

Technical specifications

Blast Freezing Frascold

Description of equipment

Equipment description Dawsongroup's fully portable, fully automatic multifunction tunnels allow different processes - **blast chilling, freezing, tempering and defrosting** - to be carried out quickly, uniformly and in a controlled manner, even with large volumes of product.

Thanks to its exclusive software, developed by Dawsongroup tcs, the system manages the different temperature probes that monitor the critical points of the load and automatically adjusts the set points of the equipment, guaranteeing optimum treatment in each process. All of this is achieved by means of high-speed air flow through the product.

With a processing capacity of up to **25,000 kg per day for freezing and up to 15,000 kg per day for thawing**, these tunnels offer exceptional performance.

Furthermore, the equipment is entirely UK manufactured, plug & play, installed immediately, attached to the production plant and without the need for building works or building space, making it a flexible, efficient and ready-to-operate solution from day one.

Equipment specifications

Dimensions and capacity

Empty weight: 18.000 kg

Capacity: 32 European pallets
(maximum load)
28 American pallets (maximum load)

Surface area: 42,96m²

Maximum floor load: 1.500 kg/m²

External measurements: 16,09m long *
4,09m wide * 3,53m high

Internal usable measurements: 12,07m
long * 3,56m wide * 2,14m high

Door opening: 1,85m wide * 2,12m high



Technical specifications

Structure and equipment

- Expanded polyurethane panel (XPS) 115mm.
- Anti-slip floor.
- Drains. Rounded edges.
- Heated pivoting doors with keys.
- 300Lux lighting.
- Emergency lighting and signalling.
- Interior unlocking and safety axe (only in negative temperature).
- Alarms (visual and acoustic): voltage failure, temperature range and trapped person.
- Compliance with HACCP regulations. CE certification.
- CAREL PLC controller: includes freezing programmer and automatic maintenance: BLAST / HOLD.



Refrigeration installation

The refrigeration plant is made up of 2 independent and autonomous circuits, specifically designed by Dawsongroup.

Each circuit consists of a screw compressor from the Frascold range. Each compressor incorporates a PLC, communicated with each other to keep maximum capacity control and reduce energy consumption. The software is ready to run in freezing / holding / thawing.

It also includes:

- Electrical heaters as a defrost method.
- Evaporator with double interlocking coil with 5 axial fans.
- All components and controls necessary for the operation and control of the aforementioned screw compressors, including oil separators, liquid reservoir, oil coolers, economizer heat exchangers.
- Split circuit condenser coil with 6 axial fans and variable speed EC motors.

Refrigeration capacity (at 32°C ambient temp)	182 kW at temperature +2°C 123 kW at temperature -25°C
Power supply / power protection	400V / IV / 50Hz / 250A (TPN+E)
Maximum electric power	150kW
Average consumption in 24h	± 84 kW / h
Compressor type	2 x Semi-hermetic screw
Compressor model	J&E HALL HSL 3120
Compressor noise level	58 dB (A) a 10m (campo abierto)
Refrigerant type	R-448A / R-449A
Refrigerant charge	65 kg per system
Standard oil type	ICI Emkerate RL68H
Condenser	Double integrated circuit with 6 EC fans
Condenser flow	23 m ³ /s
Condenser noise level	66dB a 10m
Evaporator	Double circuit with 5 axial fans.
Evaporator flow	17,5 m ³ /s
Defrost method	Electric heaters
Drain pan defrost method	Electric heaters



Refrigeration capacity

32°C ambient

Unit air temperature (°C)	-36	-32	-27	-22	-17	-12	<-7
Cooling power (kW)	70	86	109	133	161	192	223
Consumed current (A)	202	210	225	241	258	277	305

38°C ambient

Unit air temperature (°C)	-36	-32	-27	-22	-17	<-12
Cooling power (kW)	61,2	75,4	94,2	119	143,8	170,8
Consumed current (A)	223	231	247	261	281	303

Electrical installation and connection

To connect the unit, the following electrical connection must be previously made: 400V/ IV / 50Hz, 250 A protection and 5-wire cable (3 phases, neutral and earth) with round terminal of 12mm internal diameter, with the necessary length and section to connect to the unit's switchboard.

The electrical panel must be protected by an independent automatic differential for the equipment, which must not be more sensitive than 0.3Amp. The electrical connection must be carried out by the customer's electrician. If there is any doubt, please contact us in advance.

The electrical panel of the tunnel has several fully identified panels: 'Compressor 1' (compressor 1), 'Mains incomer' (mains input), 'Common control' (general controls) and 'Compressor 2' (compressor 2).



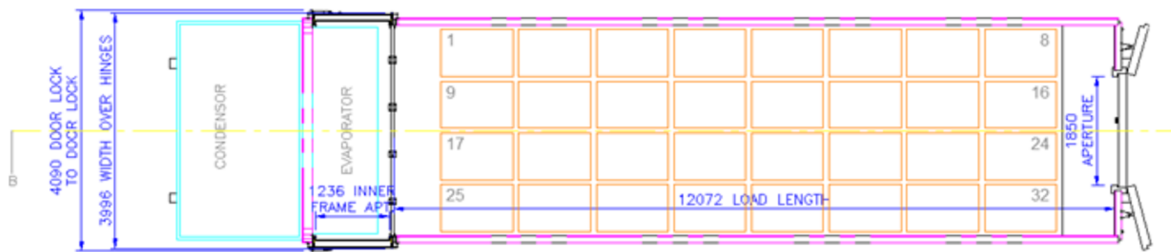
Where the following main components are included:

- Main compressor control panels (per compressor) including start-up gear, suffusion and Carel secondary compressor controller.
- Mains distribution panel connected to the mains input terminal panel.
- Main control panel including master controller and user interface to allow selection of operating function and input of adjustable control parameters.



FRIO MODULAR

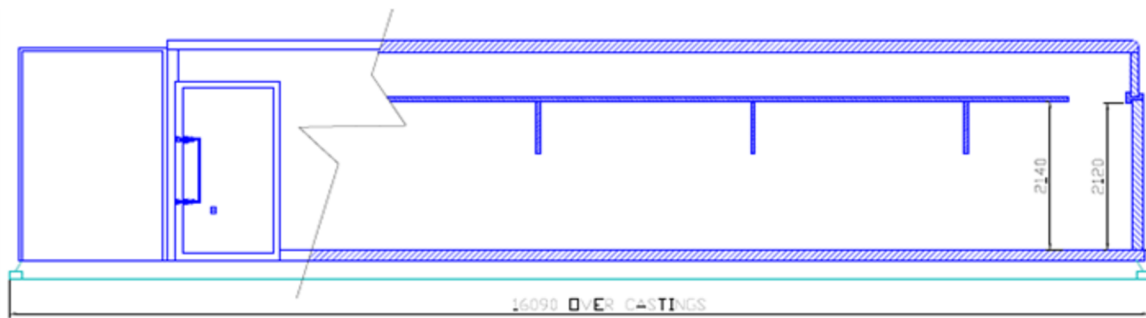
Plans



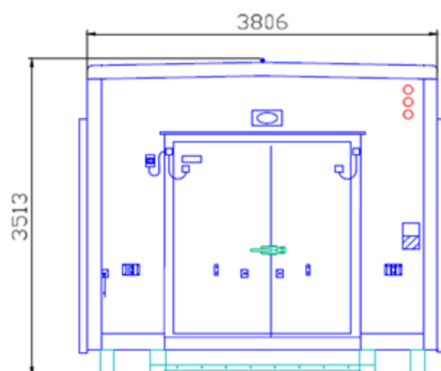
FRONT FRIDGE END

FLOOR PLAN

REAR DOOR END



SIDE VIEW



Blast Freezers/Chillers

Purpose built for time-critical temperature reduction application

Pressure relief valve

Alarms & alerts

Non slip floor

Data logger

Easy access handles



