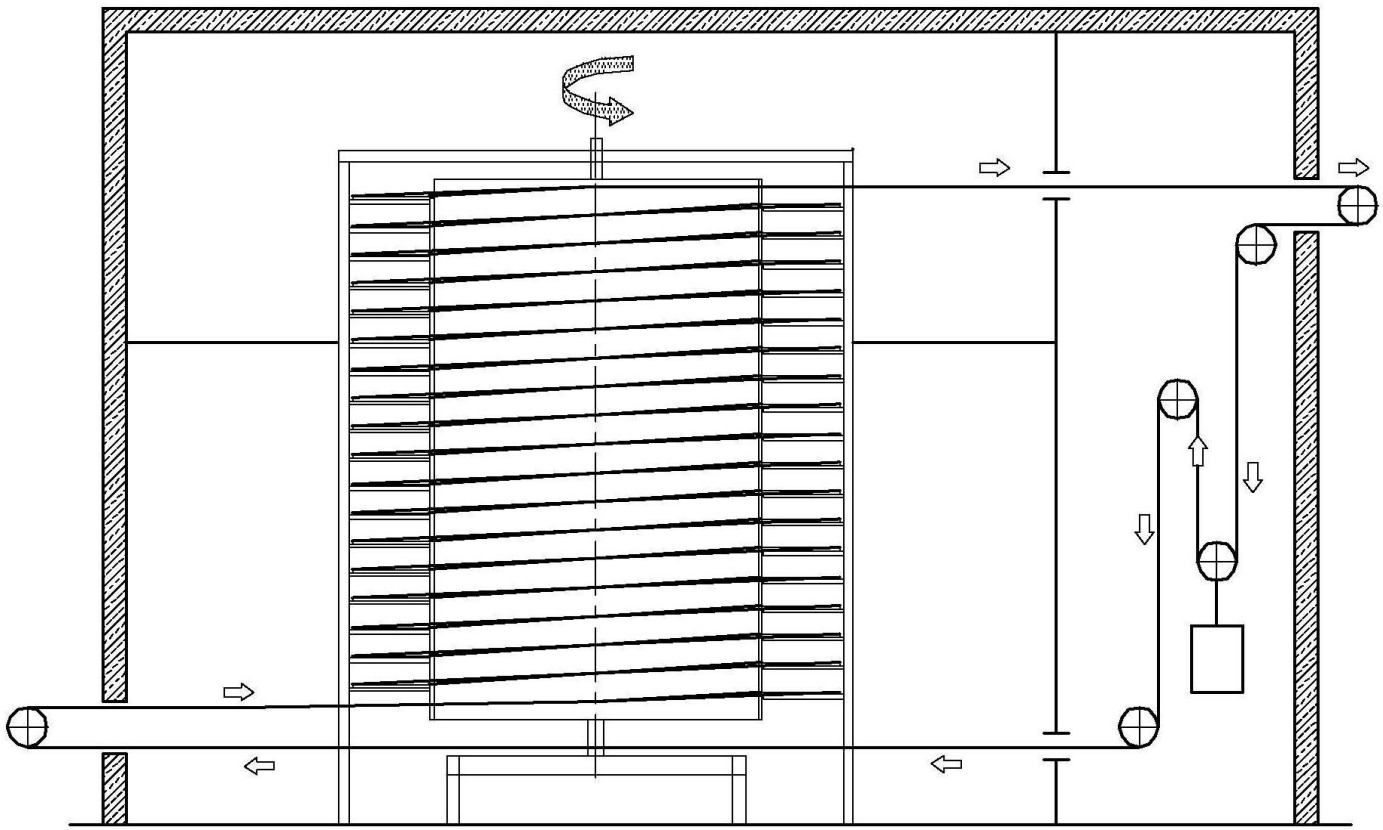
Is a low tension driving conveyor belt, due to the "drum driving concept"



BELT CIRCUIT

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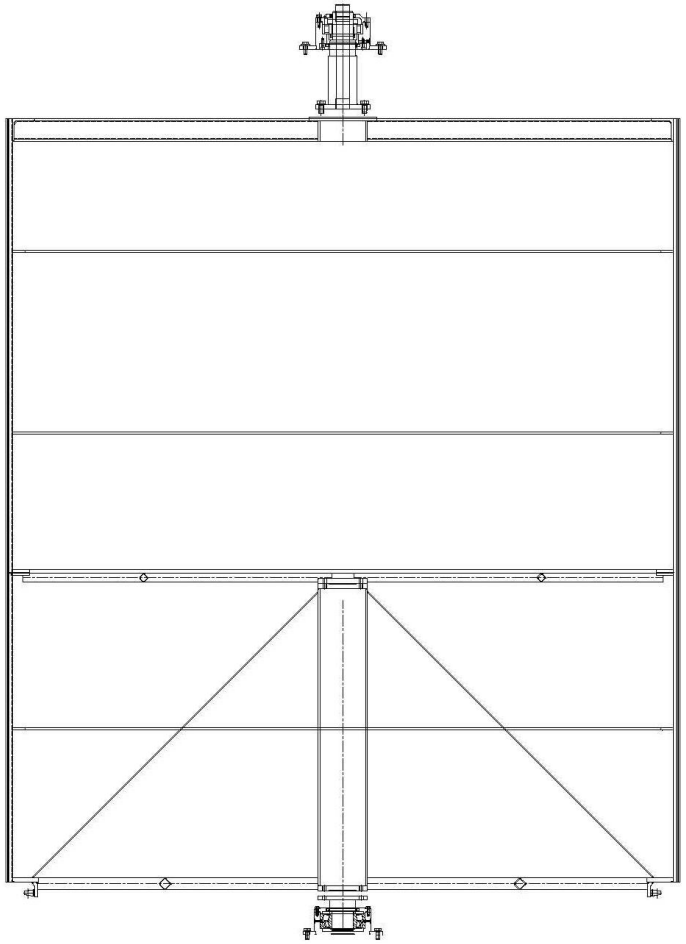
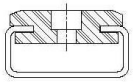
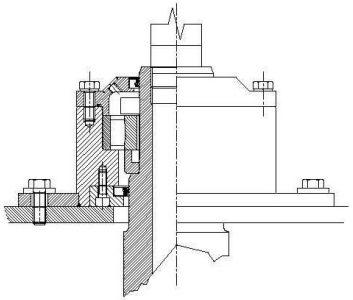
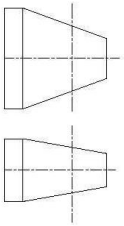
DRIVING DRUM

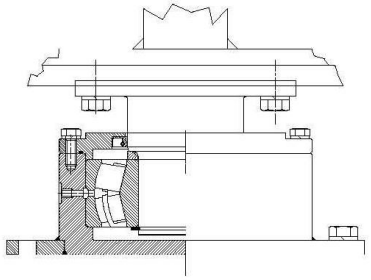




UPPER BEARING







LOWER BEARING

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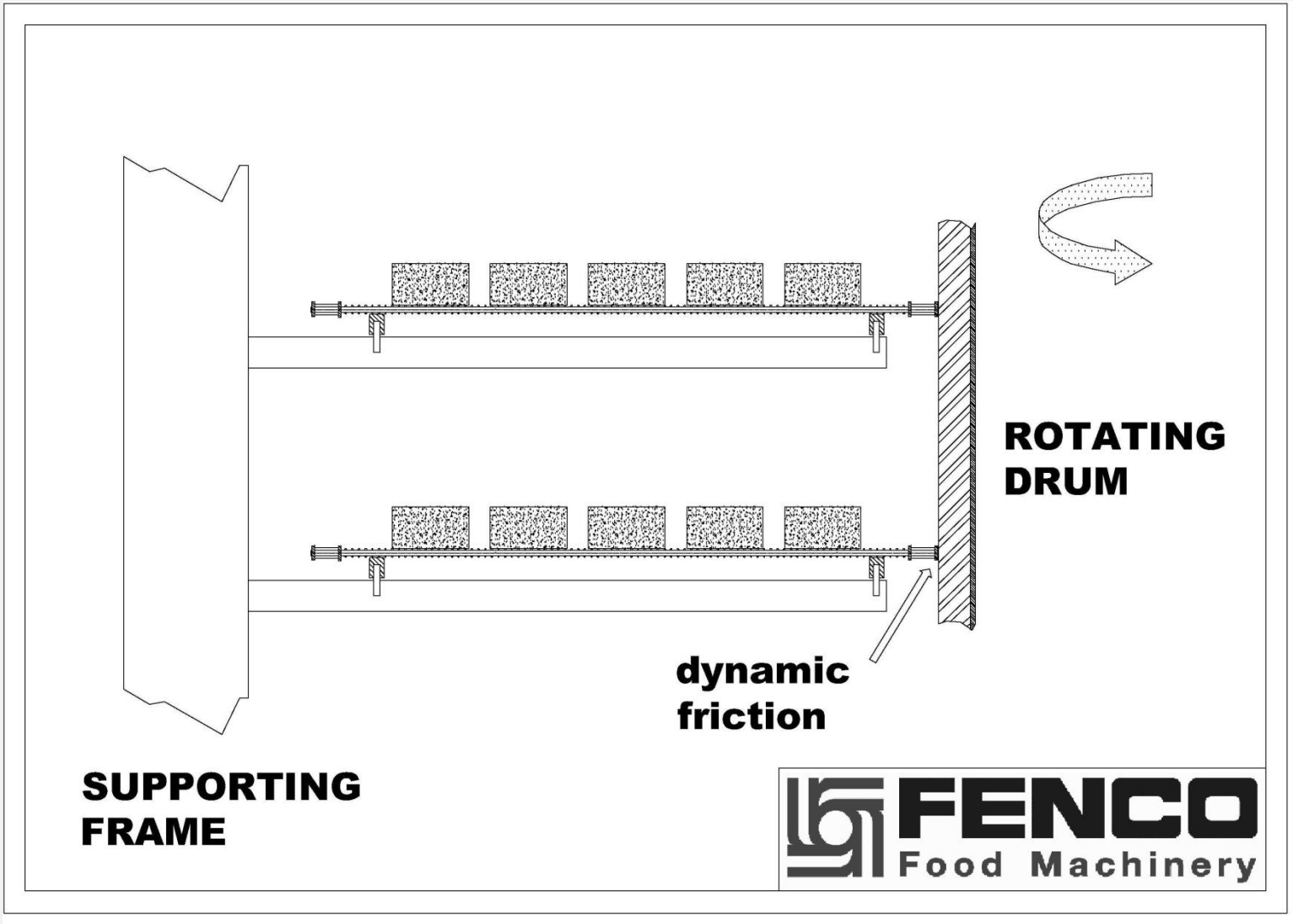
Reduced belt wear and elongation thanks to low tension drive system

(the belt is pulled by means of dynamic friction on the total length)



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Belt driving system

Primary motorization: Drum Driving
Upon application primary motorization can be at lower side (inside the machine); or upper side (outside the the insulated cabin)





Secondary motorization: Belt terminal out-feed terminal
To pull the last few metres only of the conveyor belt



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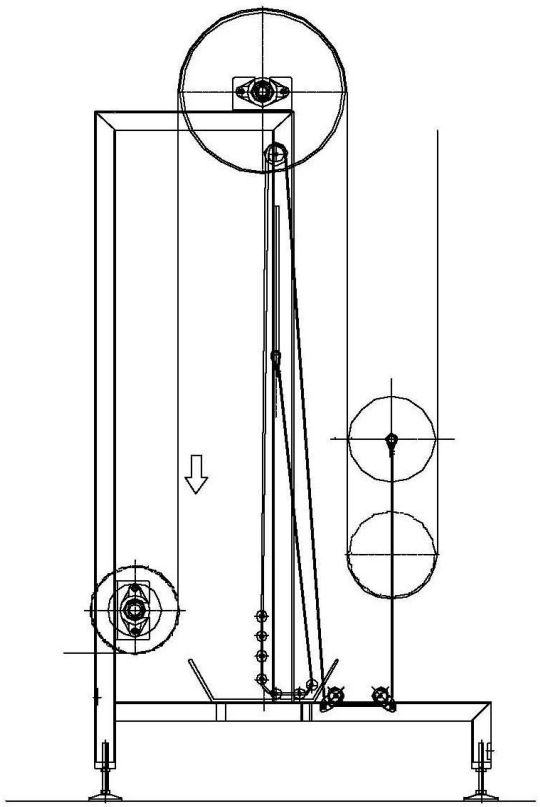
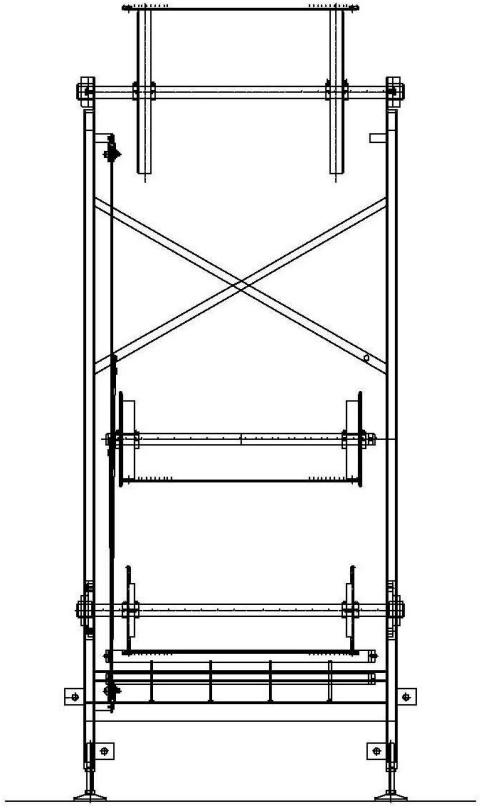
This provide to compensate mechanical tensioning "stress"

due to thermal excursion and material flexibility





BELT TENSIONING

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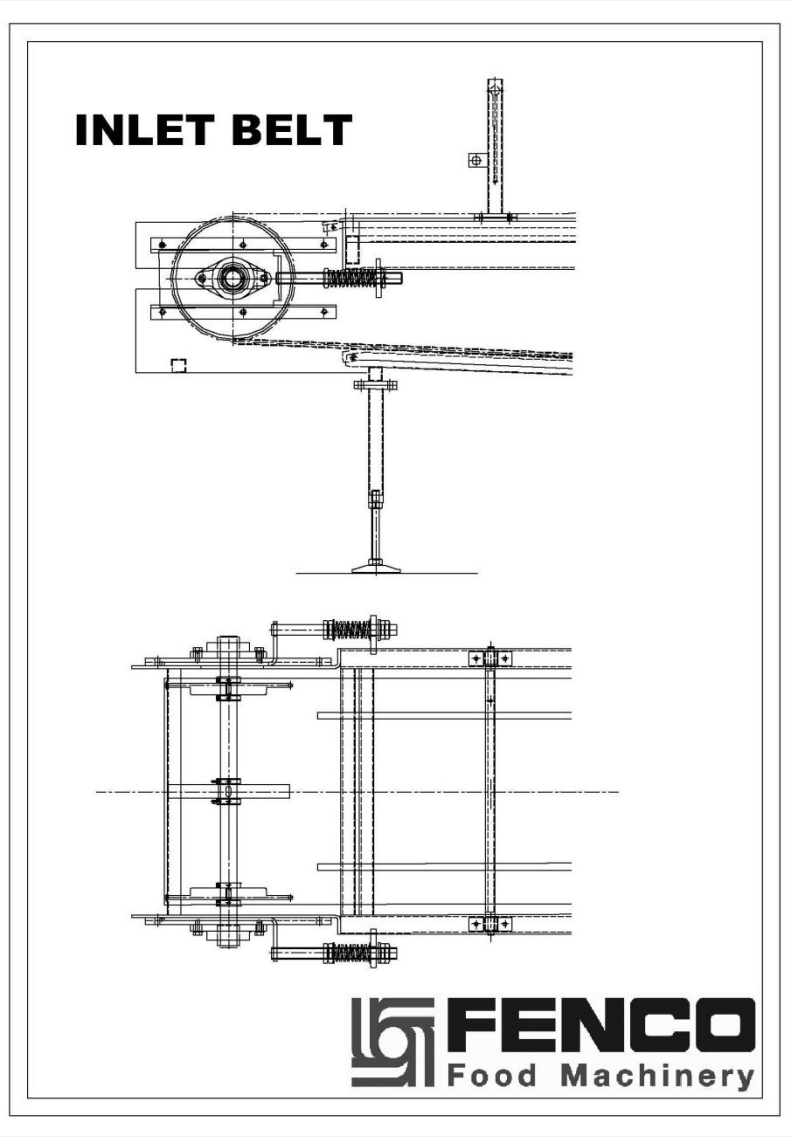
Typical in-feed belt section



At the entracnce there is always a micro switch as "barrier" to avoid "over size" product coming in

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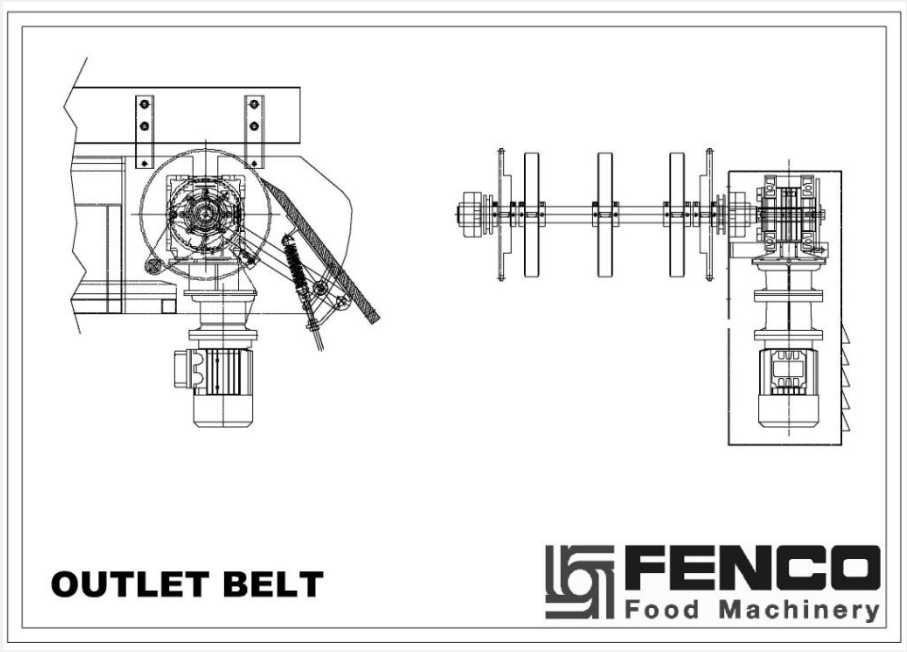
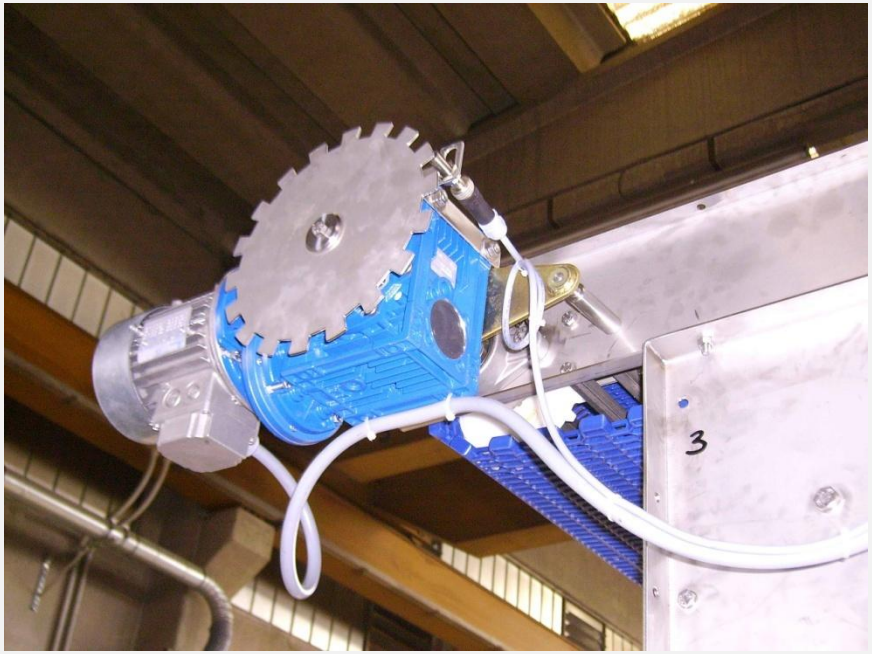
Typical out-feed belt section



"freezer"



"cooler"

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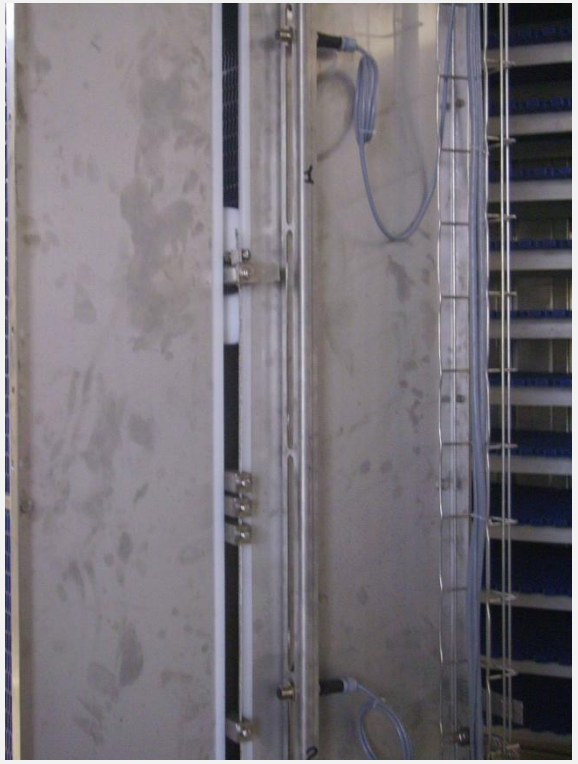
Safety switches to prevent/avoid serious damages on belt and machine structure



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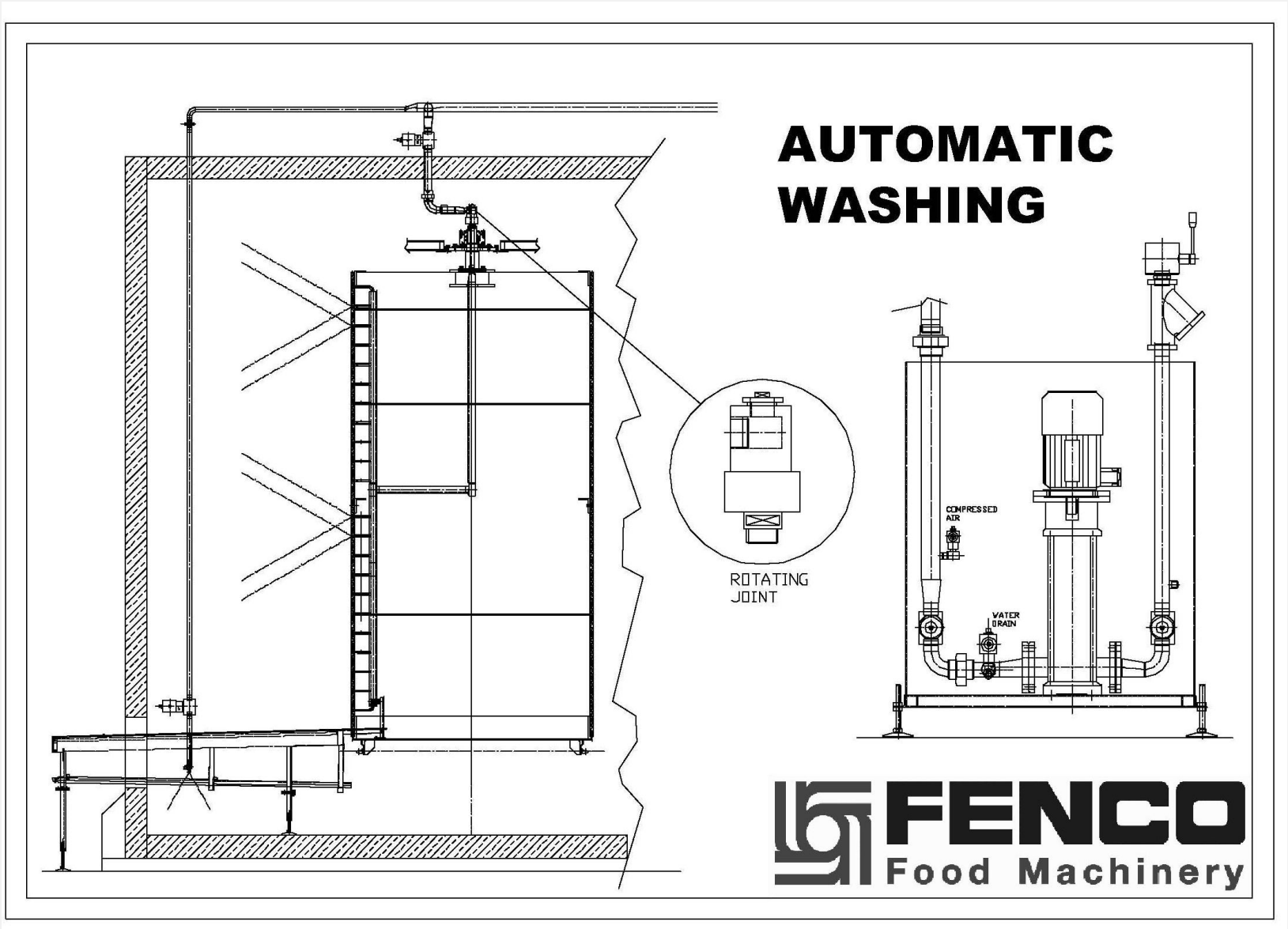
Automatic washing system for drum and belt



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Advantages

- **Very high mechanical reliability of spiral belt conveyor.**
- **No belt lubrication and no possibility of product contamination**
- **Low maintenance cost and low spare parts cost due to utilisation of high quality commercial components.**

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FENCO Food Machinery

Main features

- **Compact or small Twist Units usually arrives completely or partially pre-installed,** (this depends on the final machine size/shape and final layout machine configuration) **and can be positioned directly into the factory floor without any specific preparations;**
- **Full installation is completed in few days;**
- **Central Drum drive supported by roller bearings;**
- **Stainless steel flexible belt or plastic belt for special application such as sticky or tender products with low water content products;**
- **Spiral structures made of stainless steel;**
- **Fully automatic washing system (option) with loose water;**
- **C.I.P. "Cleaning in Place" system with the possibility to use basic – acid - detergent and disinfectant solutions (option);**
- **PLC and touch-screen supervision system (option);**
- **Belt driving gears positioned outside the insulated cabin (if any);**

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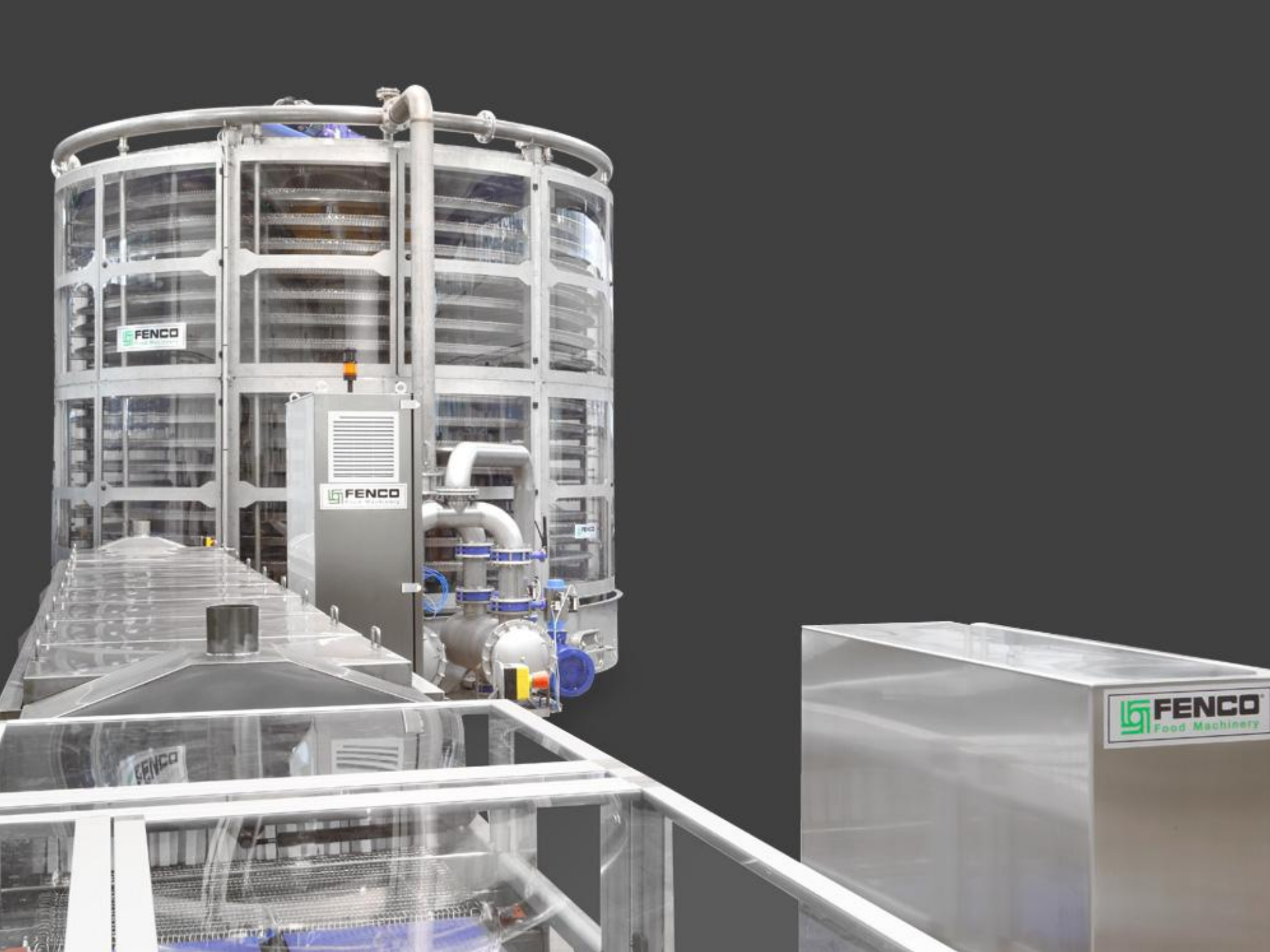
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's
Freezing Solutions

Fenco Freezing Solutions TF...-..-1 VOT-EC

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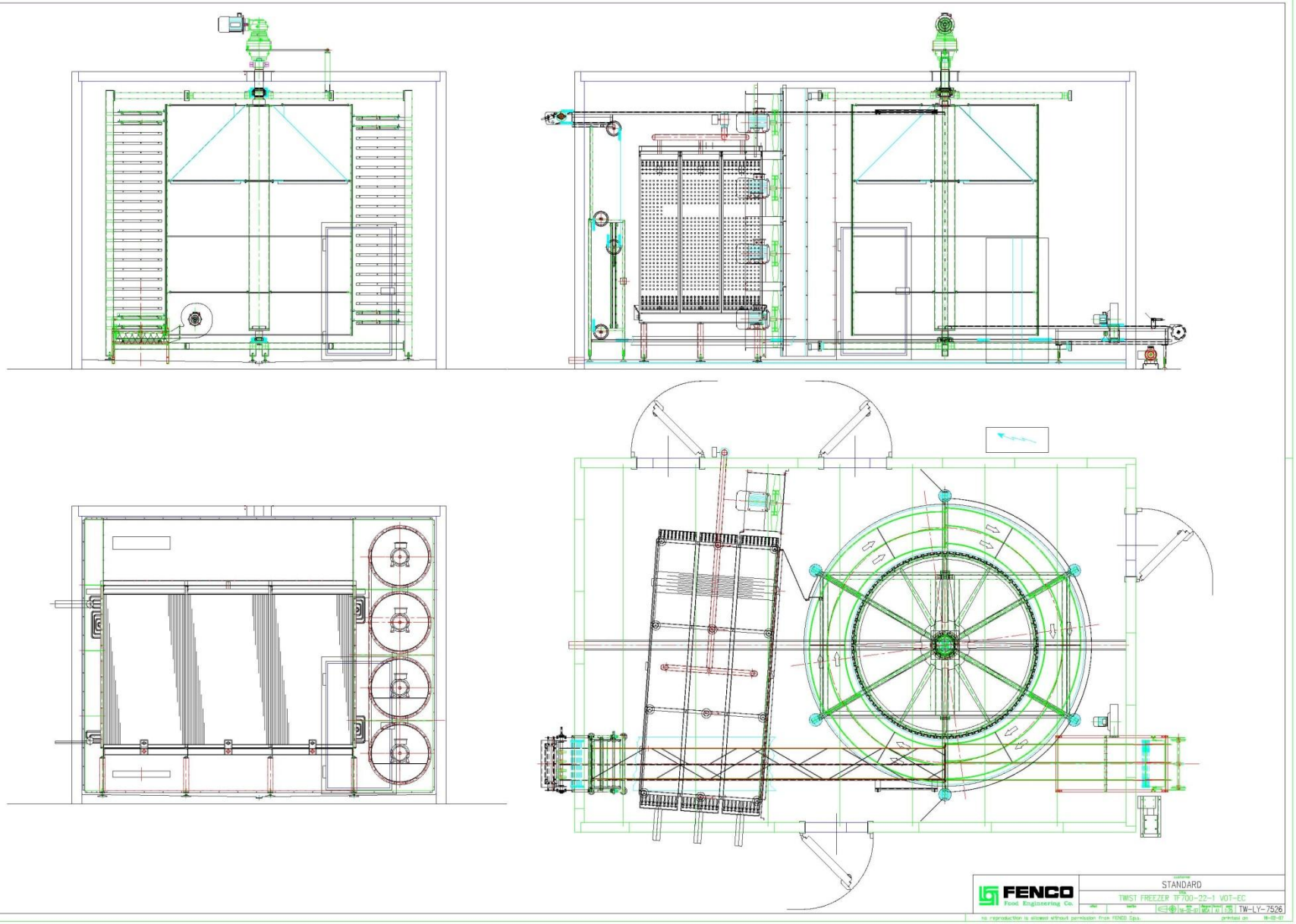

Fenco's Twist Solutions

FENCO Food Machinery

Twist Compact Freezer

Mod. TCF...-...VOT-EC

MAIN FEATURES:

- TWIST COMPACT FREEZER is arriving completely installed, and can be positioned directly into the factory floor without any specific preparations;
- Easy handling in case you have to move from one place to another;
- Full installation is completed in few days and only utilities connections are needed;
- "Hygienic Insulated Hermetic Cabin Design" made in Fiberglas and special resins;
- External "body" with one full open able side allowing easy access for inspections, all corners are rounded - bended; all corners are with reinforced inner parts, surfaces are sloped toward the opening allowing easy cleaning operations;
- Self supporting basement allowing easy easily lift able by crane or fork-lift;
- Central Drum drive supported by roller bearings;
- Stainless steel flexible belt or plastic belt for special application such as sticky or tender products with low water content products;
- Spiral structures made of stainless steel;
- Low pressure fans to increase air speed and heat exchange;
- Flat fin evaporators with low air pressure drop;
- Fully automatic washing system (option) with loose water;
- C.I.P. "Cleaning in Place" system with the possibility to use basic - acid - detergent and disinfectant solutions (option);
- PLC and touch-screen supervision system (option);
- Belt driving gears positioned outside the insulated cabin;
- Main fans driving system positioned outside the insulated cabin (optional);

"VOT" - Horizontal Tangential Ventilation
"EC" - Easy Clean Design

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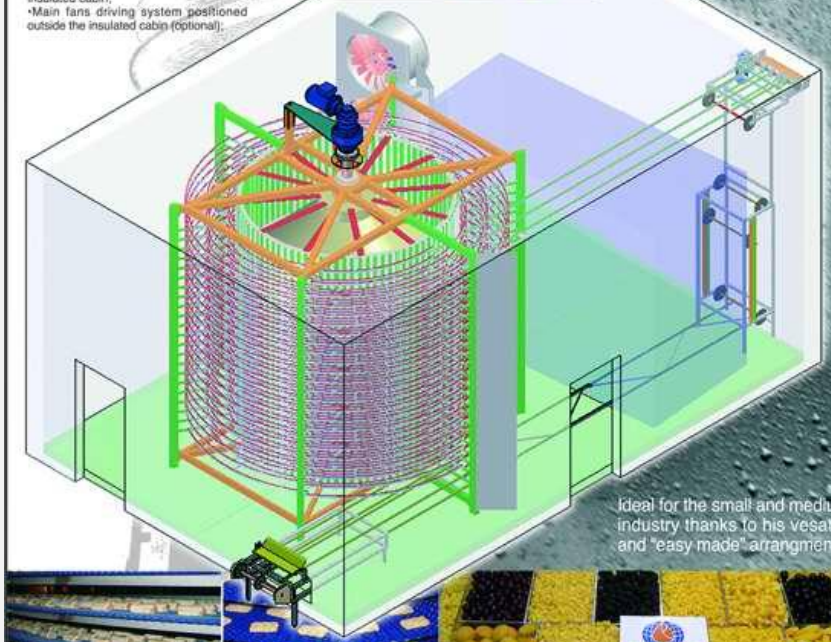
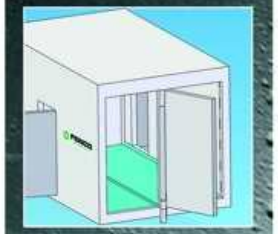
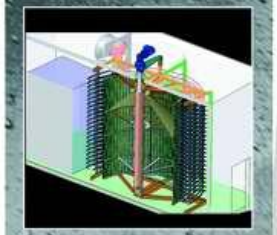
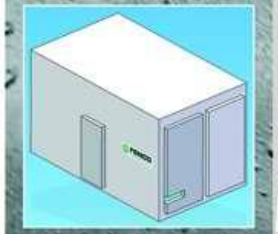


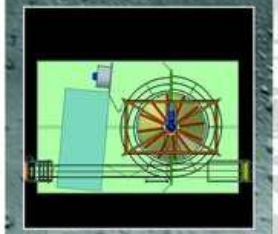
Ideal for the small and medium industry thanks to his vesatile and "easy made" arrangments.

Twist Compact Freezer "TCF"









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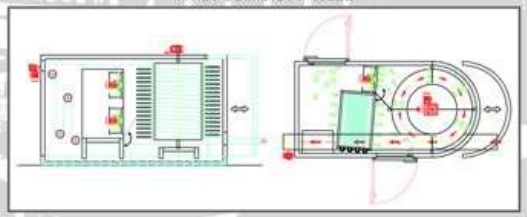
TWIST COMPACT FREEZE is a fully installed solution; can be supplied "on request" with refrigeration system with freon R404A or other type

Twist Compact Freezer Mod. TCF	Capacity base on: Croissant 90 g each, Tortellini 10 - 50 g each, Bread 90 g each, Gnocchi 4 g			
Technical data	100 Kg/h	300 Kg/h	600 Kg/h	1000 Kg/h
Belt Data				
Inlet belt height (mm)	700	700	700	700
Outlet belt height (mm)	1,700	2,400	2,800	2,900
Belt useful width(mm)	300	400	400	500
Consumptions and Thermal Capacity				
Product inlet temperature (°C)	+25	+25	+25	+25
Product outlet temperature (°C)	-20	-20	-20	-20
Refrigeration Capacity (kW)	14	35	61	105
I.E.P.(kW)	3	7	12	14
Overall Dimensions				
Length (m)	3,5	4,5	4,5	5
Width (m)	2,3	2,5	2,5	3
Height (m)	2	2,9	3,5	3,5
Freon R 404 Refrigeration Unit				
I.E.P.(kW)	26	42	66	110

TWIST COMPACT FREEZE



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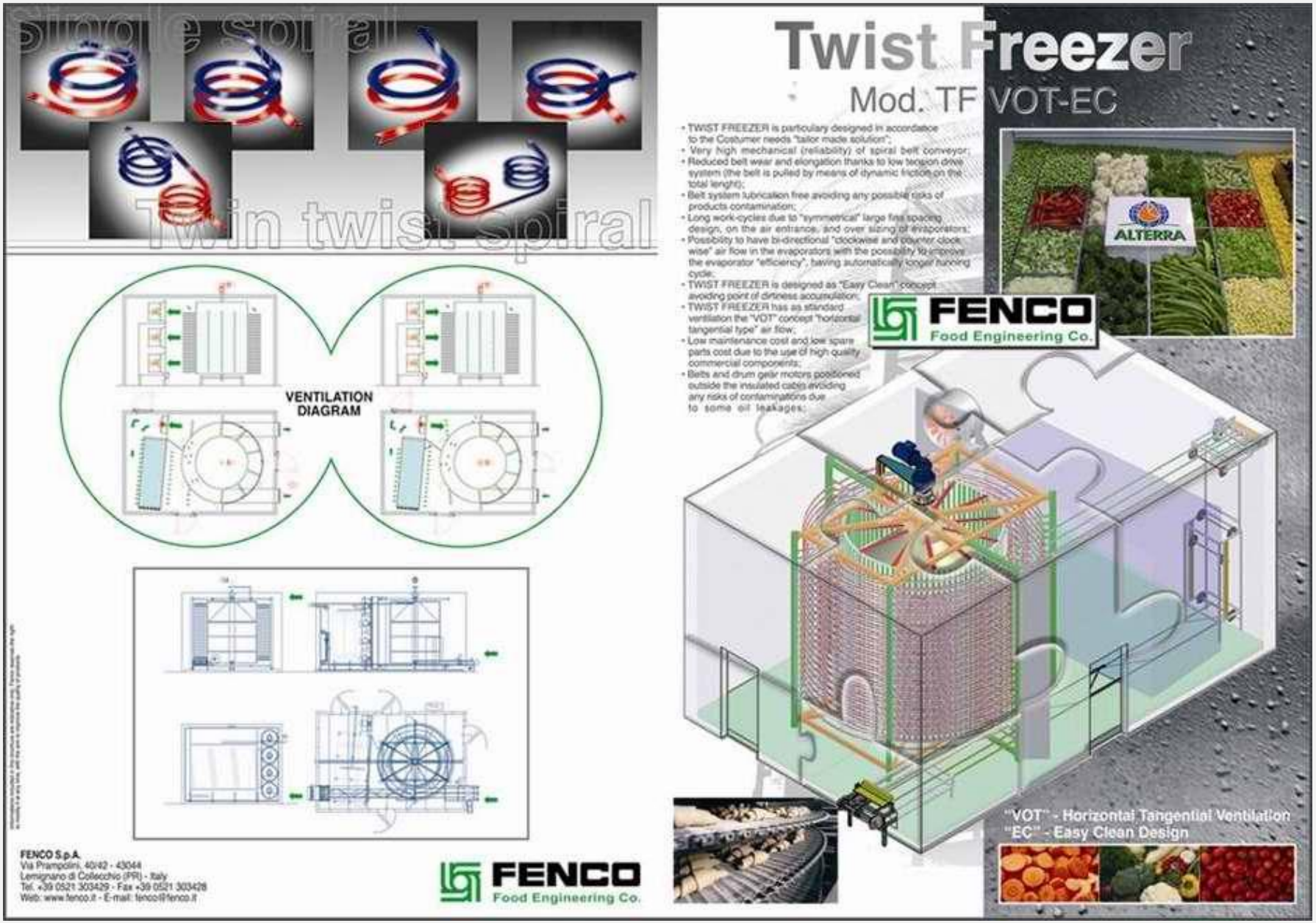
Fenco's Twist Solutions

FENCO Food Machinery



Fenco's Twist Solutions

FENCO Food Machinery

Main features:

Main features:

- Central Drum drive supported by roller bearings;
- Stainless steel flexible belt (plastic belt for special application such as sticky or tender products with low water content products);
- Spiral structures made of stainless steel;
- Low pressure fans to increase air speed and heat exchange;
- Flat fin evaporators with low air pressure drop;
- Self supporting basement allowing easily lift able by crane or fork-lift, made in fibreglass and special resins;
- Fully automatic washing system (option) with loose water;
- C.I.P. "Cleaning in Place" system with the possibility to use basic - acid - detergent and disinfectant solutions;
- PLC and touch-screen supervision system (option);
- Ice Extraction Belt "Patented" (option), positioned just on top of the evaporator, which assure a continuous run minimum of 48 hours between each defrosting cycle, with the possibility to work up to 72-120 hours in accordance to the type of product and the environmental working conditions

MEAT & POULTRY APPLICATIONS

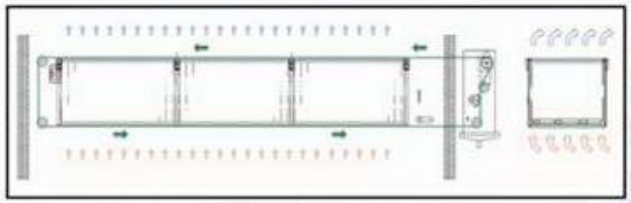
FULLY STAINLESS STEEL VERSION

FAST FOODS BREAD

ALL TYPE OF FRUITS

"NEW" Patented Solution

Continuous air filtration belt



CONTINUOUS AIR FILTERING SYSTEM Mod. **SFA**

Concept:

Applied in a freezer is a solution that provides to keep as much as possible the recycled air free from moisture - ice, and from product flying particles during the freezing operations. Ice is generated due to the water - moisture losses coming from the products (evaporation) and from the incoming air during the products feeding - loading.

Quantity of products flying particles varies in accordance with the type of products on process. Usually ice and products flying particles are captured in the inner parts of the freezer, and mainly into the coils - evaporators.

With the increasing of ice accumulation into the coils - evaporators, the efficiency of these units will drop drastically, then usually to maintain the same efficiency - performances a higher power consumption is needed.

As consequence periodically the freezer needs to be stopped for the de-frosting operation, with considerable drop page in the production with a certain increase of the operative costs.

SFA concept and application will improve the following:

- Considerable increase of the freezing cycle and production;
- Minimizing the number of stoppages and defrosting cycles, with much lower operational costs;
- Minimizing the energy consumption needed to obtain the final results;
- Improvement of the final product quality, while the frozen product is almost free from the ice on its surface, (this is particularly appreciate for the products which are packed in a transparent packages)

Application:

SFA is a mesh wire conveyor positioned all around the coils - evaporators, and because of this is acting as continuous air filter.

It runs for the full lenght of the freezer with an outside extension to discharge the ice - and product particles out of the freezing chamber.

The mesh is continuously cleaned - blow and dry before coming back into the cabin; is possible to have also a water cleaning system in case of stronger cleaning operation, if needed (optional).

The airflow pass first through the product and then to the SFA before it reaches the evaporators. The mesh filters will capture the majority of the ice - frost, and product debris. The freezer therefore remains relatively free whit much longer freezing efficiency - production. As consequence the coils - evaporator surface will remain more cleaner giving better performance.

With this system the stoppages due to defrosting - cleaning and machine sanitation will be drastically reduced by approx. 50 - 80%, upon the type of product.

Average:

- Minimum defrost cycle: **48 hours "guaranteed"**
- Nominal defrost cycle: **up to 72-120 hours**
  (in accordance to the type of product and the environmental working conditions)

This is a Fenco's "patented" solution.

Fenco's Twist Solutions

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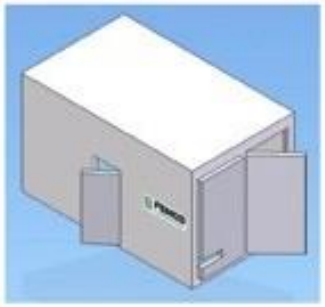
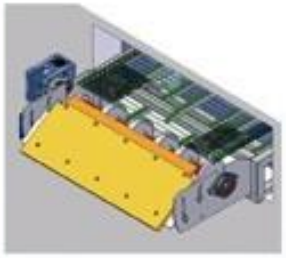
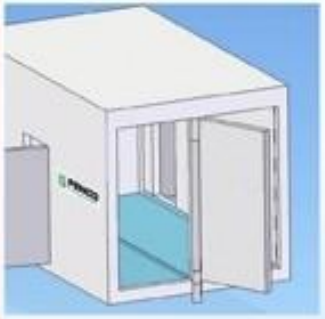
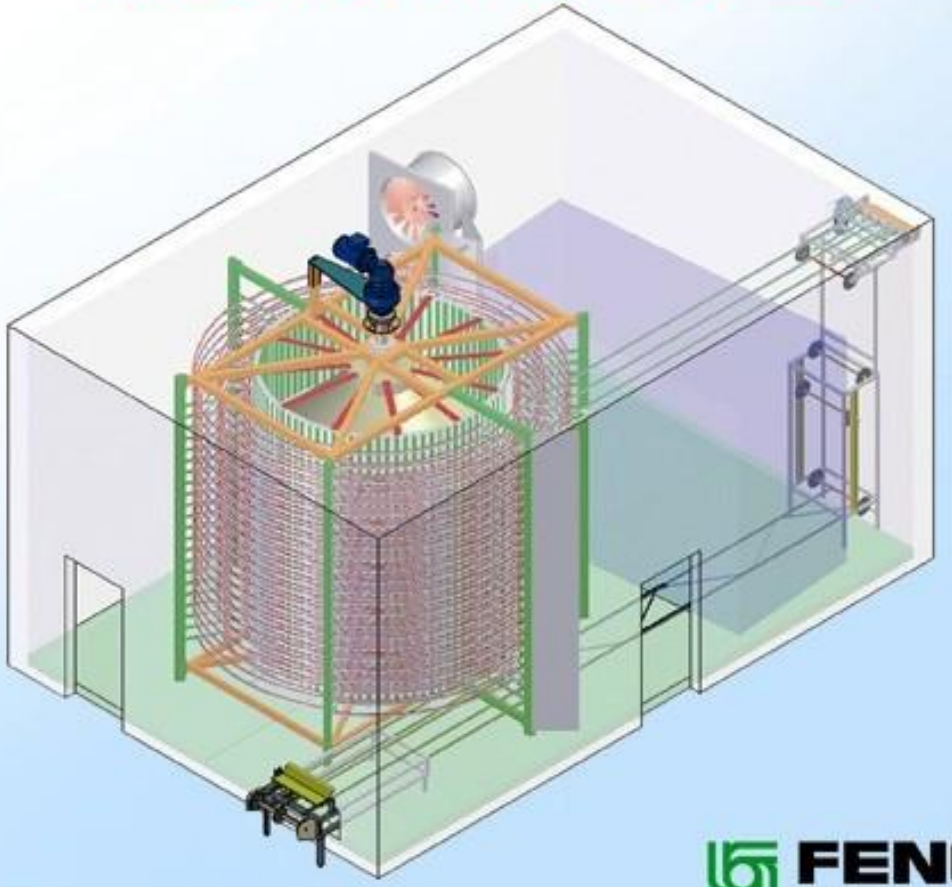
TWIST COMPACT FREEZER

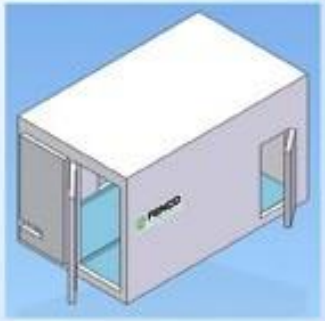
Mod. TCF...-... VOT-EC

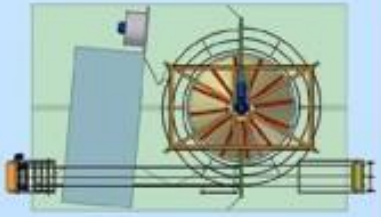












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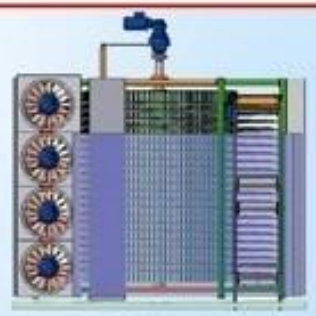
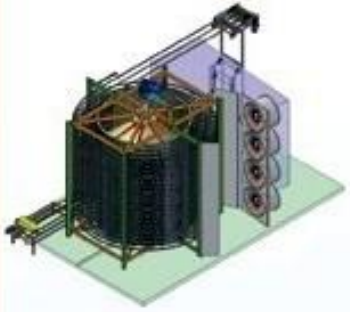
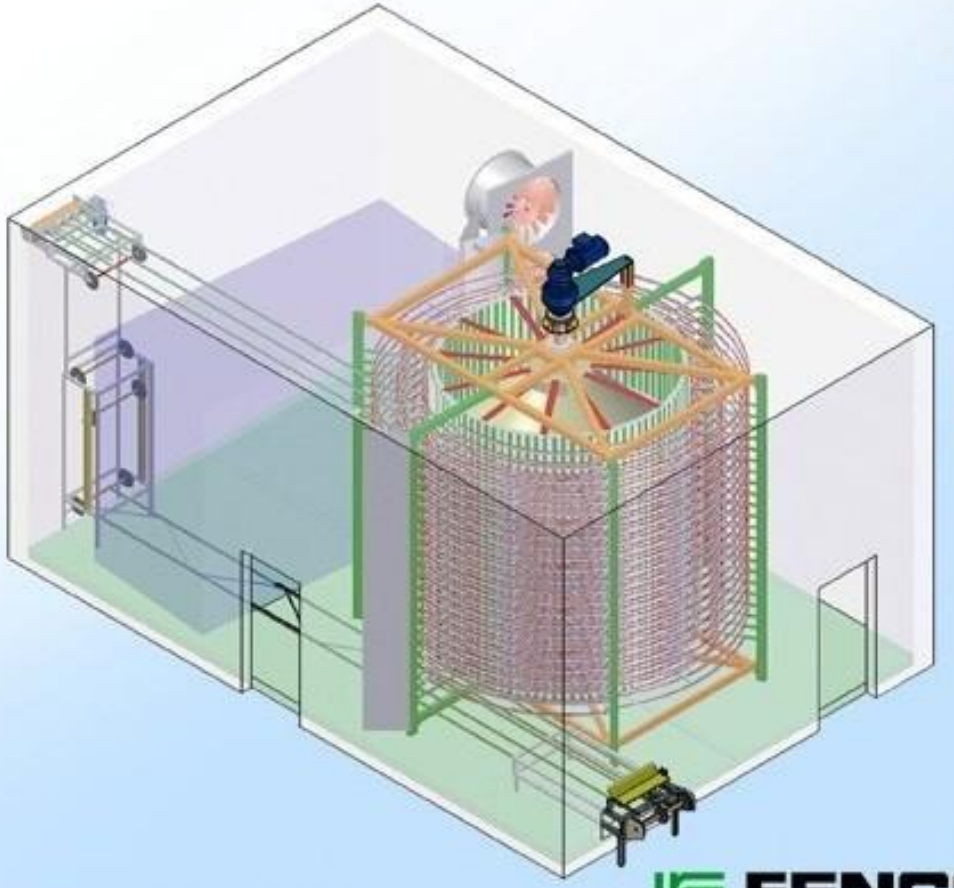
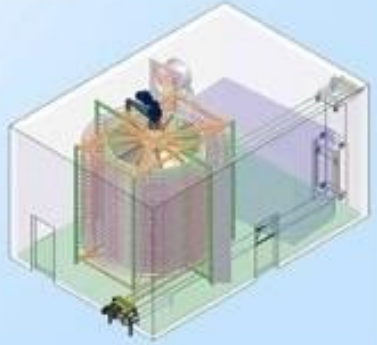
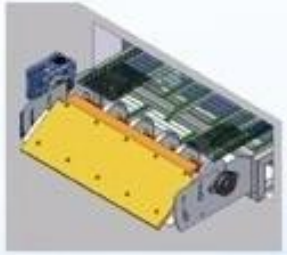
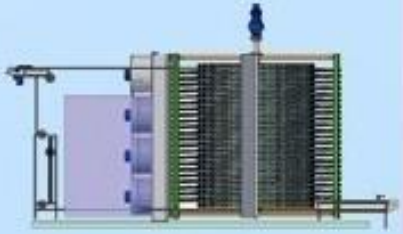
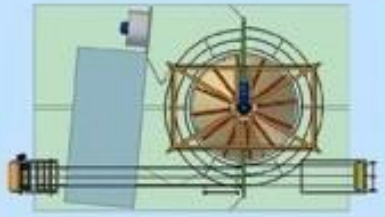
TWIST FREEZER

Mod. TF700-22-1 VOT-EC



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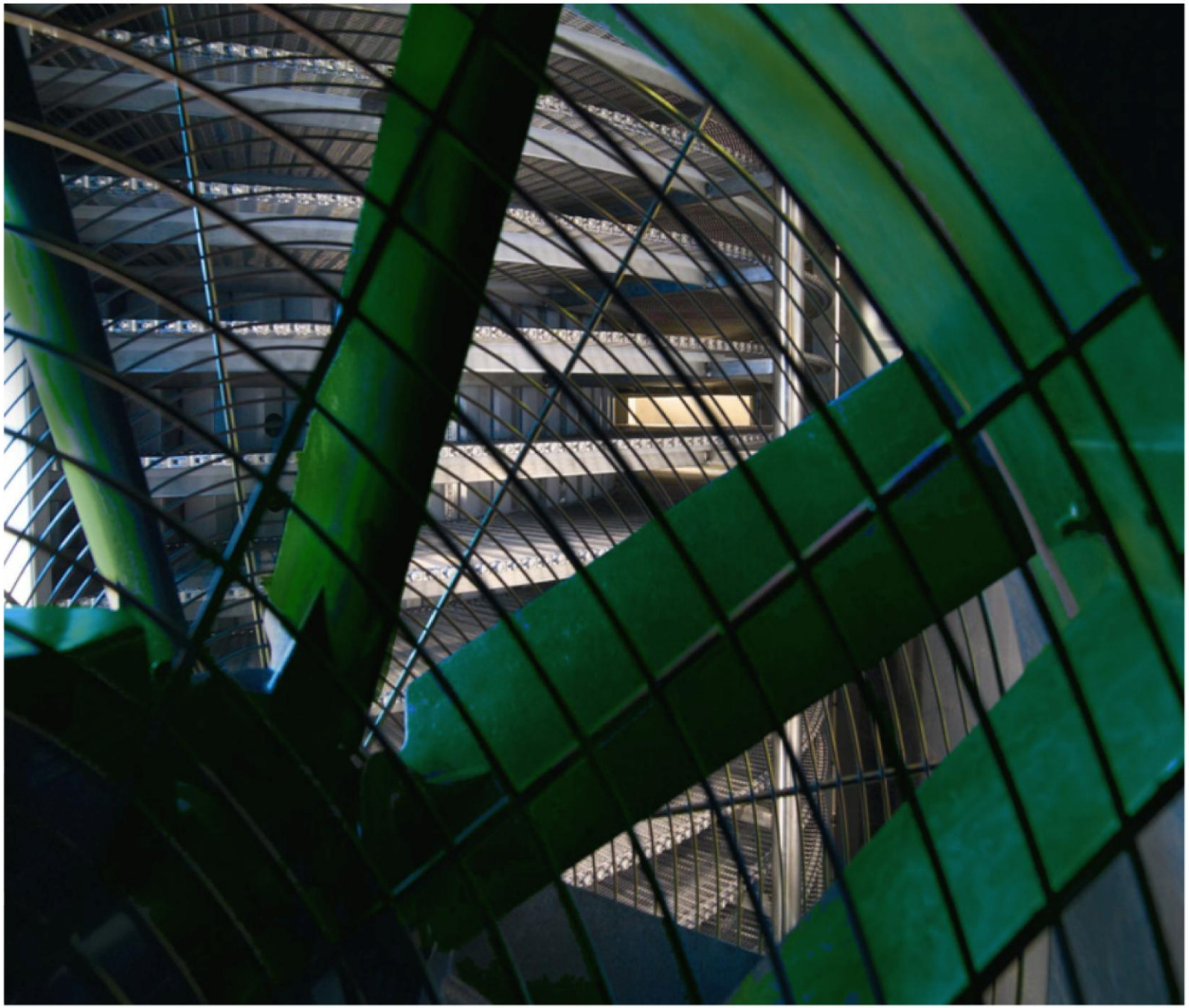
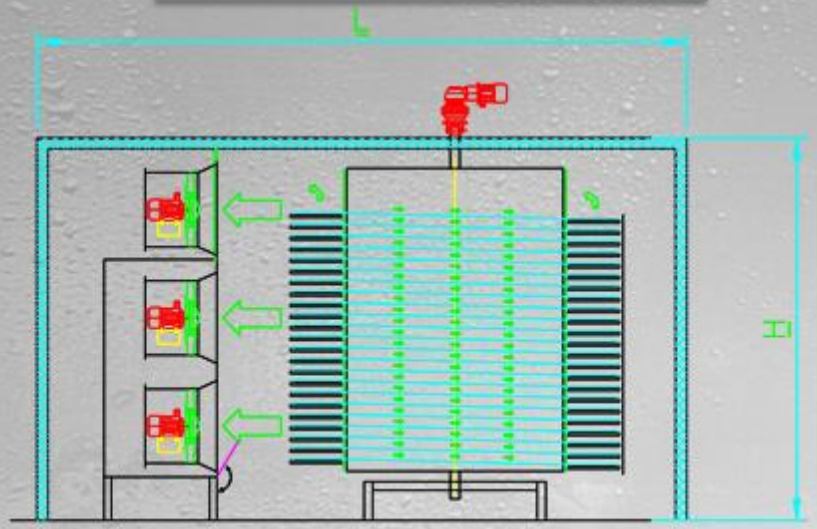
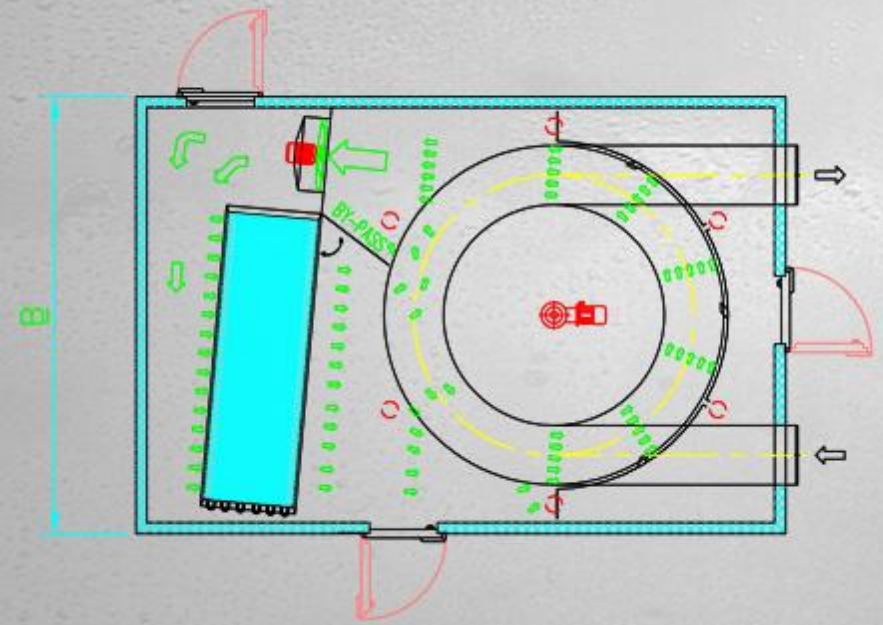


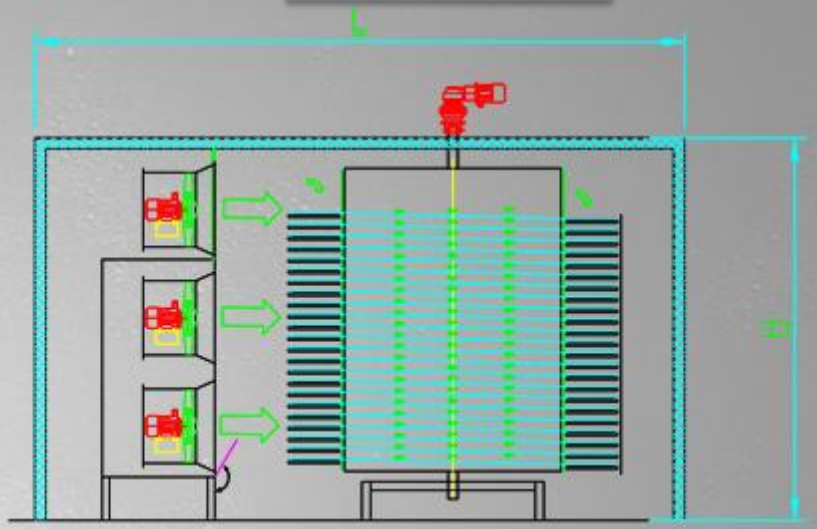
VOT – TANGENTIAL HORIZONTAL VENTILATION

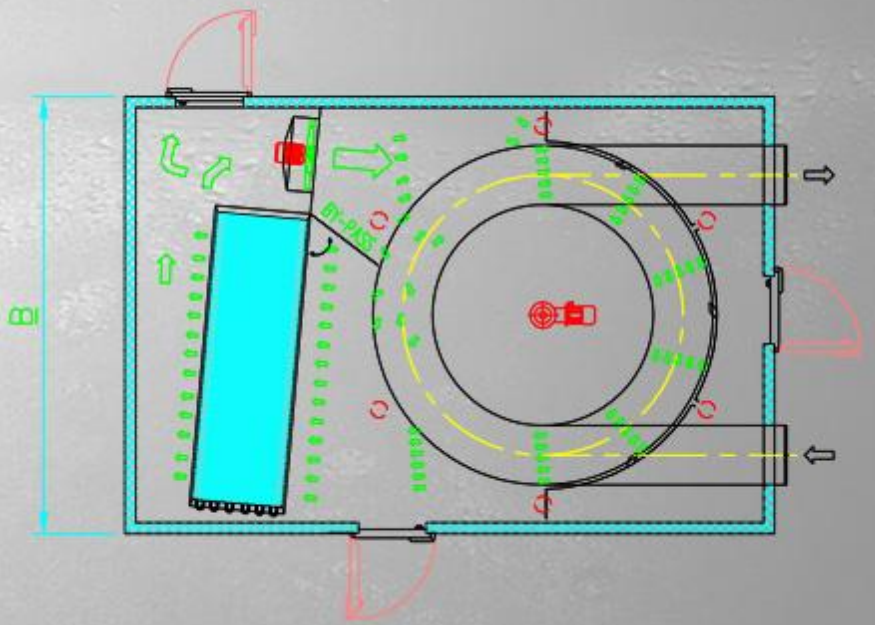
COUNTER CLOC'K WISE

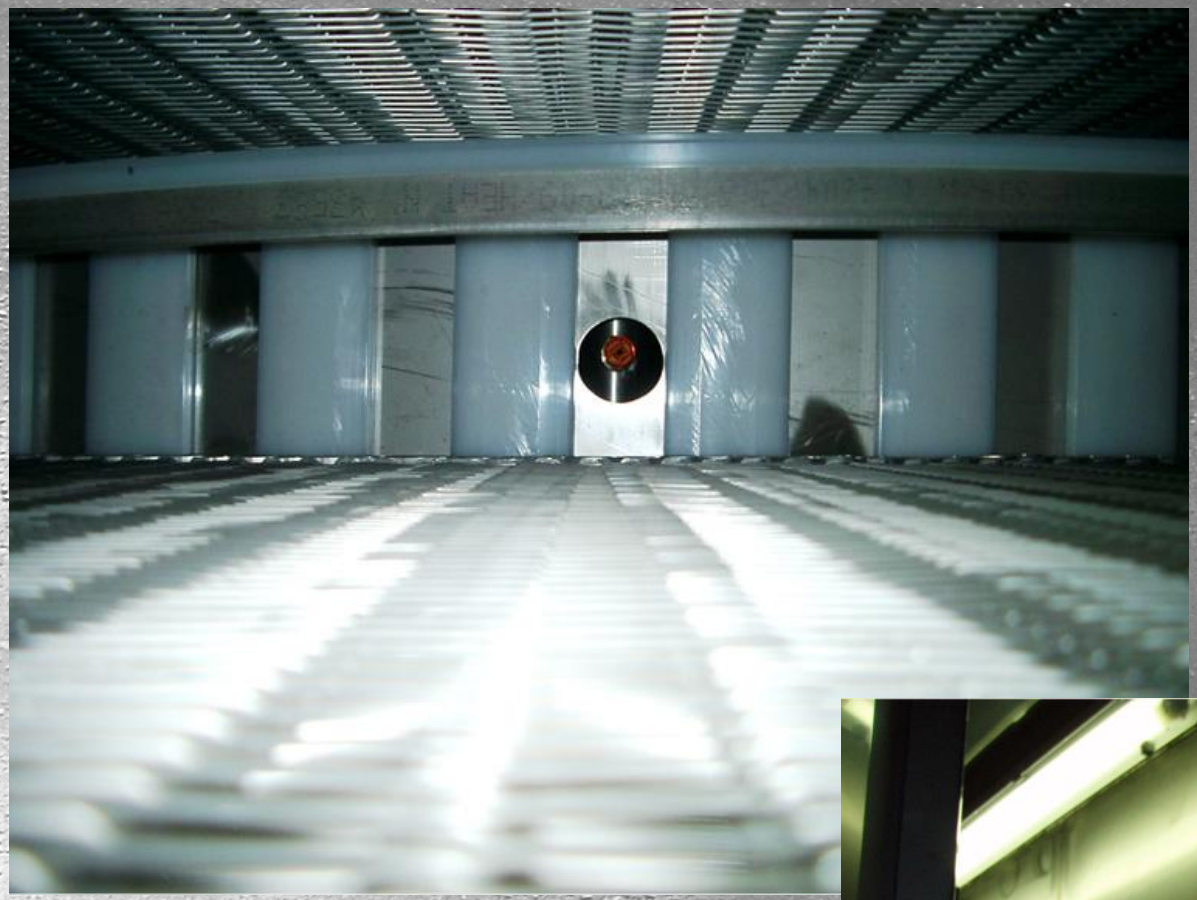


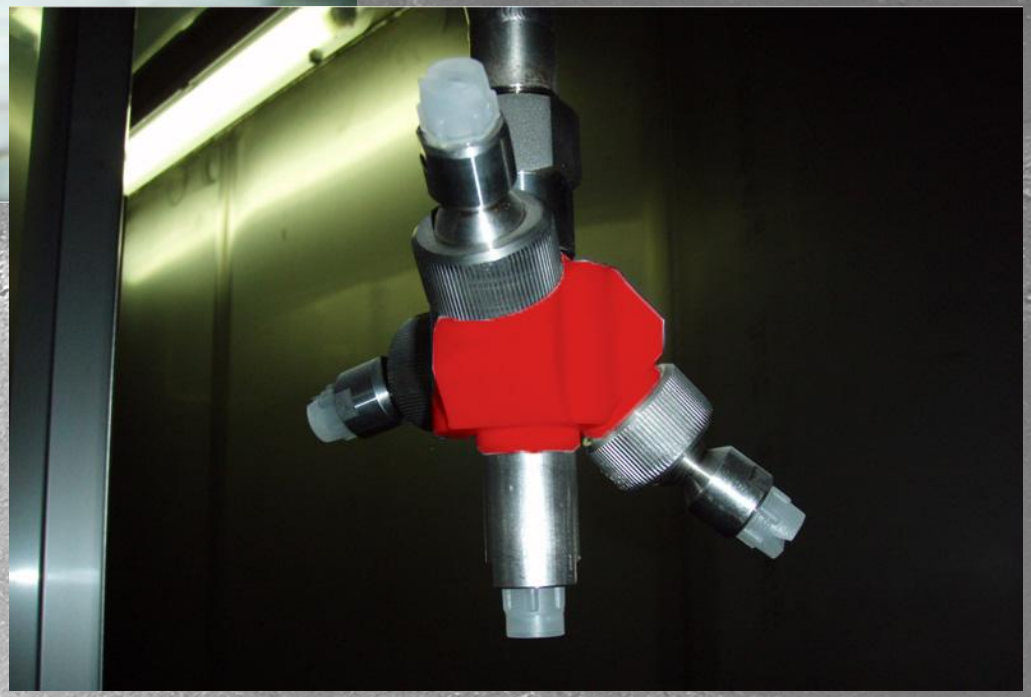


CLOC'K WISE

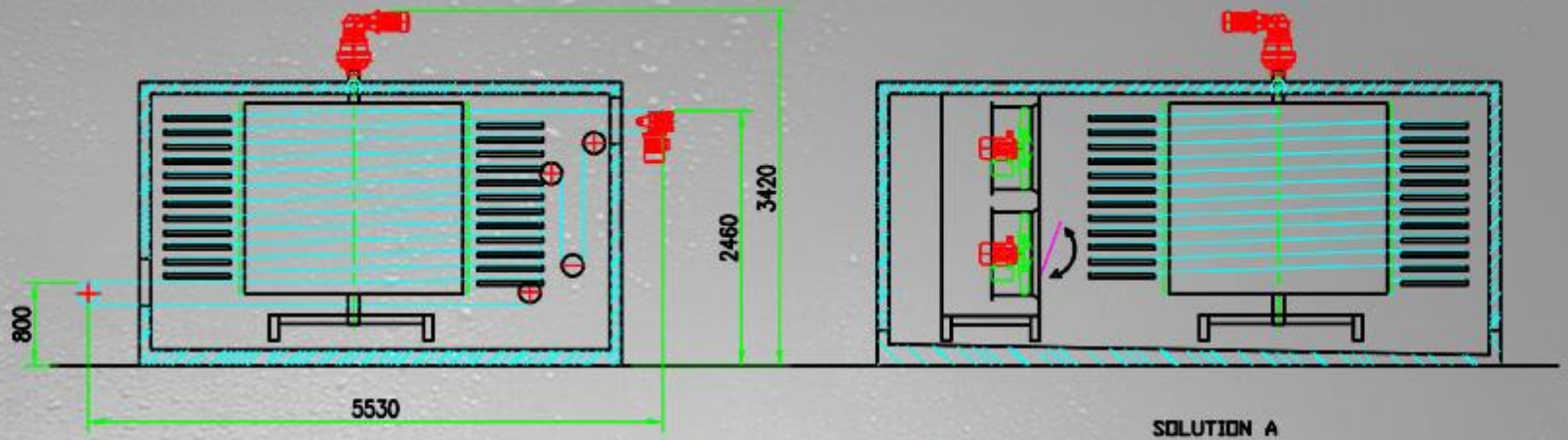




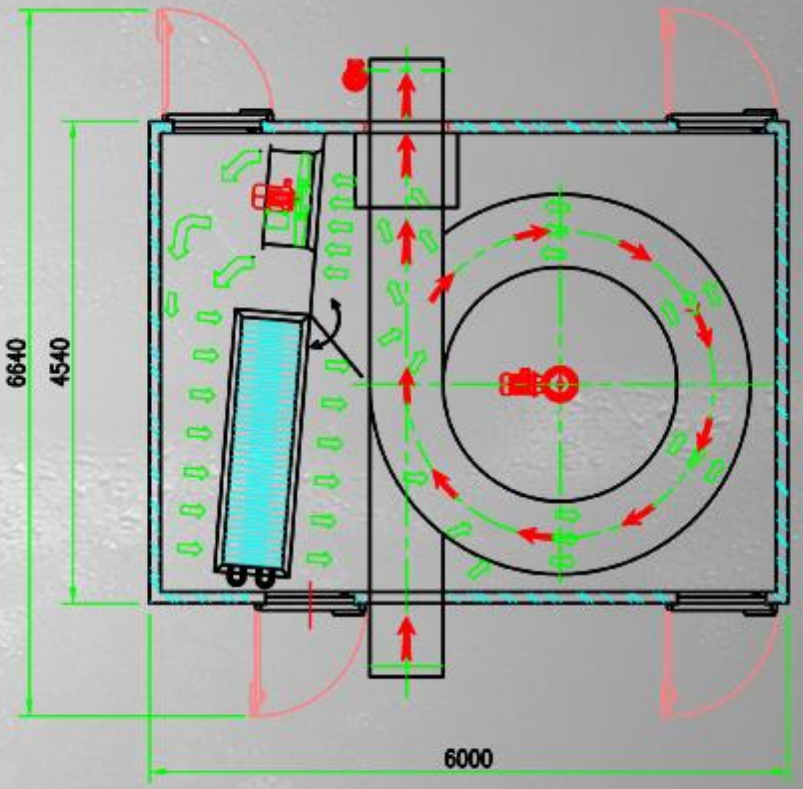




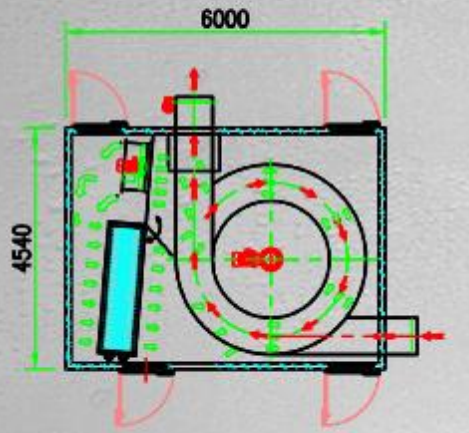
Cleaning and Washing



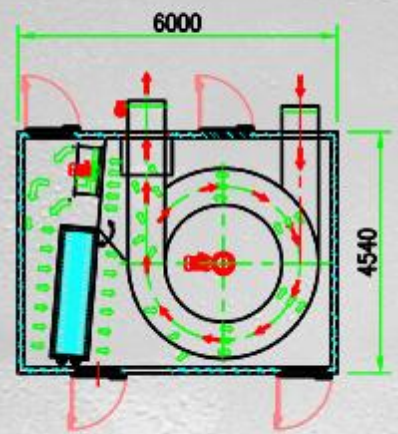
SOLUTION A



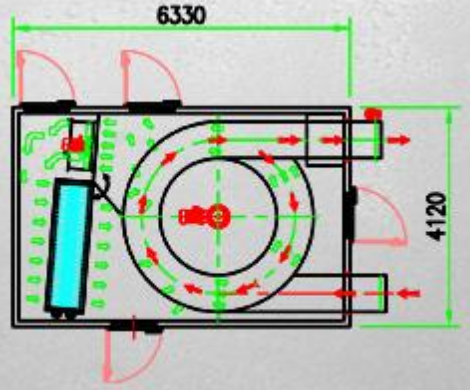
SOLUTION B

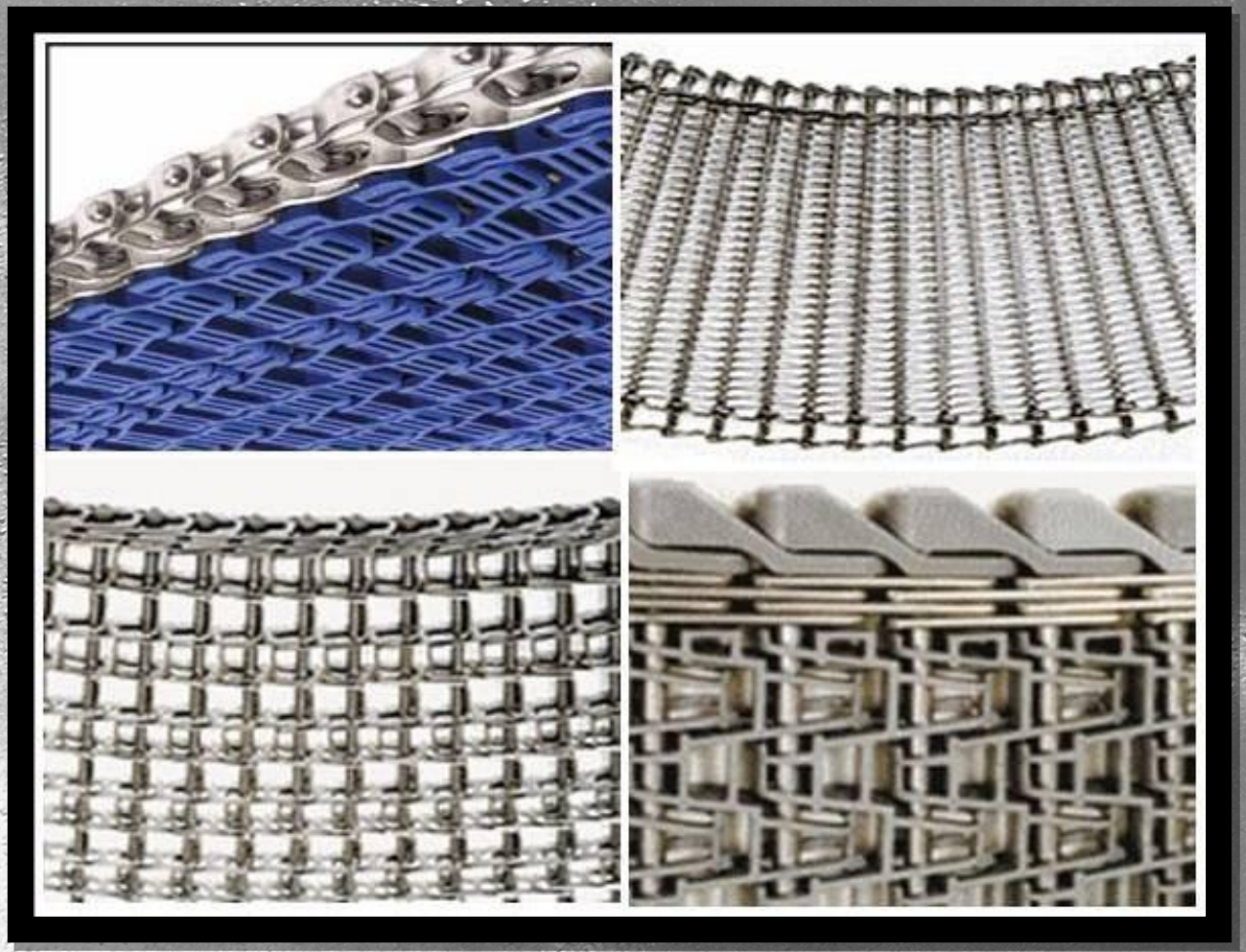


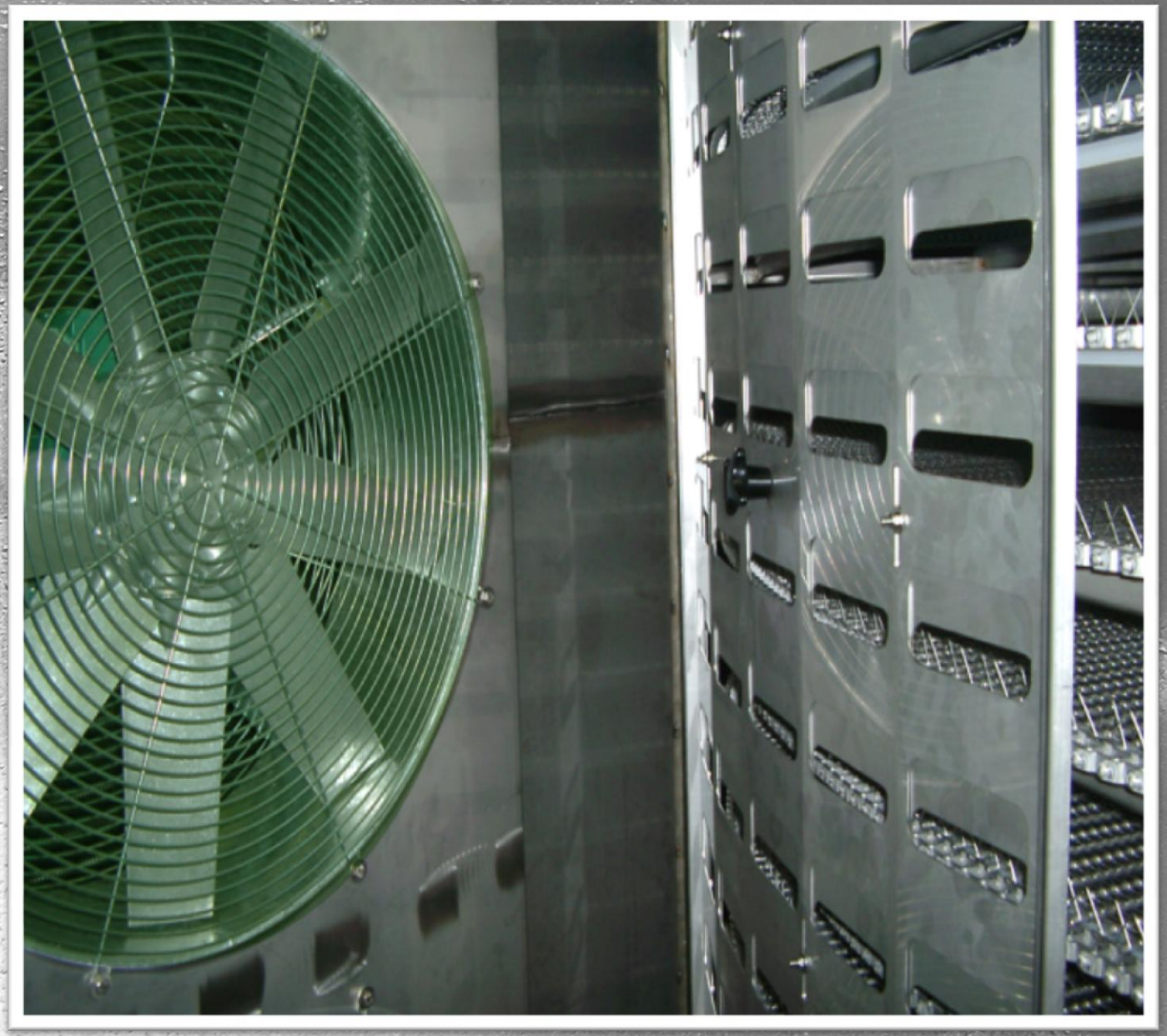
SOLUTION C

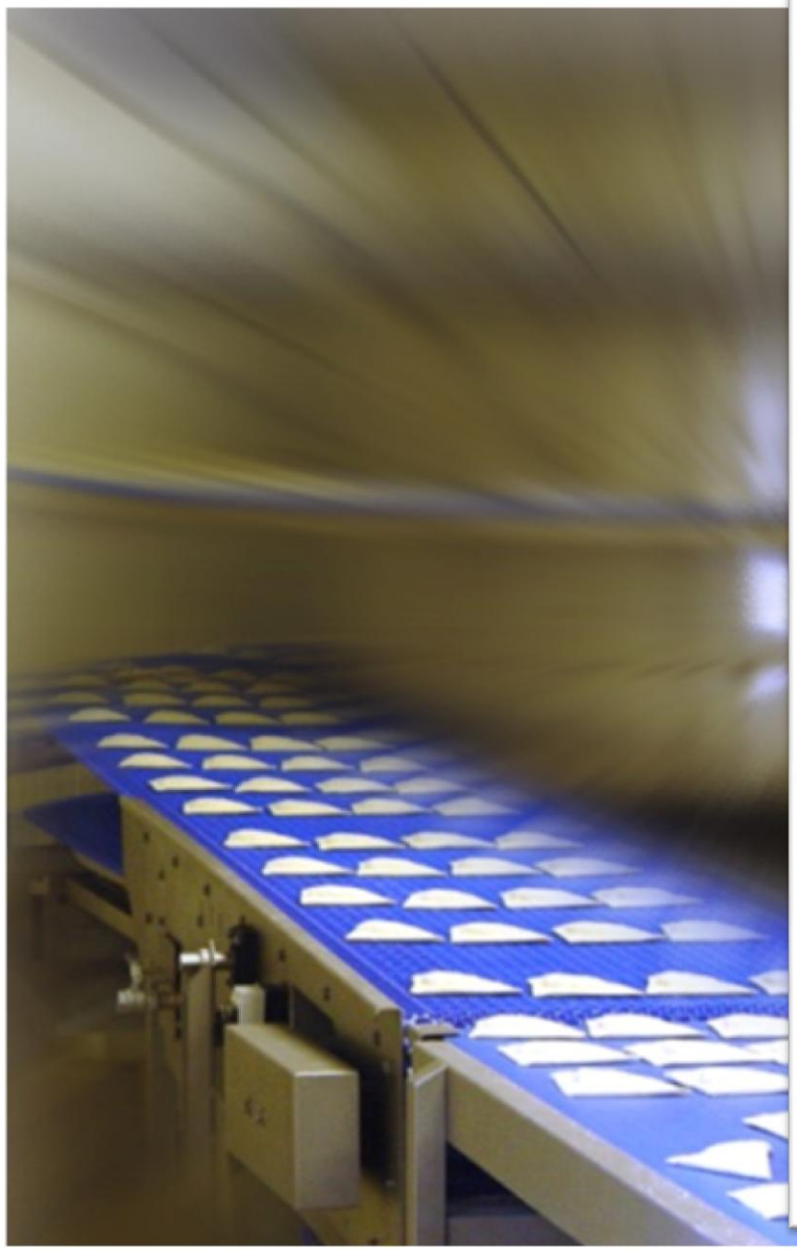


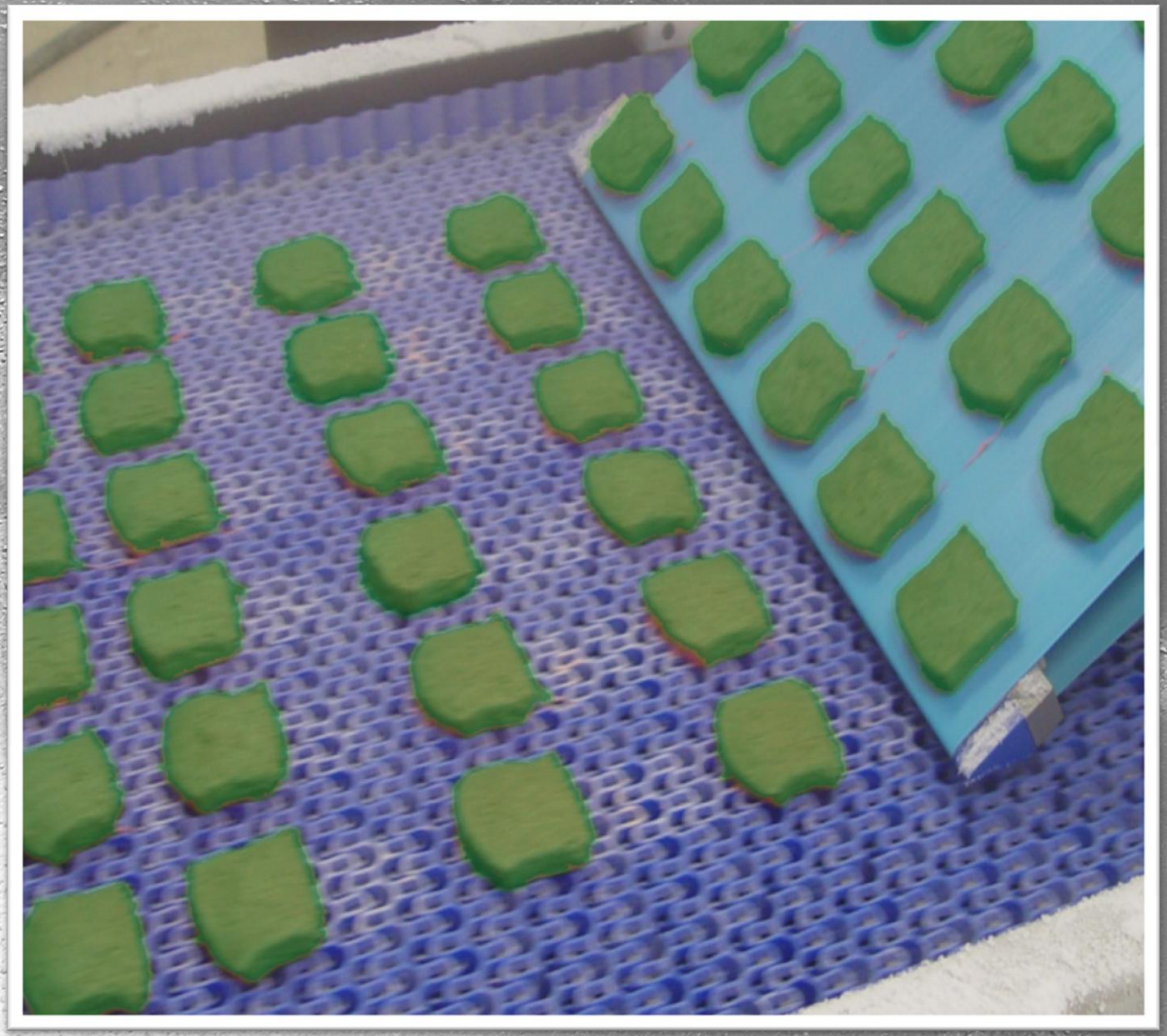
SOLUTION D

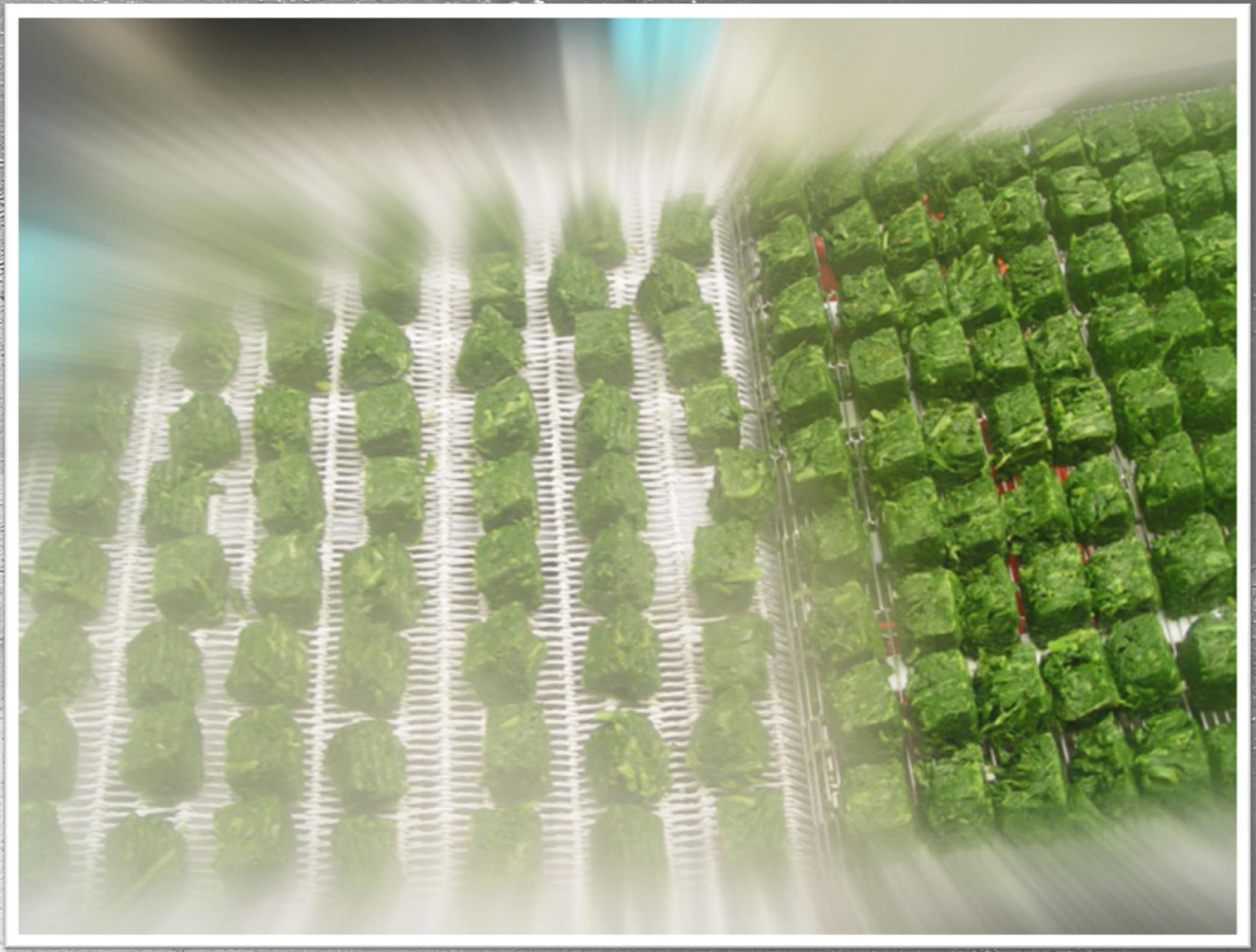










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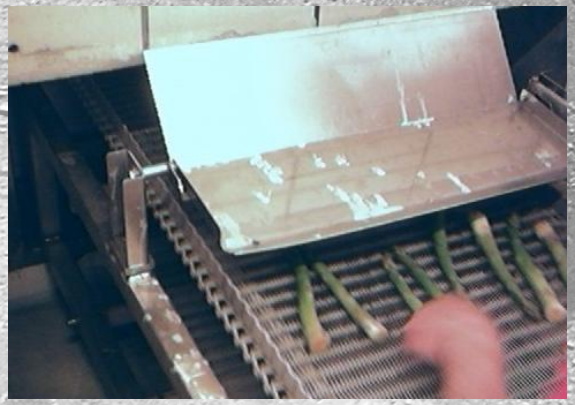



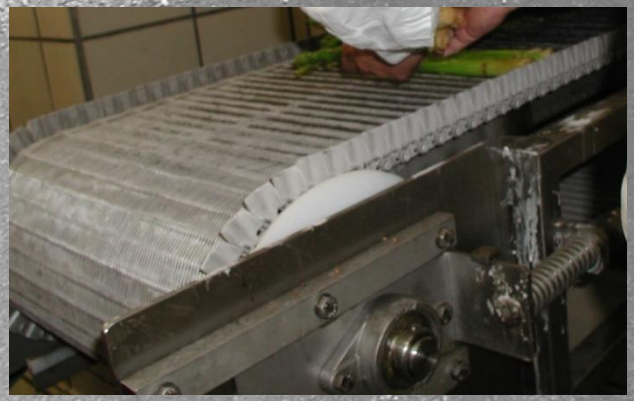


Daregal
Spinazie à la crème
Blad spinazie à la crème
Rodekool
Rode Kool met Appeltjes
iglo
Gehakte spinazie
Spinazie à la crème
Zalmfilet


Becker's
Hamburgers
2240 g
Vleeskroket
20% vlees
Vlette de viande

FENCO
Food Machinery

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