



Naturally
at your
side.

Operating instructions Commercial refrigeration equipment



MONTREAL XL

MONTREAL SLIM



MONTREAL XL PUSH

MONTREAL SLIM PUSH

Multi-mode commercial refrigeration equipment

MONTREAL NAM_ NORTH AMERICAN MARKET

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Model overview

Multi-mode commercial refrigeration equipment

Model	External dimensions Length x depth x height						Maximum total weight of appliance *	
	[mm]			[in]			[kg]	[lb]
MONTREAL NAM								
MONTREAL XL 175 (U) NAM	1752	1016	910	68.98	40.00	35.83	180	397
MONTREAL XL 210 (U) NAM	2102	1016	910	82.76	40.00	35.83	195	430
MONTREAL XL 250 (U) NAM	2502	1016	910	98.50	40.00	35.83	250	551
MONTREAL XL EC 185 (U) NAM	1899	1015	910	74.76	39.96	35.83	170	375
MONTREAL XL EC 210 (U) NAM	2149	1015	910	84.61	39.96	35.83	195	430
MONTREAL XL PUSH 175 (U) NAM	1753	1027	910	69.02	40.43	35.83	180	397
MONTREAL XL PUSH 210 (U) NAM	2103	1027	910	82.80	40.43	35.83	195	430
MONTREAL XL PUSH 250 (U) NAM	2503	1027	910	98.54	40.43	35.83	250	551
MONTREAL XL EC PUSH 185 (U) NAM	1921	1027	910	75.63	40.43	35.83	170	375
MONTREAL XL EC PUSH 210 (U) NAM	2171	1027	910	85.47	40.43	35.83	195	430
MONTREAL SLIM 175 (U) NAM	1752	876	910	68.98	34.49	35.83	155	342
MONTREAL SLIM 210 (U) NAM	2102	876	910	82.76	34.49	35.83	170	375
MONTREAL SLIM 250 (U) NAM	2502	876	910	98.50	34.49	35.83	220	485
MONTREAL SLIM PUSH 175 (U) NAM	1753	887	910	69.02	34.92	35.83	155	342
MONTREAL SLIM PUSH 210 (U) NAM	2103	887	910	82.80	34.92	35.83	170	375
MONTREAL SLIM PUSH 250 (U) NAM	2503	887	910	98.54	34.92	35.83	220	485

*Model-specific deviations possible.

Exact details can be found in the freight documentation. These must be available at the operating company.

Technical specifications are subject to change without notice.

1 General information

1.1 General information for the manual and safety

This operating manual (referred to as the “manual”) forms part of the device and enables a safe and efficient operation.

The safety section provides information about important safety aspects for the protection of persons, things and materials. Task-related warnings/notes are contained in the individual chapters.

Instructions can be found in electronic form on our website at <http://www.ahtusa.net/>.

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This manual is intended for the following **target groups**:

- **Operator**
- **Operating staff**
- **Qualified staff:** AHT service partners, AHT service engineers, AHT customer service, AHT installation service

Personnel: This term is used when the instruction in question is intended for use by all audiences.



Follow the manual

- Keep this manual for future reference.
- This manual must be available and accessible to the local staff.
- The staff must read the manual carefully before use.

All illustrations are indicative only.

1.2 Limitation of liability

All the details in this manual were compiled in consideration of the standards and legal regulations applicable at this time, as well as the experience of the manufacturer and qualified staff.

The manufacturer assumes no liability for damage to persons, materials, or property (appliances, goods, etc.) resulting from:

- Non-observance of the manual and the regulations/safety instructions contained therein.
- Failure to comply with the local safety regulations.
- improper use (misuse).
- Use of unauthorized and non-trained staff.
- technical modifications not authorised by the manufacturer.
- changes to factory settings not authorised by the manufacturer.
- the use of spare parts not approved by the manufacturer.
- the use of accessory parts not approved by the manufacturer.
- modifications, attachments, and installations not authorised by the manufacturer. Only modifications, attachments, and installations authorised by the manufacturer are permitted.
- Failure of the power supply or electrotechnical safety devices.
- Typesetting and print errors.

Failure to observe the above points will invalidate the warranty claims. The contractually agreed obligations, the general conditions of sale and delivery of “AHT Cooling Systems GmbH” (referred to as “AHT”) and, in addition, the statutory provisions applicable at the time of conclusion of the contract shall apply.

Technical changes and errors reserved.

The local commercial law regulations and safety regulations/provisions and the essential health and safety requirements of the device apply.






2 Safety

2.1 Explanation of symbols

Safety and warning notices are indicated in this manual by symbols and signal words. Signal words refer to the risk level of the hazard.

Signal word	Meaning
WARNING	Hazard with moderate risk level. Can result in serious injury or death if not prevented.
CAUTION	Hazard with low risk level. Can result in minor or moderate injury if not prevented.
NOTICE	Important note on preventing material or property damage.

Symbol	Meaning
	General warning sign
	Warning: electrical voltage
	Warning: electrical voltage. Do not connect damaged cables to the voltage supply.
	Warning: flammable material
	Warning: slippery surface
	Warning: hand injuries
	Warning: industrial trucks
	Warning: tipping hazard
	Warning: falling objects
	Warning: hot surface
	Warning: low temperature/frost
	No open flames; fire, open ignition sources, and smoking prohibited
	Entering the area is prohibited
	Do not obstruct
	Drilling prohibited
	Refer to manual
	Disconnect before maintenance or repair
	Wear hand protection

Symbol	Meaning
	Wear eye protection
	Separate collection of electrical and electronic equipment
	Explosion protection sign
	Appliance connection cable
	Lighting connection cable

2.2 Intended use

Unit is intended for storage, display or dispensing of pre-packed ice cream, pre-packed frozen or medium temperature foods, depending on the setting (Setting [see ▶ Chapter 3.2]).

The appliance is intended for use at up to 2,000 m (6,562 ft) above sea level.

The operating company is responsible for the correct operation of the appliance.

WARNING

Danger due to misuse.

- Do not make any technical changes to the appliance.
- Only start up and operate the appliance once it has been properly set up and installed and has no obvious defects.
- Do not store explosive substances, e.g. aerosol containers with flammable propellant gas, in this appliance.
- Do not use steam or high-pressure cleaners for basic cleaning.

NOTICE

Material and property damage due to misuse.

- Operate the appliance in a stable operating position (horizontal alignment).
- Read the setup notes [see ▶ Chapter 8].
- Do not operate the appliance above the climate class stated on the rating plate [see ▶ Chapter 3.2.1].
- The ambient temperature must not fall below 16°C (60.8°F).
- Check that the appliance is in good, proper condition. Any damage must be repaired immediately.
- Prior to storing goods and during operation, check that the temperature is correct [see ▶ Chapter 5.1].
- In the event of a power failure, stored goods must be checked by the operating company (temperature check).

- Check that there are no foreign objects in the goods cabinet. Remove incorrectly stored goods immediately.
- Do not set up or store the appliance outdoors.
- To ensure good air circulation, maintain minimum distances to surrounding walls and other appliances [see ▶ Chapter 8].
- Operate the unit only with lids.
- Operate the unit only on the mounted sliding feet and swivel castors.
- Do not operate the appliance if there is any glass damage (cracks, breaks).
 - Remove goods from the damaged appliance and move them to a functioning appliance with the same product temperature class.
 - Switch off the damaged appliance after removing the goods [see ▶ Chapter 10.2.1].
 - Contact the maintenance service [see ▶ Chapter 11.3.2].
- Do not attach stickers or films to glass surfaces.
- Check for closed lids.
- Do not use the lid as storage space for various objects.

2.3 Personnel requirements

WARNING



Insufficient qualification.

Risk of injury.

- Only suitable qualified personnel may work on the appliance.
- Personnel must have read and understood this manual prior to commencing any work.

Operating company

- The operating company must ensure that this manual has been read and understood by the operating personnel (training).
- The operating company is responsible for ensuring that malfunctions during operation (e.g. alarms, temperature deviations, etc.) are identified by the operating personnel and that appropriate action is taken [see ▶ Chapter 10.3] and [see ▶ Chapter 11.3.1].

Operating personnel

- The operating company must train the operating personnel on the contents of this manual (tasks, possible dangers, etc.).
- Only trained operating personnel may operate and clean the appliance.

Qualified staff

- Only AHT-authorized staff may carry out the following work on the appliance:
 - Maintenance, service, and repairs

- Only qualified staff trained in handling combustible refrigerants may work on the refrigerant circuit of R-290 appliances.
- Only qualified electricians may carry out work on the electrical system.

Persons (including children) with limited physical, sensory or mental abilities may only operate the appliance under supervision and after training, and must not carry out any maintenance work.

Children should be supervised to ensure that they do not play with the appliance.

Working under the influence of alcohol and drugs is prohibited.

2.4 Personal protective equipment



Wear hand protection

- Protection from heavy equipment parts during transport, unpacking, setup, installation, and disposal.
- Protection from sharp edges, rotating parts, and hot surfaces during maintenance and repair work.
- Protection from contact with liquid/leaking refrigerant in the event of leakage in the refrigerant circuit.
- Protection from low temperature during loading and cleaning.
- For removing glass parts and glass splinters in the event of glass breakage.
- For removing parts in the event of material breakage.



Wear eye protection

- Protection from contact with liquid/leaking refrigerant in the event of leakage in the refrigerant circuit.

2.5 Particular hazards

2.5.1 Electrical voltage

Only qualified staff may carry out work on the electrical system.

- In the event of fault messages or damage to the appliance, contact the maintenance service [see ▶ Chapter 11.3.2]

WARNING



Contact with live parts may cause electric shock.



Risk of fire due to sparks or overloading.



- Do not connect a damaged appliance or damaged parts (such as connection cables) to the power supply.



- Check to ensure safety devices are complete and working.



- Do not remove guards and covers attached to the appliance.
- Note and adhere to the following before connecting to the power supply:
 - Applicable local electrical safety regulations.
 - Applicable standards and safety instructions.
 - Information on the rating plate [see ▶ Chapter 3.2.1].
- Only trained personnel may disconnect the appliance.
- Observe the following safety rules if the appliance is damaged during operation or prior to maintenance:
 1. Disconnect the appliance (all sources of electrical power)
 2. Secure the appliance against restarting.
- Only qualified staff may replace damaged parts, e.g.:
 - Connection cables
 - Lights Replacing lights
- Do not squeeze or bend connection cables.
- Do not use extension cords or multiple socket strips.
- Do not use steam or high-pressure cleaners for basic cleaning.
- Do not damage concealed electrical parts. The operator must not drill into the appliance or carry out any other work on it.

2.5.2 Refrigerant circuit

Only qualified staff may carry out work on the refrigerant circuit.

- In the event of fault messages or damage to the appliance, contact the maintenance service [see ▶ Chapter 11.3.2]

Combustible refrigerant

WARNING



The refrigerant is highly flammable. If leaks occur, the refrigerant can escape and create an explosive gas/air mixture.



This can lead to fire and explosion with a subsequent fire risk.

- Refrigerant R-290 (propane) is classified in safety group A3 according to DIN EN 378-1. The refrigerant used and the filling quantity can be seen on the rating plate [see ▶ Chapter 3.2.1].
- Keep ignition sources away (heat, sparks, open flames, hot surfaces).

- Use a damp cloth or sponge to remove condensation water and for cleaning. Do not use dry cloths or sponges to dry the appliance. (Risk of electrostatic charge and sparking).
- Do not obstruct the ventilation openings in the appliance housing. Use only original accessory parts.
- Do not use any mechanical devices or other means (e.g. ice scrapers) to accelerate the defrosting process.
- Do not operate any electrical devices (e.g. wet vacuum cleaners) within the refrigerator compartment that are not of the type recommended by the manufacturer. Appliance with explosion protection markings [see ▶ Chapter 2.1] are permitted.
- Do not use steam or high-pressure cleaners for basic cleaning.
- Only install the appliance in well-ventilated rooms.
- If the appliance is installed in cellars, ensure that there is sufficient ventilation.
- Ducts and wall bushings must be sealed underneath and behind the appliance to protect against fire.
- Do not damage the refrigerant circuit.
- Do not expose the appliance to temperatures higher than 70°C (158°F) during transport and storage.
- Avoid transmitting pulsations and vibrations to the appliance.
- Do not allow external forces to act on the appliance, e.g. careless handling with a lift truck or floor cleaning machine.
- Do not drill holes in the appliance and do not carry out any other work on the appliance.
- Do not crush or bend pipes.
- Only qualified staff may carry out work on the refrigerant circuit.
- Only open the refrigerant circuit and suck off the refrigerant in well-ventilated rooms outside store business hours (when customers are not present) or outdoors.
- Before any maintenance, service or repair work
 1. Disconnect the appliance [see ▶ Chapter 10.2.1]
 2. Secure the appliance against restarting.
- During repairs, a competent person with knowledge of local conditions must be available as contact for the qualified staff.

CAUTION



Liquid refrigerant.

Frostbite to skin.



- Wear safety goggles and safety gloves.
- Protect hands and face from contact with liquid/leaking refrigerant.

2.5.3 Mechanical hazards

WARNING



Transport of the units with industrial trucks.

Risk of injury to persons in the event of a collision.

- Observe transport routes for industrial trucks.
- Secure transported goods.
- Only trained personnel may operate industrial trucks.
- Observe the stacking height specifications on the packaging.



Unit tipping hazard.

Persons may become trapped.

- Do not climb onto or into the appliance.



Disposal of packaging material and films.

Danger of suffocation.

- Keep packaging material and film away from children.
- Do not allow children to play with packaging material or film.

Missing and/or not fully functional safety devices.

Risk of injury, e.g. from rotating parts.

- Check to ensure safety devices are complete and working.
- Do not remove guards and covers attached to the appliance.

CAUTION



Material breakage.

Falling hazard. Cuts.

- Do not climb onto or into the appliance.
- Do not apply any load to the lids.
- After removing, keep the lids in a safe place.



Falling objects.

Impact injury. Cuts in the event of glass breakage.

- Do not place any objects on the appliance.



Leakage of defrosting water.

Slipping hazard.

- Check for puddles in front of and under the appliance.
- Remove any defrosting water that escapes immediately.
- Contact the maintenance service immediately [see ▶ Chapter 11.3.2].



Opening/closing the lids.

Hands (body parts) may be trapped.

- When opening/closing, do not reach into the opening gap.
- Look out for other persons when opening/closing.

Safety when handling glass

CAUTION



Glass breakage.

Lacerations to body parts. Impact injury.

- Check glass elements for damage, e.g. cracks, breaks. In the event of damage, contact the maintenance service immediately [see ▶ Chapter 11.3.2].
- Check for closed lids.
- Do not apply any load to the lids.
- Do not climb onto or into the appliance.
- It is forbidden to store glass containers in freezers.
- For refrigerators, check for breakage of stored glass containers.



Disposal of broken glass.

Cutting injuries to the hands and body.



- Wear protective gloves to remove splintered glass parts and goods that may have been damaged as a result.
- Carefully and completely remove all splintered glass parts and damaged goods.

2.5.4 Residual risks

The manufacturer accepts no liability for damage caused by non-compliance with this manual and other manufacturer specifications.

3 Product description

3.1 General information

AHT products comply with EU Regulation 1907/2006 (REACH) on the Registration, Evaluation, Authorization and Restriction of Chemicals.

3.2 Technical data

Important technical data can be found on the rating plate [see ▶ Chapter 3.2.1].

Parameter	Value
External dimensions	See → Appliance model overview
Weight of appliance	See → Appliance model overview
Coolant	Propane (R-290)
Refrigerant per refrigerant circuit	≤ 150 g
Ozone depletion potential (ODP) Propane (R-290)	0
Global warming potential (GWP) Propane (R-290)	3
Insulation blowing gas	PENTANE
Ozone depletion potential (ODP) PENTANE	0
Airborne noise emission/emission sound pressure level	< 70 dB(A)

Setting	Area of use/operating mode
A1	Customer-specific setting
A2	Customer-specific setting
A3	Refrigerator
A4	Freezer
A5	Ice cream freezer



Bus system

Bus cable	Patch cable CAT 5-S/FTP
Bus system (Optional)	PROTOCOL MODBUS RTU RS-485 2-WIRE Connection via RJ45 socket/ RJ45 plug
Baudrate	19200 bit/s
Data Length	8-bit
Parity	even
Stop bit	1
Minimum TimeOut	60 ms

Electrical connection

Observe the information on the rating plate.

Parameter	Value
Rated voltage ~	110 – 120 V
Rated frequency	60 Hz

Parameter	Value
Minimum cross-section of connection cable	18AWG
Connection cable	3-pin cable
Connector types – Appliance	NEMA L5-15
Connector types – Light	NEMA 5-15
Appliance connection cable	Tag with symbol 
Lighting connection cable	Tag with symbol 
Combined unit/lighting connection cable	No labeling flag

Electrical connection at IEC-Box

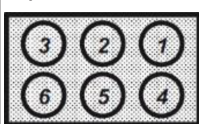
Mains plug - mains side

Connector types – Appliance	NEMA L5-15
Connector types – Light	NEMA 5-15

Unit connector - unit side (IEC-Box)

Connector types – Appliance	IEC 60320-C13 (IEC-Box) IEC 60320-C14 (Appliance connection cable)
Connector types – Light	IEC 60320-C15/IEC 60320-C5 (IEC-Box) IEC 60320-C16/IEC 60320-C6 (Lighting connection cable)

External warning system

External warning system as appliance plug-in connection [see ▶ Chapter 10.3]	6-pin socket housing 
Plug: accessory from maintenance service [see ▶ Chapter 11]	Potential-free contacts, max. load 24 V/2 A (safety extra-low voltage)

Electrical protection

[see ▶ Chapter 8.2]

Rated current [A]	Residual current [mA]	Type	Tripping characteristic
Line circuit breaker (LS/CB)			
15	-	-	C (time-lag)

Rated current [A]	Residual current [mA]	Type	Tripping characteristic
Residual current circuit breaker (FI/RCCB/GFCI)			
40	30	Type G* (short-time delayed) A (sensitive to impulse current)/ F (sensitive to mixed frequency)/ B (sensitive to universal current)	-
Combination switch FI-LS/RCBO (alternative to FI and LS)			
15	30	G (short-time delayed) A (sensitive to impulse current)/ F (sensitive to mixed frequency)/ B (sensitive to universal current)	C (time-lag)

Customer-specific deviations possible.

More information: Maintenance services [see ▶ Chapter 11.3.2]

3.2.1 Rating plate and serial number

Observe the information on the rating plate.

The rating plate is located as a sticker on the back side of the unit.

Information on rating plate

- Appliance name and type
- Serial number
- Climate class*
- Rated voltage and frequency
- Rated current and consumption
- Refrigerant and quantity used
- Net content
- Date of manufacture
- Defrosting power input
- Power input of heating system
- Insulation blowing gas
- Further technical data

*Examples of climate classes:

Climate class according to ISO 23953-2	Ambient temperature [°C]	Relative humidity [%]
3	25	60

3.3 Intended use

Unit is intended for storage, display or dispensing of pre-packed ice cream, pre-packed frozen or medium temperature foods, depending on the setting (Setting [see ▶ Chapter 3.2]).

For more information [see ▶ Chapter 2.2]

4 Structure and function

The appliance is a ready-to-connect compact unit.

Unit is classified in the equipment family horizontal closed transparent (HCT).

The appliance is delivered ready for operation and features its own control unit.

The appliance is pre-programmed ex works.

The appliance contains one or more hermetically closed refrigerant circuits, the components of which are technically connected to each other permanently.

The design of the individual appliance models can vary.

Depending on the unit model, individual interior equipment is possible.

Interior accessories

- Wall grilles
- Bottom inlays
- Floor grilles

Optional accessories

- Partition wall grilles
- Standing baskets

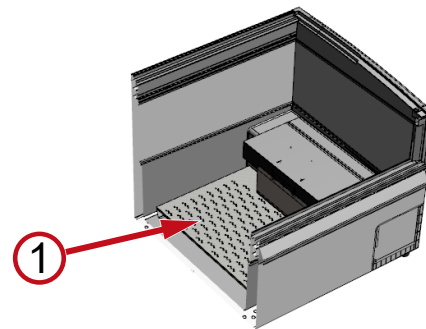


Fig. 1: Bottom inlay (1)

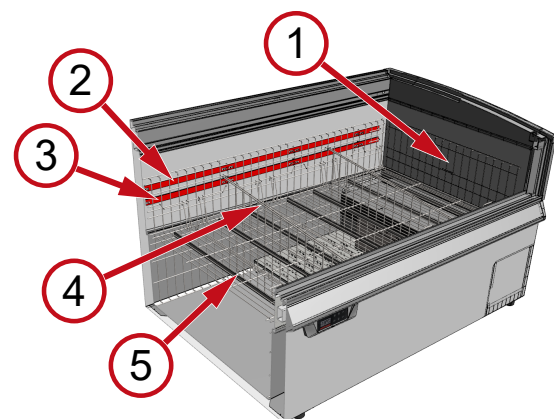


Fig. 2: Wall grille (1), upper load limit line (2), lower load limit line (3), partition wall grille (4), floor grille (5)

Unit is equipped with load limit lines [see ▶ Chapter 10.1].

Unit is equipped with glass lids.

Area of use/operating mode

- Customer-specific setting
- Refrigerator

- Freezer
- Ice cream freezer

Switching between the operating modes is done via the controller [see ▶ Chapter 5.2].

NOTICE

Property damage caused by missing interior.

- Operate unit with wall grille at any setting.
- Operate the unit in Area of use/operating mode Refrigerator with wall grilles, bottom inlays and floor grilles.

The waste heat generated in the unit is discharged to the ambient air via a heat condenser.

Unit automatically defrosts in regular cycles to keep the inner tank free of frost and ice [see ▶ Chapter 4.1].


Unit works properly even if frost/ice accumulates on the surface of the inner tank.

A limited number of semi-automatic defrosts can be performed [see ▶ Chapter 5.2.4].

4.1 Automatic defrosting

The appliance features automatic defrosting.

The following display messages and symbols appear during automatic defrosting [see ▶ Chapter 5].

Controller	Display	Symbol
AHT	dEF	

The frequency, duration, and time of defrosting are preset.

Defrosting frequency

- Once/week

Defrosting period

- Up to 70 min

Defrosting time

- Start time is controlled with a real time clock and takes place during the night.

The defrost cycle ends automatically when the ice/frost is removed.

The end of the defrost cycle is triggered by the internal temperature sensor or the software-based maximum timeout time.

The accumulated condensation water is guided out of the device interior into the machine room and evaporated there.

CAUTION

Leakage of defrosting water.




Slipping hazard.

- Check for puddles in front of and under the appliance.
- Remove any defrosting water that escapes immediately.
- Contact the maintenance service immediately [see ▶ Chapter 11.3.2].

If automatic defrosting takes place during business hours, contact the maintenance service [see ▶ Chapter 11.3.2].

For unit with Area of use/operating mode Refrigerator/ Ice cream freezer semi-automatic defrosting can be initiated if required [see ▶ Chapter 5.2.4].

After each automatic or semi-automatic defrost, it is blocked for 84 hours.

Automatic defrost and semi-automatic defrost (button ) are set inactive in Area of use/operating mode Freezer.

5 Control and display elements

5.1 Temperature display

Interior appliance temperature display

- Display screen at the control element [see ▶ Chapter 5]

Check of interior temperature

Responsibility

- Operating personnel

Frequency

- several times daily

5.2 Control elements and displays

Keys are available as control elements, with the following assignments:

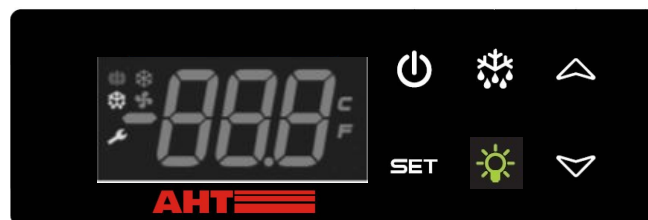


Fig. 3: Control elements







Key	Function
	Switch cooling function on and off
	Start semi-automatic defrosting
	Application change Increase bus address Key lock
	Acknowledge acoustic alarm Call up error code
SET	Key lock
	Switch appliance lighting on and off



Fig. 4: Displays

Display	Meaning of display
-888	Interior temperature Application Operating mode code
(!)	Alarm
❄️	Cooling function active
❄️	Defrosting active
🌀	Evaporator ventilator active
🔧	Appliance lighting on (Optional)

5.2.1 General key lock

Deactivate key lock (Access to level 1)	Press SET and  simultaneously for 5 seconds. unL appears on the display. Level 1 is activated.
---	---

The keys are now accessible for the following functions:

- Switch cooling function on and off
- Select application
- Start semi-automatic defrosting
- Assign bus address
- Switch appliance lighting on and off
- Display and acknowledge alarm




The key lock is reactivated automatically 30 seconds after the last actuation.

Loc briefly appears on the display.

The key lock is activated again.

5.2.2 Cooling function



Switch off the cooling function for cleaning purposes only.

Deactivate key lock (Access to level 1)	Press SET and  simultaneously for 5 seconds. unL appears on the display. Level 1 is activated.
Switch off cooling function (Start defrosting manually)	Press  for at least 1 second. --- appears on the display.
Switch on cooling function	Press  for at least 1 second. The interior temperature appears on the display after a few seconds.


5.2.3 Application

The following applications can be selected (customer-specific options):





- **A1, A2, A3**

Deactivate key lock (Access to level 1)	Press SET and  simultaneously for 5 seconds. unL appears on the display. Level 1 is activated.
Show set application	Press  for at least 1 second. The currently set application, e.g. A1 appears on the display.

If no change is desired, the display returns to the interior temperature after a brief period.

Change application	 Briefly press.
Apply new input	The newly set application is adopted automatically after 5 seconds.

5.2.4 Semi-automatic defrosting

Deactivate key lock (Access to level 1)	Press SET and  simultaneously for 5 seconds. unL appears on the display. Level 1 is activated.
Start semi-automatic defrosting	Briefly press  . The  symbol appears. The key lock is reactivated automatically 30 s after the last actuation. Loc appears on the display. Then DEF and the symbol  appear on the display.

Defrosting period

- Up to 70 min

84-hour defrost block


If the current temperature is shown on the display, the 84-hour defrost block is active.

After semi-automatic defrosting, the appliance automatically returns to normal operation.

The current interior temperature appears on the display.

5.2.5 Appliance lighting

Optional

Deactivate key lock (Access to level 1)	Press SET and  simultaneously for 5 seconds. unL appears on the display. Level 1 is activated.
---	---

Switch on the appliance lighting	Briefly press. appears on the display.
Switch off the appliance lighting	Briefly press. goes out on the display.

5.2.6 Bus address

- Before assigning the bus addresses, the appliances (1, 2, ...n) must be networked with an appropriate bus cable.
- The first appliance (1) must be connected to market monitoring (M) via the bus cabling.
- The bus cabling must be terminated with a terminating resistor (R) on the last appliance (n).

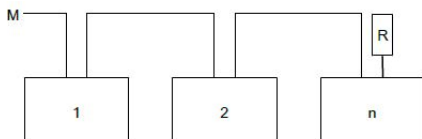


Fig. 5: Bus system diagram

Technical data [see ▶ Chapter 3.2]

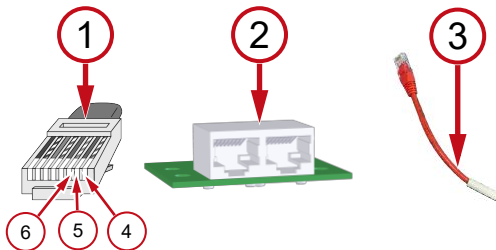


Fig. 6: RJ45 bus cable plug (1), RJ 45 sockets (2), terminating resistor (R) (3), pin 1 (4), pin 2 (5), pin 3 (6)

Pin	Data	Color
1	A / -	Orange /White
2	B / +	Orange
3	Ground	Green/White

The controllers are supplied with bus address 1 (corresponds to a stand-alone appliance) as standard.

- Assignment of the bus addresses must begin with 1 as identification for several appliances in the bus system.

Bus addresses must not be assigned twice.

We therefore recommend entering the addresses according to the actual wiring sequence.

A maximum of 247 addresses are possible.

Deactivate key lock (Access to level 1)	Press SET and simultaneously for 5 seconds. unL appears on the display. Level 1 is activated.
---	--

Accessing the programming level

1.	– Switch off cooling function : Press for at least 1 second. --- appears on the display.
----	---

2.	– Then immediately press 3 times briefly in succession. Adr appears on the display alternately with the current bus address, e.g. 1.
----	---

Assign bus address

3.	– Assign the next higher bus address (individual step): Briefly press . – Quick run through the bus addresses: Hold pressed.
----	--

4.	– Apply new input: Wait 5 seconds. --- appears on the display.
----	--

NOTICE

Property damage as a result of assigning the bus address by deactivating the cooling function.

- After assigning the bus address, the cooling function has to be switched on again (see → item 5).

5.	– Switch the cooling function back on: Press for at least 1 second. The current interior temperature appears on the display.
----	--

Assign bus addresses for subsequent appliances:

- Repeat steps 1 to 5 on each appliance and select an available bus address.

5.2.7 Alarm

Display alarm

An **error code** appears on the display as a flashing indication alternating with the interior temperature.

The symbol appears on the display.

As an option, it is possible to output an **acoustic alarm** by means of a built-in buzzer.





Call error code to check	Briefly press. The error code is shown on the display for approx. 5 seconds. The current interior temperature is then shown again.
--------------------------	--

Troubleshooting measures for the occurrence of alarm indicators; see [see ▶ Chapter 10.3].

Error code	Meaning
F1	Sensor fault F1
F2	Sensor fault F2
F4	Sensor fault F4
A90	Time/date fault
E20	Overtemperature alarm

Error code	Meaning
E21	Overtemperature on F4
E43	Undertemperature alarm
E60	Temperature logger alarm
E70	Electronics fault
E75	Overtemperature electronics
E80	Compressor fault
E92	Compressor fault due to E75
E93	Voltage outside tolerance
E95	Frequency outside tolerance
Err	No communication with display
tSt	Electronics in test mode

Acknowledge alarm

Deactivate key lock (Access to level 1)	Press SET and  simultaneously for 5 seconds. unL appears on the display. Level 1 is activated.
Error code and Acknowledge acoustic alarm (appliance-specific)	 Briefly press. The interior temperature and the symbol  appear on the display. The symbol  is illuminated until the error has been rectified.

6 Transport and storage

- a) Check the appliance for transport damage after delivery.
- b) In the event of damage to the appliance, contact the maintenance service immediately [see ▶ Chapter 11.3.2].

WARNING



Damage to the refrigerant circuit.

Flammable refrigerant can escape and cause an explosive gas/air mixture.

- Do not expose the appliance to temperatures higher than 70°C (158°F) during transport and storage.
- Ensure good ventilation.
- Observe safety notices and warnings for appliances with flammable refrigerants [see ▶ Chapter 2.5.2].
- In the event of damage to the appliance, contact the maintenance service immediately [see ▶ Chapter 11.3.2].



Transport of the units with industrial trucks.

Risk of injury to persons in the event of a collision.

- Observe transport routes for industrial trucks.
- Secure transported goods.
- Only trained personnel may operate industrial trucks.
- Observe the stacking height specifications on the packaging.

NOTICE

Material damage caused by transport and storage.

- Transport and store the unit only in a type-based stable operating position (horizontal alignment).
- Observe the stacking height specifications on the packaging.
- If the appliance was tilted during transport, wait a minimum of two hours before start-up.
- On delivery, ensure full accessibility to the installation point (observe clearance heights, clearance widths, installation space height, sufficient turning radii).
- Do not store the appliance outdoors.

7 Unpacking

Responsibility

- Operating company
- a) Check the appliance for damage before and during unpacking.
- b) In the event of damage to the appliance, contact the maintenance service immediately [see ▶ Chapter 11.3.2].

WARNING

Disposal of packaging material and films.

Danger of suffocation.

- Keep packaging material and film away from children.
- Do not allow children to play with packaging material or film.



Damage to the refrigerant circuit.

Flammable refrigerant can escape and cause an explosive gas/air mixture. Risk of fire.

- Ensure good ventilation.
- Observe safety notices and warnings for appliances with flammable refrigerants [see ▶ Chapter 2.5.2].
- In the event of damage to the appliance, contact the maintenance service immediately [see ▶ Chapter 11.3.2].

CAUTION**Heavy appliance parts.**

Hands may become trapped.

- Take care with fingers and hands.
- Wear protective gloves.

NOTICE**Material and property damage due to missing parts in the appliance.**

- Check the packaging for loose parts.
- Do not dispose of loose parts; clarify their use with the maintenance service [see ▶ Chapter 11.3.2].

8 Setup and installation

Responsibility

- Operating company

Technical data [see ▶ Chapter 3.2]

Technical modifications to the appliance only by agreement and approval of the manufacturer.

Do not obstruct the temperature display, safety instructions or the rating plate [see ▶ Chapter 3.2.1].

WARNING**Danger of tilting of the unit.**

Persons may become trapped.

- Remove the transport frames only when in the stable and final installation position.
- In the event of questions, contact the maintenance service [see ▶ Chapter 11.3.2].
- Do not climb onto or into the appliance.

**Damage to the refrigerant circuit.**

Flammable refrigerant can escape and cause an explosive gas/air mixture. Risk of fire.

- Do not obstruct the ventilation openings in the appliance housing. Use only original accessory parts.
- Only install the appliance in well-ventilated rooms.
- If the appliance is installed in cellars, ensure that there is sufficient ventilation.
- Ducts and wall bushings must be sealed underneath and behind the appliance to protect against fire.
- The operator must not drill into the appliance or carry out any other work on it.
- Do not crush or bend pipes.

CAUTION**Material breakage.**

Falling hazard. Cuts.

- Do not climb onto or into the appliance.

- Do not apply any load to the lids.

**Heavy device parts.**

Hands may become trapped.

- During setup and installation, pay attention to fingers and hands.
- Wear protective gloves.

NOTICE**Material and property damage due to congestion of the warm exhaust air (heat accumulation).**

- The exhaust air must be able to escape freely at the rear of the unit.
- To ensure good air circulation, maintain minimum distances to surrounding walls and other appliances.
- For block setup, the ventilation openings of the device cover must not be blocked.
- Superstructure may only be installed in agreement with the manufacturer. Minimum distance 100 mm (3,9 in).

Material and property damage in the event of faulty setup.

- Install the appliance in a stable operating position (horizontal alignment).
- Only set up the unit on its pre-assembled sliding feet.
- Do not pull or push on the cover frame and the glass side panels when setting up.
- To ensure good air circulation, maintain minimum distances to surrounding walls and other appliances.
- Do not expose the appliance to direct heat radiation at the place of installation, e.g.:
 - Sunlight
 - Artificial external light sources
- Do not expose the appliance to the direct influence of air conditioning and ventilation systems at the place of installation.
- Do not install the appliance outdoors.
- Do not attach any thick insulating materials to the outer walls. Advertisement signs may only be stuck on as thin film.

Pull or push the unit by the foamed parts.

DO NOT pull or push the unit on the glass panels with cover frame.

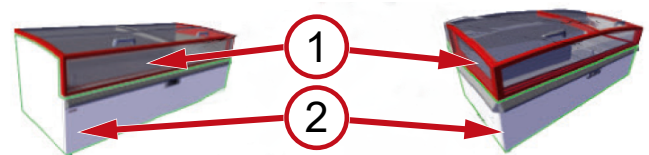


Fig. 7: Glass panels with cover frame (1), foamed parts (2)

Minimum spacing for individual setup

All around: 100 mm (3.9 in)

Minimum spacing for block setup

A= 0 mm (0 in)

B= 125 mm (4.9 in)

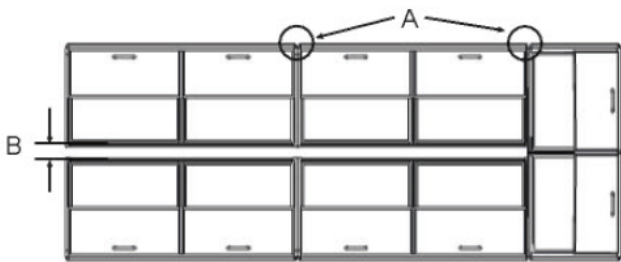


Fig. 8: Minimum spacing for block setup

Reason for removal and installation of the lids:

- Carrying out a complete defrosting with subsequent cleaning.
- Damage from lid.

Safety when handling glass [see ▶ Chapter 2.5.3].

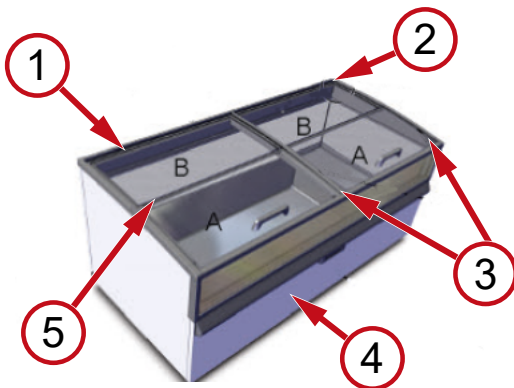
Unit with push-back glass lid

Fig. 9: Push-back glass lid

- | | |
|------------------------------|-------------------|
| 1 Upper edge of device frame | 2 Cover lock |
| 3 Guide | 4 Device front |
| 5 Sealing lip | A, B Lid A, Lid B |

Removing lid

- Use the handle to slide cover A all the way back except for a finger's width.
- Hold cover A at the handle and at the center in the back.
- Slightly lift cover A at the rear over the upper edge of the device frame, slide it back and lift it out.
- Slightly lift cover B and lift it out to the front.

Installing lid

- Insert cover B at the rear. Cover B must be under the cover lock. The sealing lip of cover B is at the front top.

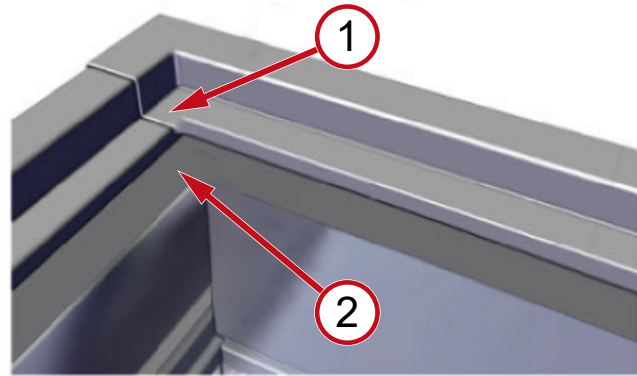


Fig. 10: Cover lock (1), lid B (2)

- Hold cover A at the handle and at the center in the back.
- Place cover A at the upper edge of the device frame at the rear and over cover B at the front.
- Use the handle to pull cover A along the guide to the front and close it.

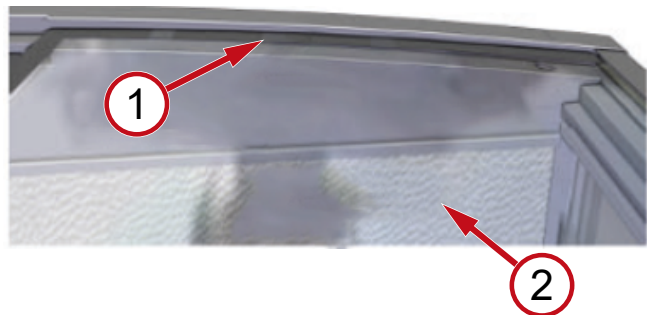


Fig. 11: Guide (1), lid A (2)

- Check for correct functioning.

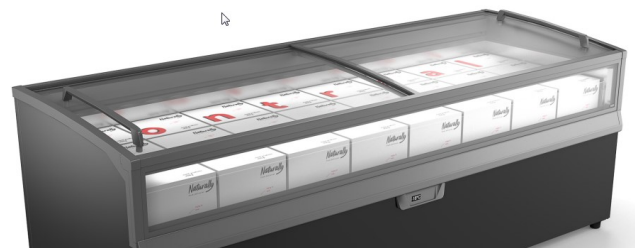
Unit with glass sliding lid

Fig. 12: Glass sliding lid

Removing lid

- Open the lid.
- With both hands, lift the lid at the rear and pull back until it can be removed to the front.
- Carefully lift out lid with both hands.

Installing lid

- Insert the lower smaller lid.
- Insert the upper lid.
- Close the lids completely.
- Check for correct functioning.

8.1 Electrical connection

The connection to the power supply is made by the operating company.

Technical data [see ▶ Chapter 3.2]

Start-up [see ▶ Chapter 9]

⚠ WARNING



Connect the appliance to the power supply.



Contact with live parts may cause electric shock. Risk of fire due to sparks or overloading.



- Only qualified staff may carry out work on the electrical system.



- Note and adhere to the following before connecting to the power supply:
 - Applicable local electrical safety regulations.
 - Applicable standards and safety instructions.
 - Information on the rating plate [see ▶ Chapter 3.2.1].

- Do not connect a damaged appliance or damaged parts (such as connection cables) to the power supply.

- Only qualified staff may replace damaged parts, e.g. connection cables.

- Do not squeeze or bend connection cables.

- Adhere to minimum requirements for connection cables [see ▶ Chapter 3.2].

- Fuse the appliance in accordance with the applicable regulations and legislation, as well as the AHT specifications [see ▶ Chapter 8.2].

- Connect the appliance only to a mains circuit with protective grounding.

- Do not use extension cords or multiple socket strips.

- Do not damage concealed electrical parts. Do not drill holes in the appliance and do not carry out any other work on the appliance.

NOTICE

Material and property damage caused by non-AHT-approved deviations (voltage, frequency) in the operating company's electrical network.

- The manufacturer is not responsible for damage to the operating company's electrical equipment or any subsequent related damage.

Material damage due to faulty electrical connection.

- Load shedding or appliance shutdowns are not permitted.
- A continuous power supply is required.

Appliance connection



There is a tag with a snowflake at the end of the connection cable.

The appliance connection cable is used to supply power to the cooling system.

NOTICE

Property damage caused by an interruption to the power supply.

Failure of the cooling system.

- Do not connect the appliance connection cable to the power supply for market light.

Lighting connection cable



There is a tag with a lamp symbol at the end of the connection cable.

The lighting connection cable makes it possible to switch the appliance lighting together with the market lighting (energy savings).

Combined unit/lighting connection cable

No labeling flag.

The combined device/light connecting cable is used for the common supply of the cooling and lighting.

NOTICE

Property damage caused by an interruption to the power supply.

Failure of the cooling system.

- Connect the power plug of the combined device/light connection cable to a power supply that is permanently supplied with voltage.

Unit with IEC-Box

Unit can be equipped with an IEC-Box.

Connection cable is connected to the IEC-Box by a plugged connection cable.

⚠ WARNING



Faulty electrical connection on the IEC-Box.



Contact with live parts may cause electric shock. Risk of fire due to sparks or overloading.

- The bracket of the IEC-Box must be fixed correctly and secured by the screw holder.

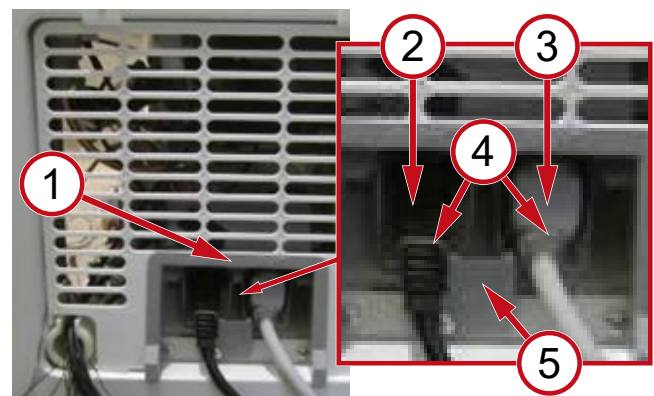


Fig. 13: IEC-Box (1), plugged connection cable light (2) unit (3), bracket (4), screw holder (5)

AHT recommends the use of a cable duct with sockets installed or set up in it.

In the case of floor assembly, the height of the cable duct must reach no higher than the lower edge of the rear venting grille.

8.2 Fusing

Responsibility

- Operating company

Every electrical connection must be adequately fused.

Technical data [see ▶ Chapter 3.2]

WARNING



Faulty/inadequate electrical fuse.



Contact with live parts may cause electric shock. Risk of fire due to sparks or overloading.

- Observe applicable local regulations, e.g. for electrical installation and operation of the appliances.
- Observe applicable standards and safety instructions.
- Ensure adequate fuse protection.
- **Never** operate the appliance without a residual current circuit breaker.
- **Never** operate the appliance without a line circuit breaker.
- Never connect more than one appliance to one fuse.
- Never connect more than eight lighting connections to one fuse.

9 Start-up

Responsibility

- Operating company

WARNING



Damage to the electrical system and/or the refrigerant circuit.



Contact with live parts may cause electric shock. Flammable refrigerant can escape and cause an explosive gas/air mixture. Risk of fire due to sparks or overloading.



- Do not start up a damaged appliance.
- Do not connect any damaged parts to the power supply, e.g. connection cables.
- Only qualified staff may replace damaged parts, e.g. connection cables.
- Observe safety notices and warnings for appliances with flammable refrigerants [see ▶ Chapter 2.5.2].
- In the event of damage to the appliance, contact the maintenance service immediately [see ▶ Chapter 11.3.2].

NOTICE

Property damage caused by incorrect ambient conditions.

- Adjust the appliance to the ambient temperature before start-up.
- The ambient temperature must not fall below 16°C (60.8°F).

Start up the appliance

- Plug in the power plug on the appliance connection cable [see ▶ Chapter 8.1].
- For appliances with their own lighting connection, additionally plug in the power plug of the lighting connection cable.

The cooling unit starts to operate after a delay of max. 2 minutes.

- Select desired operating mode [see ▶ Chapter 5.2] [see ▶ Chapter 3.2].

After start-up, it can take 3-4 hours until the desired temperature is reached.

10 Operation (use)

Only trained operating personnel may operate the appliance.

WARNING



Damage to the electrical system and/or the refrigerant circuit.



Contact with live parts may cause electric shock. Flammable refrigerant can escape and cause an explosive gas/air mixture. Risk of fire due to sparks or overloading.



- Do not allow external forces to act on the appliance, e.g. careless handling with a lift truck or floor cleaning machine.
- Avoid transmitting pulsations and vibrations to the appliance.
- Observe safety notices and warnings for appliances with flammable refrigerants [see ▶ Chapter 2.5.2].
- If the appliance is damaged or the electrical fuse protection is tripped:
 1. Disconnect the appliance.
 2. Secure the appliance against restarting.
 3. Contact the maintenance service [see ▶ Chapter 11.3.2].

CAUTION



Glass breakage.

Lacerations to body parts. Impact injury.

- Check glass elements for damage, e.g. cracks, breaks. In the event of damage, contact the maintenance service immediately [see ▶ Chapter 11.3.2].
- Check for closed lids.
- Do not apply any load to the lids.
- Do not climb onto or into the appliance.

- It is forbidden to store glass containers in freezers.
- For refrigerators, check for breakage of stored glass containers.



Disposal of broken glass.

Cutting injuries to the hands and body.



- Wear protective gloves to remove splintered glass parts and goods that may have been damaged as a result.
- Carefully and completely remove all splintered glass parts and damaged goods.



Leakage of defrosting water.

Slipping hazard.

- Check for puddles in front of and under the appliance.
- Remove any defrosting water that escapes immediately.
- Contact the maintenance service immediately [see ▶ Chapter 11.3.2].

NOTICE

Material damage due to misuse.

- Operate the appliance in a stable operating position (horizontal alignment).
- Operate the unit only on the mounted sliding feet and swivel castors.
- Check that the appliance is in good, proper condition. Any damage must be repaired immediately.

Property damage due to incorrect use.

- Do not operate the appliance above the climate class stated on the rating plate [see ▶ Chapter 3.2.1].
- The ambient temperature must not fall below 16°C (60.8°F).
- Operate the unit only with lids.
- Check for closed lids.
- Observe the prescribed storage temperature of the stored products.
- Check the interior temperature [see ▶ Chapter 5.1].
- In the event of a power failure, stored goods must be checked by the operating company (temperature check).
- Check that there are no foreign objects in the goods cabinet. Remove incorrectly stored goods immediately.
- Remove food and packaging residues [see ▶ Chapter 11.2.1].

In the case of special climate conditions with high atmospheric humidity, condensate formation (condensation water) can occur in the interior of the device or at the air outlet openings above. Remove this condensation for hygienic reasons.

WARNING



Electrostatic discharge and spark formation with flammable refrigerant.

Sparks can ignite the leaking refrigerant when the refrigerant circuit is damaged/not sealed. Risk of fire.

- To remove condensation, use a damp cloth or sponge.
- Do not use dry cloths or sponges to dry the appliance.

10.1 Loading

CAUTION



Material breakage.

Falling hazard. Impact hazard due to falling parts/goods. Cuts.

- When loading, do not climb onto or into the appliance.



Opening/closing the lids.

Hands (body parts) may be trapped.

- When opening/closing, do not reach into the opening gap.
- Look out for other persons when opening/closing.



Falling objects.

Impact injury. Cuts in the event of glass breakage.

- Do not place any objects on the appliance.



Low temperature.

Frostbite to skin.

- Wear protective gloves when loading.



NOTICE

Property damage due to incorrect use.

- Only add goods to the appliance once the specified temperature for the product has been reached.
- Do not load the unit when the display shows "dEF".
- Carefully add goods.
- Adhere to loading specifications.
- Only open the lid briefly for loading and removing goods.
- Close lid immediately and completely after loading.

The goods are accessed by opening a lid from above.

Temperature display [see ▶ Chapter 5.1]

Loading specification

- Load limit is marked by load limit lines in the unit.

- Loading is only permitted up to the stacking marks provided on the inside.
- Upper load limit line for setting *A1, A2, A5.*
- Lower load limit line for setting *A3, A4.*



Fig. 14: Stacking mark

10.2 Shutdown and restart

WARNING



Work on the electrical system.

Contact with live parts may cause electric shock.



- Only qualified staff may carry out work on the electrical system.
- Observe the electrical safety rules before starting the work.
 1. Disconnect the appliance.
 2. Secure the appliance against restarting.

10.2.1 Shutdown

Reasons for decommissioning

Reasons for shutdown by qualified staff

- Maintenance, service, repair [see ▶ Chapter 11.3]

Reasons for shutdown by operating personnel

- Damage to appliance
 - e.g. broken lid

Only **trained operating personnel** or **qualified staff** may shut down the appliance.

WARNING



Shutdown of the appliance.

Contact with live parts may cause electric shock.



- Only trained personnel may disconnect the appliance.
- Disconnect the appliance and secure against reconnection.

Steps for shutdown by operating personnel

- Move the goods to another appliance with the same product temperature class.
- **Disconnect the device:**
 - a) Switch off cooling function [see ▶ Chapter 5]
 - b) Switch off the circuit breaker used with the appliance and secure it against being switched back on again [see ▶ Chapter 8.2].
 - c) Switch off the appliance circuit by pulling out the mains plug and secure it against being switched back on again [see ▶ Chapter 8.1].

- d) Switch off the circuit breaker used with the lighting connections and secure it against being switched back on again [see ▶ Chapter 8.2].
- e) Switch off the lighting circuit by pulling out the mains plug and secure it against being switched back on again [see ▶ Chapter 8.1].

Longer shutdown

- Carry out steps for decommissioning.
- Bring the appliance to room temperature.
- Perform basic cleaning [see ▶ Chapter 11.2.1].
- Leave the lids open.

NOTICE

Material damage during prolonged shutdown.

- Do not expose the appliance to direct heat radiation at the place of installation, e.g.:
 - Sunlight
 - Artificial external light sources
- Do not place anything in or on the appliance.
- Store the appliance in a stable operating position (horizontal alignment).

10.2.2 Restart

Restarting is the same as regular start-up [see ▶ Chapter 9].

10.3 Malfunctions during operation

NOTICE

Material and property damage on display of an alarm.

- Move the goods to another appliance with the same product temperature class.
- Contact the maintenance service immediately [see ▶ Chapter 11.3.2].

Display of alarms

There are different types of alarms to indicate malfunctions during operation.

- Display operating element [see ▶ Chapter 5.2]
- Error code
- Acoustic alarm (optional)

External warning system (optional):

The plug-in connection for connecting to the warning system is located on the rear of the appliance [see ▶ Chapter 3.2].

If a fault occurs, contact pair 3 and 6 closes and contact pair 3 and 5 opens.

Further remote monitoring options can be obtained from your maintenance service [see ▶ Chapter 11.3.2].

11 Maintenance

Inspection tasks by operating personnel

Checks	Frequency	Description
Proper condition of appliances	continuously	[see ▶ Chapter 2.2] [see ▶ Chapter 10]
Foreign objects in goods cabinet	continuously	[see ▶ Chapter 2.2] [see ▶ Chapter 10]
Damage to glass elements/Cover	continuously	[see ▶ Chapter 2.5.3] [see ▶ Chapter 10]
Closed covers	continuously	[see ▶ Chapter 10] [see ▶ Chapter 2.5.3]
Breakage of stored glass containers	continuously	[see ▶ Chapter 2.5.3] [see ▶ Chapter 10]
Interior temperature	several times daily	[see ▶ Chapter 5.1]
Correct loading of goods	continuously	[see ▶ Chapter 10.1]
Contamination of the appliance, including glass	daily	[see ▶ Chapter 11.2.1]
Food and packaging residues	daily	[see ▶ Chapter 11.2.1]
Floor (around the appliance)	daily	[see ▶ Chapter 11.2.1]
Puddles in front of/ underneath appliance (defrosting/ condensation water)	daily	[see ▶ Chapter 4.1] [see ▶ Chapter 10]
Condensation water sieve	continuously	[see ▶ Chapter 11.2.1]

WARNING



Electrostatic discharge and spark formation with flammable refrigerant.

Sparks can ignite the leaking refrigerant when the refrigerant circuit is damaged/not sealed. Risk of fire.

- To remove condensation, use a damp cloth or sponge.
- Do not use dry cloths or sponges to dry the appliance.
- Do not operate any electrical devices (e.g. wet vacuum cleaners) within the refrigerator compartment that are not of the type recommended by the manufacturer. Appliance with explosion protection markings [see ▶ Chapter 2.1] are permitted.

11.1 Defrosting

Responsibility

- Operating company

- Operating personnel

Defrosting in case of increased ice formation in the inner tank.

For unit with Area of use/operating mode Refrigerator/ Ice cream freezer semi-automatic defrosting can be initiated if required [see ▶ Chapter 5.2.4].

- a) Start semi-automatic defrosting [see ▶ Chapter 5].

For hygienic reasons, a complete defrosting [see ▶ Chapter 11.1.1] with subsequent cleaning must be carried out on all units.

- b) Perform complete defrosting [see ▶ Chapter 11.1.1].

11.1.1 Complete defrosting

We recommend combining the complete defrosting with the basic cleaning.

Defrosting interval

- For hygiene reasons at least every six months
- Additionally before each switchover to another operating mode.

Carrying out a complete defrosting

Carrying out complete defrosting corresponds to the cleaning steps with the cooling function switched off [see ▶ Chapter 11.2.1].

11.2 Cleaning

Reasons for regular and thorough cleaning (deep cleaning/main cleaning):

- Ensuring the necessary hygiene. Maintaining the goods cabinet in a clean condition.
- Lowest possible energy consumption.
- Maintenance of trouble-free operation.
- Extension of the service life of the appliance.

WARNING



Damage to the electrical system and refrigerant circuit due to the use of steam and high-pressure cleaners.



Contact with live parts may cause electric shock. Flammable refrigerant can escape and cause an explosive gas/air mixture. Risk of fire due to sparks or overloading.

- Do not use steam or high-pressure cleaners for basic cleaning.
- Follow the instructions for main cleaning.

CAUTION



Material breakage.

Falling hazard. Impact hazard due to falling parts/goods. Cuts.

- Do not climb onto or into the appliance.

Safety when handling glass [see ▶ Chapter 2.5.3].



Use protective gloves when cleaning.

11.2.1 Basic cleaning

Responsibility

- Operating personnel

Cleaning interval

Exterior

- As required

Interior

- For hygiene reasons at least every six months
- As required

Time of cleaning

Exterior

- Possible at any time

Interior

- With cooling function switched off

Cleaning agents and equipment

NOTICE

Material damage due to use of incorrect cleaning equipment.

- Do not use hard, pointed objects such as steel blades.
- Do not use hard, coarse cleaning equipment such as steel wool or paper towels.

Material damage due to use of too much cleaning agent.

- Use only cleaning equipment moistened with cleaning agent.

Material damage due to incorrect cleaning.

- No cleaning agent residues may remain on plastic surfaces and seals.
- Always subsequently clean plastic surfaces and seals with clean water.

Suitable cleaning agents and equipment

All cleaning equipment must be clean.

Cleaning agent	Cleaning equipment
Exterior and interior of appliance, Plastic surfaces	
<ul style="list-style-type: none"> – Clean water (Neutral pH value, low water hardness) – pH-neutral cleaning agents diluted with water 	<ul style="list-style-type: none"> – Moist, soft cotton cloth – Moist suction cloth – Moist sponge
Glass surface exterior	
<ul style="list-style-type: none"> – Clean water (Neutral pH value, low water hardness) – pH-neutral cleaning agents diluted with water – Commercially available glass cleaners 	<ul style="list-style-type: none"> – Moist, soft cotton cloth – Moist chamois leather

Cleaning agent	Cleaning equipment
Glass surface interior	
<ul style="list-style-type: none"> – Clean water (Neutral pH value, low water hardness) 	<ul style="list-style-type: none"> – Moist, soft cotton cloth

Drying

- Lightly moistened, soft cotton cloth

Cleaning steps

Cleaning steps during operation

- Open the lid.
- If necessary, move the goods to another unit with the same product temperature class.
- Remove food and packaging residues.
- Clean the tracks for the lids.
- Close the lids properly.
- Clean the outside of the appliance surfaces.
- Clean the outside of the glass surfaces.

Safety when handling glass [see ▶ Chapter 2.5.3].

- Dry all cleaned parts and surfaces.
- Clean the floor in front of the device.

Cleaning steps with cooling function switched off

- Move the goods to another appliance with the same product temperature class.
- Switch off cooling function [see ▶ Chapter 5]
- Defrost the unit.
- Remove lid [see ▶ Chapter 8]. Clean before re-installing.
- If necessary, remove accessories from the interior of the unit [see ▶ Chapter 4]. Clean before re-installing.
- Remove food residues, spilled liquids, and packaging residues.
- Clean the defrosting channel.
- Lift out and clean the condensation water sieve.

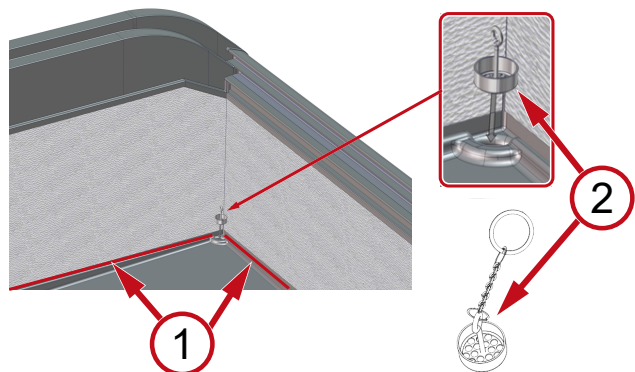


Fig. 15: condensation water sieve (1), defrost drain (2)

- Remove condensation water.
 - Wet vacuum cleaner/electrical devices with explosion protection marking
 - Lightly moistened, soft cotton cloth

Remove condensation water via drain.

- j) Place a tray underneath the drain.
- k) Remove condensation water plug.
- l) Allow the condensation water to drain.
- m) Close the drain again with the condensation water plug.

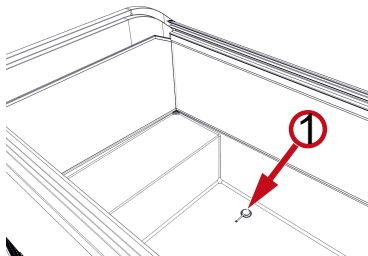


Fig. 16: Drain with condensation water plug (1)

- n) Clean the surfaces inside.
- o) If necessary, fold up the air-flow channel and carefully clean the surfaces underneath with a damp cloth.

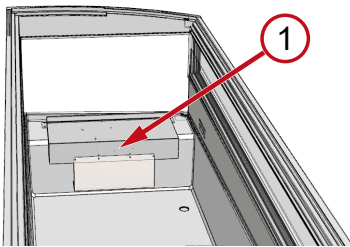


Fig. 17: Air-flow channel

- p) Dry all cleaned parts and surfaces.
- q) Reinstall removed accessories properly.
- r) Install the lid properly [see ▶ Chapter 8] and close it completely.
- s) Switch on cooling function [see ▶ Chapter 5]
- t) Clean the floor in front of the device.

NOTICE

Property damage due to incorrect use.

- Only add goods to the appliance once the specified temperature for the product has been reached.

- u) Check the temperature on the display screen [see ▶ Chapter 5.1].

11.3 Maintenance, service, and repairs

Responsibility

- Qualified staff

Only qualified staff may carry out maintenance, service, and repair work, including the following functional test.

Unit does not require regular maintenance.

In the event of questions relating to maintenance, contact the maintenance service [see ▶ Chapter 11.3.2].

! WARNING



Work on the electrical system and refrigerant circuit.



Contact with live parts may cause electric shock. Flammable refrigerant can escape and cause an explosive gas/air mixture. Risk of fire due to sparks or overloading.

- Only qualified staff may carry out work on the electrical system and refrigerant circuit.
- Observe the electrical safety rules before starting the work.
 1. Disconnect the appliance.
 2. Secure the appliance against restarting.
- Observe the specific safety instructions [see ▶ Chapter 2.5.2]
- During repairs, a competent person with knowledge of local conditions must be available as contact for the qualified staff.
- Only qualified staff may restart the appliance and perform functional tests.

! CAUTION



Sharp edges, rotating parts. Hot surfaces.



Risk of injury to the hands and body. Risk of burns in the event of skin contact.

- Only qualified staff may carry out maintenance, service, and repairs on the appliance.
- Do not touch hot surfaces until they have cooled down, in particular compressor, additional heater.
- Wear protective gloves.

11.3.1 What to do if...

All appliance are thoroughly tested for performance and safety in the AHT testing center.

- a) Immediately contact the maintenance service [see ▶ Chapter 11.3.2] in the event of:
 - a malfunction [see ▶ Chapter 10.3]
 - loud noises or vibrations
 - failure of the control and display elements [see ▶ Chapter 5].

- b) Provide the following information:
 - Appliance type
 - 14-digit serial number of the appliance
 - See rating plate [see ▶ Chapter 3.2.1]
 - additional sticker on the unit

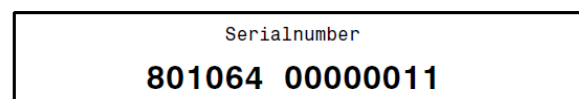


Fig. 18: Example of 14-digit serial number

- Type of malfunction
- c) Make the defective appliance inaccessible to end customers.

11.3.2 Maintenance services

For questions regarding maintenance (maintenance, service, repair, etc.), please contact the **AHT service partner** for your region:

Service line (telephone)	See sticker on the appliance
Email technical support	product_support@aht.at
Email orders for spare parts	spare_parts@aht.at
AHT online spare parts catalog	https://catalog.aht.at
Availability of legally required spare parts	8 years after the last unit of the model has been put into circulation
Minimum duration of warranty	-
Online contact:	www.aht.at/services



QR code www.aht.at/services

The maintenance services have access to all necessary and current information for start-up and maintenance, e.g.

- spare parts lists

12 Disposal

WARNING



Leakage or residue of flammable refrigerant.

Flammable refrigerant can cause an explosive gas/air mixture. Risk of fire.

- Do not damage pipes.
- Prior to dismantling and disposal, open the refrigerant circuit properly and suck off the refrigerant safely and completely. No residues may remain in the refrigerant circuit.
- Only qualified staff may suck off the refrigerant.

CAUTION



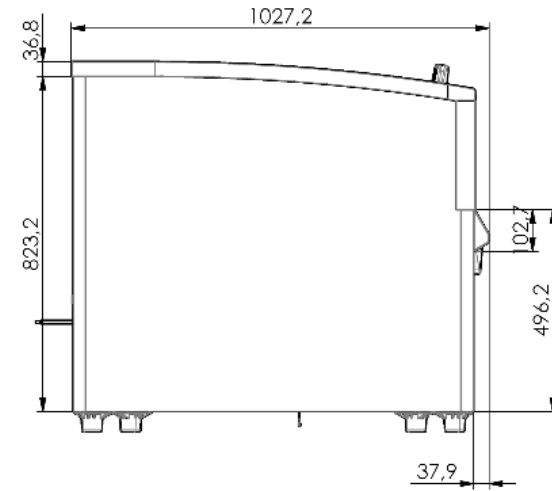
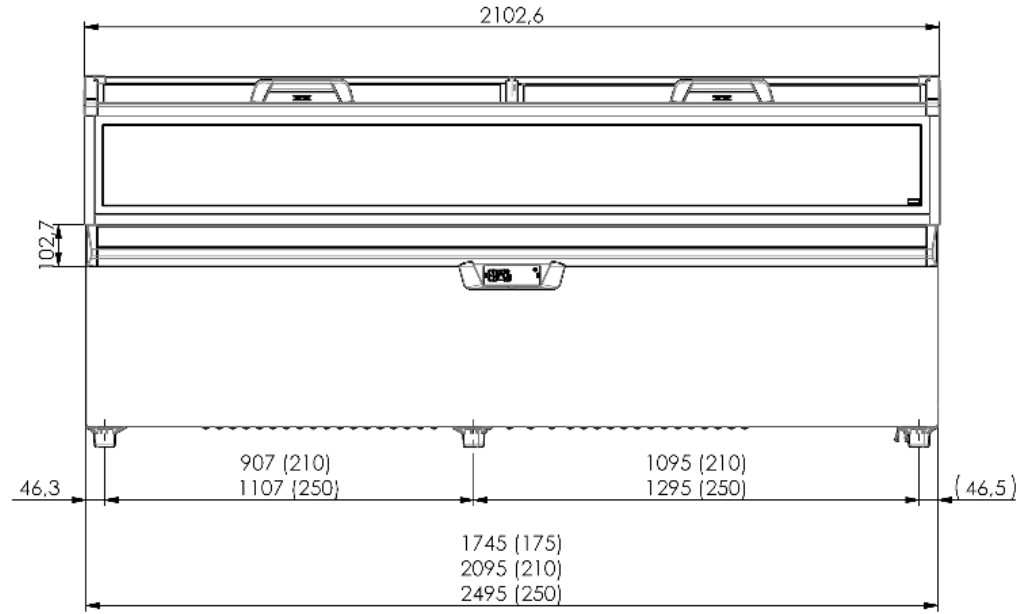
Improper disposal.

Environmental damage.

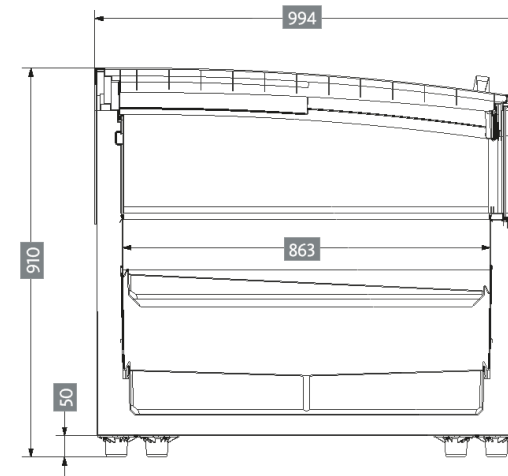
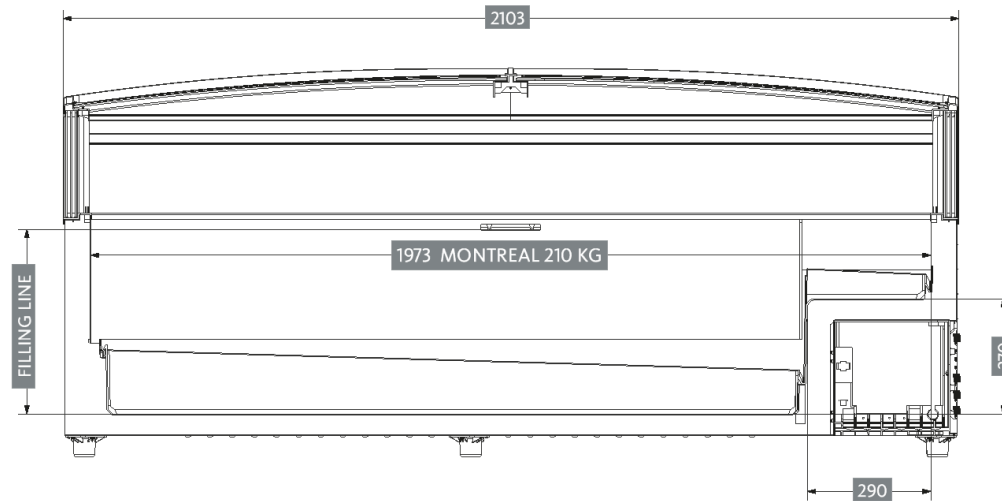
- Dispose of components in a professional and environmentally friendly manner, e.g:
 - refrigerant
 - insulating foam (pentane)
 - compressor oil
 - film and packaging
 - glass

- Separate collection of electrical and electronic equipment according to the applicable national disposal regulations (e.g. WEEE within the EU) and the regulations of the local disposal partner.
- Do not dispose of the appliance in the household waste.

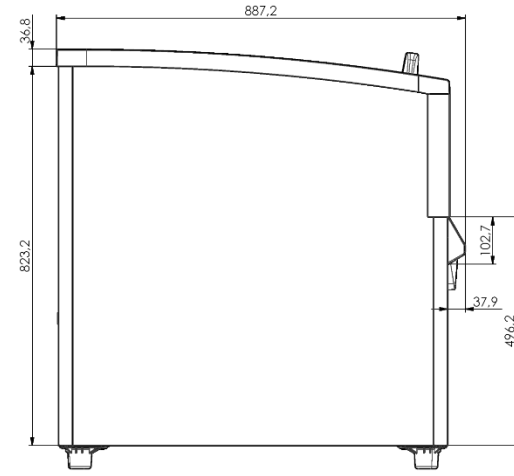
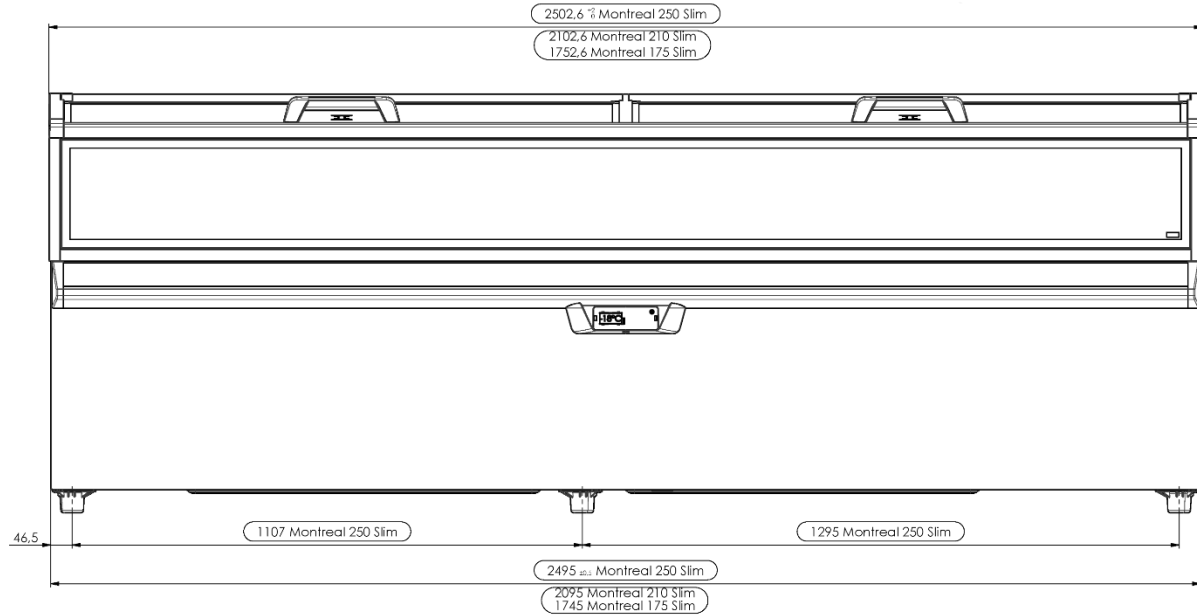
Naturally
at your
side.



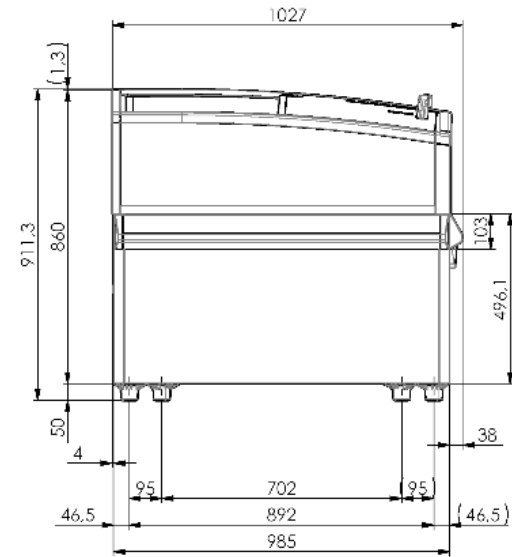
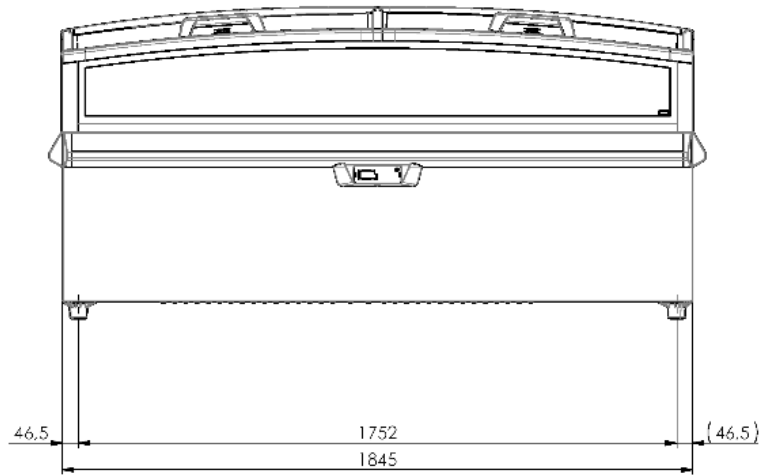
DRAWINGS
MONTREAL XL



Naturally
at your
side.



DRAWINGS
MONTREAL SLIM



Technical data

Multi-mode cabinet (R,F,IC)*

MONTREAL XL EC PUSH 185 (U) NAM

R-290 110-120V/60Hz

General data		Refrigerator IAT**	Freezer IAT**	Ice cream freezer IAT**
gross content	Liter	1045		
net content	Liter	336	453	520
total display area (TDA)	m ²	1,38		
classification acc. to 10 CFR §431 Subpart C - Commercial Refrigerators, Freezers and Refrigerator-Freezers	---	R	F	ICF
ambient temperature range	°C ... °C	+16 ... +25		
adjustment temperature range	°C ... °C	-2,2 ... +8,3	-19 ... -13	-30 ... -21
sound pressure in 1 m distance	dB(A)	43,6		
Electrical data				
nominal voltage/frequency	V / Hz	110-120/60		
nominal power consumption cabinet	W	430		
nominal current	A	9,0		
fuse protection	A	15		
energy consumption (at 24°C)	kWh/24 h	2,31	3,92	7,08
length of power supply cord	mm	1750		
Refrigeration data				
refrigerant type	---	R-290		
refrigerant charge	g	120		
max. operating pressure	bar	30		
Physical dimensions				
length outside/inside	mm	1921 / 1723		
depth outside/inside	mm	1027 / 863		
front access height/height outside	mm	847 / 910		
height inside	mm	735		
stacking height (is basket height for meat cooling)	mm	290	400	450
net weight (excl. packaging, incl. internal accessories necessary for meat cooling)	kg	180		
gross weight (incl. packaging, incl. internal accessories necessary for meat cooling)	kg	216		

*Multi-mode cabinet: Temperature setting from -22°F to +47°F possible,

**IAT - Integrated Average Temperature

Technical data

Multi-mode cabinet (R,F,IC)*

MONTREAL XL EC PUSH 185 (U) NAM

R-290 110-120V/60Hz

General data		Refrigerator IAT**	Freezer IAT**	Ice cream freezer IAT**
gross content	cu.ft.	36,89		
net content	cu.ft.	11,87	16,00	18,36
total display area (TDA)	sq.ft	14,85		
classification acc. to 10 CFR §431 Subpart C - Commercial Refrigerators, Freezers and Refrigerator-Freezers	---	R	F	ICF
ambient temperature range	°F ... °F	61 ... 77		
adjustment temperature range	°F ... °F	+28 ... +47	-2,2 ... +8,6	-22 ... -5,8
sound pressure in 1 m distance	dB(A)	43,6		
Electrical data				
nominal voltage/frequency	V / Hz	110-120/60		
nominal power consumption cabinet	W	430		
nominal current	A	9,0		
fuse protection	A	15		
energy consumption (at 75.2°F)	kWh/24h	2,31	3,92	7,08
energy consumption (at 75.2°F)	BTU/24h	7882	13376	24158
length of power supply cord	inch	68,9		
Refrigeration data				
refrigerant type	---	R-290		
refrigerant charge	oz	4,23		
max. operating pressure	bar	30		
Physical dimensions				
length outside/inside	inch	75,63 / 67,83		
depth outside/inside	inch	40,43 / 33,98		
front access height/height outside	inch	33,35 / 35,83		
height inside	inch	26,38		
stacking hight (is basket height for meat cooling)	inch	11,42	15,75	17,72
net weight (excl. packaging, incl. internal accessories necessary for meat cooling)	lb	397		
gross weight (incl. packaging, incl. internal accessories necessary for meat cooling)	lb	476		

*Multi-mode cabinet: Temperature setting from -22°F to +47°F possible,

**IAT - Integrated Average Temperature

Adjustment temperature range has to be chosen according to product requirements

24.03.2021

Technical data

Multi-mode cabinet (R,F,IC)*

MONTREAL XL EC PUSH 210 (U) NAM

R-290 110-120V/60Hz

General data		Refrigerator IAT**	Freezer IAT**	Ice cream freezer IAT**
gross content	Liter	1197		
net content	Liter	395	534	611
total display area (TDA)	m ²	1,56		
classification acc. to 10 CFR §431 Subpart C - Commercial Refrigerators, Freezers and Refrigerator-Freezers	---	R	F	ICF
ambient temperature range	°C ... °C	+16 ... +25		
adjustment temperature range	°C ... °C	-2,2 ... +8,3	-19 ... -13	-30 ... -21
sound pressure in 1 m distance	dB(A)	43,6		
Electrical data				
nominal voltage/frequency	V / Hz	110-120/60		
nominal power consumption cabinet	W	430		
nominal current	A	9,0		
fuse protection	A	15		
energy consumption (at 24°C)	kWh/24 h	2,37	4,23	7,75
length of power supply cord	mm	1750		
Refrigeration data				
refrigerant type	---	R-290		
refrigerant charge	g	130		
max. operating pressure	bar	30		
Physical dimensions				
length outside/inside	mm	2171 / 1973		
depth outside/inside	mm	1027 / 863		
front access height/height outside	mm	847 / 910		
height inside	mm	735		
stacking height (is basket height for meat cooling)	mm	290	400	450
net weight (excl. packaging, incl. internal accessories necessary for meat cooling)	kg	160		
gross weight (incl. packaging, incl. internal accessories necessary for meat cooling)	kg	191		

*Multi-mode cabinet: Temperature setting from -22°F to +47°F possible,

**IAT - Integrated Average Temperature

Technical data

Multi-mode cabinet (R,F,IC)*

MONTREAL XL EC PUSH 210 (U) NAM

R-290 110-120V/60Hz

General data		Refrigerator IAT**	Freezer IAT**	Ice cream freezer IAT**
gross content	cu.ft.	42,28		
net content	cu.ft.	13,95	18,86	21,58
total display area (TDA)	sq.ft	16,82		
classification acc. to 10 CFR §431 Subpart C - Commercial Refrigerators, Freezers and Refrigerator-Freezers	---	R	F	ICF
ambient temperature range	°F ... °F	61 ... 77		
adjustment temperature range	°F ... °F	+28 ... +47	-2,2 ... +8,6	-22 ... -5,8
sound pressure in 1 m distance	dB(A)	43,6		
Electrical data				
nominal voltage/frequency	V / Hz	110-120/60		
nominal power consumption cabinet	W	430		
nominal current	A	9,0		
fuse protection	A	15		
energy consumption (at 75.2°F)	kWh/24h	2,37	4,23	7,75
energy consumption (at 75.2°F)	BTU/24h	8087	14433	26444
length of power supply cord	inch	68,9		
Refrigeration data				
refrigerant type	---	R-290		
refrigerant charge	oz	4,59		
max. operating pressure	bar	30		
Physical dimensions				
length outside/inside	inch	85,47 / 77,68		
depth outside/inside	inch	40,43 / 33,98		
front access height/height outside	inch	33,35 / 35,83		
height inside	inch	26,38		
stacking height (is basket height for meat cooling)	inch	11,42	15,75	17,72
net weight (excl. packaging, incl. internal accessories necessary for meat cooling)	lb	353		
gross weight (incl. packaging, incl. internal accessories necessary for meat cooling)	lb	421		

*Multi-mode cabinet: Temperature setting from -22°F to +47°F possible,

**IAT - Integrated Average Temperature

Adjustment temperature range has to be chosen according to product requirements

24.03.2021

Technical data

Multi-mode cabinet (R,F,IC)*

MONTREAL SLIM EC NAM

R-290 110-120V/60Hz

General data		Refrigerator IAT**	Freezer IAT**	Ice cream freezer IAT**
gross content	cu.ft.	37,50		
net content	cu.ft.	11,87	16,00	18,36
total display area (TDA)	sq.ft	14,85		
classification acc. to 10 CFR §431 Subpart C - Commercial Refrigerators, Freezers and Refrigerator-Freezers	---	R	F	ICF
ambient temperature range	°F ... °F	61 ... 77		
adjustment temperature range	°F ... °F	+28 ... +47	-2,2 ... +8,6	-22 ... -5,8
sound pressure in 1 m distance	dB(A)	43,6		
Electrical data				
nominal voltage/frequency	V / Hz	110-120/60		
nominal power consumption cabinet	W	430		
nominal current	A	4,5		
fuse protection	A	15		
energy consumption (at 75.2°F)	kWh/24h	2,43	4,17	8,74
energy consumption (at 75.2°F)	BTU/24h	8292	14229	29822
length of power supply cord	inch	68,9		
Refrigeration data				
refrigerant type	---	R-290		
refrigerant charge	oz	3,88		
max. operating pressure	bar	30		
Physical dimensions				
length outside/inside	inch	75,63 / 67,83		
depth outside/inside	inch	40,43 / 33,98		
front access height/height outside	inch	33,35 / 35,83		
height inside	inch	26,38		
stacking height (is basket height for meat cooling)	inch	11,42	15,75	17,72
net weight (excl. packaging, incl. internal accessories necessary for meat cooling)	lb	397		
gross weight (incl. packaging, incl. internal accessories necessary for meat cooling)	lb	476		

*Multi-mode cabinet: Temperature setting from -22°F to +47°F possible,

**IAT - Integrated Average Temperature

Adjustment temperature range has to be chosen according to product requirements

15.05.2020

Technical data

Multi-mode cabinet (R,F,IC)*

MONTREAL SLIM 210 NAM

R-290 110-120V/60Hz

General data		Refrigerator IAT**	Freezer IAT**	Ice cream freezer IAT**
gross content	cu.ft.	36,37		
net content	cu.ft.	14,62	18,65	20,06
total display area (TDA)	sq.ft	14,96		
classification acc. to 10 CFR §431 Subpart C - Commercial Refrigerators, Freezers and Refrigerator-Freezers	---	R	F	ICF
ambient temperature range	°F ... °F	61 ... 77		
adjustment temperature range	°F ... °F	+28 ... +47	-2,2 ... +8,6	-22 ... -5,8
sound pressure in 1 m distance	dB(A)	43,6		
Electrical data				
nominal voltage/frequency	V / Hz	110-120/60		
nominal power consumption cabinet	W	460		
nominal current	A	4,7		
fuse protection	A	15		
energy consumption (at 75.2°F)	kWh/24h	2,36	4,08	8,80
energy consumption (at 75.2°F)	BTU/24h	8053	13922	30027
length of power supply cord	inch	68,9		
Refrigeration data				
refrigerant type	---	R-290		
refrigerant charge	oz	3,88		
max. operating pressure	bar	30		
Physical dimensions				
length outside/inside	inch	82,8 / 77,68		
depth outside/inside	inch	34,92 / 28,46		
front access height/height outside	inch	33,35 / 35,83		
height inside	inch	28,94		
stacking hight (is basket height for meat cooling)	inch	14,17	18,50	18,5 / 20,87
net weight (excl. packaging, incl. internal accessories necessary for meat cooling)	lb	388		
gross weight (incl. packaging, incl. internal accessories necessary for meat cooling)	lb	463		

*Multi-mode cabinet: Temperature setting from -22°F to +47°F possible,

**IAT - Integrated Average Temperature

Adjustment temperature range has to be chosen according to product requirements

15.05.2020

Technical data

Multi-mode cabinet (R,F,IC)*

MONTREAL SLIM PUSH 250 (U) NAM

R-290 110-120V/60Hz

General data		Refrigerator IAT**	Freezer IAT**	Ice cream freezer IAT**
gross content	cu.ft.	43,53		
net content	cu.ft.	18,01	23,10	24,79
total display area (TDA)	sq.ft	17,98		
classification acc. to 10 CFR §431 Subpart C - Commercial Refrigerators, Freezers and Refrigerator-Freezers	---	R	F	ICF
ambient temperature range	°F ... °F	61 ... 77		
adjustment temperature range	°F ... °F	+28 ... +47	-2,2 ... +8,6	-22 ... -5,8
sound pressure in 1 m distance	dB(A)	43,6		
Electrical data				
nominal voltage/frequency	V / Hz	110-120/60		
nominal power consumption cabinet	W	450		
nominal current	A	9,0		
fuse protection	A	15		
energy consumption (at 75.2°F)	kWh/24h	2,80	4,54	8,15
energy consumption (at 75.2°F)	BTU/24h	9554	15491	27809
length of power supply cord	inch	68,9		
Refrigeration data				
refrigerant type	---	R-290		
refrigerant charge	oz	4,23		
max. operating pressure	bar	30		
Physical dimensions				
length outside/inside	inch	98,54 / 93,43		
depth outside/inside	inch	34,92 / 28,46		
front access height/height outside	inch	33,31 / 35,83		
height inside	inch	28,94		
stacking height (is basket height for meat cooling)	inch	14,17	18,50	18,5 / 20,87
net weight (excl. packaging, incl. internal accessories necessary for meat cooling)	lb	439		
gross weight (incl. packaging, incl. internal accessories necessary for meat cooling)	lb	518		

*Multi-mode cabinet: Temperature setting from -22°F to +47°F possible,

**IAT - Integrated Average Temperature

Adjustment temperature range has to be chosen according to product requirements

24.08.2021

Technical data

Multi-mode cabinet (R,F,IC)*

MONTREAL XL EC PUSH 185 (U) NAM

R-290 110-120V/60Hz

General data		Refrigerator IAT**	Freezer IAT**	Ice cream freezer IAT**
gross content	cu.ft.	36,89		
net content	cu.ft.	11,87	16,00	18,36
total display area (TDA)	sq.ft.	14,85		
classification acc. to 10 CFR §431 Subpart C - Commercial Refrigerators, Freezers and Refrigerator-Freezers	---	R	F	ICF
ambient temperature range	°F ... °F	61 ... 77		
adjustment temperature range	°F ... °F	+28 ... +47	-2,2 ... +8,6	-22 ... -5,8
sound pressure in 1 m distance	dB(A)	43,6		
Electrical data				
nominal voltage/frequency	V / Hz	110-120/60		
nominal power consumption cabinet	W	430		
nominal current	A	9,0		
fuse protection	A	15		
energy consumption (at 75.2°F)	kWh/24h	2,31	3,92	7,08
energy consumption (at 75.2°F)	BTU/24h	7882	13376	24158
length of power supply cord	inch	68,9		
Refrigeration data				
refrigerant type	---	R-290		
refrigerant charge	oz	4,23		
max. operating pressure	bar	30		
Physical dimensions				
length outside/inside	inch	75,63 / 67,83		
depth outside/inside	inch	40,43 / 33,98		
front access height/height outside	inch	33,35 / 35,83		
height inside	inch	26,38		
stacking hight (is basket height for meat cooling)	inch	11,42	15,75	17,72
net weight (excl. packaging, incl. internal accessories necessary for meat cooling)	lb	397		
gross weight (incl. packaging, incl. internal accessories necessary for meat cooling)	lb	476		

*Multi-mode cabinet: Temperature setting from -22°F to +47°F possible,

**IAT - Integrated Average Temperature

Adjustment temperature range has to be chosen according to product requirements

24.03.2021

Technical data

Multi-mode cabinet (R,F,IC)*

MONTREAL XL EC PUSH 210 (U) NAM

R-290 110-120V/60Hz

General data		Refrigerator IAT**	Freezer IAT**	Ice cream freezer IAT**
gross content	cu.ft.	42,28		
net content	cu.ft.	13,95	18,86	21,58
total display area (TDA)	sq.ft.	16,82		
classification acc. to 10 CFR §431 Subpart C - Commercial Refrigerators, Freezers and Refrigerator-Freezers	---	R	F	ICF
ambient temperature range	°F ... °F	61 ... 77		
adjustment temperature range	°F ... °F	+28 ... +47	-2,2 ... +8,6	-22 ... -5,8
sound pressure in 1 m distance	dB(A)	43,6		
Electrical data				
nominal voltage/frequency	V / Hz	110-120/60		
nominal power consumption cabinet	W	430		
nominal current	A	9,0		
fuse protection	A	15		
energy consumption (at 75.2°F)	kWh/24h	2,37	4,23	7,75
energy consumption (at 75.2°F)	BTU/24h	8087	14433	26444
length of power supply cord	inch	68,9		
Refrigeration data				
refrigerant type	---	R-290		
refrigerant charge	oz	4,59		
max. operating pressure	bar	30		
Physical dimensions				
length outside/inside	inch	85,47 / 77,68		
depth outside/inside	inch	40,43 / 33,98		
front access height/height outside	inch	33,35 / 35,83		
height inside	inch	26,38		
stacking hight (is basket height for meat cooling)	inch	11,42	15,75	17,72
net weight (excl. packaging, incl. internal accessories necessary for meat cooling)	lb	353		
gross weight (incl. packaging, incl. internal accessories necessary for meat cooling)	lb	421		

*Multi-mode cabinet: Temperature setting from -22°F to +47°F possible,

**IAT - Integrated Average Temperature

Adjustment temperature range has to be chosen according to product requirements

24.03.2021

Technical data

Multi-mode cabinet (R,F,IC)*

MONTREAL XL PUSH 250 (U) NAM

R-290 110-120V/60Hz

General data		Refrigerator IAT**	Freezer IAT**	Ice cream freezer IAT**
gross content	cu.ft.	52,23		
net content	cu.ft.	21,90	28,08	30,12
total display area (TDA)	sq.ft	22,53		
classification acc. to 10 CFR §431 Subpart C - Commercial Refrigerators, Freezers and Refrigerator-Freezers	---	R	F	ICF
ambient temperature range	°F ... °F	61 ... 77		
adjustment temperature range	°F ... °F	+28 ... +47	-2,2 ... +8,6	-22 ... -5,8
sound pressure in 1 m distance	dB(A)	43,6		
Electrical data				
nominal voltage/frequency	V / Hz	110-120/60		
nominal power consumption cabinet	W	450		
nominal current	A	9,0		
fuse protection	A	15		
energy consumption (at 75.2°F)	kWh/24h	3,03	4,97	10,65
energy consumption (at 75.2°F)	BTU/24h	10339	16958	36339
length of power supply cord	inch	68,9		
Refrigeration data				
refrigerant type	---	R-290		
refrigerant charge	oz	4,59		
max. operating pressure	bar	30		
Physical dimensions				
length outside/inside	inch	98,54 / 93,43		
depth outside/inside	inch	40,43 / 33,98		
front access height/height outside	inch	33,31 / 35,83		
height inside	inch	28,94		
stacking height (is basket height for meat cooling)	inch	14,17	18,50	18,5 / 20,87
net weight (excl. packaging, incl. internal accessories necessary for meat cooling)	lb	489		
gross weight (incl. packaging, incl. internal accessories necessary for meat cooling)	lb	580		

*Multi-mode cabinet: Temperature setting from -22°F to +47°F possible,

**IAT - Integrated Average Temperature

Adjustment temperature range has to be chosen according to product requirements

24.08.2021











Technical data

Multi-mode cabinet (R,F,IC)*

MONTREAL SLIM EC NAM

R-290 110-120V/60Hz

General data		Refrigerator IAT**	Freezer IAT**	Ice cream freezer IAT**
gross content	cu.ft.	37,50		
net content	cu.ft.	11,87	16,00	18,36
total display area (TDA)	sq.ft	14,85		
classification acc. to 10 CFR §431 Subpart C - Commercial Refrigerators, Freezers and Refrigerator-Freezers	---	R	F	ICF
ambient temperature range	°F ... °F	61 ... 77		
adjustment temperature range	°F ... °F	+28 ... +47	-2,2 ... +8,6	-22 ... -5,8
sound pressure in 1 m distance	dB(A)	43,6		
Electrical data				
nominal voltage/frequency	V / Hz	110-120/60		
nominal power consumption cabinet	W	430		
nominal current	A	4,5		
fuse protection	A	15		
energy consumption (at 75.2°F)	kWh/24h	2,43	4,17	8,74
energy consumption (at 75.2°F)	BTU/24h	8292	14229	29822
length of power supply cord	inch	68,9		
Refrigeration data				
refrigerant type	---	R-290		
refrigerant charge	oz	3,88		
max. operating pressure	bar	30		
Physical dimensions				
length outside/inside	inch	75,63 / 67,83		
depth outside/inside	inch	40,43 / 33,98		
front access height/height outside	inch	33,35 / 35,83		
height inside	inch	26,38		
stacking height (is basket height for meat cooling)	inch	11,42	15,75	17,72
net weight (excl. packaging, incl. internal accessories necessary for meat cooling)	lb	397		
gross weight (incl. packaging, incl. internal accessories necessary for meat cooling)	lb	476		

*Multi-mode cabinet: Temperature setting from -22°F to +47°F possible,

**IAT - Integrated Average Temperature

Adjustment temperature range has to be chosen according to product requirements

15.05.2020

Technical data

Multi-mode cabinet (R,F,IC)*

MONTREAL SLIM 210 NAM

R-290 110-120V/60Hz

General data		Refrigerator IAT**	Freezer IAT**	Ice cream freezer IAT**
gross content	cu.ft.	36,37		
net content	cu.ft.	14,62	18,65	20,06
total display area (TDA)	sq.ft	14,96		
classification acc. to 10 CFR §431 Subpart C - Commercial Refrigerators, Freezers and Refrigerator-Freezers	---	R	F	ICF
ambient temperature range	°F ... °F	61 ... 77		
adjustment temperature range	°F ... °F	+28 ... +47	-2,2 ... +8,6	-22 ... -5,8
sound pressure in 1 m distance	dB(A)	43,6		
Electrical data				
nominal voltage/frequency	V / Hz	110-120/60		
nominal power consumption cabinet	W	460		
nominal current	A	4,7		
fuse protection	A	15		
energy consumption (at 75.2°F)	kWh/24h	2,36	4,08	8,80
energy consumption (at 75.2°F)	BTU/24h	8053	13922	30027
length of power supply cord	inch	68,9		
Refrigeration data				
refrigerant type	---	R-290		
refrigerant charge	oz	3,88		
max. operating pressure	bar	30		
Physical dimensions				
length outside/inside	inch	82,8 / 77,68		
depth outside/inside	inch	34,92 / 28,46		
front access height/height outside	inch	33,35 / 35,83		
height inside	inch	28,94		
stacking hight (is basket height for meat cooling)	inch	14,17	18,50	18,5 / 20,87
net weight (excl. packaging, incl. internal accessories necessary for meat cooling)	lb	388		
gross weight (incl. packaging, incl. internal accessories necessary for meat cooling)	lb	463		

*Multi-mode cabinet: Temperature setting from -22°F to +47°F possible,

**IAT - Integrated Average Temperature

Adjustment temperature range has to be chosen according to product requirements

15.05.2020

Technical data

Multi-mode cabinet (R,F,IC)*

MONTREAL SLIM PUSH 250 (U) NAM

R-290 110-120V/60Hz

General data		Refrigerator IAT**	Freezer IAT**	Ice cream freezer IAT**
gross content	cu.ft.	43,53		
net content	cu.ft.	18,01	23,10	24,79
total display area (TDA)	sq.ft	17,98		
classification acc. to 10 CFR §431 Subpart C - Commercial Refrigerators, Freezers and Refrigerator-Freezers	---	R	F	ICF
ambient temperature range	°F ... °F	61 ... 77		
adjustment temperature range	°F ... °F	+28 ... +47	-2,2 ... +8,6	-22 ... -5,8
sound pressure in 1 m distance	dB(A)	43,6		
Electrical data				
nominal voltage/frequency	V / Hz	110-120/60		
nominal power consumption cabinet	W	450		
nominal current	A	9,0		
fuse protection	A	15		
energy consumption (at 75.2°F)	kWh/24h	2,80	4,54	8,15
energy consumption (at 75.2°F)	BTU/24h	9554	15491	27809
length of power supply cord	inch	68,9		
Refrigeration data				
refrigerant type	---	R-290		
refrigerant charge	oz	4,23		
max. operating pressure	bar	30		
Physical dimensions				
length outside/inside	inch	98,54 / 93,43		
depth outside/inside	inch	34,92 / 28,46		
front access height/height outside	inch	33,31 / 35,83		
height inside	inch	28,94		
stacking height (is basket height for meat cooling)	inch	14,17	18,50	18,5 / 20,87
net weight (excl. packaging, incl. internal accessories necessary for meat cooling)	lb	439		
gross weight (incl. packaging, incl. internal accessories necessary for meat cooling)	lb	518		

*Multi-mode cabinet: Temperature setting from -22°F to +47°F possible,

**IAT - Integrated Average Temperature

Adjustment temperature range has to be chosen according to product requirements

24.08.2021

Technical data

Multi-mode cabinet (R,F,IC)*

MONTREAL XL EC PUSH 185 (U) NAM

R-290 110-120V/60Hz

General data		Refrigerator IAT**	Freezer IAT**	Ice cream freezer IAT**
gross content	cu.ft.	36,89		
net content	cu.ft.	11,87	16,00	18,36
total display area (TDA)	sq.ft.	14,85		
classification acc. to 10 CFR §431 Subpart C - Commercial Refrigerators, Freezers and Refrigerator-Freezers	---	R	F	ICF
ambient temperature range	°F ... °F	61 ... 77		
adjustment temperature range	°F ... °F	+28 ... +47	-2,2 ... +8,6	-22 ... -5,8
sound pressure in 1 m distance	dB(A)	43,6		
Electrical data				
nominal voltage/frequency	V / Hz	110-120/60		
nominal power consumption cabinet	W	430		
nominal current	A	9,0		
fuse protection	A	15		
energy consumption (at 75.2°F)	kWh/24h	2,31	3,92	7,08
energy consumption (at 75.2°F)	BTU/24h	7882	13376	24158
length of power supply cord	inch	68,9		
Refrigeration data				
refrigerant type	---	R-290		
refrigerant charge	oz	4,23		
max. operating pressure	bar	30		
Physical dimensions				
length outside/inside	inch	75,63 / 67,83		
depth outside/inside	inch	40,43 / 33,98		
front access height/height outside	inch	33,35 / 35,83		
height inside	inch	26,38		
stacking hight (is basket height for meat cooling)	inch	11,42	15,75	17,72
net weight (excl. packaging, incl. internal accessories necessary for meat cooling)	lb	397		
gross weight (incl. packaging, incl. internal accessories necessary for meat cooling)	lb	476		

*Multi-mode cabinet: Temperature setting from -22°F to +47°F possible,

**IAT - Integrated Average Temperature

Adjustment temperature range has to be chosen according to product requirements

24.03.2021

Technical data

Multi-mode cabinet (R,F,IC)*

MONTREAL XL EC PUSH 210 (U) NAM

R-290 110-120V/60Hz

General data		Refrigerator IAT**	Freezer IAT**	Ice cream freezer IAT**
gross content	cu.ft.	42,28		
net content	cu.ft.	13,95	18,86	21,58
total display area (TDA)	sq.ft.	16,82		
classification acc. to 10 CFR §431 Subpart C - Commercial Refrigerators, Freezers and Refrigerator-Freezers	---	R	F	ICF
ambient temperature range	°F ... °F	61 ... 77		
adjustment temperature range	°F ... °F	+28 ... +47	-2,2 ... +8,6	-22 ... -5,8
sound pressure in 1 m distance	dB(A)	43,6		
Electrical data				
nominal voltage/frequency	V / Hz	110-120/60		
nominal power consumption cabinet	W	430		
nominal current	A	9,0		
fuse protection	A	15		
energy consumption (at 75.2°F)	kWh/24h	2,37	4,23	7,75
energy consumption (at 75.2°F)	BTU/24h	8087	14433	26444
length of power supply cord	inch	68,9		
Refrigeration data				
refrigerant type	---	R-290		
refrigerant charge	oz	4,59		
max. operating pressure	bar	30		
Physical dimensions				
length outside/inside	inch	85,47 / 77,68		
depth outside/inside	inch	40,43 / 33,98		
front access height/height outside	inch	33,35 / 35,83		
height inside	inch	26,38		
stacking hight (is basket height for meat cooling)	inch	11,42	15,75	17,72
net weight (excl. packaging, incl. internal accessories necessary for meat cooling)	lb	353		
gross weight (incl. packaging, incl. internal accessories necessary for meat cooling)	lb	421		

*Multi-mode cabinet: Temperature setting from -22°F to +47°F possible,

**IAT - Integrated Average Temperature

Adjustment temperature range has to be chosen according to product requirements

24.03.2021

Technical data

Multi-mode cabinet (R,F,IC)*

MONTREAL XL PUSH 250 (U) NAM

R-290 110-120V/60Hz

General data		Refrigerator IAT**	Freezer IAT**	Ice cream freezer IAT**
gross content	cu.ft.	52,23		
net content	cu.ft.	21,90	28,08	30,12
total display area (TDA)	sq.ft	22,53		
classification acc. to 10 CFR §431 Subpart C - Commercial Refrigerators, Freezers and Refrigerator-Freezers	---	R	F	ICF
ambient temperature range	°F ... °F	61 ... 77		
adjustment temperature range	°F ... °F	+28 ... +47	-2,2 ... +8,6	-22 ... -5,8
sound pressure in 1 m distance	dB(A)	43,6		
Electrical data				
nominal voltage/frequency	V / Hz	110-120/60		
nominal power consumption cabinet	W	450		
nominal current	A	9,0		
fuse protection	A	15		
energy consumption (at 75.2°F)	kWh/24h	3,03	4,97	10,65
energy consumption (at 75.2°F)	BTU/24h	10339	16958	36339
length of power supply cord	inch	68,9		
Refrigeration data				
refrigerant type	---	R-290		
refrigerant charge	oz	4,59		
max. operating pressure	bar	30		
Physical dimensions				
length outside/inside	inch	98,54 / 93,43		
depth outside/inside	inch	40,43 / 33,98		
front access height/height outside	inch	33,31 / 35,83		
height inside	inch	28,94		
stacking height (is basket height for meat cooling)	inch	14,17	18,50	18,5 / 20,87
net weight (excl. packaging, incl. internal accessories necessary for meat cooling)	lb	489		
gross weight (incl. packaging, incl. internal accessories necessary for meat cooling)	lb	580		

*Multi-mode cabinet: Temperature setting from -22°F to +47°F possible,

**IAT - Integrated Average Temperature

Adjustment temperature range has to be chosen according to product requirements

24.08.2021