hengel
performance at **all degrees**






CATALOGUE
2017







More than 30 years serving the Food Industry:
artisans, retail sector and industrial companies

- DEEP-FREEZING
- BLAST CHILLING
- COLD STORAGE
- RETARDER PROVING

www.hengel.com

www.hengel.com
Support available 24/24, 7/7

Save time by using our website,
All the information you need in 3 simple clicks!

7d/7 24h/24



The site allows you to:

- access business information
- get technical information
- request information online

RESERVED FOR DISTRIBUTORS

HOW TO BENEFIT FROM ALL SERVICES?

Login to www.hengel.com/user

If you do not have an account, make your request online and we will validate your account as soon as possible!

Note here your username and password

COMMERCIAL INFORMATION

News & Events, Product sheets, Photos & Videos, References, Press, Newsletters, catalogues & prices-list downloads, process guides

TECHNICAL SUPPORT

User & assembly instructions
Spare parts, Electrical diagrams
Dimensional drawings,
Technical guides

ONLINE REQUESTS

Product quotation,
Spare parts quote or order,
Technical information,
Product improvement

Summary

p 4

Our future goals



Hengel

Company background 4
Our future goals 5
Our know-how 6-7

p 8

Deep-freezing, Shock freezing



Deep-freezing, blast freezing

Blast freezers chillers for trays 8-9
Blast freezers for trolleys 10-11
Deep-freezing tunnels 12-15
Deep-freezing storage cabinets 16-19





p 20

Blast chilling

Blast chilling

Blast chillers for trays 20-21
Blast chillers for trolleys 22-23

p 24

Refrigerating and freezing storage



Positive and negative storage

Freezers 24-27
Refrigerators 28-31
Chocolate storage cabinets 32-33



p 36

Proving, Slow proving Retarder proving

Proving, slow proving, retarder proving

Prover cabinets for dough containers 36-37
Retarder prover for grids or trolleys 38-41
Retarder prover chambers 44-61
Retarder prover tunnels / Premium range 62-65



p 74

Selection, Installation

Selection, Installation

Rules for selection and installation 66
Refrigeration unit, negative cold 67
Refrigeration unit, positive cold 68
Retarder prover chamber doors 69

Company background
More than 30 years service in the food industry

1983 Jean-Luc Henriot creates the company Hengel in order to exploit the patent for «deep freezer equipment in the baking and pastry industry."

1985-1995 Many innovative patents are filed, including the most known, the deep freezer - storage cabinet Turbo, with freezing speed that outperformed all its competitors.

1990-2000 Hengel continues to grow in the very specialized market of baking and pastry, developing new lines of equipment including: retarder prover chambers, deep freezer-storage Compact CS, retarder prover cabinets, refrigerated tables, furniture and storage cabinets.

1991 The company developed its export market, with its subsidiary in Japan, Hengel Japan Co.Ldt.

1997 Hengel is the supplier of the World Pastry Cup and the French Baking Cup.

1999 Hengel received the Medal of Honor at the Tenth Anniversary of the World Pastry Cup.

2000-2005 Hengel invests in the creation and improvements of its products in order to adapt to the requirements of its customers and also offer new features.

2002 Hengel develops the Bi-tronic control device and launches a new retarder prover chamber. The Bi-tronic control device provides professionals with a range of reliable features made specially to help their daily work load. Implementation of the "LEAN" production management (just in time).

2008 Hengel has a production surface area of 3500 m² in order to have all the necessary means for its expansion. This new space answers the company's need to increase the capacity of production, optimizing the production tools and improving the work-flow.

2011-2012 Integration of a sheet metal-working activity thanks to the acquisition of an automated punch line and a sheet metal bending unit.

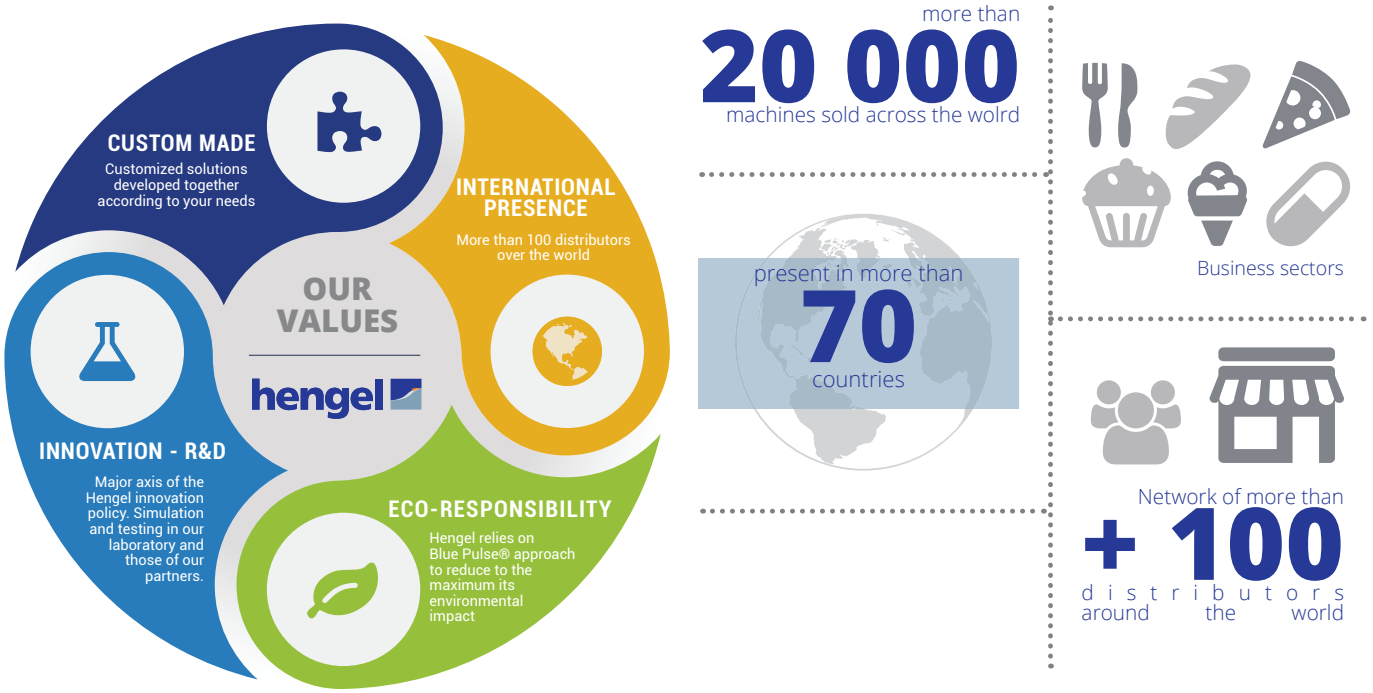
2013-2016 Development of the new deep-freezing and blast chilling ranges: deep-freezers and storage RSE Blue Pulse® combining technology and energy saving; blast chilling and freezing cells for plates and trolleys GS-B, deep-freezing and blast-chilling tunnels for trolleys ZS.



Nowadays
Our future goals

Engaged in a constant process of innovation, Hengel has been manufacturing its products for more than thirty years in France. Its production site is over 3 500m2. Hengel designs and manufactures its products by mastering the sheet metal, injection and cooling activities.

Hengel is able to offer global and customized solutions related to the deep freezing, storage and controlled fermentation for a diverse number of industries: baking, pastry, food, medical biology, pharmaceutical industry ...

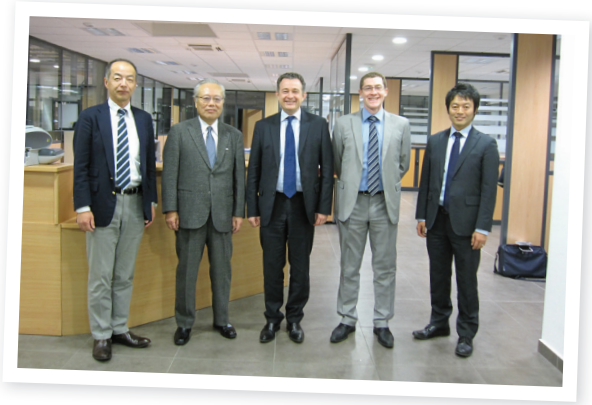


HENGEL WORLDWIDE

Historically, Hengel exports its expertise around the world by relying on a network of more than one hundred distributors.

As the Asian market represents a significant portion of its revenue, Hengel decided to create its own subsidiary in Japan called Hengel Japan Co., Ldt in 1993. It is based in Nagaoka (Niigata Prefecture).

The company is composed of sales and technical managers. They ensure business and services development. It distributes our equipment in Japan but also to the rest of the Asian markets which have a preference for products related to the French gastronomy (bread, pastry...).



Our know-how
Complete control of the production process

INTEGRATED PRODUCTION









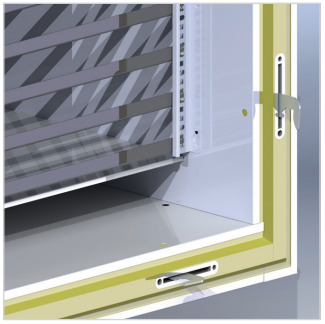
We internally review all of our production processes. Since the injection of the isolated panels until the final assemble before shipping.

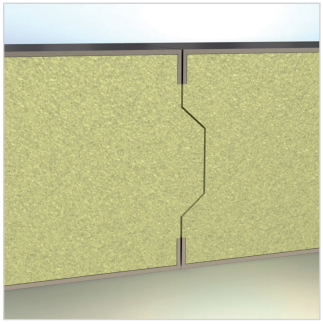
1. The stainless steel or white lacquered steel sheets are cut and pierced.
2. Afterwards they are folded and prepared before injection.
3. The panels are injected from polyurethane foam (without CFC) with a high density 43kg/m³
4. The panels are ready to be assembled or shipped

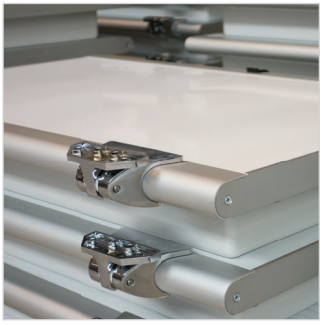
The panels are fitted with metallic assembly brackets with progressive eccentric clamps to enable a quick installation and dismantling, and to ensure an optimal insulation of our equipment.

The thickness of our panels varies according to the functions of the appliance:

- 100 mm for deep freezing and freezing storage
- 60 mm for retarder prover and refrigerating storage









Our refrigeration team performs the installation and assembly of the refrigeration unit. The installation team also assembles and connects equipment.

Finally, the devices are packed and ready for shipment.



R&D, INNOVATION, FURTHER STUDIES AND INDUSTRIALIZATION

Because innovation has always been at the heart of our DNA, R & D is an essential and strategic department for Hengel.

New technologies and applications created by our research teams are designed to meet our future needs. Our goal, aided through our Blue Pulse® approach is to work on responsible innovation.

Each of our solutions is serving an increased reliability and must adapt to our market specifications and our customers' expectations, while taking into account changes related to the environment and of course regulation.

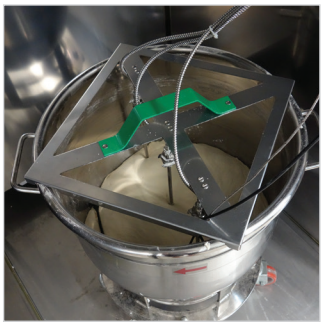
For this, we have established cooperation with many parties: large groups, independent research laboratories, higher education unit, clusters, competitiveness poles ....

At Hengel, research is clustered around four axes:

- Improving the energy efficiency of our products
- Optimize air flow distribution in order to preserve original quality of the products
- Provide connectivity solutions between the machines and people, in order to simplify the production management, the maintenance, and to harmonize processes for product quality in any situation.
- Minimize the environmental impact of our equipment.



Internal test laboratory



Measuring instruments

SALES - TECHNICAL / AFTER SALES SERVICE





Our technical and commercial team are here to advise and assist you from A to Z on your projects in order to offer solutions fitted to your needs.





The After-sales Service team is available from Monday to Friday, from 8am until 6pm.

The spare parts are shipped by TNT / Chronopost and are delivered within 24h/72h (working days).

chronopost TNT

Deep-freezing
Blast freezers and chillers for trays



PERMANENT STOCK

The blast freezer range is an economical solution intended for clients requiring to deep-freeze (core temperature -18°C) small quantities of food products. It comes in 3 sizes: 5, 10 or 15 trays according to the product quantity to deep-freeze. These blast freezers are easy to use and require no installation (only 16A plug for 5 and 10 levels). They are designed for 400x600 mm trays or gastronomic containers with optional slides.

GSB RANGE 400X600 MM OR GN1/1

Bi-Tronic 1

	GS05-B	GS10-B	GS15-B
Minimum distance between each level (mm)	30	30	30
Standard number of levels used	5	10	15
External width (mm)	820	820	820
External depth (mm)	700	800	800
Depth door open (mm)	1460	1570	1570
External height (mm)	950	1775	1975
Lateral clearance against the wall (mm)	50	50	50
Internal width (mm)	610	610	610
Internal depth (mm)	410	448	482
Internal height (mm)	362	970	1070
Gross weight (kg)	89	185	197
DEEP-FREEZING CAPACITY OF POTATO PUREE, ACD40-003 NORM 270 mn cycle - Input temperature + 63 ° C, Core temperature -18 ° C			
Deep-freezing of potato puree	13 kg	23 kg	37 kg
DEEP-FREEZING CAPACITY OF MEAT 120 mn cycle - Input temperature + 3 ° C, Core temperature -18 ° C			
Deep-freezing of meat (thickness of 4 cm)	12 kg	22 kg	35 kg
BLAST CHILLING CAPACITY OF POTATO PUREE, ACD40-003 NORM 110 mn cycle - Input temperature + 63 ° C, Core temperature +10 ° C			
Blast chilling of potato puree	25 kg	50 kg	75 kg

Price: refer to page 3 of the price-list



TECHNICAL DESCRIPTION

- For 5, 10 or 15 trays 400 x 600 mm or gastronomic containers GN1/1 (460x660/18"x26" on request)
- Interior and exterior covered in stainless steel
- Evaporator with anti-corrosion treatment (cataphoresis)
- Automatic and manual ventilated with defrost system
- Dismantled stainless steel slides, spacing of 75 mm and adjustable every 15 mm
- The polycarbonate touch display (with touch buttons) using Bi-Tronic Control 1 is easy to clean
- Deep freezing cycle controlled by time or core temperature probe (supplied)
- Polyurethane foam insulation (CFC free) with 43kg/m³ density, thickness 60 mm
- Rounded corners inside to facilitate the cleaning of the equipment
- Standard have hinges on the left (right hinges upon request)
- Integrated ergonomic handle
- Removable magnetic gasket door
- R404A tropicalized built-in refrigeration unit (remote refrigeration unit on request)
- Bottom edge diamond-shaped to allow for condensate draining
- Easy access to the evaporator for maintenance and cleaning
- Delivered with casters
- Plug and Play system (blast chiller/freezer ready to install). Not connectable to a power station.

	GS05-B	GS10-B	GS15-B
Voltage 50 Hz	230 V 1ph+PE	230 V 1ph+PE	400 V 3ph+N+PE
Electrical power (W)	1100	1750	2510
Maximum amperage (A)	6 A	8 A	10 A
Cooling power (W) -30°C / +32°C	440	861	1860
Maximum temperature	43	43	43
Refrigeration unit power (HP)	1	1 1/2	3
Refrigeration unit type (more details page 67)	GN1T	GN3	GN6T

CONTROL PANEL, BI-TRONIC 1



- **Polycarbonate touch display with touch buttons**
- Easy to clean as the surface is smooth
- Direct mode or quick start of the desired program
- Customizable programs
- Clock mode or core temperature probe mode

OPTIONS

- Adjustable feet in stainless steel, 150 mm height (to install)
- Water refrigeration unit
- Slide-ways for GN1/1 gastronomic containers
- Specific voltage 60 Hz

Deep-freezing
Blast freezer for trolley(s)



The blast freezer for trolleys is a quick deep-freezing solution (core temperature -18°C) dedicated to production units with important production volumes seeking a high quality of deep-freezing. Designed to hold two trolleys for grids 400x600 mm or one trolley for grids 600x800 mm, it is the ideal equipment to increase productivity by reducing handling operations. Furthermore, the colour touch screen allows production to be tracked, highlighting the historic process.

GS-B RANGE FOR TROLLEY 460X610 MM & 660X810 MM

Bi-Tronic 3

	GS40-B
Capacity	2 trolleys for trays 400x600 (50 kg/h) or 1 trolley for trays 600x800 mm (80 kg/h)
External width (mm)	1350
External depth (mm)	1385
Depth with door open (mm)	2160
External height (mm)	2260
Lateral clearance against the wall (mm)	50
Internal width (mm)	715
Internal depth (mm)	1050
Internal height (mm)	1900
Gross weight (kg)	317
DEEP-FREEZING CAPACITY OF POTATO PUREE, ACD40-003 NORM 270 mn cycle - Input temperature + 63 ° C, Core temperature -18 ° C	
Deep-freezing of potato puree	120 kg
DEEP-FREEZING CAPACITY OF MEAT 120 mn cycle - Input temperature + 3 ° C, Core temperature -18 ° C	
Deep-freezing of meat (thickness of 4 cm)	90 kg

Price: refer to page 3 of the price-list

TECHNICAL DESCRIPTION

- Full stainless steel surface (interior and exterior)
- Stainless steel floor and ramp
- Standard to have hinges on the right. Other hinges upon request.
- Ergonomic handle
- Ventilated evaporator with auto defrosting system (except during cycle)
- Regulation Bi-control 2, deep freezing cycle controlled by time or temperature probe
- Polyurethane foam insulation (CFC free) with 43kg/m³ density (check thickness on the chart)
- Removable magnetic gasket door without tool
- Scraper brushes
- R404A remote silent refrigeration unit
- Electronic expansion valve
- 3,5'' color touch screen regulation, deep freezing cycle controlled by time or core temperature probe
- Not connectable on power station.

	GS40-B
Capacity	2 trolleys for trays 400x600 mm or 1 trolley for trays 600x800 mm
Delivery	Disassembled
Cooling power (W) -35°C / +32°C	6000
Voltage 50 Hz	cabinet 230 V 1ph+PE - refrigeration unit 400V 3ph+N+PE
Electrical power (W)	3900
Maximum temperature	+38°C
Refrigeration unit power (HP)	7
Refrigeration unit type (more details page 67)	GN8S
If tropicalized and silent refrigeration unit option (more details page 67)	GN8ST

CONTROL PANEL, BI-TRONIC 3



- **Very intuitive** from its first use.
- **Touch screen technology:** Direct access to different work cycles, fully customizable to make your life easier.
- **Access and back up your data:** Cycles, defaults, temperatures and consumption historical data. This historical data helps to ensure a compliance with hygiene norms and to check the maintenance of the cold chain. It makes the diagnosis easier in order to have a more efficient service operation.
- **USB input** (Located inside of the control interface)**:** Exports the temperature and consumption historical data. Import and export your parameters and programs. Software update.

OPTIONS

- Refrigeration unit with water condensation
- Connection to a refrigeration pack system unit

Deep-freezing
Deep-freezing tunnels for trolleys







The deep freezing tunnels are designed for industrial units requiring high-performance devices that can deep-freeze (-35 ° C, -18 ° C core temperature) very large volumes in a minimum amount of time.

Flexible and adaptable, they are intended to hold trolleys for grids 400x600 mm or 600x800 mm, and they can deep-freeze up to 600kg / hour!

SELECTION DEPENDING ON THE MEDIUM AND DEEP-FREEZING CAPACITY, STANDARD ACD40-003

Reference	ZS-2-7575T-P1	ZS-3-7575T-P2	ZS-2-7595T-P1	ZS-2-9575T-P1	ZS-3-7595T-P2	ZS-3-9575T-P2	ZS-4-7595T-P4	ZS-4-9575T-P4	ZS-6-7595T-P5	ZS-6-9575T-P5
SIZE MM	NUMBER OF TROLLEYS									
600x800	-	2	2	2	3	3	4	4	6	6
800x800	-	-	-	1	-	2	-	3	5	-
800X1000	-	-	-	1	-	2	2	-	4	-
600X400	3	4	3	-	6	-	8	-	12	-
750X950	-	-	-	1	-	2	-	3	-	4
800X1200	-	-	-	1	-	-	-	2	-	3
800X400	-	-	-	3	-	4	-	6	-	9
400X800	-	2	2	-	3	-	4	-	6	-
800X900	-	-	-	-	-	2	-	3	-	4
GN1/1	2	3	3	-	4	-	6	-	9	-
GN2/1	3	4	4	-	7	-	9	-	14	-
DEEP-FREEZING CAPACITY OF POTATO PUREE, ACD40-003 NORM 270 mn cycle - Input temperature + 63 ° C, Core temperature -18 ° C										
Deep-freezing of potato puree	190 kg	270 kg	190 kg	190 kg	260 kg	260 kg	390 kg	390 kg	600 kg	600 kg
DEEP-FREEZING CAPACITY OF MEAT 120 mn cycle - Input temperature + 3 ° C, Core temperature -18 ° C										
Deep-freezing of meat (thickness of 4 cm)	170 kg	220 kg	170 kg	170 kg	220 kg	220 kg	305 kg	305 kg	500 kg	500 kg

Price: refer to page 3 of the price-list

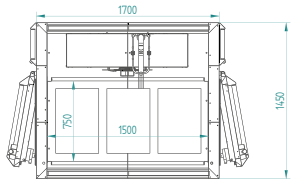
DIMENSIONS AND POWERS

Reference	Door passage (mm)	Module depth (mm)	Number of module	Useful depth (mm)	Width (mm)	Ext. Depth (mm)	Door passage height (mm)	Refrig. unit type (more details page 15)	Volume (m^3)	Cooling capacity (kW)
ZS-2-7575T-P1	750	750	2	1500	1250	1700	2200	GN9ST	4.1	10.02
ZS-3-7575T-P2	750	750	3	2250	1250	2460	2200	GN10ST	6.2	12.5
ZS-2-7595T-P1	750	950	2	1900	1250	2100	2200	GN9ST	5.2	10.02
ZS-2-9575T-P1	950	750	2	1500	1450	1700	2200	GN9ST	4.8	10.02
ZS-3-7595T-P2	750	950	3	2850	1250	3050	2200	GN10ST	7.8	12.5
ZS-3-9575T-P2	950	750	3	2250	1450	2250	2200	GN10ST	7.2	12.5
ZS-4-7595T-P4	750	950	4	3800	1250	4000	2200	GN12ST	10.5	20.04
ZS-4-9575T-P4	950	750	4	3000	1450	3200	2200	GN12ST	9.6	20.04
ZS-6-7595T-P6	750	950	6	5700	1250	5900	2200	GN13ST	15.7	28.84
ZS-6-9575T-P6	950	750	6	4500	1450	4700	2200	GN13ST	14.4	28.84

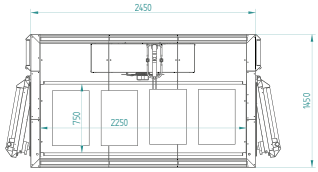
Total tunnel height (electrical box included): 2640 mm without excavation or 2500 mm with excavation
To excavate the tunnel make sure you have 140 mm of excavation.

DRAWINGS

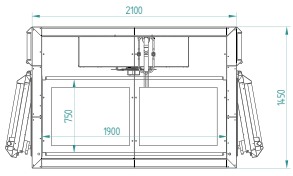
ZS-2-7575T-P1



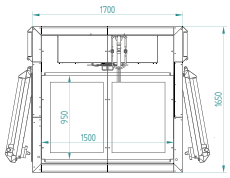
ZS-3-7575T-P2



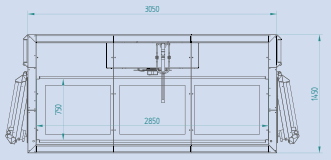
ZS-2-7595T-P1



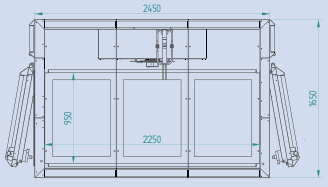
ZS-2-9575T-P1



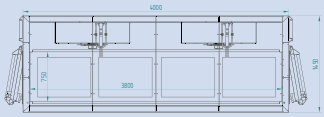
ZS-3-7595T-P2



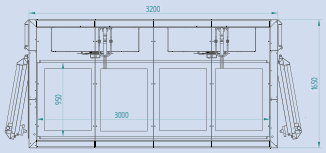
ZS-3-9575T-P2



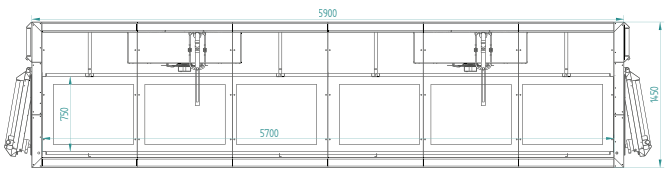
ZS-4-7595T-P4



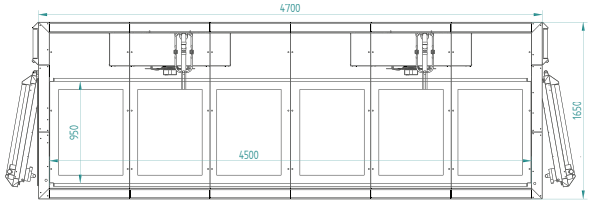
ZS-4-9575T-P4



ZS-6-7595T-P5



ZS-6-9575T-P5



Deep-freezing
Deep-freezing tunnels for trolleys

TECHNICAL DESCRIPTION

- 3,5" touch screen interface Bi-Tronic Control 3 at eye level
- Air blow system with double flow for a better vertical temperature uniformity
- Electronic expansion valve
- Reversible door (standard to have hinges on the right)
- Temperature probe Thermo Sensor.
- Easy to clean the equipment (chamfered corners)
- Ventilated / electrical defrosting system. Automatic and manual mode
- Evaporator with fin spacing adapted to delay frost formation
- Large handle with locking mechanism and internal anti-panic handle
- Lateral interior and exterior protections made of stainless steel
- Pivoting ventilation door, easy access for maintenance
- Insulated floor (thickness 10 cm) equipped with stainless steel (20/10) access ramp
- Polyurethane foam insulation with 10 cm thickness, interior and exterior in stainless steel (more details on page 6)
- Electrical power to be provided for general protection at the power line 400 V 3ph+N+PE (tunnel + group)
- Possibility to connect to R404 refrigeration pack system unit according to the needs






ZS RANGE FOR TROLLEYS

The references of deep-freezing tunnels are composed as follows:

For example, for a tunnel with 2 compartments of 750 mm x 950 mm, and a cooling capacity P1, it is necessary to order:

ZS-2-7595T-P1

ZS	2	75	95	T	P1
					Deep-freezing capacity
				Tunnel: T = Yes, - = No	
			Depth of compartment in cm		
		Width of compartment (door passage) cm			
	Number of compartment				
Deep-freezing tunnel reference					

EVAPORATOR DUCT CHARACTERISTICS

Config.	Number of evaporators (spacing of fins 10mm)	Electronic regulators(1)			High Performance Ventilation and Reduced Sound Pressure		Electric / ventilated defrosting
		regulator qty	Pressure sensor 4-20mA qty	Temperature Sensor NTC qty	Qty Ø 450 mm	Total Air Flow (m^3/h)	
P1	2	2	2	2	2	11 700	yes
P2	2	2	2	2	3	17 550	yes
P4	4	4	4	4	4	23 400	yes
P5	4	4	4	4	6	35 100	yes

(1) Electronic stepper expansion valves, overheating calculation by pressure measurement and evaporator suction temperature

Price: refer to page 3 of the price-list

REFRIGERATION UNIT CHARACTERISTICS

Refrigeration unit	GN9ST	GN10ST	GN12T	GN13T
Evaporator power	P1	P2	P4	P5
Compressor type	Scroll	Scroll	Semi hermetic Stream	Semi hermetic Stream
Maximum room temperature	43°C	43°C	38°C	38°C
Dimensions WxPxH (mm)	2100x670x950	2100x670x950	2300x1200x1000	2300x1200x1838
Weight (kg)	273	294	570	620
Maximum intensity	27 A	30.6 A	52.5 A	68.1 A
Maximum power consumption (kW)	13.1	18.7	19.8	27.3
Power at 35 ° C and 32 ° C ext. (KW)	11.35	14.05	20.04	25
Liquid reservoir volume (l)	17.7	17.7	30	40
Suction tube <20 m	1 5/8"	1 5/8 "	2 5/8"	2 5/8"
Liquid Tube	1/2"	1/2"	3/4"	3/4"
Acoustic pressure at 10 m (dB (A))	46	47	63	63
Refrigeration unit equipment	Quiet, tropical and streamlined refrigeration unit. It is equipped with the liquid line: filter dehydrator, indicator light, solenoid valve and oil separator. Supplied with electric power box and HP / BP safety pressure switch. Variable speed drive on condenser fan with pressure sensor. Voltage 400 3ph + N + PE / 50Hz		For equipment of the above 2 refrigeration unit, please contact us.	

CONTROL PANEL, BI-TRONIC 3



- **Very intuitive** from its first use.
- **Touch screen technology:** Direct access to the different work cycles, fully customizable to make your life easier.
- **Access and back up your data:** Cycles, defaults, temperatures and consumption historical data. This historical data helps to ensure a compliance with the hygiene norms and to check the maintenance of the cold chain. It makes the diagnosis easier in order to have a more efficient service operation.
- **USB input** (Located inside of the control interface)**:** Exports the temperature and consumption historical data. Import and export your parameters and programs. Software update.

OPTIONS

- Temperature report
- Stainless steel ramp
- Connection to a R404 refrigeration pack system unit on study.

Deep-freezing
Deep-freezers for trays



Deep-freezers for professionals are intended to quickly deep-freeze (ambiant -35°C, core temperature -18°C) food products on trays. Once deep-frozen, products are stored in freezing (-18°C). Deep-freezers are designed in order for treated products that have no frost and keep their original taste. Mass production can increase productivity. Stocks are optimally managed allowing clients to meet their demand in case of last minute orders.

THE RANGES

Deep-freezers are available in two depths:

SINGLE DEPTH (1 tray 400x600 mm per level)

- Standard version: CS range — *deep-freezing capacity 25 kg*
- Basic version: DUO 2, QUATTRO 2 range — *deep-freezing capacity 12 kg*

DOUBLE DEPTH (2 trays 600x400 mm per level or 1 tray 600x800 mm)

- Standard version: RS range — *deep-freezing capacity 50 kg*
- Basic version: MAJOR DUO 2, MAJOR QUATTRO 2 range — *deep-freezing capacity 20 kg*

Standard range offers a larger deep-freezing capacity than the basic range. Also, It is possible to add additional storage compartments in the future in case of need to store more important quantities.

Price: refer to page 4 of the price-list

Deep-freezing
Single depth, 1 tray 400x600 mm / level







DIMENSIONS	2 doors	4 doors	6 doors	8 doors	10 doors
External length (mm)	865	1530	2195	2860	3525
External depth (mm)	950	950	950	950	950
Depth with door open (mm)	1480	1480	1480	1480	1480
External height (mm)	2250	2250	2250	2250	2250
Lateral clearance against the wall (mm)	120	120	120	120	120
Internal length in the deep-freezing part (mm)	420	420	420	420	420
Internal depth in the deep-freezing part (mm)	665	665	665	665	665
Internal height in the deep-freezing part (mm)	525	525	525	525	525
Internal length in the storage part (mm)	420	420	420	420	420
Internal depth in the storage part (mm)	665	665	665	665	665
Internal height in the storage part (mm)	752	752	752	752	752
Weight (kg)	291	400	477	617	704
STANDARD RANGE (MODULAR)					
REFERENCE	CS10	CS30	CS50	CS70	CS90
Number of deep-freezing trays	7	7	7	7	7
Deep-freezing capacity per tray (kg)	3.57	3.57	3.57	3.57	3.57
Total deep-freezing capacity (kg)	25	25	25	25	25
Number of storage trays	10	30	50	70	90
Standard spacing trays (mm)	75	75	75	75	75
Electrical power installed (kW)	3.85	3.85	3.85	4.25	4.25
Voltage 50 Hz	400V 3ph+N+PE 12A	400V 3ph+N+PE 12A	400V 3ph+N+PE 12A	400V 3ph+N+PE 15A	400V 3ph+N+PE 15A
Refrigeration unit power (HP)	2	2	2	2	2
Refrigeration unit type (more details page 67)	GN5T	GN5T	GN5T	GN5T	GN5T
If silent and tropicalised refrigeration unit option	GN5ST	GN5ST	GN5ST	GN5ST	GN5ST

BASIC RANGE (NON MODULAR)		
REFERENCE	DUO 2	QUATTRO 2
Number of deep-freezing trays	7	7
Deep-freezing capacity per tray (kg)	1.71	1.71
Total deep-freezing capacity (kg)	12	12
Number of storage trays	10	30
Standard spacing trays (mm)	75	75
Electrical power installed (kW)	2.18	2.65
Voltage 50 Hz	400V 3ph+N+PE 8 A	400V 3ph+N+PE 8A
Refrigeration unit power (HP)	1 1/2	2
Refrigeration unit type (more details page 67)	GN4	GN5T
If tropicalised refrigeration unit option	GN4T	-
If silent and tropicalised refrigeration unit option	GN4ST	GN5ST

Deep-freezing
Double depth, 2 trays 600x400 mm / level






DIMENSIONS	2 doors	4 doors	8 doors	10 doors
External length (mm)	1100	2000	3800	4700
External depth (mm)	1185	1185	1185	1185
Depth with door open (mm)	1915	1915	1915	1915
External height (mm)	2250	2250	2250	2250
Lateral clearance against the wall (mm)	120	120	120	120
Internal length in the deep-freezing part (mm)	620	620	620	620
Internal depth in the deep-freezing part (mm)	900	900	900	900
Internal height in the deep-freezing part (mm)	525	525	525	525
Internal length in the storage part (mm)	620	620	620	620
Internal depth in the storage part (mm)	900	900	900	900
Internal height in the storage part (mm)	752	752	752	752
Weight (kg)	400	511	795	908
STANDARD RANGE (MODULAR)				
REFERENCE	RS10	RS30	RS70	RS90
Number of deep-freezing trays	14	14	14	14
Deep-freezing capacity per tray (kg)	3.57	3.57	3.57	3.57
Total deep-freezing capacity (kg)	50	50	50	50
Number of storage trays	20	60	140	180
Standard spacing trays (mm)	75	75	75	75
Electrical power installed (kW)	6.95	6.95	7.35	7.35
Voltage 50 Hz	400V 3ph+N+PE 15A	400V 3ph+N+PE 15A	400V 3ph+N+PE 15A	400V 3ph+N+PE 15A
Refrigeration unit power (HP)	4	4	4	4
Refrigeration unit type (more details page 67)	GN7	GN7	GN7	GN7
If silent and tropicalised refrigeration unit option	GN7ST	GN7ST	GN7ST	GN7ST

BASIC RANGE (NON MODULAR)		
REFERENCE	MAJOR DUO 2	MAJOR QUATTRO 2
Number of deep-freezing trays	14	14
Deep-freezing capacity per tray (kg)	1.43	1.43
Total deep-freezing capacity (kg)	20	20
Number of storage trays	20	60
Standard spacing trays (mm)	75	75
Electrical power installed (kW)	3.85	4.33
Voltage 50 Hz	400V 3ph+N+PE 10A	400V 3ph+N+PE 10A
Refrigeration unit power (HP)	2	3
Refrigeration unit type (more details page 67)	GN5T	GN6T
If silent refrigeration unit option	GN5ST	GN6ST

Price: refer to page 4 of the price-list

Deep-freezing
Deep-freezers description





Adjustable, high-strength chromium handles and hinges



Doors reinforced and strengthened by aluminum profiled sections



Control cable in a very reliable metal duct



Thermo-sensor temperature probe to automatically stop the deep freezing process

TECHNICAL DESCRIPTION

- Blows air under the products to avoid dryness
- Automatic ventilation shut-down when the doors are opened
- Racks and slide ways are adjustable every 15mm, with a width of 30mm
- Adjustable stainless steel feet, height 150 mm
- R404A compact evaporator
- Defrost heaters at evaporator core to reduce defrosting time and temperature
- Heating cables easily dismantled
- Hermetic refrigeration unit (except range RS Scroll compressor)
- Anti-short cycle for a longer compressor life
- Standard to have hinges on the left for the two first doors and on the right for the rest. Hinges can be changed upon request.
- Exterior and interior panel in white lacquered steel with a thickness of 10cm (more details on page 6)
- IP65 remote power box
- Equipment delivered dismantled with remote refrigerating unit
- Voltage 50Hz: 400V 3ph + N + T

CONTROL SYSTEM, BI-TRONIC 2*



- Simple and intuitive to use
- Permanent display of current cycle and internal temperature
- Deep freezing with timer and thermo-sensor probe
- Various number of defrosting cycles
- Clear indication of incidents and audible alarm

OPTIONS

- Pair of stainless steel slide ways
- Wider stainless steel slide ways (45 mm instead of 30 mm)
- Stainless steel interior
- Stainless steel exterior
- Silent refrigeration unit
- Refrigeration unit with mixed condensation (air + water)
- Refrigeration unit with water condensation
- Additional deep freezing doors in the modular range (unchanged mass capacity)
- Intermediate extension
- Bi-Tronic 3 colour touch screen display (only on RS model, see page 11)
- Aluminum tray 400 x 600 mm

Blast chilling

Blast chillers or freezers for gastronomic containers



PERMANENT STOCK

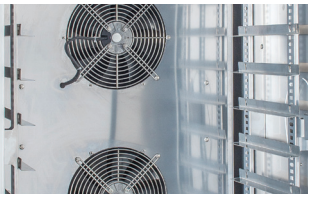
The blast chillers range for professionals is an economical solution intended to quickly cool down (core temperature < 10°C) small quantities of food products in less than 2 hours in accordance with the cool down temperature standards. It comes in 3 sizes: 5, 10 or 15 trays according to the quantity of the products to cool down. These blast chillers are easy to use and they require no installation (only 16A plug for 5 and 10 levels). They are designed for GN1/1 gastronomic containers.

GSR RANGE FOR GN1/1 GASTRONOMIC CONTAINERS

Bi-Tronic 1

	GS05-RR	GS10-RR	GS15-RR
Minimum distance between each level (mm)	30	30	30
Standard number of levels used	5	10	15
External width (mm)	820	820	820
External depth (mm)	700	800	800
Depth door open (mm)	1460	1570	1570
External height (mm)	950	1775	1975
Lateral clearance against the wall (mm)	50	50	50
Internal width (mm)	610	610	610
Internal depth (mm)	410	448	482
Internal height (mm)	362	970	1070
Gross weight (kg)	89	185	197
BLAST CHILLING CAPACITY OF POTATO PUREE, ACD40-003 NORM 110 mn cycle - Input temperature + 63 ° C, Core temperature +10 ° C			
Blast chilling of potato puree	25 kg	50 kg	75 kg
DEEP-FREEZING CAPACITY OF POTATO PUREE, ACD40-003 NORM 270 mn cycle - Input temperature + 63 ° C, Core temperature -18 ° C			
Deep-freezing of potato puree	13 kg	23 kg	37 kg
DEEP-FREEZING CAPACITY OF MEAT 120 mn cycle - Input temperature + 3 ° C, Core temperature -18 ° C			
Deep-freezing of meat (thickness of 4 cm)	12 kg	22 kg	35 kg

Price: refer to page 5 of the price-list



TECHNICAL DESCRIPTION

- For 5, 10 or 15 gastronomic containers GN1/1 (460x660/18"x26" on request)
- Interior and exterior in stainless steel
- Evaporator with anti-corrosion treatment (cataphoresis)
- Automatic and manual ventilated with defrost system
- Dismantled stainless steel slides, spacing of 75 mm and adjustable every 15 mm
- The polycarbonate touch display (with touch buttons) using Bi-Tronic Control 1 is easy to clean
- Deep freezing cycle controlled by time or core temperature probe (supplied)
- Polyurethane foam insulation (CFC free) with 43kg/m³ density, thickness 60 mm
- Rounded corners inside to facilitate the cleaning of the equipment
- Standard to have hinges on the left (right hinges upon request)
- Integrated ergonomic handle
- Removable magnetic gasket door
- R404A tropicalised built-in refrigeration unit (remote refrigeration unit on request)
- Bottom edge diamond-shaped to allow for condensation draining
- Easy access to the evaporator for maintenance and cleaning
- Delivered with casters
- Plug and Play system (blast chiller ready to install)

	GS05-RR	GS10-RR	GS15-RR
Voltage 50 Hz	230 V 1ph+PE	230 V 1ph+PE	400 V 3ph+N+PE
Electrical power (W)	1100	1750	2510
Maximum amperage (A)	6 A	8 A	10 A
Cooling power (W) -10°C / +32°C	1085	1881	4111
Maximum use temperature	43	43	43
Refrigeration unit power (HP)	1	1 1/2	3
Refrigeration unit type (more details page 67)	GN1T	GN3	GN6T

CONTROL PANEL, BI-TRONIC 1



- **Polycarbonate touch display with touch buttons**
- Easy to clean as the surface is smooth
- Direct mode or quick start of the desired program
- Customizable programs
- Clock mode or core temperature probe mode

OPTIONS

- Adjustable feet in stainless steel, 150 mm height
- Remote refrigeration unit
- Specific voltage 60 Hz

Blast chilling
Blast chiller for trolley(s)



The blast chiller for trolleys is a quick and powerful cool down solution (+ 63 ° C transition at a temperature below + 10 ° C in less than 2 hours) dedicated to production units with important production volumes. Designed to host two trolleys for grids 400x600 mm or one trolley for grids 600x800 mm, it is the ideal equipment to increase productivity by reducing handling operations. Furthermore, the colour touch screen allows production to be tracked highlighting the historical process.

GS-B RANGE FOR TROLLEY 460X610 MM & 660X810 MM

Bi-Tronic 3

	GS40-RR
Capacity	2 trolleys for trays 400x600 or 1 trolley for trays 600x800 mm
External width (mm)	1350
External depth (mm)	1385
Depth with door open (mm)	2160
External height (mm)	2260
Internal width (mm)	749
Internal depth (mm)	1050
Internal height (mm)	1900
Gross weight (kg)	317
BLAST CHILLING CAPACITY OF POTATO PUREE, ACD40-003 NORM 110 mn cycle - Input temperature + 63 ° C, Core temperature +10 ° C	
Blast chilling of potato puree	160 kg

Price: refer to page 5 of the price-list

TECHNICAL DESCRIPTION

- Full stainless steel surface (interior and exterior)
- Stainless steel floor and ramp
- Standard to have hinges on the right. Other hinges upon request.
- Ergonomic handle
- Ventilated evaporator with auto defrosting system (except during cycle)
- Polyurethane foam insulation (CFC free) with 43kg/m³ density (check thickness on the chart)
- Removable magnetic gasket door without tool
- Scraper brushes
- R404A silent and tropicalised remote refrigeration unit
- Thermostatic expansion valve
- 3,5'' color touch screen regulation, fast cooling down cycle controlled by time or core temperature probe

	GS40-RR
Capacity	2 trolleys for trays 400x600 or 1 trolley for trays 600x800 mm
Delivery	Disassembled
Cooling power (kW) -10°C / +38°C ext.	8.6
Voltage 50 Hz	cabinet 230 V 1ph+PE - refrigeration unit 400V 3ph+N+PE
Electrical power (W)	3900
Refrigeration unit power (HP)	6
Refrigeration unit type (more details page 68)	GP10ST

CONTROL PANEL, BI-TRONIC 3



- **Very intuitive** from its first use.
- **Touch screen technology:** Direct access to the different work cycles, fully customizable to make your life easier.
- **Access and back up your data:** Cycles, defaults, temperatures and consumption historical data. This historical data helps to ensure a compliance with the hygiene norms and to check the maintenance of the cold chain. It makes the diagnosis easier in order to have a more efficient service operation.
- **USB input** (Located inside of the control interface)**:** Exports the temperature and consumption historical data. Import and export your parameters and programs. Software update.

OPTIONS

- Refrigeration unit with water condensation
- Connection to a refrigeration system unit

Freezing storage
Freezers for trays



Our freezers are designed to store products previously frozen at negative temperature (-18 ° C). It is essential equipment for professionals who want to better manage their production. It allows them to access at any time the products which are without frost and which retain their original taste. They are designed to contain 400x600 mm or 600x800 mm plates. The storage gates helps to better organize and manage the inventory.

THE RANGES

FREEZO,G RANGE, down to -25 °C

- 2 trays 400 x 600 mm per level: Range RCN
- 1 tray 400 x 600 mm per level: Range CCN

ERGONOMICS

- Eye-level control keyboard
- Audible alarm in case of prolonged door opening or abnormal temperature rise
- Easy to clean the equipment
- Spare parts are easily accessible, assisting with maintenance and repairs

CONTROL SYSTEM, BI-TRONIC 2



- Simple and intuitive usage
- Permanent display of the current cycle and the internal temperature
- Various number of defrosting starts (freezing range)
- Clear indication of incidents and audible alarm

Price: refer to page 6 of the price-list



FREEZING RANGE CCN - 1 TRAY 400X600 MM PER LEVEL

Bi-Tronic 2






Reference	CCN20	CCN40	CCN60	CCN80
Number of doors	2	4	6	8
Number of storage trays	19	38	58	78
Pairs of slide ways supplied	19	38	58	78
Width (mm)	865	1530	2195	2860
Depth (mm)	950	950	950	950
Depth door open (mm)	1480	1480	1480	1480
Height (mm)	2250	2250	2250	2250
Weight (kg)	241	349	472	799

FREEZING RANGE RCN - 2 TRAYS 400X600 MM PER LEVEL

Bi-Tronic 2







Reference	RCN20	RCN40	RCN60	RCN80	RCN100
Number of doors	2	4	6	8	10
Number of storage trays	36	76	114	156	196
Pairs of slide ways supplied	18	38	57	78	98
Width (mm)	1100	2000	2900	3800	4700
Depth (mm)	1185	1185	1185	1185	1185
Depth door open (mm)	1915	1915	1915	1915	1915
Height (mm)	2250	2250	2250	2250	2250
Weight (kg)	310	433	587	785	849

Freezing storage
Freezers for trays

TECHNICAL DESCRIPTION



Adjustable, high-strength chromium handles and hinges



Adjustable stainless steel slideways every 15 mm (width 30mm)



Control cable in a very reliable metal duct



Preservation of taste qualities and no drying out of products thanks to an indirect air system

- Racks and slide ways are adjustable every 15mm, with a width of 30mm (standard spacing 75 mm)
- Blows air under the products to avoid dryness
- Automatic ventilation shut-down when the doors are opened
- Doors reinforced and strengthened by aluminium profiles
- Control cable encased in a very reliable metal sheath
- Adjustable stainless steel feet, height 150 mm
- R404A compact evaporator
- Defrost heater in the heart of the evaporator to reduce the time and defrost temperature
- Heating cords easily removable
- Exterior and interior panel in white lacquered steel, thickness 10cm (more details on page 6)
- Hermetic compressor
- Anti-short cycle function for a longer compressor life
- Standard to have hinges on the left for the two first doors and on the right for the rest. Hinges can be changed upon request.
- IP65 power box can be remotely positioned at distance
- Equipment delivered dismantled with remote refrigeration unit

OPTIONS

- Pair of stainless steel slide ways
- Larger slide ways (45 mm instead of 30 mm)
- Stainless steel interior
- Stainless steel exterior
- Silent refrigeration unit
- Refrigeration unit with mixed condensation (air + water)
- Refrigeration unit with water condensation
- Aluminium tray 400 x 600 mm

Price: refer to page 6 of the price-list

FREEZING RANGE CCN - 1 TRAY 400X600 MM PER LEVEL

Bi-Tronic 2






Reference	CCN20	CCN40	CCN60	CCN80
Number of doors	2	4	6	8
Number of storage trays	19	38	58	78
Refrigeration hermetic unit power (HP)	1	1	1 1/2	2
Refrigeration unit type (more details page 67)	GN2	GN2	GN4	GN5T
If tropicalised refrigeration unit option	-	-	GN4S	-
If silent and tropicalised refrigeration unit option	GN2ST	GN2ST	GN4ST	GN5ST
Voltage 50 Hz Maximum intensity	230 V 1ph+PE 10 A	230 V 1ph+PE 10 A	400 V 3ph+N+PE 6 A	400 V 3ph+N+PE 10 A
Electrical power (kW)	1,98	2,85	3,38	4,25

FREEZING RANGE RCN - 2 TRAYS 400X600 MM PER LEVEL







Reference	RCN20	RCN40	RCN60	RCN80	RCN100
Number of doors	2	4	6	8	10
Number of storage trays	36	76	114	156	196
Refrigeration hermetic unit power (HP)	1 1/2	2	2	3	2 1/2
Refrigeration unit type (more details page 67)	GN4	GN5T	GN5T	GN6T	GN6T
If tropicalised refrigeration unit option	GN4T	-	-	-	-
If silent and tropicalised refrigeration unit option	GN4ST	GN5ST	GN5ST	GN6ST	GN6ST
Voltage 50 Hz Maximum intensity	400 V 3ph+N+PE 6 A	400 V 3ph+N+PE 10 A	400 V 3ph+N+PE 10 A	400 V 3ph+N+PE 17 A	400 V 3ph+N+PE 17 A
Electrical power (kW)	3,85	3,9	3,9	5,45	5,45

Refrigerating storage
Refrigerators for trays



Hengel refrigerators for professionnals are intended to refrigerate their fresh or manufacturing products with a positive temperature of up to +4°C. Through an indirect air system, stored products do not dry out and remain fresh longer. The storage gates for 400x600 mm or 600x800mm plates allows us to better organize and store the products by category. Chocolate-makers benefit from a model specially adapted to take into consideration the constraints with chocolate storage.

THE RANGES

REFRIGERATING RANGE, from +1 °C to +4 °C

- 2 trays 400 x 600 mm per level: Range RCP
- 1 tray 400 x 600 mm per level: Range CCP

REFRIGERATING CHOCOLATE RANGE, from +4 °C to +16 °C

- 2 trays 400 x 600 mm per level: RCP Choco Range
- 1 tray 400 x 600 mm per level: CCP Choco Range

ERGONOMICS

- Eye-level control keyboard
- Audible alarm in case of prolonged door opening or abnormal temperature rise
- Easy to clean the equipment
- Spare parts are easily accessible, assisting with maintenance and repairs

CONTROL SYSTEM, BI-TRONIC 2



- Simple and intuitive usage
- Permanent display of the current cycle and the internal temperature
- Various number of defrosting starts (freezing range)
- Clear indication of incidents and audible alarm

Price: refer to page 7 of the price-list



REFRIGERATING RANGE CCP - 1 TRAY 400X600 MM PER LEVEL

Bi-Tronic 2






Reference	CCP20	CCP40	CCP60	CCP80
Number of doors	2	4	6	8
Number of storage trays	18	38	58	78
Pairs of slide ways supplied	18	38	58	78
Width (mm)	865	1530	2195	2860
Depth (mm)	950	950	950	950
Depth with door open (mm)	1480	1480	1480	1480
Height (mm)	2250	2250	2250	2250
Weight (kg)	241	304	472	640

REFRIGERATING RANGE RCP - 2 TRAYS 400X600 MM PER LEVEL

Bi-Tronic 2

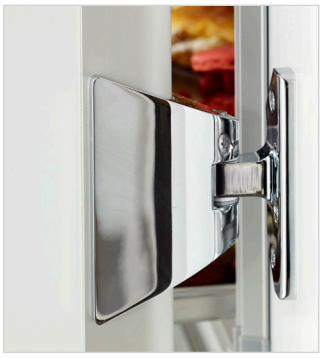





Reference	RCP20	RCP40	RCP60	RCP80
Number of doors	2	4	6	8
Number of storage trays	36	76	114	156
Pairs of slide ways supplied	18	38	57	78
Width (mm)	1100	2000	2900	3800
Depth (mm)	1185	1185	1185	1185
Depth with door open (mm)	1915	1915	1915	1915
Height (mm)	2250	2250	2250	2250
Weight (kg)	290	400	525	695

Refrigerating storage
Refrigerators for trays

TECHNICAL DESCRIPTION



Adjustable, high-strength chromium handles and hinges



Adjustable stainless steel slideways every 15 mm (width 30mm)



Specific chocolate storage with humidity management



Preservation of taste qualities and no drying out of products thanks to an indirect air system

- Racks and slide ways are adjustable every 15mm, with a width of 30mm (standard spacing 75 mm)
- Blows air under the products to avoid dryness
- Automatic ventilation shut-down when the doors are opened
- Doors reinforced and strengthened by aluminium profiles
- Control cable encased in a very reliable metal sheath
- Adjustable stainless steel feet, height 150 mm
- R404A compact evaporator
- Defrost heater in the heart of the evaporator to reduce the time and defrost temperature
- Heating cords easily removable
- Exterior and interior panel in white lacquered steel with a thickness of 10cm (more details on page 6)
- Hermetic compressor
- Anti-short cycle function for a longer compressor life
- Standard to have hinges on the left for the two first doors and on the right for the rest. Other hinges on request.
- IP65 power box can be remotely positioned at distance
- Equipment delivered dismantled with remote refrigeration unit

OPTIONS

- Chocolate storage (+16°C) with humidity control
- Pair of stainless steel slide ways
- Larger slide ways (45 mm instead of 30 mm)
- Stainless steel interior
- Stainless steel exterior
- Silent refrigeration unit
- Tropicalised refrigeration unit
- Refrigeration unit with mixed condensation (air + water)
- Refrigeration unit with water condensation
- Aluminium tray 400 x 600 mm
- Plastic basket 400 x 600 mm

Price: refer to page 7 of the price-list

REFRIGERATING RANGE CCP - 1 TRAY 400X600 MM PER LEVEL

Bi-Tronic 2






Reference	CCP20	CCP40	CCP60	CCP80
Number of doors	2	4	6	8
Number of storage trays	18	38	58	78
Refrigeration hermetic unit power (HP)	1/3	1/2	5/8	5/8
Voltage 50 Hz Maximum intensity	230 V 1ph + PE 6 A	230 V 1ph + PE 6 A	230 V 1ph + PE 10 A	230 V 1ph + PE 10 A
Electrical power (kW)	0,61	0,75	1,06	1,06
Refrigeration unit type (more details page 68)	GP1	GP2	GP3	GP3
If tropicalised refrigeration unit option	GP1T	GP2T	GP3T	GP3T

REFRIGERATING RANGE RCP - 2 TRAYS 400X600 MM PER LEVEL

Bi-Tronic 2






Reference	RCP20	RCP40	RCP60	RCP80
Number of doors	2	4	6	8
Number of storage trays	36	76	114	156
Refrigeration hermetic unit power (HP)	1/2	5/8	5/8	1
Voltage 50 Hz Maximum intensity	230 V 1ph + PE 6 A	230 V 1ph + PE 7 A	230 V 1ph + PE 7 A	230 V 1ph + PE 10 A
Electrical power (kW)	0,64	1,07	1,07	1,4
Refrigeration unit type (more details page 68)	GP2	GP3	GP3	GP4
If tropicalised refrigeration unit option	GP2T	GP3T	GP3T	GP4T

Refrigerating storage
Chocolate storage cabinet



Chocolate storage cabinets for pastry chefs and chocolatiers are intended to keep chocolates in optimal conditions.

Stored in environment protected from light, odors and in a controlled atmosphere (temperature and hygrometry), chocolates will retain all their original organoleptic properties (including taste, sight, smell and touch).

THE RANGE

Chocolate storage cabinets are available for 2 sizes of grids or trays:

- **Size 46** 400x600 mm
- **Size 68** 600x800 mm

Depending on your organization, they are available either with a large door or with 2 compartments (same setting).

Reference	ARM46C	AR46C-2PO	ARM68C	AR68C-2PO
Implantation				
Number of compartments	1	1	1	1
Door	1 large door	2 wickets	1 large door	2 wickets
Number of levels	for 20 grids spacing of 60 mm	for 24 grids (2x12) spacing of 60 mm	for 20 grids spacing of 60 mm	for 2 grids (2x12) spacing of 60 mm
Humidity	Electronic	Electronic	Electronic	Electronic
Temperature adjustment	10-18°C		10-18°C	
Width (mm)	660	660	870	870
Depth (mm)	993	993	1233	1233
Depth door open (mm)	1504	1494	1454	1944
Height (mm)	2030	2332	2046	2332
Door passage (mm)	495	495	705	705
Delivery	Connected and assembled	Connected and assembled	Connected and assembled	Connected and assembled
Gross weight (kg)	170	195	222	245
Refrigeration unit type (more details page 68)	GP1	GP1	GP1	GP1
If tropicalised refrigeration unit option	GP1T	GP1T	GP1T	GP1T
Refrigeration unit power (HP)	1/3	1/3	1/3	1/3
Tension à 50 Hz	230 V 1ph + PE	230 V 1ph + PE	230 V 1ph + PE	230 V 1ph + PE
Electrical power(W)	1550	1550	1550	1550

Price: refer to page 7 of the price-list

TECHNICAL DESCRIPTION

- Exterior surface in white lacquered steel, **interior and internal ceiling in stainless steel**
- Panel thickness 6 cm (43kg/m³, more details page 6)
- Vertical door profile anodized aluminium resistant to shock
- Metallic chrome hinges equipped with a spiral ramp to ease closing the door;
- Silicone gasket door easily removable and cleanable
- Inside profile protection made of stainless steel
- Control interface located above the door
- **Electronic humidity sensor** for precise humidity control
- Evaporator with an air duct mounted vertically for easy maintenance and cleaning
- Stainless steel slide ways are adjustable every 15mm, width 30 mm
- Plastic feet with a height of 150mm
- R404A built-in refrigeration unit (remote installation possible within 10m connection) Designed to operate up to 38°C room temperature without alteration of its life duration
- Anti-short cycle for a longer compressor life;
- IP65 power box positioned upper part
- Standard have right hand hinges (can be changed upon request).
- Cabinet delivered laid down without grids and trolleys



Stainless steel slide ways



Metallic chrome handle with an external profile of protection made of anodized aluminium

OPTIONS

- Exterior in stainless steel
- Casters
- Additional stainless steel slide way with a width of 30 mm
- Wider stainless steel slide ways (45 mm instead of 30 mm)
- External tank for defrost water evaporation
- Glass window on large door
- Tropicalised refrigeration unit
- Grids

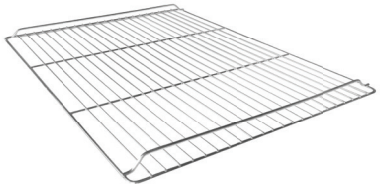


Proving, slow proving and retarder proving

We offer several types of equipment dedicated to fermentation. Models vary depending on the fermentation type, support and size.

Support	Fermentation type			Cold production	Humidity production	Hot production	Version	Range
	Slow proving in dough container	Retarder proving	Proving					
Dough container	X	X	X	X	X	X	Retarder proving cabinet	ARB
Dough container	X	-	-	X	-	-	Slow proving cabinet	ARB FR
Dough trolley	X	-	-	X	-	-	Slow proving chamber	CFPB
Grid	X	X	X	X	X	X	Retarder proving cabinet 27 levels	AR
Grid	X	X	X	X	X	X	Retarder proving cabinet 2 compartments, 27 levels	ARD2E
Grid	X	X	X	X	X	X	Retarder proving cabinet 20 levels	ARM
Grid	X	X	X	X	X	X	Retarder proving cabinet 20 levels, basic range	HECO
Grid	X	X	X	X	X	X	Retarder proving cabinet 10 levels	ASF
Trolley for grids	X	X	X	X	X	X	Retarder proving cabinet for trolley(s)	HG
Trolley for grids	X	X	X	X	X	X	Retarder proving chamber or tunnel	HG / MOD
Trolley for grids	-	-	X	-	-	X	Proving chamber or tunnel	HGE / MODE
Trolley for grids	X	X	X	X	X	X	Reinforced retarder proving chamber or tunnel	HGD / HGDR
Trolley for grids	-	-	X	-	-	X	Proving chamber or tunnel	HGDE / HGDRE
Trolley for baking trays	X	X	X	X	X	X	Retarder proving chamber or tunnel	HF / MOF
Trolley for baking trays	-	-	X	-	-	X	Proving chamber or tunnel	HFE / MOFE
Trolley for baking trays	X	X	X	X	X	X	Reinforced chamber or tunnel	HGD / HGDR
Trolley for baking trays	-	-	X	-	-	X	Proving reinforced chamber / tunnel	HGDE / HGDRE







Price: refer to page 8-19 of the price-list







hengel


hengel


hengel







Slow proving or retarder proving
Cabinets for dough containers



ARB FR Version

Cabinets for dough containers are for artisans who proceed to slow proving in rectangular dough containers. This fermentation technique allows a higher hydration and thus bread aromas are more developed, tasty and crispy. Also it offers better shelf life. Furthermore, by preparing in advance various dough containers and performing a slow proving (24 / 48h), the artisan has several varieties of dough breads ready for baking all day long.

ARB / ARB FR RANGE - 1 OR 2 DOUGH CONTAINERS PER LEVEL

These cabinets are designed to have 530x405 mm rectangular tubs, and can hold up to 7kg.

By standard, they are equipped with 8 pairs of slide ways (size 45mm) adjustable every 15mm. According to the model and the tubs' height (145 or 75mm), they can contain:

- 8 or 16 530x405x145 mm tubs, spacing of 200 mm
- 12 or 24 530x405x75mm tubs, spacing of 135 mm (requires additional pair of slide ways)

	ARB46	ARB46FR	ARB68	ARB68FR
Implantation				
Number of compartments	1 compartment cold, hot, humidified	1 cold compartment only	1 compartment cold, hot, humidified	1 cold compartment only
Number of dough containers 530x405x145mm	8	8	16	16
Number of slide ways provided	8	8	8	8
Width (mm)	660	660	870	1238
Depth (mm)	998	998	1238	1238
Depth with door open (mm)	1504	1504	1954	1954
Height (mm)	2380	2380	2430	2430
Door passage (mm)	495	495	705	705
Gross weight (kg)	195	195	245	245

Price: refer to page 8 of the price-list



TECHNICAL DESCRIPTION

- Exterior surface in white lacquered steel, full interior in stainless steel, 6 cm thickness (more details page 6)
- Vertical door profile anodized aluminium resistant to blows
- Silicone gasket door easily removable and cleanable
- Interior profile protection made of stainless steel
- Control interface Bi-Tronic Control 2
- Evaporator with an air service duct mounted vertically for easy maintenance and cleaning
- R404A built-in refrigeration unit (remote installation possible within 10m connection) Designed to operate up to 38°C room temperature without alteration of its life duration;
- Anti-short cycle for a longer compressor life;
- IP65 power box positioned upper part
- Standard have right hand hinges (can be changed upon request).
- Cabinet delivered laid down without dough containers (optional)
- Stainless steel slide ways with a width of 45 mm
- Plastic feet with a height of 150mm



Metallic chrome handle with an external profile of protection made of anodized aluminium



Metallic chrome hinges equipped with an helical ramp to ease the door closing

DIFFERENCES BETWEEN ARB AND ARB FR RANGE

- **ARB** — **For cabinets with tubs, slow rising or retarder proving**
  Equipped with the interface Bi-Tronic Control 2, they work as standard retarder prover cabinets, and manage the cold, the heat and the humidity (humidity and mechanical probe). The equipment power is reinforced in order to cool the dough tube's heart the moment it's introduced in. It is equipped with an electric defrosting system.

- **ARB FR** — **For proving in tubs only**
  Equipped with a thermostat, the cabinets are designed to produce enhanced refrigeration. An electric defrost system enables the evaporator defrosting, and the natural hydration of the dough.

	ARB46	ARB46FR	ARB68	ARB68FR
Implantation				
Number of compartments	1 compartment cold, hot, humidified	1 cold compartment only	1 compartment cold, hot, humidified	1 cold compartment only
Number of dough containers 530x405x145mm	8	8	16	16
Delivery	Connected and assembled	Connected and assembled	Connected and assembled	Connected and assembled
Refrigeration unit power (CV)	1/2	1/2	5/8	5/8
Refrigeration unit type (more details page 68)	GP2	GP2	GP3	GP3
If tropicalised refrigeration unit option	GP2T	GP2T	GP3T	GP3T
Voltage 50 Hz **	230 V 1ph + PE	230 V 1ph + PE	230 V 1ph + PE	230 V 1ph + PE
Electrical power (W)	2300	2300	2700	2700

Retarder proving

Retarder prover cabinet for grids or trolleys







Retarder prover cabinets are for bakers who manage precisely dough fermentation process, controlling time, temperature (both hot and cold) and humidity. They are available in different grids and baking trays sizes with several configurations. This will ensure that you will find one that meets your needs.

THE RANGE

The cabinets are available in various sizes for grids, baguette trays or trolleys with grids:

- **Size 46** 400x600 mm
- **Size 48** 400x800 mm
- **Size 58** 460x800 / 450x750 mm
- **Size 68** 600x800 mm
- **Size 1080** 1000x800 mm

430x600, 460x600 mm
430x800, 460x800 mm

Specify the grid size upon order. Price will increase.

Several ranges are available:

- **AR** Cabinets for grids 27 levels with 1 to 3 independent compartments
- **AR D2E** Cabinets for grids 2 independent compartments with 12 levels
- **ARM** Cabinets for grids 20 levels
- **ASF** Cabinets for grids 10 levels with 1 to 2 independent compartments equipped with a stainless steel top
- **HG** Cabinets for trolleys 20 levels (grids or baguette trays) with 1 to 3 independent compartments
- **HGW** cabinets for trolleys 20 levels (grids or baguette trays) with 1 to 3 independent compartments

CONTROL PANEL, BI-TRONIC 2



- Easy and intuitive use
- Display of the current cycle set-point in progress and internal temperature
- 4 different programs
- Clear instructions
- Positioned at eye level to be accessible to everyone
- Alarm and reporting incident
- 4 possibilities for temperature rise: direct, standard, linear or stepped proving cycle
- Return to cold automatically after proving cycle.
- The cycle automatically resumes to the event of power failure while displaying a warning message

Price: refer to page 9-10 of the price-list



SIZE AND CAPACITY OF CABINETS

Dough and mass volume allowable per compartment

Grids size	Type	AR or HG		ARP		ASF or AR D2E	
400x600 mm	46	40 kg	15,0 L	30 kg	11,1 L	18 kg	6,7 L
400x800 mm	48	50 kg	18,8 L	37 kg	13,9 L	22 kg	8,4 L
460x800 mm 450x750 mm	58	60 kg	22, 6 L	-	-	-	-
600x800 mm	68	80 kg	30,0 L	59 kg	22,3 L	36 kg	13,4 L
1000x800 mm	1080	110kg	41,3 L	-	-	-	-

For bigger volumes than those listed above, it is recommended to contact the sales department.

TECHNICAL DESCRIPTION

- Exterior surface in white lacquered steel, **interior and internal ceiling in fool-grade stainless steel**
- Panels thickness 6 cm (43kg/m^3, more details page 6)
- Metallic chrome hinges equipped with an spiral ramp to ease closing the door
- Vertical door profile anodized aluminium resistant to shock
- Silicone gasket door easily removable and cleanable
- Inside profile protection made of stainless steel
- Control interface Bi-Tronic Control 2 at eye level
- **Electronic humidity sensor** (except size 46, optional) for a precise humidity control
- R404A built-in refrigeration unit (remote installation possible within 10m connection) Designed to operate up to 38°C room temperature without alteration of its life duration
- Anti-short cycle for a longer compressor life;
- IP65 power box positioned upper part
- Standard have right hand hinges (can be changed upon request)
- Cabinet delivered laid down without grids and trolleys

For grid versions
- Stainless steel slide ways adjustable every 15mm, width 30 mm
- Plastic feet with a height of 150mm



Stainless steel slide ways adjustable every 15 mm



Metallic chrome hinges equipped with an helical ramp to ease the door closing

OPTIONS

- Electronic humidity sensor for size 46
- Exterior in stainless steel
- Remote or reinforced refrigeration unit on AR/HG 68
- Casters
- Defrost heater
- Level regulator
- Additional stainless steel slide way with a width of 30 mm
- Wider stainless steel slide ways (45 mm instead of 30 mm)
- External tank for defrost water evaporation
- Glass window on door
- Stainless steel floor for trolley cabinets, thickness 9mm
- Tropicalised refrigeration unit
- Grids
- Specific voltage 60 Hz upon request



Retarder proving
Retarder prover cabinet for grids

FOR GRIDS 400X600 MM

Bi-Tronic 2

Reference	AR46	AR2-46	AR46D2E	ARM46
Implantation				
Number of compartments	1	2	2	1
Number of levels	for 27 grids spacing of 60 mm	for 2x27 grids spacing of 60 mm	for 2x12 grids spacing of 60 mm	for 20 grids spacing of 60 mm
Humidity	No, electronic probe optional	No, electronic probe optional	No, electronic probe optional	No, electronic probe optional
Width (mm)	660	1260	660	660
Depth (mm)	993	993	1008	993
Depth with door open (mm)	1494	1494	1548	1504
Height (mm)	2332	2332	2388	2030
Door passage (mm)	495	495	540	495
Delivery	Connected and assembled	Connected and disassembled	Connected and assembled	Connected and assembled
Refrigeration unit power (HP)	1/3	2 x 1/3	1/2	1/3
Refrigeration unit type (more details page 68)	GP1	2 x GP1	GP2	GP1
If tropicalised refrig. unit option	GP1T	2 x GP1T	GP2T	GP1T
Voltage 50 Hz *	230 V 1ph + PE	230 V 1ph + PE	230 V 1ph + PE	230 V 1ph + PE
Electrical power (W)	1600	3000	2740	1600

FOR GRIDS 400X800 MM

Bi-Tronic 2

Reference	AR48	AR48D2E	ARM48
Implantation			
Number of compartments	1	2	1
Number of levels	for 27 grids spacing of 60 mm	for 2x12 grids spacing of 60 mm	for 20 grids spacing of 60 mm
Humidity	Yes, electronic probe	Yes, electronic probe	Yes, electronic probe
Width (mm)	660	660	660
Depth (mm)	1233	1233	1233
Depth with door open (mm)	1740	1784	1740
Height (mm)	2372	2388	2030
Door passage (mm)	495	540	495
Delivery	Connected and assembled	Connected and assembled	Connected and assembled
Refrigeration unit power (HP)	1/2	1/2	1/3
Refrigeration unit type (more details page 68)	GP2	GP2	GP1
If tropicalised refrig. unit option	GP2T	GP2T	GP1T
Voltage 50 Hz *	230 V 1ph + PE	230 V 1ph + PE	230 V 1ph + PE
Electrical power (W)	2300	3940	2300

** Specific voltage and/or 60 Hz upon request.*
Grids are not provided.
For multi-compartment versions: regulations, evaporators and humidity systems are independent.

Price: refer to page 9 of the price-list



FOR GRIDS 600X800 MM

Bi-Tronic 2

Reference	AR68	AR2-68	AR68D2E	ARM68	ASF68
Implantation					
Number of compartments	1	2	2	1	1
Number of levels	for 27 grids spacing of 60 mm	for 2x27 grids spacing of 60 mm	for 2x12 grids spacing of 60 mm	for 20 grids spacing of 60 mm	for 10 grids spacing of 60 mm
Humidity	Yes, electronic probe	Yes, electronic probe	Yes, electronic probe	Yes, electronic probe	Yes, electronic probe
Width (mm)	870	1680	870	870	1230
Depth (mm)	1233	1233	1233	1233	1240
Depth with door open (mm)	1944	1944	1954	1954	1954
Height (mm)	2372	2372	2372	2066	1010
Door passage (mm)	705	705	705	705	705
Delivery	Connected and assembled	Connected and disassembled	Connected and assembled	Connected and assembled	Connected and assembled
Refrigeration unit power (HP)	1/2	2 x 1/2	1/2	1/2	1/3
Refrigeration unit type (more details page 68)	GP2	2 x GP2	GP2	GP2	GP1
If tropicalised refrig. unit option	GP2T	2 x GP2T	GP2T	GP2T	GP1T
Voltage 50 Hz *	230 V 1ph + PE	230 V 1ph + PE	230 V 1ph + PE	230 V 1ph + PE	230 V 1ph + PE
Electrical power (W)	2300	4600	3940	2300	1600

FOR GRIDS 1000X800 MM

Bi-Tronic 2

Reference	AR1080
Implantation	
Number of compartments	1
Number of levels	For 22 grids1000x800 spacing of 75 mm
Humidity	Yes, electronic probe
Width (mm)	1320
Depth (mm)	1182
Depth with door open (mm)	Double door 1746
Height (mm)	2415
Door passage (mm)	1155
Delivery	Disconnected and disassembled
Refrigeration unit power (HP)	5/8
Refrigeration unit type (more details page 68)	GP3
If tropicalised refrig. unit option	GP3T
Voltage 50 Hz *	230 V 1ph + PE
Electrical power (W)	2810

** Specific voltage and/or 60 Hz upon request.*
Grids are not provided.
For multi-compartment versions: regulations, evaporators and humidity systems are independent.

Retarder proving

Retarder prover cabinet for trolley(s) with grids

FOR TROLLEY(S) WITH GRIDS 400X600 MM

Bi-Tronic 2

Reference	HG46	HG2-46
Implantation		
Number of compartments	1	2
Number of levels	for 1 trolley of 20 levels spacing of 77 mm Height 1850 mm	for 2 trolleys of 20 levels spacing of 77 mm Height 1850 mm
Humidity	No, electronic probe optional	No, electronic probe optional
Width (mm)	660	1260
Depth (mm)	993	993
Depth with door open (mm)	1500	1500
Height (mm)	2322	2322
Door passage (mm)	495	495
Delivery	Connected and assembled	Connected and disassembled
Refrigeration unit power (HP)	1/3	2 x 1/3
Refrigeration unit type (more details page 68)	GP1	2 x GP1
If tropicalised refrig. unit option	GP1T	2 x GP1T
Voltage 50 Hz *	230 V 1ph + PE	230 V 1ph + PE
Electrical power (W)	1600	3000

FOR TROLLEY(S) WITH GRIDS 460X800, 450X750 MM

Bi-Tronic 2

Reference	HGW58E	HGW2-58E	HGW3-58E
Implantation			
Number of compartments	1	2	3
Number of levels	for 1 trolley of 20 levels spacing of 77 mm Height 1830 mm	for 2 x1trolleys of 20 levels spacing of 77 mm Height 1830 mm	for 3x1 trolleys of 20 levels spacing of 77 mm Height 1830 mm
Humidity	Yes, electronic probe	Yes, electronic probe	Yes, electronic probe
Width (mm)	720	1380	2040
Depth (mm)	1233	1233	1233
Depth with door open (mm)	1740	1740	1740
Height (mm)	2322	2322	2322
Door passage (mm)	495	495	495
Delivery	Connected and assembled	Connected and disassembled	Connected and disassembled
Refrigeration unit power (HP)	1/3	2 x 1/3	3 x 1/3
Refrigeration unit type (more details page 68)	GP1	2 x GP1	3 x GP1
If tropicalised refrig. unit option	GP1T	2 x GP1T	3 x GP1T
Voltage 50 Hz *	230 V 1ph + PE	230 V 1ph + PE	400 V 3ph + N + PE
Electrical power (W)	2300	4260	6550

** Specific voltage and/or 60 Hz upon request.*
Grids and trolleys are not provided. The trolley wheels must be positioned under the trolley and not on the outside.
For multi-compartment versions: regulations, evaporators and humidity systems are independent.

Price: refer to page 10 of the price-list



FOR TROLLEY(S) WITH GRIDS 600X800 MM

Bi-Tronic 2

Reference	HG68	HG2-68
Implantation		
Number of compartments	1	2
Number of levels	for 1 trolley of 20 levels spacing of 77 mm Height 1850 mm	for 2 trolleys of 20 levels spacing of 77 mm Height 1850 mm
Humidity	Yes, electronic probe	Yes, electronic probe
Width (mm)	870	1680
Depth (mm)	1233	1233
Depth with door open (mm)	1950	1950
Height (mm)	2322	2322
Door passage (mm)	705	705
Delivery	Connected and assembled	Connected and disassembled
Refrigeration unit power (HP)	1/2	2 x 1/2
Refrigeration unit type (more details page 68)	GP2	2 x GP2
If tropicalised refrig. unit option	GP2T	2 x GP2T
Voltage 50 Hz *	230 V 1ph + PE	230 V 1ph + PE
Electrical power (W)	2300	4300

FOR TROLLEY WITH GRIDS 1000X800 MM

Bi-Tronic 2

Reference	HG1080
Implantation	
Number of compartments	1
Number of levels	For 1 trolley of 20 levels spacing of 77 mm. Height 1850 mm
Humidity	Yes, electronic probe
Width (mm)	1320
Depth (mm)	1182
Depth with door open (mm)	Double door 1746
Height (mm)	2362
Door passage (mm)	1155
Delivery	Disconnected and disassembled
Refrigeration unit power (HP)	5/8
Refrigeration unit type (more details page 68)	GP3
If tropicalised refrig. unit option	GP3T
Voltage 50 Hz *	230 V 1ph + PE
Electrical power (W)	2300

** Specific voltage and/or 60 Hz upon request.*
Grids and trolleys are not provided. The trolley wheels must be positioned under the trolley and not on the outside.
For multi-compartment versions: regulations, evaporators and humidity systems are independent.

Retarder proving
Chambers for trolleys with grids or baking trays



Hengel retarder proving chambers are designed for both bakers as well as the demanding industrial sector.

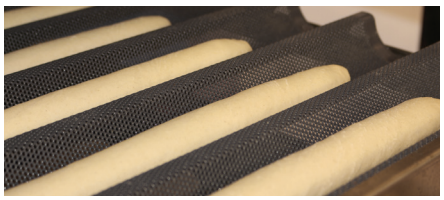
They are available for trolleys with grids or baking trays. They are dedicated to all types of production with an aim to deliver the desired product in terms of hydration, texture or developed aromas.

The interface Bi-Tronic Control 2 allows all types of fermentation: slow proving, traditional proving, linear proving, stepped proving and proving. Time, rise in temperature and humidity are perfectly mastered.

Whatever the launch time of the cycle, the dough is always raised at the time of baking.

HG AND HF RANGES





Retarder proving chamber are available for the following supports:

TROLLEYS WITH GRIDS

- Trolley 660x810 mm for grids 600x800 mm
- Trolley 960x810 mm for grids 900x800 mm
- Trolley1070x810 mm for grids 1000x800 mm

TROLLEYS WITH BAKING TRAYS

- Trolley 460x810 mm for baking trays 400x800 mm
- Trolley 660x810 mm for baking trays 600x800 mm
- Trolley 810x910 mm for baking trays 750x900 mm

For other sizes, please contact us.

CONTROL PANEL, BI-TRONIC 2



- Easy and intuitive use
- Display of the current cycle set-point in progress and internal temperature
- 4 different programs
- Clear instructions
- Positioned at eye level to be accessible to everyone
- Alarm and reporting incident
- 4 possibilities for temperature rise: direct, standard, linear or stepped proving cycle
- Return to cold automatically after proving cycle.
- The cycle automatically resumes to the event of power failure while displaying a warning message

Price: refer to page 11-19 of the price-list



TECHNICAL DESCRIPTION

- Exterior surface in white lacquered steel, **interior and internal ceiling in stainless steel,** thickness 6 cm (more details page 6)
- Vertical door profile anodized aluminium resistant to shock
- Silicone gasket door easily removable and cleanable
- Ergonomic interface Bi-Tronic Control
- Automatic closing with a hydraulic actuator located outside trolleys ways
- Interior profile protection made of stainless steel
- R404A remote refrigeration unit (remote installation possible within 10m connection) designed to operate up to 35°C room temperature
- Anti-short cycle for a longer compressor life
- Electronic humidity sensor for better accuracy and reactivity. Adjustable sensor from 45 to 90% (accuracy of 1%).
- Air mixing cycle during cooling to avoid temperature variations over the height of the trolleys
- Reduced ventilation during the proving with the possibility of adjustments to improve the proving results
- Power box fully protected IP65 can be positioned either on the chamber or on an outer wall (distance < 2 m from the control interface)
- Interior lighting
- Hinges are on the right (left upon request)
- Chamber delivered without grids, baguette trays or trolleys



Metallic chrome handle with an external profile of protection made of anodized aluminium



Metallic chrome hinges equipped with an spiral ramp to ease the door closing



Interior profile protection made of aluminium



Control interface Bi-Tronic Control 2 at eye level

TECHNICAL DUCT

- Technical service duct fitted vertically for easy maintenance and cleaning
- Evaporator with stainless steel frames and anti-corrosion treatment (cataphoresis)
- Centrifugal fan for optimal heat exchange in the whole volume of the chamber
- Heater with safety thermostat for heating during proving
- Humidity by spraying water (reinforced humidity with boiler tank optional)
- Air service duct to ensure uniform flow

OPTIONS

- Reinforced humidity with float
- Exterior in stainless steel
- Larger door
- Double door instead of single door
- Additional door
- Additional double door
- Exterior tubular protection in stainless steel
- Glass window on door
- Stainless steel floor, 9 mm thickness
- Grids
- Tropicalised or silent and tropicalised refrigeration unit
- Variable compressor power

Price: refer to page 11-19 of the price-list

Retarder proving
Chambers for trolleys with grids or baking trays

HOW TO SELECT A MODEL?

1. CHOOSE YOUR SUPPORT: TROLLEYS WITH GRIDS OR WITH BAGUETTE TRAYS?
In order to choose the appropriate machine, it is important to define if your preparation is completed on grids or trays, what is the type of production, and what is the weight and number of trolley levels.

If you think in dough batches, we consider the following hypothesis:
1 kg of water + 1,66 kg of flour = 2,66 kg of dough = 1 batch of dough

Type of product	Dough weight before baking	dough weight after baking
Bread	560 g	400 g
Baguette	340 g	250 g

Support	Support size (mm)	Product	No. of levels by trolley		Product quantity by support		Product quantity by trolley		Unit weight(g)		Total dough weight (kg)	Dough volume (l)
Grids	600x800	Bread Baguette	20 20	x x	8 13	= =	160 260	x x	0,560 0,340	= =	90 88	34 33
Grids	900x800	Bread Baguette	20 20	x x	9 15	= =	180 300	x x	0,560 0,340	= =	101 102	38 38
Grids	1000x800	Bread Baguette	20 20	x x	10 17	= =	200 340	x x	0,560 0,340	= =	112 116	42 43
Baguette trays	400x800	Bread Baguette	20 20	x x	4 5	= =	80 100	x x	0,560 0,340	= =	45 34	17 13
Baguette trays	600x800	Bread Baguette	20 20	x x	6 8	= =	120 160	x x	0,560 0,340	= =	67 54	25 50
Baguette trays	750x900	Bread Baguette	20 20	x x	7 10	= =	140 200	x x	0,560 0,340	= =	78 68	29 26

2. DETERMINE THE TOTAL NUMBER OF TROLLEYS ACCORDING TO THE NUMBER OF DOUGH BATCHES

3. DEFINE THE NUMBER OF TROLLEYS PER COMPARTMENT ACCORDING TO YOUR SPACE AND PRODUCTION

4. CHOOSE YOUR CONFIGURATION
According to the space available in your laboratory, choose the dimensions of the trolleys (depth, width, square) and entry sense of the trolley (in the smaller or bigger side).

Price: refer to page 11-19 of the price-list



5. COMPOSE YOUR REFERENCE

For example, for chambers with 3 compartments of 4 trolleys 600x800 mm, you must order:

	1	HGD1-4-68AP	Basic module
+	2	MOD-4-68AP	Additional modules

The technical equipment of each module, basic or additional, is totally independent.

HG | 1 | 4 | 68 | A | P

Direction of trolleys	P	in depth
	L	in width
	C	in square
Entry of trolley	A	smaller side
	-	bigger side
Dimension of support	68	600x800
	98	900x800
Number of trolleys per compartment		
Number of compartments		
Type of module and type of support	HG	basic module for trolley with grids
	MOD	additional module for trolley with grids
	HF	basic module with for trolley with baguette trays
	MOF	additional module for trolley with baguette trays





Retarder proving chambers

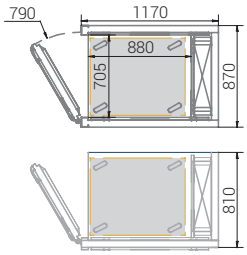
For trolleys with grids 660x810 mm - entry 610 mm

FOR GRIDS 600X800 MM

Bi-Tronic 2

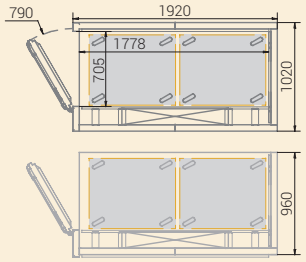
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HG1-1-68AP MOD-1-68AP	1	230 V 1ph + PE	1450

Figure 1



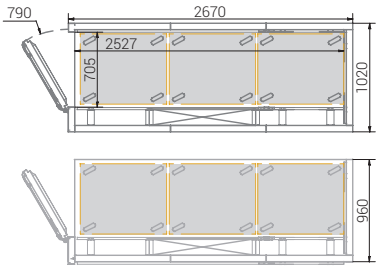
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HG1-2-68AP MOD-2-68AP	1 1/8	230 V 1ph + PE	2150

Figure 2



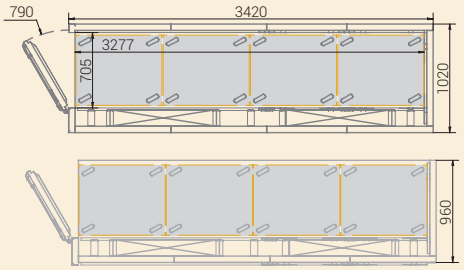
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HG1-3-68AP MOD-3-68AP	1 1/4	230 V 1ph + PE	2150

Figure 3



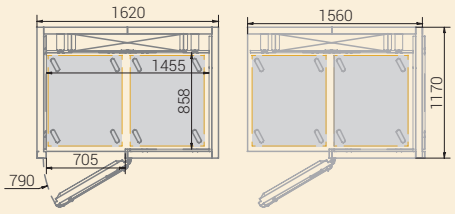
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HG1-4-68AP MOD-4-68AP	1 1/2	400 V 3ph + N + PE	4300

Figure 4



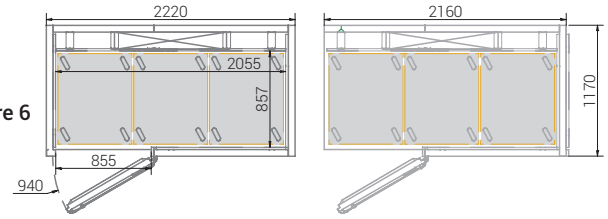
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HG1-2-68AL MOD-2-68AL	1 1/8	230 V 1ph + PE	2150

Figure 5



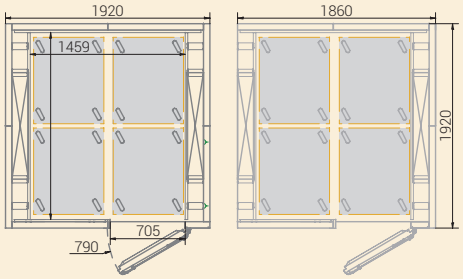
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HG1-3-68AL MOD-3-68AL	1 1/4	230 V 1ph + PE	2150

Figure 6



Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HG1-4-68AC MOD-4-68AC	1 1/2	400 V 3ph + N + PE	4300

Figure 7



Price: refer to page 11 of the price-list

Retarder proving chambers
For grids 600x800 mm - entry 800 mm

FOR GRIDS 600X800 MM

Bi-Tronic 2

The trolleys for grids 600x800 exist in 2 dimensions: 660x810 mm or 610x860 mm. There are therefore two different configurations for entering grids in the 800 mm size.

To meet the needs of professionals, we offer retarder prover chambers that meet these two possibilities:

- The range type 68 for trolleys 660x810 mm
- The range type 86 for the trolleys 610x860 mm

Please check the dimensions of the trolleys intended to be used before any order.

You will find informations about these 2 size options in the following 2 pages.

Retarder proving chambers

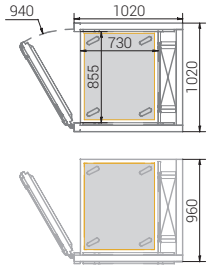
For trolleys with grids 660x810 mm - entry 810 mm

FOR GRIDS 600X800 MM

Bi-Tronic 2

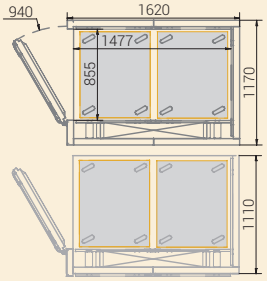
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HG1-1-68P MOD-1-68P	1	230 V 1ph + PE	1450

Figure 8



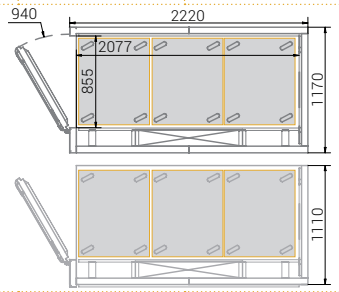
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HG1-2-68P MOD-2-68P	1 1/8	230 V 1ph + PE	2150

Figure 9



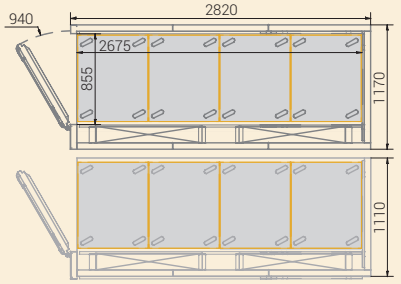
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HG1-3-68P MOD-3-68P	1 1/4	230 V 1ph + PE	2150

Figure 10



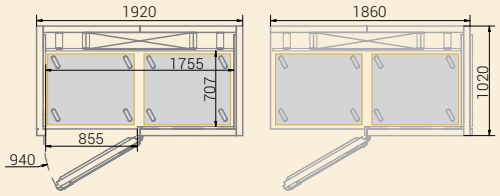
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HG1-4-68P MOD-4-68P	1 1/2	400 V 3ph + N + PE	4300

Figure 11



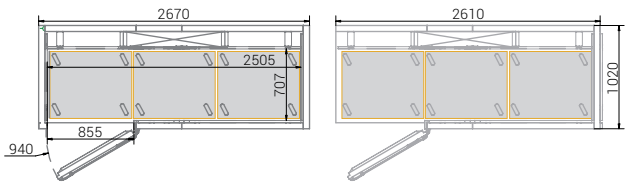
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HG1-2-68L MOD-2-68L	1 1/8	230 V 1ph + PE	2150

Figure 12



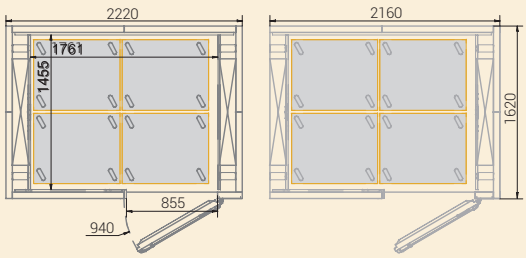
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HG1-3-68L MOD-3-68L	1 1/4	230 V 1ph + PE	2150

Figure 13



Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HG1-4-68C MOD-4-68C	1 1/2	400 V 3ph + N + PE	4300

Figure 14



Price: refer to page 11 of the price-list

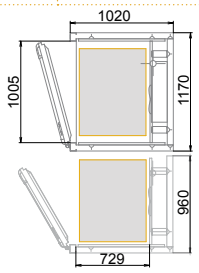
Retarder proving chambers
For trolleys with grids 860x610 mm - entry 860 mm

FOR GRIDS 600X800 MM

Bi-Tronic 2

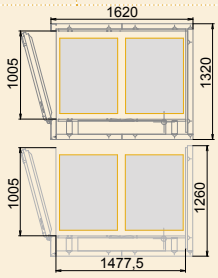
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HG1-1-86P MOD-1-86P	1	230 V 1ph + PE	1450

Figure 113



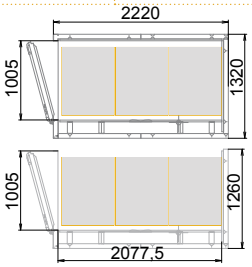
HG1-2-86P MOD-2-86P	1 1/8	230 V 1ph + PE	2150

Figure 114



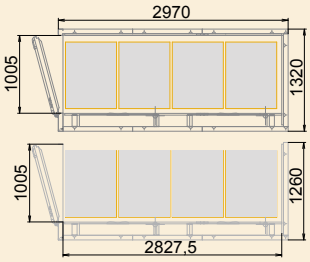
HG1-3-86P MOD-3-86P	1 1/4	230 V 1ph + PE	2150

Figure 115



HG1-4-86P MOD-4-86P	1 1/2	400 V 3ph + N + PE	4300

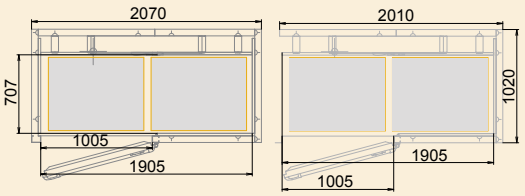
Figure 116



Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)

HG1-2-86L MOD-2-86L	1 1/8	230 V 1ph + PE	2150

Figure 117



HG1-3-86L MOD-3-86L	1 1/4	230 V 1ph + PE	2150

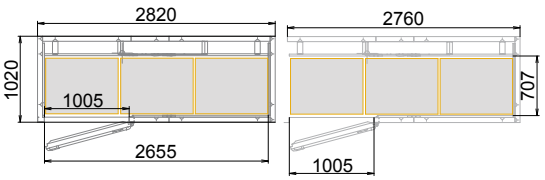
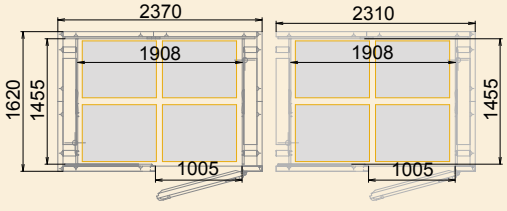


Figure 118

HG1-4-86C MOD-4-86C	1 1/2	400 V 3ph + N + PE	4300

Figure 119



Retarder proving chambers

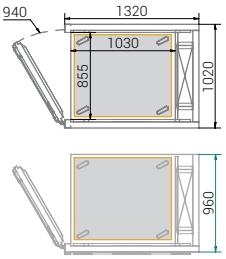
For trolleys with grids 960x810 mm - entry 810 mm

FOR GRIDS 900X800 MM

Bi-Tronic 2

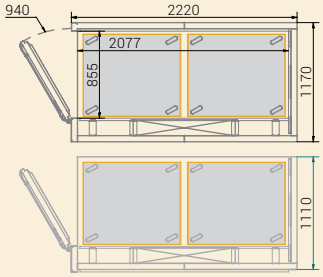
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HG1-1-98AP MOD-1-98AP	1	230 V 1ph + PE	1450

Figure 15



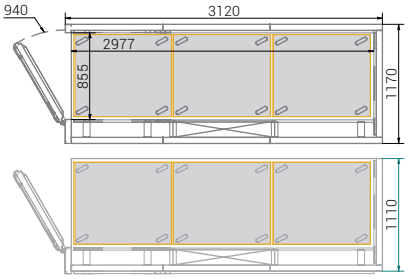
HG1-2-98AP MOD-2-98AP	1 1/4	230 V 1ph + PE	2150

Figure 16



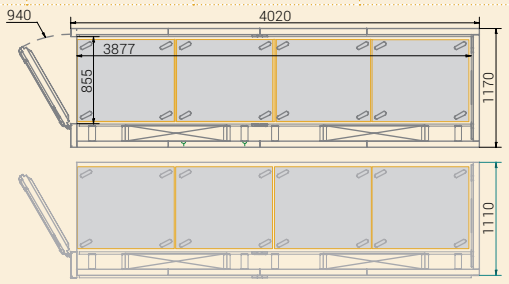
HG1-3-98AP MOD-3-98AP	1 1/2	400 V 3ph + N + PE	2150

Figure 17



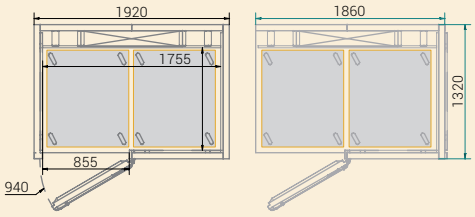
HG1-4-98AP MOD-4-98AP	2	400 V 3ph + N + PE	4300

Figure 18



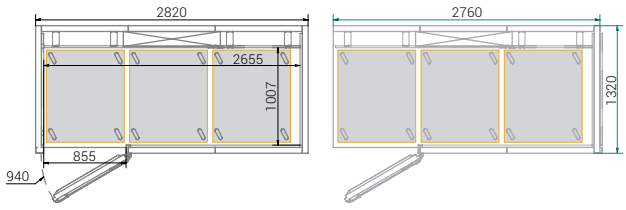
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HG1-2-98AL MOD-2-98AL	1 1/4	230 V 1ph + PE	2150

Figure 19



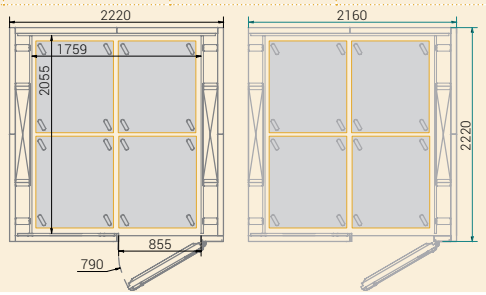
HG1-3-98AL MOD-3-98AL	1 1/2	400 V 3ph + N + PE	2150

Figure 20



HG1-4-98AC MOD-4-98AC	2	400 V 3ph + N + PE	4300

Figure 21



Price: refer to page 13 of the price-list

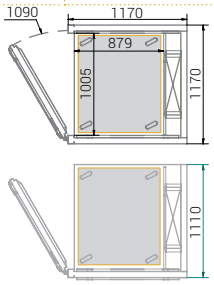
Retarder proving chambers
For trolleys with grids 960x810 mm - entry 960 mm

FOR GRIDS 900X800 MM

Bi-Tronic 2

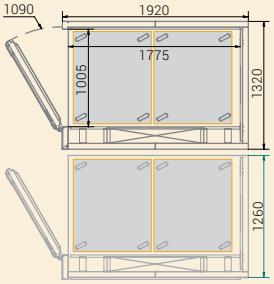
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HG1-1-98P MOD-1-98P	1	230 V 1ph + PE	1450

Figure 22



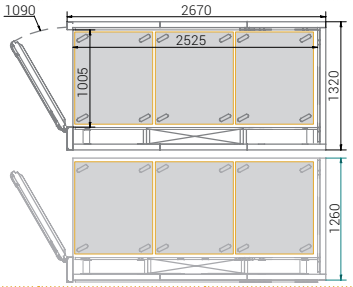
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HG1-2-98P MOD-2-98P	1 1/4	230 V 1ph + PE	2150

Figure 23



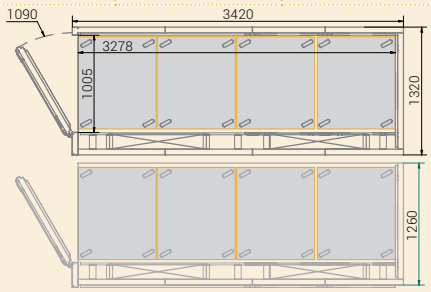
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HG1-3-98P MOD-3-98P	1 1/2	400 V 3ph + N + PE	2150

Figure 24



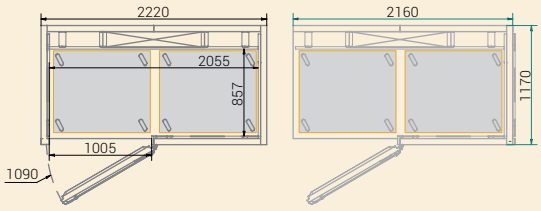
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HG1-4-98P MOD-4-98P	2	400 V 3ph + N + PE	4300

Figure 25



Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HG1-2-98L MOD-2-98L	1 1/4	230 V 1ph + PE	2150

Figure 26



Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HG1-3-98L MOD-3-98L	1 1/2	400 V 3ph + N + PE	2150

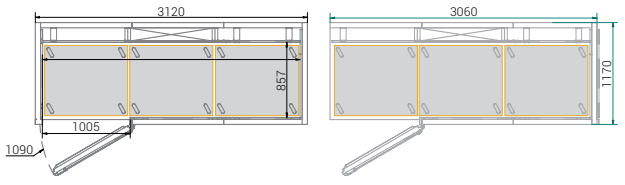
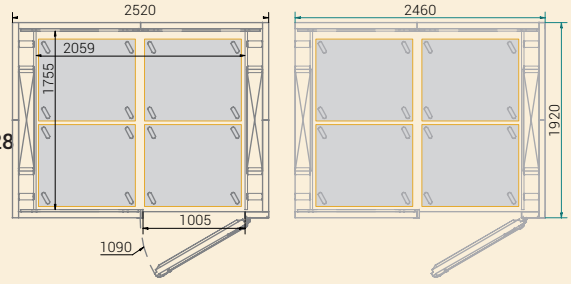


Figure 27

Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HG1-4-98C MOD-4-98C	2	400 V 3ph + N + PE	4300

Figure 28



Retarder proving chambers

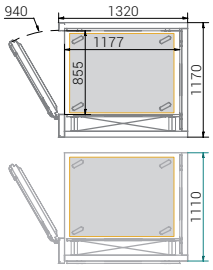
For trolleys with grids 1070x810 mm - entry 810 mm

FOR GRIDS 1000X800 MM

Bi-Tronic 2

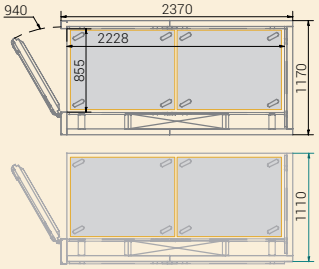
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HG1-1-108AP MOD-1-108AP	1	230 V 1ph + PE	2150

Figure 29



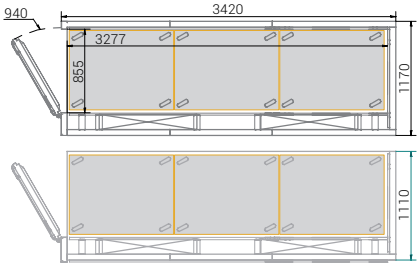
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HG1-2-108AP MOD-2-108AP	1 1/4	230 V 1ph + PE	2150

Figure 30



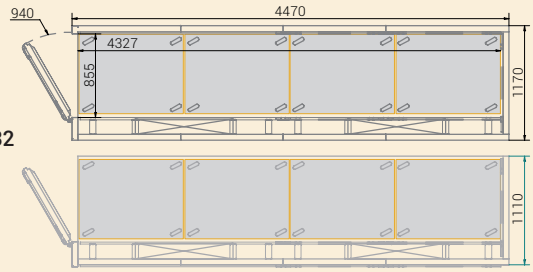
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HG1-3-108AP MOD-3-108AP	2	400 V 3ph + N + PE	4300

Figure 31



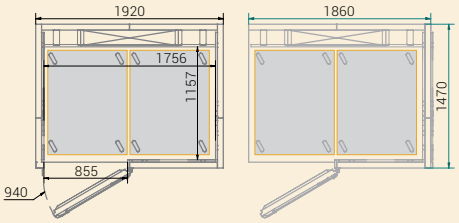
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HG1-4-108AP MOD-4-108AP	2 1/2	400 V 3ph + N + PE	4300

Figure 32



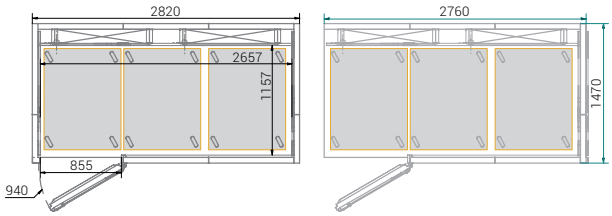
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HG1-2-108AL MOD-2-108AL	1 1/4	230 V 1ph + PE	2150

Figure 33



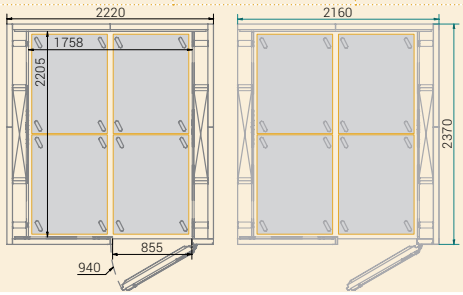
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HG1-3-108AL MOD-3-108AL	2	400 V 3ph + N + PE	4300

Figure 34



Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HG1-4-108AC MOD-4-108AC	2 1/2	400 V 3ph + N + PE	4300

Figure 35



Price: refer to page 14 of the price-list

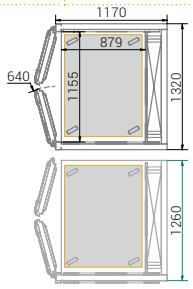
Retarder proving chambers
For trolleys with grids 1070x810 mm - entry 1070 mm

FOR GRIDS 1000X800 MM

Bi-Tronic 2

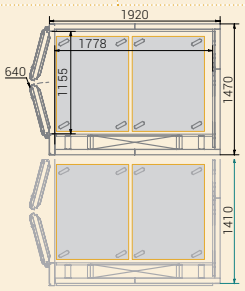
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HG1-1-108P MOD-1-108P	1	230 V 1ph + PE	2150

Figure 36



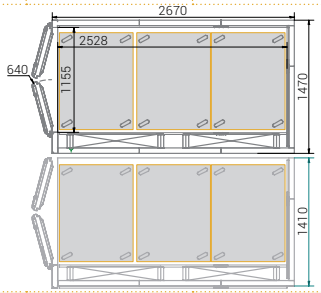
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HG1-2-108P MOD-2-108P	1 1/4	230 V 1ph + PE	2150

Figure 37



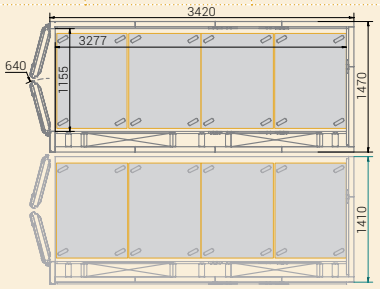
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HG1-3-108P MOD-3-108P	2	400 V 3ph + N + PE	4300

Figure 38



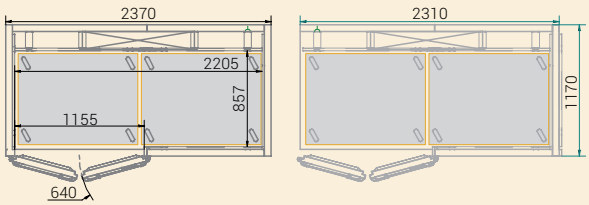
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HG1-4-108P MOD-4-108P	2 1/2	400 V 3ph + N + PE	4300

Figure 39



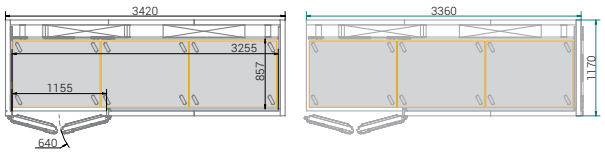
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HG1-2-108L MOD-2-108L	1 1/4	230 V 1ph + PE	2150

Figure 40



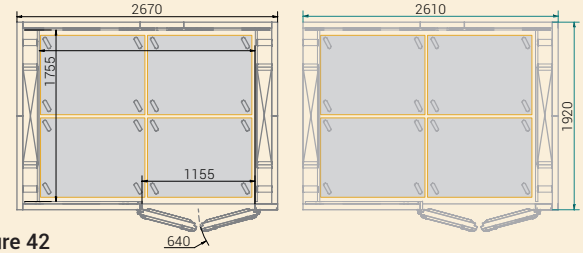
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HG1-3-108L MOD-3-108L	2	400 V 3ph + N + PE	4300

Figure 41



Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HG1-4-108C MOD-4-108C	2 1/2	400 V 3ph + N + PE	4300

Figure 42



Retarder proving chambers

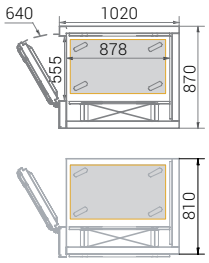
For trolleys with baguette trays 460x810 mm - entry 460 mm

FOR BAGUETTE TRAYS 400X800 MM

Bi-Tronic 2

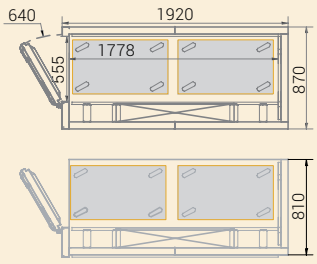
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HF1-1-48AP MOF-1-48AP	5/8	230 V 1ph + PE	1450

Figure 57



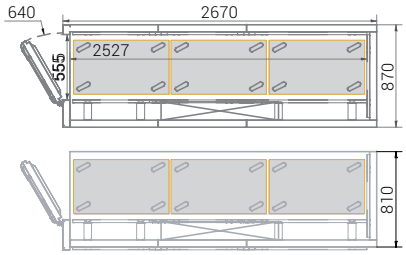
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HF1-2-48AP MOF-2-48AP	5/8	230 V 1ph + PE	2150

Figure 58



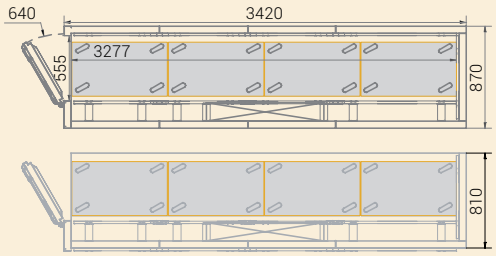
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HF1-3-48AP MOF-3-48AP	1	230 V 1ph + PE	2150

Figure 59



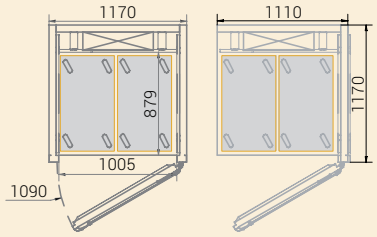
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HF1-4-48AP MOF-4-48AP	1 1/8	230 V 1ph + PE	2150

Figure 60



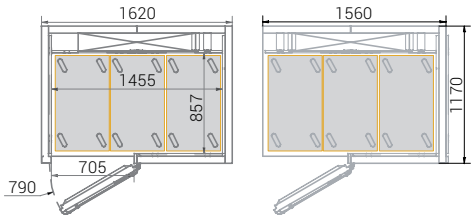
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HF1-2-48AL MOF-2-48AL	5/8	230 V 1ph + PE	2150

Figure 61



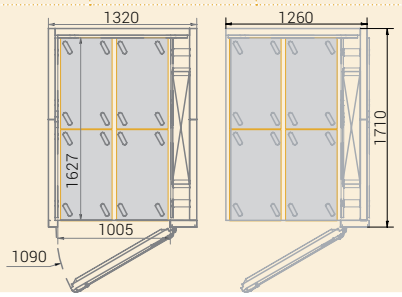
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HF1-3-48AL MOF-3-48AL	1	230 V 1ph + PE	2150

Figure 62



Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HF1-4-48AC MOF-4-48AC	1 1/8	230 V 1ph + PE	2150

Figure 63



Price: refer to page 15 of the price-list

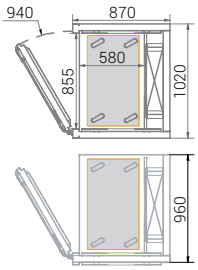
Retarder proving chambers
For trolleys with baguette trays 460x810 mm - entry 810 mm

FOR BAGUETTE TRAYS 400X800 MM

Bi-Tronic 2

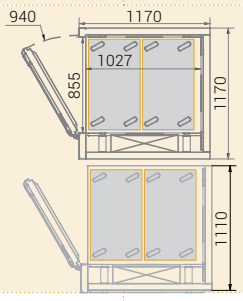
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HF1-1-48P MOF-1-48P	5/8	230 V 1ph + PE	1450

Figure 64



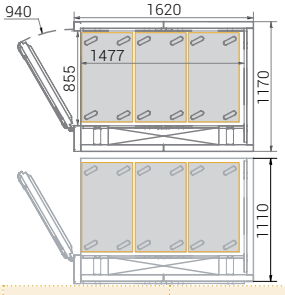
HF1-2-48P MOF-2-48P	5/8	230 V 1ph + PE	2150

Figure 65



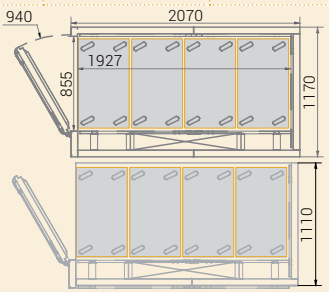
HF1-3-48P MOF-3-48P	1	230 V 1ph + PE	2150

Figure 66



HF1-4-48P MOF-4-48P	1 1/8	230 V 1ph + PE	2150

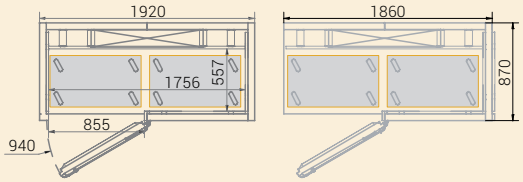
Figure 67



Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)

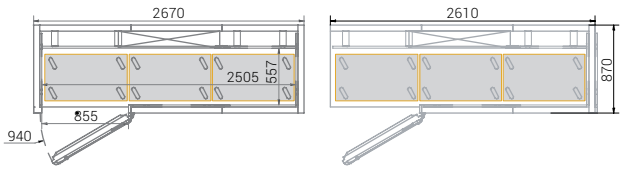
HF1-2-48L MOF-2-48L	5/8	230 V 1ph + PE	2150

Figure 68



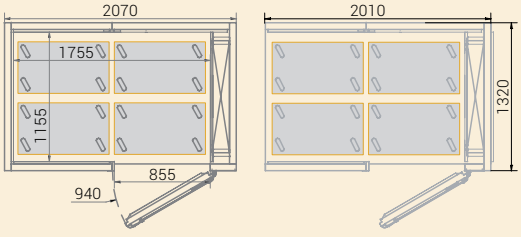
HF1-3-48L MOF-3-48L	1	230 V 1ph + PE	2150

Figure 69



HF1-4-48C MOF-4-48C	1 1/8	230 V 1ph + PE	2150

Figure 70



Retarder proving chambers

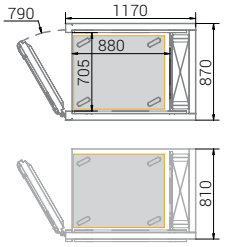
For trolleys with baguette trays 660x810 mm - entry 660 mm

FOR BAGUETTE TRAYS 600X800 MM

Bi-Tronic 2

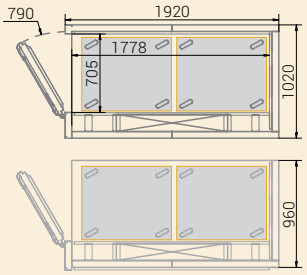
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HF1-1-68AP MOF-1-68AP	5/8	230 V 1ph + PE	1450

Figure 71



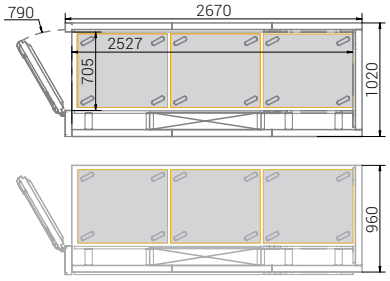
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HF1-2-68AP MOF-2-68AP	1	230 V 1ph + PE	2150

Figure 72



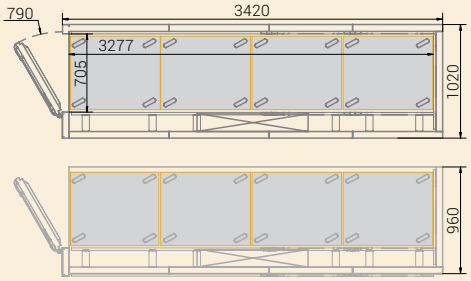
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HF1-3-68AP MOF-3-68AP	1 1/8	230 V 1ph + PE	2150

Figure 73



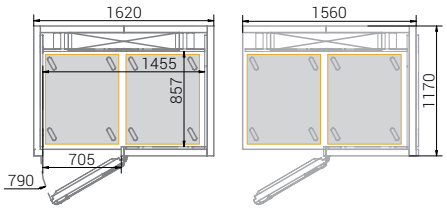
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HF1-4-68AP MOF-4-68AP	1 1/4	230 V 1ph + PE	2150

Figure 74



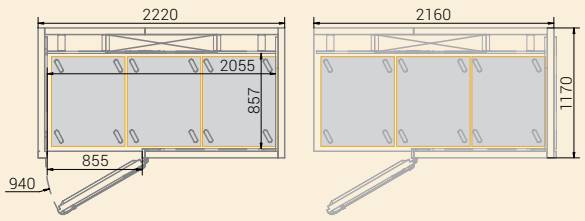
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HF1-2-68AL MOF-2-68AL	1	230 V 1ph + PE	2150

Figure 75



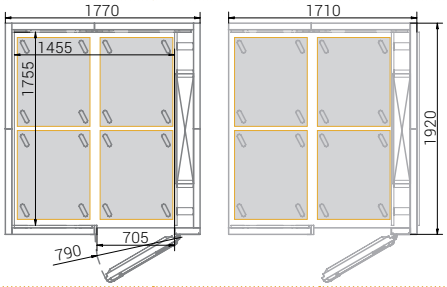
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HF1-3-68AL MOF-3-68AL	1 1/8	230 V 1ph + PE	2150

Figure 76



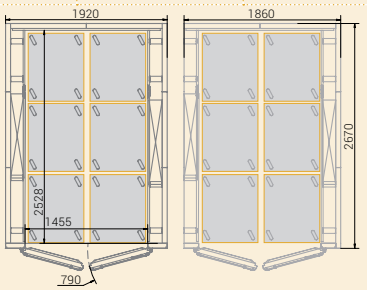
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HF1-4-68AC MOF-4-68AC	1 1/4	230 V 1ph + PE	2150

Figure 77



Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HF1-6-68AC MOF-6-68AC	1 1/2	400 V 3ph + N + PE	4300

Figure 78



Price: refer to page 16 of the price-list

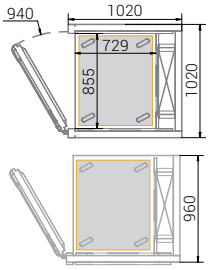
Retarder proving chambers
For trolleys with baguette trays 660x810 mm - entry 860 mm

FOR BAGUETTE TRAYS 600X800MM

Bi-Tronic 2

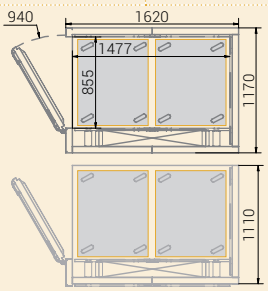
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HF1-1-68P MOF-1-68P	5/8	230 V 1ph + PE	2150

Figure 79



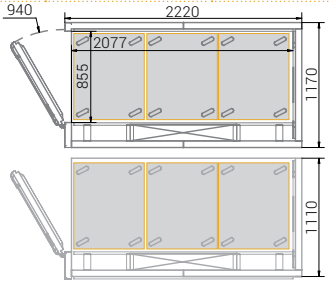
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HF1-2-68P MOF-2-68P	1	230 V 1ph + PE	2150

Figure 80



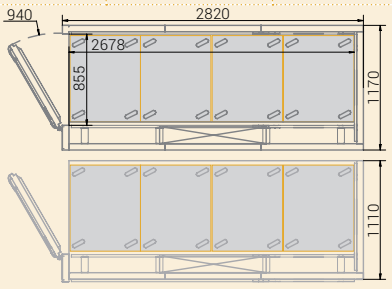
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HF1-3-68P MOF-3-68P	1 1/8	230 V 1ph + PE	2150

Figure 81



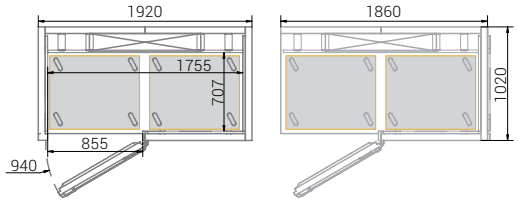
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HF1-4-68P MOF-4-68P	1 1/4	230 V 1ph + PE	2150

Figure 82



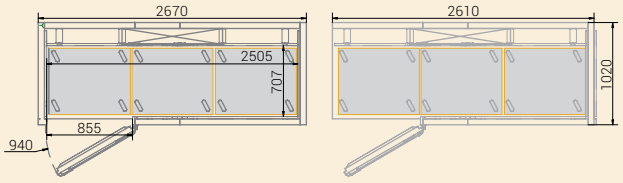
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HF1-2-68L MOF-2-68L	1	230 V 1ph + PE	2150

Figure 83



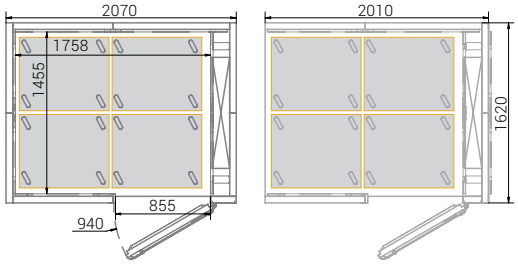
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HF1-3-68L MOF-3-68L	1 1/8	230 V 1ph + PE	2150

Figure 84



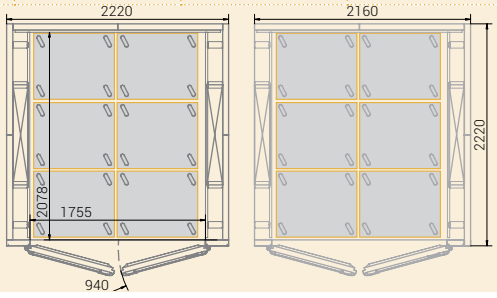
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HF1-4-68C MOF-4-68C	1 1/4	230 V 1ph + PE	2150

Figure 85



Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HF1-6-68C MOF-6-68C	1 1/2	400 V 3ph + N + PE	4300

Figure 86



Retarder proving chambers

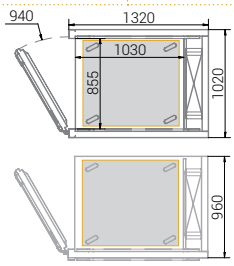
For trolleys with baguette trays 810x910 mm - entry 810 mm

FOR BAGUETTE TRAYS 750X900 MM

Bi-Tronic 2

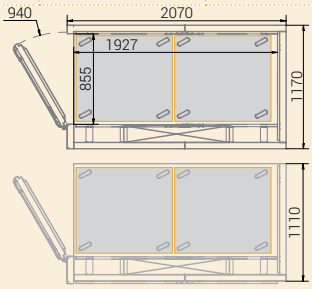
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HF1-1-759AP MOF-1-759AP	5/8	230 V 1ph + PE	1450

Figure 87



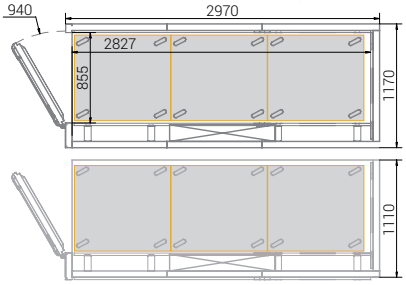
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HF1-2-759AP MOF-2-759AP	1 1/8	230 V 1ph + PE	2150

Figure 88



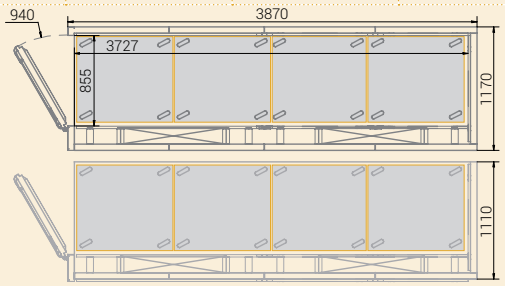
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HF1-3-759AP MOF-3-759AP	1 1/4	230 V 1ph + PE	2150

Figure 89



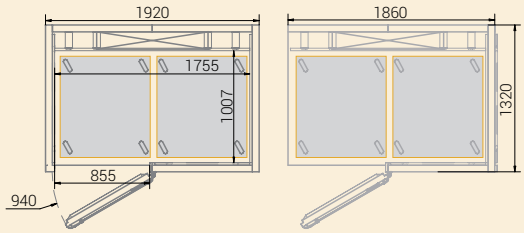
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HF1-4-759AP MOF-4-759AP	1 1/2	400 V 3ph + N + PE	4300

Figure 90



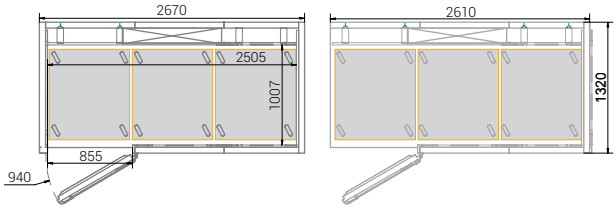
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HF1-2-759AL MOF-2-759AL	1 1/8	230 V 1ph + PE	2150

Figure 91



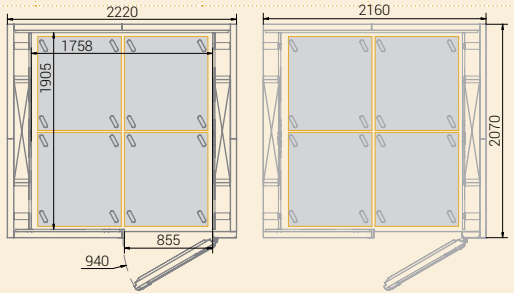
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HF1-3-759AL MOF-3-759AL	1 1/4	230 V 1ph + PE	2150

Figure 92



Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HF1-4-759AC MOF-4-759AC	1 1/2	400 V 3ph + N + PE	4300

Figure 93



Price: refer to page 17 of the price-list

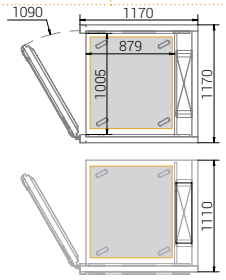
Retarder proving chambers
For trolleys with baguette trays 810x910 mm - entry 910 mm

FOR TRAYS 750X900 MM

Bi-Tronic 2

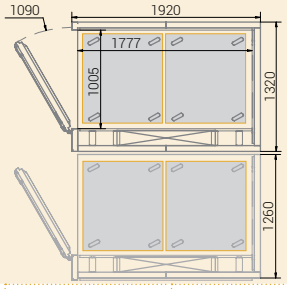
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HF1-1-759P MOF-1-759P	5/8	230 V 1ph + PE	2150

Figure 94



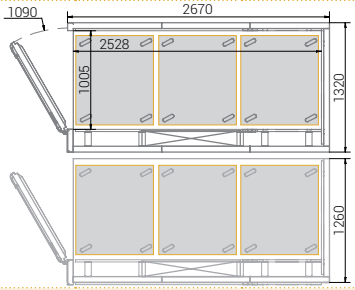
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HF1-2-759P MOF-2-759P	1 1/8	230 V 1ph + PE	2150

Figure 95



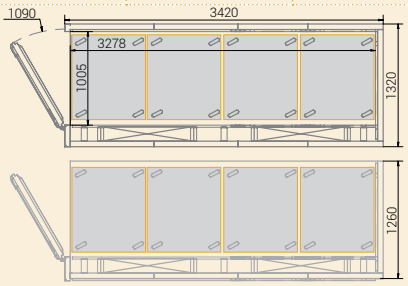
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HF1-3-759P MOF-3-759P	1 1/4	230 V 1ph + PE	2150

Figure 96



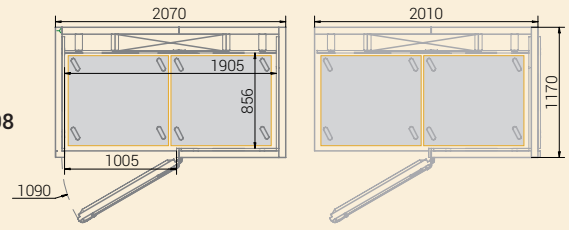
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HF1-4-759P MOF-4-759P	1 1/2	400 V 3ph + N + PE	4300

Figure 97



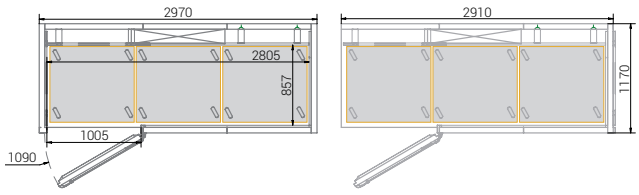
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HF1-2-759L MOF-2-759L	1 1/8	230 V 1ph + PE	2150

Figure 98



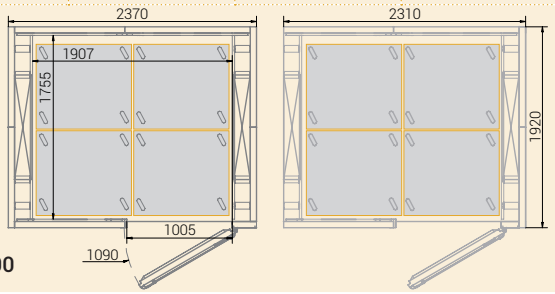
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HF1-3-759L MOF-3-759L	1 1/4	230 V 1ph + PE	2150

Figure 99



Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)
HF1-4-759C MOF-4-759C	1 1/2	400 V 3ph + N + PE	4300

Figure 100



Retarder proving

Retarder prover tunnels for the industrial environment



To meet the requirements of the industrial bakeries, hypermarkets and supermarkets, a retarder prover tunnel range is available in 2 versions to meet industrial requirements and intensive users. This includes additional protections, special hinges, strengthened cold feature...everything is provided for the tunnels to stand the test of time.

THE RANGE OF RETARDER PROVER TUNNELS

The retarder prover tunnels presented below are designed for baguette trays 600x800 mm. Other models are available upon request.

The 2 ranges available are:

HGD, Standard range
The technical features are identical to standard one, however they are equipped with 3 hinges in each door, 2 doors have external protection in stainless steel and reinforced hygrometry with boiler tank and water level as standard (the dimensions are identical to the standard range).

HGDR, Reinforced range
The dimensions of this range are identical to the previous, however the equipment and manufacturing are different in terms of ergonomics, robustness and simplified maintenance. See the features below.

OPTIONS

The options available are similar to the retarder prover chambers, presented on page 44. However, you have the possibility to add the following:

- Interior light on opposite side
- Evaporator for glycol water, R134A or CO_2
- Temperature display on opposite side
- Double exterior lateral protection in aluminium
- Prover with recycled warm water heating





Price: refer to page 18-19 of the price-list

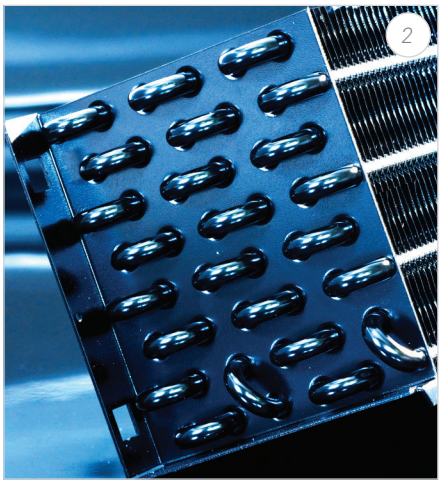


THE REINFORCED RANGE

- Interior surfaces food-grade stainless steel **(ceiling included)**
- **Stainless steel door**
- Double tubular protection made of stainless steel to fully protect eventual door collisions with trolleys, which also serves as a handle
- Automatic closing with a hydraulic actuator located exterior to avoid risk of corrosion
- Metallic specific hinges for heavy loads, adjustable on three axes (opening/closing without friction, even on irregular floors)
- Hinges equipped with a ramp mounted on a spring to automatically close the door but with a stop at 115° for safely handling trolleys
- Hinges completely closed for better hygiene
- Bi-Tronic Control 2 interface (see page 44) placed on the stainless steel panel side of the door. It is protected by a thick stainless steel profile with a coding to easily identify the compartment attached
- Stop bumpers for shock absorption in case of sudden opening
- Humidity with boiler tank and water level











1. Retarder proving tunnel on the temperature display side

2. Evaporator

3. Automatic closing with hydraulic actuator

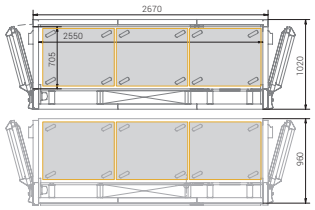
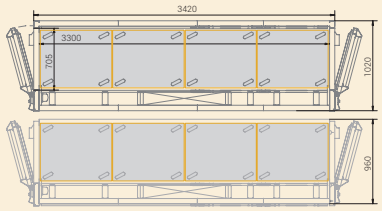
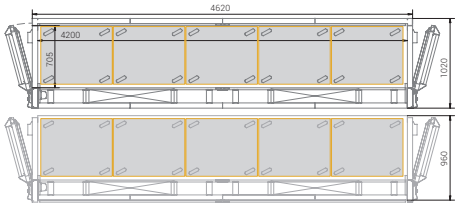
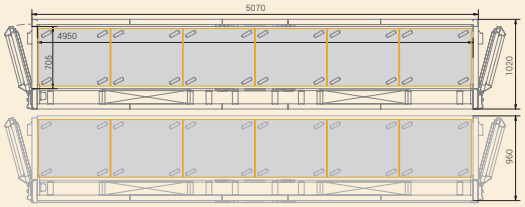
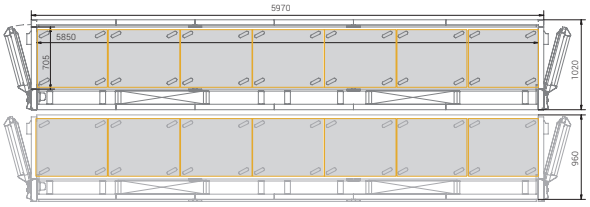
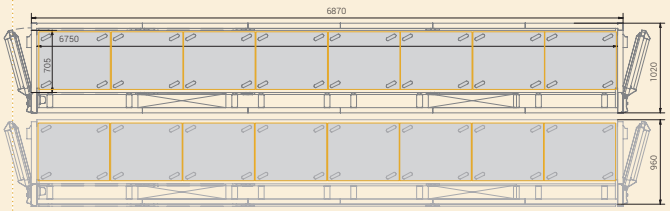
4. Interior door protections

Retarder proving tunnels

For trolleys 660x810 mm - entry 660 mm

FOR GRIDS OR BAGUETTE TRAYS 600X800 MM

Bi-Tronic 2

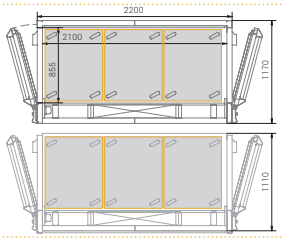
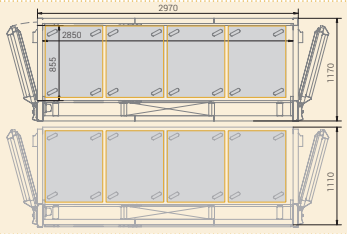
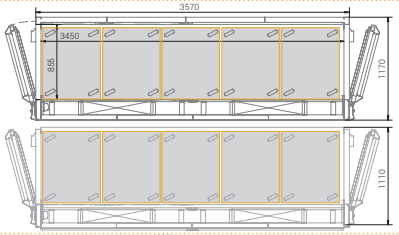
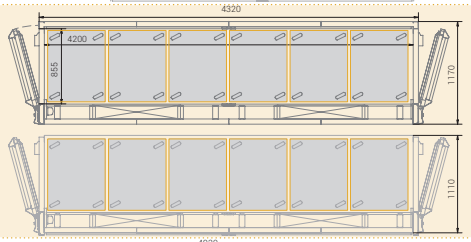
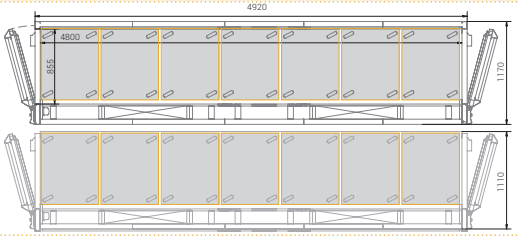
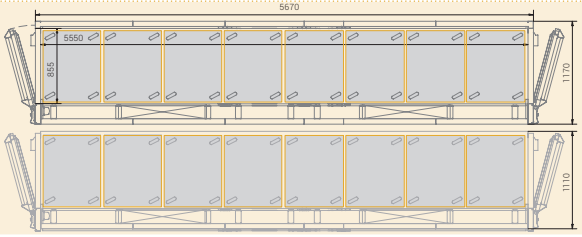
Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)	Outside dimensions WxD (mm)	Inside dimensions WxD (mm)	Drawing
HGD1-3-68AT HGDR1-3-68AT MOF-3-68AT MOFR-3-68AT **Figure 101**	1 1/8	230 V 1ph + PE	2450	2670 x 1020 2670 x 960	2550 x 705	
HGD1-4-68AT HGDR1-4-68AT MOF-4-68AT MOFR-4-68AT **Figure 102**	1 1/4	230 V 1ph + PE	2450	3420 x 1020 3420 x 960	3300 x 705	
HGD1-5-68AT HGDR1-5-68AT MOF-5-68AT MOFR-5-68AT **Figure 103**	1 1/2	400 V 3ph + N + PE	4900	4620 x 1020 4620 x 960	4200 x 705	
HGD1-6-68AT HGDR1-6-68AT MOF-6-68AT MOFR-6-68AT **Figure 104**	1 1/2	400 V 3ph + N + PE	4900	5070 x 1020 5070 x 960	4950 x 705	
HGD1-7-68AT HGDR1-7-68AT MOF-7-68AT MOFR-7-68AT **Figure 105**	2	400 V 3ph + N + PE	4900	5970 x 1020 5970 x 960	5850 x 705	
HGD1-8-68AT HGDR1-8-68AT MOF-8-68AT MOFR-8-68AT **Figure 106**	2,5	400 V 3ph + N + PE	4900	6870 x 1020 6870 x 960	6750 x 705	

Price: refer to page 18-19 of the price-list

Retarder proving tunnels
For trolleys 660x810 mm - entry 810 mm

FOR GRIDS OR BAGUETTE TRAYS 600X800 MM

Bi-Tronic 2

Reference	Refrigeration unit power (HP)	Voltage at 50 Hz	Power (W)	Outside dimensions WxD (mm)	Inside dimensions WxD (mm)	Drawing
HGD1-3-68T HGDR1-3-68T MOF-3-68T MOFR-3-68T **Figure 107**	1 1/8	230 V 1ph + PE	2450	2200 x 1170 2200 x 1110	2100 x 855	
HGD1-4-68T HGDR1-4-68T MOF-4-68T MOFR-4-68T **Figure 108**	1 1/4	230 V 1ph + PE	2450	2970 x 1170 2970 x 1110	2850 x 855	
HGD1-5-68T HGDR1-5-68T MOF-5-68T MOFR-5-68T **Figure 109**	1 1/2	400 V 3ph + N + PE	4900	3570 x 1170 3570 x 1110	3450 x 855	
HGD1-6-68T HGDR1-6-68T MOF-6-68T MOFR-6-68T **Figure 110**	1 1/2	400 V 3ph + N + PE	4900	4320 x 1170 4320 x 1110	4200 x 855	
HGD1-7-68T HGDR1-7-68T MOF-7-68T MOFR-7-68T **Figure 111**	2	400 V 3ph + N + PE	4900	4920 x 1170 4920 x 1110	4800 x 855	
HGD1-8-68T HGDR1-8-68T MOF-8-68T MOFR-8-68T **Figure 112**	2,5	400 V 3ph + N + PE	4900	5670 x 1170 5670 x 1110	5550 x 855	

Rules for selection and fitting

Our equipment is designed to operate in temperature, humidity and standard conditions that must be respected to achieve an optimal performance.

TEMPERATURE/ HUMIDITY

Cabinet
The cabinets are designed to operate in an atmosphere of :

- Temperature 32° C
- Humidity 70%

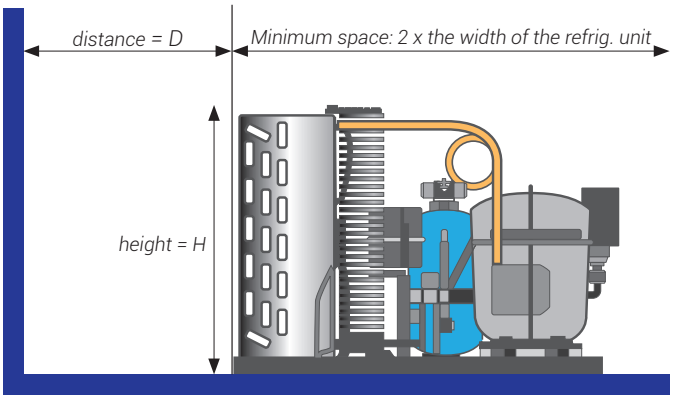
Exceeding these conditions will cause a drop in machine performance especially because of the air intakes at the opening of the doors.

Refrigeration Unit
The efficiency of the refrigeration unit is directly related to operating temperature conditions.

The refrigeration unit is designed to operate at a maximum ambient temperature of 38°C. Beyond this, the risk of the compressor breaking is very probable.

Note: the lower the temperature is, the lower the electrical consumption will be, and the greater the refrigeration power is. This will also ensure the longevity of the compressor. There is better efficiency at very low temperatures.

In all cases, measures must be taken so that the unit is installed in a well-ventilated area, away from any sources of heat, rain and sun.



USAGE

Hot air and humidity intake are detrimental to the performance of the devices. These machines are intended to respect the dough weight listed in the catalogue.

In the case of a specific use that requires repetitive and long door openings or different dough capacities, please contact HENGEL sales department when selecting the device.

INSTALLATION

The device should be installed on a flat and leveled floor. The power supply and electrical connections must be in compliance with local standards. Enough space must be dedicated for door opening and maintenance.

In case of remote unit, the refrigeration pipe length must not exceed 10 meters (including bends, 1 bend <=> 1m)

Please contact our technical department for more detailed conditions.

Technical information
Refrigeration unit

Ref.	Compressor type	Cooling capacity at -30 ° C and 32 ° C ext. (kW)	Power consumption (HP)	Maximum outside temperature of use	Dimensions Length x Depth x Height (mm)			Net Weight (kg)	Max. intensity (A)	Voltage	Volume of the liquid reservoir (l)	Suction connection diameter <15m	Liquid line diameter <15m	Acoustic pressure (dBA) at 10m
GN1T	Hermetic piston	0,44	1	+ 43°C	340	476	296	33,8	8	230 V 1ph	1,2	NC	NC	NC
GN2	Hermetic piston	0,67	1	+ 38°C	432	487	340	34	3,1	400 V 3ph	1,5	1/2	1/4	NC
GN2T	Hermetic piston	0,75	1	+ 46°C	485	487	340	38	3,4	400 V 3ph	1,5	1/2	1/4	NC
GN2ST	Hermetic piston	0,75	1	+ 46°C	930	575	690	69	3,4	400 V 3ph	1,5	1/2	1/4	29
GN3	Hermetic piston	0,85	1 1/2	+ 43°C	432	487	340	35	10,2	230 V 1ph	2,35	5/8	1/4	NC
GN4	Hermetic piston	0,85	1 1/2	+ 38°C	432	487	340	40	3,5	400 V 3ph	2,35	5/8	1/4	NC
GN4T	Hermetic piston	0,96	1 1/2	+ 46°C	610	512	445	45	3,8	400 V 3ph	2,35	5/8	1/4	NC
GN4ST	Hermetic piston	1,04	1 1/2	+ 46°C	930	575	690	72	3,8	400 V 3ph	2,35	5/8	1/4	30
GN5T	Hermetic piston	1,38	2	+ 43°C	615	512	450	53	6,9	400 V 3ph	2,35	3/4	3/8	NC
GN5ST	Hermetic piston	1,42	2	+ 46°C	1108	575	690	84	5,9	400 V 3ph	2,35	3/4	3/8	33
GN6T	Hermetic piston	1,76	3	+ 43°C	615	450	512	54	7,8	400 V 3ph	2,35	7/8	3/8	NC
GN6ST	Hermetic piston	1,86	3	+ 46°C	1145	575	690	86	6,1	400 V 3ph	2,35	7/8	3/8	34
GN7	scroll	2,97	4	+ 38°C	680	735	533	92	9,38	400 V 3ph	7,5	1'1/8	3/8	NC
GN7ST	scroll	2,97	4	+ 46°C	1029	424	840	81	6,7	400 V 3ph	4,4	1'1/8	3/8	40
GN8S	scroll	7.41	7	+ 38°C	1029	424	1242	121	14,6	400 V 3ph	6,3	1'3/8	1/2	41
GN8ST	scroll	8.45	9	+43 °C	2100	670	950	263	16	400 V 3ph	17,7	1'3/8	1/2	41



* Conditions of announcements of the refrigerating capacity: EN13215, ambient temperature 32 ° C overheating 10K and under cooling of 3K
* HP power is given at an evaporation temperature of -25 ° C, 10K superheat and an outdoor temperature of 32 ° C
* The diameters of the refrigerant connections suction and liquid line are given for maximum distance of 15m, for the greater distances thank you to consult us

Ref.	Compressor type	Cooling capacity at -30 ° C and 32 ° C ext. (kW)	Power consumption (HP)	Maximum outside temperature of use	Dimensions Length x Depth x Height (mm)			Net Weight (kg)	Max. intensity (A)	Voltage	Volume of the liquid reservoir (l)	Suction connection diameter <15m	Liquid line diameter <15m	Acoustic pressure (dBA) at 10m
GP1	Hermetic piston	0,50	1/3	38°C	321	444	296	18	3	230 V 1ph	1,1	3/8	1/4	NC
GP1T	Hermetic piston	0,60	1/3	43°C	339	467	296	20,8	3,9	230 V 1ph	1,1	3/8	1/4	NC
GP2	Hermetic piston	0,75	1/2	38°C	331	473	256	18	5,5	230 V 1ph	1,35	1/2	1/4	NC
GP2T	Hermetic piston	0,83	1/2	43°C	339	339	296	20,8	5,15	230 V 1ph	1,1	1/2	1/4	NC
GP3	Hermetic piston	1,10	5/8	38°C	442	610	350	41	8	230 V 1ph	2	1/2	1/4	NC
GP3T	Hermetic piston	1,09	5/8	43°C	395	470	324	33,3	8,3	230 V 1ph	2,3	1/2	1/4	NC
GP3ST	Hermetic piston	1,25	5/8	46°C	930	575	690	40	7,2	230 V 1ph	1,5	1/2	1/4	29
GP4	Hermetic piston	1,29	1	38°C	433	481	340	33	8,2	230 V 1ph	1,5	5/8	3/8	NC
GP4T	Hermetic piston	1,45	1	46°C	510	610	395	42	8,6	230 V 1ph	1,5	5/8	3/8	NC
G4ST	Hermetic piston	1,52	1	46°C	930	575	690	69	3,5	230 V 1ph	1,5	5/8	3/8	29
GP5	Hermetic piston	1,56	1"1/8	38°C	433	481	340	33	10,4	230 V 1ph	1,5	5/8	3/8	NC
GP5T	Hermetic piston	1,80	1"1/8	46°C	607	512	445	47	10,7	230 V 1ph	1,5	5/8	3/8	NC
GP5ST	Hermetic piston	1,86	1"1/8	46°C	930	575	690	71	10,7	230 V 1ph	1,5	5/8	3/8	29
GP6	Hermetic piston	2,00	1"1/4	38°C	513	608	436	41	13,2	230 V 1ph	2,35	5/8	3/8	NC
GP6T	Hermetic piston	2,00	1"1/4	46°C	607	512	445	51	13,8	230 V 1ph	2,35	5/8	3/8	NC
GP6ST	Hermetic piston	2,11	1"1/4	46°C	1145	575	690	70	13,8	230 V 1ph	2,35	5/8	3/8	36
GP7	Hermetic piston	2,45	1"1/2	38°C	513	608	436	46	5,2	400 V 3ph	2,35	3/4	3/8	NC
GP7T	Hermetic piston	2,70	1"1/2	46°C	607	575	545	60	5,9	400 V 3ph	2,35	3/4	3/8	NC
GP7ST	Hermetic piston	2,63	1"1/2	46°C	1145	575	690	71	5,9	400 V 3ph	2,35	3/4	3/8	36
GP8T	Hermetic piston	3,02	2	43°C	620	590	540	64	9	400 V 3ph	3,9	3/4	3/8	NC
GP8ST	Scroll	3,38	2	46°C	1029	424	840	76	5	400 V 3ph	4,42	3/4	3/8	39
GP9T	Hermetic piston	3,83	2"1/2	43°C	620	590	540	69	11,5	400 V 3ph	3,9	3/4	3/8	NC
GP9ST	Scroll	4,09	2"1/2	46°C	1029	424	840	79	13,8	230 V 1ph	4,42	7/8	3/8	40
GP10ST	Scroll	8,60	6	46°C	1029	424	1242	108	9,6	400 V 3ph	6,32	1'1/8	1/2	41

* Conditions of announcements of the refrigerating capacity: EN13215, ambient temperature 32 ° C overheating 10K and under cooling of 3K
* HP power is given at an evaporation temperature of -10 ° C, 10K superheat and an outdoor temperature of 32 ° C
* The diameters of the refrigerant connections suction and liquid line are given for maximum distance of 15m, for the greater distances thank you to consult us

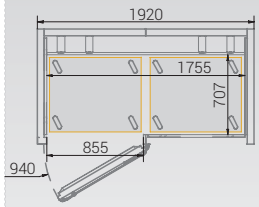
MODIFICATION OF RETARDER PROVER CHAMBER DOORS

There are several options (further specifications upon request) to adapt the retarder prover chamber doors to your needs:

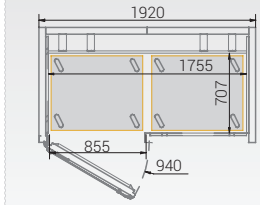
- Modification of the hinges
- Larger door (larger door passage way)
- Modification of single door to double door (same door passage way)
- Additional single door
- Additional double door

The following drawings will help you to better understand.

Modification of the hinges

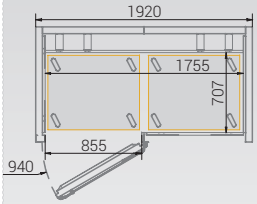


BEFORE
Right hinges

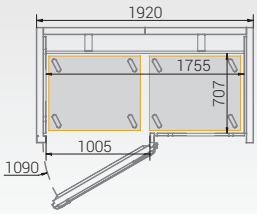


AFTER
Left hinges

Larger door

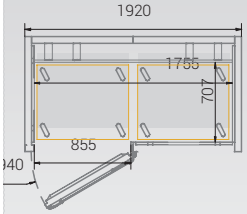


BEFORE
Width of the door: 855 mm

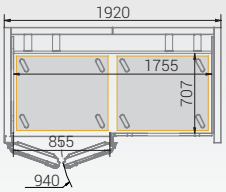


AFTER
Width of the door:
1005 mm

Modification of single door to double door (same door passage way)

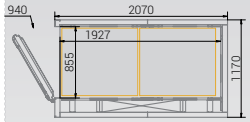


BEFORE
1 door, useful passageway: 855 mm

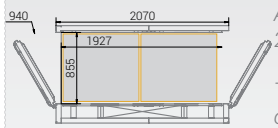


AFTER
2 doors, useful passageway: 855 mm

Additional single door



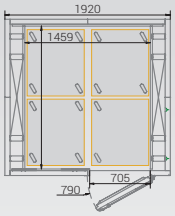
BEFORE
1 door to the left



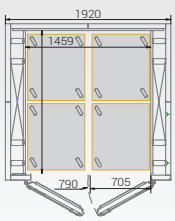
AFTER
2 doors

The addition of a right door allowed us to create a tunnel.

Additional single door, transformation in double door



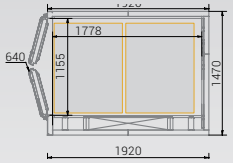
BEFORE
1 door to the right



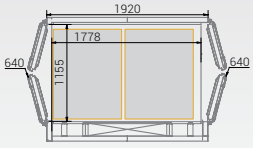
AFTER
2 doors

The addition of a left door allowed us to create a double door with a double passageway which is very useful.

Additional double door



BEFORE
1 double door, useful passage-way: 1155 mm



AFTER
2 double doors create a useful passageway: 1155 mm

In this case our chamber was transformed into a tunnel.

hengel
performance at all degrees



AN INTERNATIONAL
PRESENCE

ZA Les Berges du Rhins
433 rue de la Maladière
42120 PARIGNY - FRANCE
+33 (0)4 77 23 40 00 - infos@hengel.com
www.hengel.com

PEFC 10-31-3162