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# Compact Line

APPLICATION

Beverages



Fruits & vegetables



Prepacked cheese



Dairy products



Pastry



Prepacked sandwiches



Delicatessen



Prepacked fresh meat



Prepacked poultry



Prepacked fish



Minced meat prepacked



Frozen food



Ice cream





The development and testing of refrigeration equipment are conducted in a climate room, in accordance with ISO 23953 test methods. Actual storage temperatures in installed equipment may differ due to factors out of the manufacturer's control, and may have an impact on the energy consumption and efficiency of the equipment. The actual data may therefore differ from the data presented in this brochure. Application recommendations are based on German requirements; legislation may differ in other countries and should be taken into consideration.

Ambient conditions:  $25~^{\circ}\text{C}$  / 60~r. h. The technical data refer to a standard cabinet equipment (cross section). The installed electrical loads are referring to 230~V (electrical consumers).

# Compact Line

Reliable products built on 60 years of development experience. The development center in Mainz is the birthplace of the new Compact Line cabinet. By concentrating development on one site, Carrier benefits from exchange and innovation across departments, which is reflected in robust, reliable products.

## Flexible production from raw materials through to finished cabinets

Production in Hungary is very flexible and thanks to the state-of-the-art laser processing center, we are able to produce an enormous range of variants. In the factory's own powder coating facility the cabinets can be painted in a variety of colors. This means you always get the cabinet that precisely meets your requirements.







### Safe refrigeration tested in the test laboratory

At the Germany and Hungary sites, Carrier has over fourteen testing rooms which are equipped with the latest technology. The cabinets are put through their paces and tested according to the standard DIN EN ISO 23953 to ensure optimum temperature performance. We also measure the energy consumption under strict test conditions according to climate class 3.

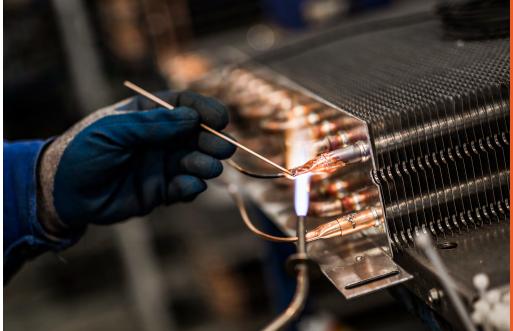




## Future-proof with an environmentally sustainable design

Carrier has a large portfolio of plug-in refrigeration cabinets that are run with natural refrigerants propane (R290) or butane (R600a). These refrigerants have a thousand times lower  $\mathrm{CO}_2$  equivalent than conventional FC refrigerants and are beneficial for the environment.







### Your safety is our concern

The CE mark is self-declared and does not require a third party expert opinion. For Carrier safety is the main priority. Every one of our cabinets with flammable refrigerant is therefore approved again by an independent institute and CE certified. This means we guarantee the highest safety standard according to the "two-person rule".

## Areor® Total Transparency

Highly transparent, plug-in counter-island

#### Benefits at a glance

- Full product view through high-transparent cabinet design
- Robust and durable for daily use through scratchresistant glass superstucture
- Simplified maintenance and service by slidable condensing unit
- Classy design and cladding options for seamless integration into store layout



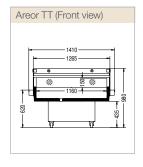
### Standard configuration

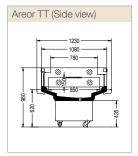
- Elegant, highly transparent glass superstructure
- Plinth of galvanized steel with powder coated finish, body internal and external PVC, outside and inside color black (RAL 9005)
- Stainless steel bumper

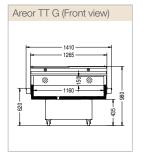
- Temperature-assured forced-air cooling
- Solar-thermometer
- Electronic controller
- EC-fans
- Slidable condensing unit
- Natural refrigerant R290 (propane)

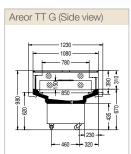












	units	TT 1241	TT 1251 G	
Temperature	[°C]	+2+4	-1+1	
Refrigerant		R290		
Width (without / with bumper)	[mm]	1265 /	/ 1410	
Depth (without / with bumper)	[mm]	1080 /	/ 1230	
Height	[mm]	980	980	
Volume	[1]	14	18	
Shelf area	[m <sup>2</sup> ]	2.0	99	
Power consumption refrigeration	[W]	842 854		
Power consumption defrost	[W]	29	9	
Energy consumption*	[kWh/d]	8.9	4.9	
Heat dispatch*	[W]	370	205	
Temperature Class		3H2	3M1	
Application				

## Areor® Total Transparency customization



#### Colors

Paintal	ole area	Color options
F/M01	EXTERIOR	RAL9005 (JET BLACK) RAL7042 (TRAFFIC GREY)
F/M11	PLINTH PANEL	
F/M35	INTERIOR EQUIPMENT	Carrier approved colors
F/M60	HANDRAIL	RAL9005 (JET BLACK)

### Cooling unit



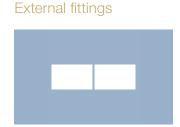
Power cable



Modbus interface with RJ45 socket



CO<sub>2</sub> remote



Installation kit: Side-by-side



Castors, factory installed



Owner plate

Lighting

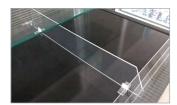


Bottom bumper stainless steel, tube



Bottom bumper stainless steel, squared\*

#### Internal fittings



Transparent divider: front back



Transparent divider: Z-shape



Transparent divider: V-shape



Price rail: shelf length



Solar thermometer (factory installed)



Smart LED handrail lighting (Areor 1250 G)



Cladding possiblities\*

## Areor®

Energy-efficient plug-in counter-island with modern styling

#### Benefits at a glance

- Outstanding flexibility
- High product visibility with easy access
- Improved energy efficiency
- Simplified maintenance



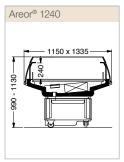
## Standard configuration

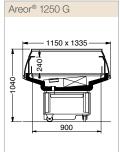
- Plinth of galvanized steel with powdercoated finish, sidewalls and front air deflectors of PVC
- Temperature-assured forced-air cooling Natural refrigerant R290 (propane)
- EC condenser fan

- Sliding glass lid (1250 G)
- Electronic controller
- Digital thermometer



Areor 1240







		10.10	1000 0	
	Units	1240	1250 G	
Temperature	[°C]	+2+4	-1+1	
Refrigerant		R2	290	
Width	[mm]	13	35	
Depth	[mm]	11	50	
Height	[mm]	990	1040	
Volume	[1]	15	58	
TDA	[m <sup>2</sup> ]	1.0	05	
Power consumption refrigeration	[W]	690		
Power consumption defrost	[W]	3	66	
Energy consumption*	[kWh/d]	8.2	4.5	
Heat dispatch*	[W]	340	190	
Temperature Class		3H8	3M1	
Application				

## Areor® customization



#### Colors

Paintal	ole area	Color options
F/M01	EXTERIOR	DALOGOS (IET DI AGIO
F/M50	FRONT BUMPER	RAL9005 (JET BLACK)
F/M63	CORNER OUTSIDE	RAL7042 (TRAFFIC GREY)
F/M11	PLINTH PANEL	
F/M35	INTERIOR EQUIPMENT	Carrier approved colors
F/M60	HANDRAIL	RAL9005 (JET BLACK)

### Cooling unit



Power cable



Energy saving fan, condenser



CO<sub>2</sub> remote



Modbus interface with RJ45 socket

#### Internal fittings



Digital thermometer

### Lighting



Smart LED handrail lighting

#### Internal fittings



Transparent divider front / back



Transparent divider: Z-shape

### External fittings



Fitting kit for installation Side-by-side



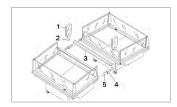
Serve-over counter with worktop



Fitting kit for installation back-to-back



Self-service counter with worktop



Fitting kit for installation back-to-back counter union



Castors, factory installed



Fitting kit for installation shape left / right union



Bottom bumper stainless steel, tube

## Areor® Stepped

Plug-in counter-island in modern design

#### Benefits at a glance

- Outstanding design and product visibility
- Actively chilled bottom deck (Areor ST/SD 1241)
- Extended product presentation on all levels
- Block grouping possibilities
- Sliding condensing unit for easy service & maintenance



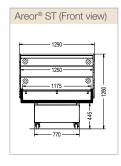
### Standard configuration

- Stepped superstructure with two acrylic sidewalls and adjustable glass shelves
- Temperature-assured forced-air cooling Digital thermometer (solar) with air outlet
- Plinth of galvanized steel with powdercoated finish, sidewalls and front air deflectors of PVC, outside and inside color black (RAL 9005)
- Sliding condensing unit

- Energy saving condenser fan
- Electronic controller
- Factory installed castors
- Air cooled bottom shelf (ST/SD 1241)
- Natural refrigerant R290 (propane)

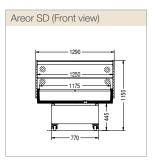


SD 1241 ST 1232 ST 1241











	Units	SQ 1231	ST 1232**	ST 1241	SD 1241
Temperature	[°C]	+2.	+4	0+2	0+2
Refrigerant		R290			
Width (without / with bumper)	[mm]		1290	/ 1410	
Depth (without / with bumper)	[mm]		1080	/ 1150	
Height	[mm]	1500	1500 1280		
Volume	[1]		269	133	100
Shelf area	[m <sup>2</sup> ]	1.83			1.52
Power consumption refrigeration	[W]	982	950	950	890
Power consumtion defrost	[W]	285	186.4	186.4	285
Energy consumption*	[kWh/d]	21.7	13.8	14.8	13.4
Heat dispatch*	[W]	905	575	620	560
Temperature Class		3H2 > 3H2		3M2	3M2
Application					

## Areor® Stepped customization



Painta	ble area	Color options
F/M01	EXTERIOR	RAL9005 (JET BLACK) RAL7042 (TRAFFIC GREY)
F/M11	PLINTH PANEL	
F/M35	INTERIOR EQUIPMENT	Carrier approved colors

## Cooling unit



Power cable



Modbus interface with RJ45 socket



CO<sub>2</sub> remote



Water level sensor

### External fittings



Castors, factory installed



Bottom bumper stainless steel, tube



Bottom bumper stainless steel, squared\*

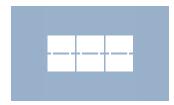


Installation kit: Side-by-side



Installation kit: Back-to-back

#### Internal fittings



Installation kit: Block grouping



Air cooled bottom deck (Areor ST/SD 1241), factory installed



Transparent divider: front back



Transparent divider: Z-shape



Transparent divider: V-shape



Price rail: short



Price rail: shelf length



Solar thermometer (factory installed)

## Areor® 10

Small plug-in counter-island in transparent design

#### Benefits at a glance

- Outstanding design and product visibility
- Small size fits in each corner for cross-selling of products
- Block grouping possibilities

## Standard configuration

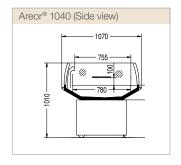
- Transparent superstructure with acrylic sidewalls
- Two glass shelves (Areor ST)
- Temperature-assured forced-air cooling Factory installed castors on back-side with air outlet
- Powder coated finish in black
- Stainless steel bumper
- Energy saving condenser fan
- Electronic controller
- Natural refrigerant R290 (propane)

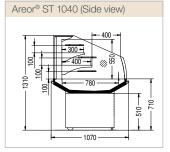


Areor 1040



Areor ST 1040





	Units	1040	ST 1040
Temperature	[°C]	0+2	0+2
Refrigerant	[ 0]		90
	[00.00]		
Width (with bumper)	[mm]		30
Depth	[mm]	10	50
Height	[mm]	1000	1300
Volume	[1]	73	138.7
Shelf area	$[m^2]$	0.83	1.12
Power consumption refrigeration	[W]	550	610
Power consumtion defrost	[W]	50	60
Energy consumption*	[kWh/d]	9.1	9.14
Heat dispatch*	[W]	379	379
Temperature Class		3M2	3M2
Application			

## Areor® 10 customization



### Colors

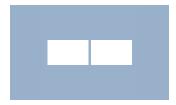
Painta	ble area	Color options
F/M01	EXTERIOR	RAL9005 (JET BLACK)
F/M11	PLINTH PANEL	RAL9005 (JET BLACK)
F/M35	INTERIOR	(Other colors on request
	EQUIPMENT	with a MOQ)

### Cooling unit



Power cable

## External fittings



Installation kit: Side-by-side



Installation kit: Back-to-back (Only Areor 1040)



Bottom bumper stainless steel, squared

## Optimer® Low Front

Refrigerated plug-in multideck with maximized display area

#### Benefits at a glance

- Harmonized design with Velando CS and Mendos for a consistent store layout
- Best merchandising with enlarged product facing area and fully transparent doors
- Multiplexing for improved floor space productivity



## Standard configuration

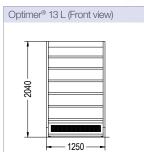
- Painted panels galvanized steel with hardwearing powder coated finish, FA0605 white interior, FA0633 nimbus grey exterior
- Panorama endwalls
- Integrated front bumper
- Temperature-assured forced-air cooling with honeycomb air outlet
- Energy saving fans

- 5 Display shelves with 40 mm scanner price rails
- LED (R290)
- Manual nightblind or double glass door, tempered
- Electronic controller
- Slideable condensing unit for easy service









Optimer 2548 LG

	Units	0948 L**	1348 L	1948 L	2548 L ***	0948 LG	1348 LG	1948 LG	2548 LG
Temperature	[°C]		0	.+2			-1	.+1	
Refrigerant					R2	90			
Width	[mm]	885	1250	1875	2420	885	1250	1875	2420
Depth	[mm]				84	10			
Height	[mm]				20	40			
Volume	[1]	485	716	1102	1436	570	716	1102	1436
Power consumption ref.	[W]	-	1265	2177	-	485	679	1238	1358
Power consumption def.	[W]	_	508	673	_	452	512	704	1024
Energy cons.* (12 h light and blind)	[kWh/d]	-	22.0	25.6	-	8.3	12.0	16.9	24
Heat dispatch*	[W]	-	920	1067	-	346	500	704	1000
Temperature class		3M2 3M1							
Application						(6			<b>&gt;</b>

## Optimer® Low Front customization



#### Colors

Paintal	ole area	Color options
F/M01	EXTERIOR	
F/M02	CANOPY PANEL	
F/M03	ENDWALL EXTERNAL	
F/M12	KICKPLATE	
F/M35	INTERIOR EQUIPMENT	Carrier approved colors
F/M36	CEILING PANELLING	
F/M37	AIR BAFFLE PLATE	
F/M38	DISPLAY SHELVES	
F/M39	BOTTOM DECK	
F/M40	RETURN AIR GRILLE	RAL9003 (SIGNAL WHITE) RAL9005 (JET BLACK) RAL9006 (WHITE ALUMINIUM)
F/M04	ENDWALL INTERNAL	FA0369 (HERLIT GREY) RAL9005 (JET BLACK) RAL9003 (SIGNAL WHITE)
F/M58	PRICE RAIL FOR DISPLAY SHELF	RAL9003 (SIGNAL WHITE)
F/M90	GRID/WIRE/DIVIDER/ BASKET	RAL9005 (JET BLACK) RAL9006 (WHITE ALUMINIUM)
F/M07	DECOR FRONT PANEL	FA0632 (STRATUS GREY) FA9005 (JET BLACK)

### Cooling unit



Sound absorbing package (only LG)



Energy saving fans evaporator



Energy saving fans condenser



Power cable

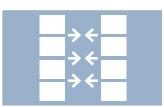


Modbus interface with RJ45 socket

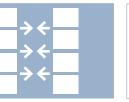
### External fittings



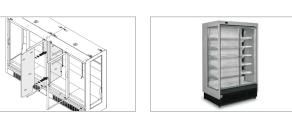
Gap cover



Multiplex kit



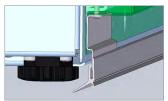
Partition transparent on cabinet joint



Glass doors



Castors, swivel-parking with frame



Floor close off seal



Rear wall panelling



Fully transparent double-glass doors (anti-reflex coating optional)

## Optimer® Low Front customization

### External fittings



Night blind manual / motorized



Panorama endwall



Endwall, internally mirrored

### Internal fittings



Display shelf 430 mm



Wire divider for shelves and baskets, height 165 mm



Shelf divider 35 mm high



Wire shelf with wire fence



Set of baskets



Acrylic glass fence 50 mm



Wire fence 50 mm



Acrylic glass fence 100 mm



Top mirror 330 mm



Lateral mirror trim 330 mm (Cover for panorama side-wall)



Scanner price rail for shelves and bottom deck 40 mm



Scan hook 400 mm



Euro hook 400 mm



Hook support rail



Air baffle acrylic (air guidance needed for hooks)



Premium LED horizontal lighting



Premium LED horizontal and vertical lighting



Premium LED horizontal and shelf lighting

## Maxima MC6

Compact and bright eye catching multideck chiller

#### Benefits at a glance

- Eye catching due to canopy and shelf illumination
- Positionable at ease, two dedicated handles at the back
- Compact design, fits to all store formats
- Easily accessible machine compartment
- Large external surface is customizable with stickers

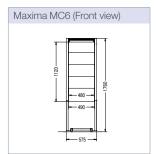
## Standard configuration

- Painted panels galvanized steel with hardwearing powder coated finish, FA0605 white interior, FA0633 nimbus grey exterior
- Panorama endwalls
- Temperature-assured forced-air cooling with honeycomb air outlet
- 4 rows of wire shelves with 40 mm scanner price rails
- 40 mm scanner price rail for bottom shelf
- Horizontal and shelf LED lighting
- Electronic controller Dixell
- Slideable condensing unit for easy service



Maxima MC 6





	Units	Maxima MC6
Temperature	[°C]	+2+4
Refrigerant R134a		R290
Width	[mm]	661
Depth	[mm]	565
Height	[mm]	1761
Volume	[1]	227
TDA	[m <sup>2</sup> ]	0.37
Power consumption ref.	[W]	1000
Power consumption def.	[W]	413
Energy consumption	[kWh/d]	14.6
Heat dispatch	[W]	610
Temperature class		3H2
Application		

## Maxima MC6 customization



### Colors

Painta	ble area	Color options
F/M01	EXTERIOR	Carrier approved colors
F/M35	INTERIOR EQUIPMENT	Carrier approved colors
F/M58	PRICE RAIL DISPLAY SHELF	RAL9003 SIGNAL WHITE
F/M78	PRICE RAIL BOTTOM DECK	RAL9003 SIGNAL WHITE

## Cooling unit



Energy saving fans evaporator



Fan motor condenser, reversible\*



Smart LED horizontal and shelf lighting

## Presenter® 06

Small refrigerated semi-vertical – promoting impulse sales

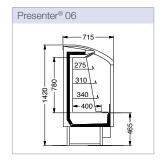
#### Benefits at a glance

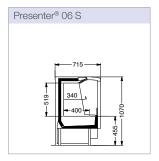
- Small and flexible to boost sales everywhere in the shop
- Ergonomic design for products easy to grab and go
- Ideal for sandwiches, drinks and convenience food
- Perfectly fitting to small shop areas



## Standard configuration

- Energy saving fans
- Temperature-assured forced-air cooling with honeycomb air outlet
- Electronic controller
- Painted panels galvanized steel with hardwearing powder coated finish, FA0605 white • Natural refrigerant R290 interior, FA0633 nimbus grey exterior
- Part glazed endwalls
- Glass shelves with 40 mm scanner price
- 40 mm scanner price rails for bottom deck
- Vertical lighting LED







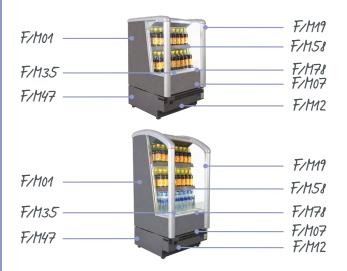




Presenter 0647 S

	Units	0647	0647 S			
Temperature	[°C]	0+2				
Refrigerant		F	2290			
Width	[mm]		625			
Depth	[mm]		715			
Height	[mm]	1420	1070			
Volume	[1]	130	93			
Power consumption ref.	[W]	573	627			
Power consumption def.	[W]	38	98			
Energy consumption* (12 h light on)	[kWh/d]	8.4	7.8			
Heat dispatch*	[W]	350	325			
Temperature class		3M2				
Application						

## Presenter® 06 customization



#### Colors

Painta	ble area	Color options
F/M01	EXTERIOR	
F/M07	DECOR FRONT PANEL	Carrier approved colors
F/M12	KICKPLATE	
F/M35	INTERIOR EQUIPMENT	
F/M19	VERTICAL LIGHTING	RAL9006 (WHITE ALUMINIUM)
F/M58	PRICE RAIL F. DISPLAY SHELF	FA0166 (CRYSTAL GREY)
F/M78	PRICE RAIL BOTTOM DECK	FA0166 (CRYSTAL GREY)
F/M47	CONDENSER	UNVARNISHED, NANO PROTECTION

### Cooling unit



Power cable



Energy saving fan evaporator



Energy saving fan condenser

### External fittings



Basket with price rail



Protector package for vertical lighting



Castors, factory installed



Stickers



Manual night blind

### Internal fittings



Scanner price rail 40 mm



Scanner price rail for bottom shelf 40 mm



Smart LED vertical lighting

## Crystal COC90, COC95

Small plug-in semi-vertical for promotional sales

#### Benefits at a glance

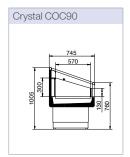
- High product visibility and good promotion for increased impulse sales
- Ideal for beverages and convenience food
- Products are accessible at the ideal grab level
- Shelves or tiered steps allow flexible promotion

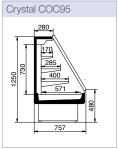
## Standard configuration

- Temperature-assured forced-air cooling with honeycomb air outlet
- Mechanical thermostat (COC90), electronic controller (COC95)
- Painted panels galvanized steel with hard-wearing powder coated finish,
   FA0605 white interior, FA0633 nimbus grey exterior
- Full glazed endwalls
- Metal shelves
- Horizontal lighting T8 for COC95



Crystal COC90









Crystal COC95

	Units	COC90	COC95			
Temperature	[°C]	+2+4				
Refrigerant		R	134a			
Width	[mm]	8	397			
Depth	[mm]	745	757			
Height	[mm]	1005	1250			
Volume	[1]	98	175			
Power consumption ref.	[W]	325	720			
Power consumption def.	[W]	350	225			
Energy consumption*	[kWh/d]	7.0	11.0			
Heat dispatch*	[W]	290	460			
Temperature class		3H2				
Application						

## Crystal customization



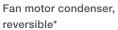


### Colors

Paintable area	1	Color options
F/M01	EXTERIOR	
F/M12	KICKPLATE	Carrier approved colors
F/M35	INTERIOR EQUIPMENT	Carrier approved colors

Cooling unit







Power cable

### External fittings



Castors, factory installed

### Internal fittings



Analog thermometer



Display steps (COC90)



2 or 3 rows of shelves (COC95)



Horizontal lighting

## Velando® Compact Space

Advanced freezer solution for small supermarkets and C-stores

#### Benefits at a glance

- Consistent store layout
- Environmentally sustainable design using natural refrigerant
- Energy efficient
- · Large display area and product visibility
- Multiplexible



### Standard configuration

- Painted panels galvanized steel with hard-wearing powder coated finish, FA0605 white interior, FA0633 nimbus grey exterior
- Non-glazed endwalls, triple glass door, tempered
- Integrated front bumper
- Temperature-assured forced-air cooling Slideable condensing unit for easy with honeycomb air outlet
- Energy saving fans
- 4 rows of wire shelves, top 2 rows are with wire shelf covers, 40 mm scanner price rails
- 40 mm scanner price rail for bottom shelf
- Vertical lighting T5 or LED
- Electronic controller



Velando CS 2580 LG







	Units	1780 LG	2580 LG		
Temperature	[°C]	-22	24		
Refrigerant		R2	90		
Width	[mm]	1662	2443		
Depth	[mm]	77	70		
Height	[mm]	2040			
Volume	[1]	995	1493		
TDA	[m <sup>2</sup> ]	2.03	3.07		
Power consumption ref.	[W]	2126	2990		
Power consumption def.	[W]	2223	3211		
Energy consumption* (12 h LED light)	[kWh/d]	37.8 / 25.5**	57.1 / 37.7**		
Heat dispatch*	[W]	1575	2380		
Temperature class		3L1			
Application					

## Velando® Compact Space customization



### Colors

Painta	ble area	Color options
F/M01	EXTERIOR	
F/M02	CANOPY PANEL	
F/M03	ENDWALL EXTERNAL	
F/M12	KICKPLATE	
F/M35	INTERIOR EQUIPMENT	Carrier approved colors
F/M36	CEILING PANELLING	
F/M37	AIR BAFFLE PLATE	
F/M38	DISPLAY SHELVES	
F/M39	BOTTOM DECK	
F/M40	RETURN AIR GRILLE	
F/M04	ENDWALL INTERNAL	FA9005 (JET BLACK) FA0605 (WHITE)
F/M58	PRICE RAIL FOR DISPLAY SHELF	FACOCE (CICNIAL NAVIUTE)
F/M78 PRICE RAIL BOTTOM DECK		FA6005 (SIGNAL WHITE) FA9005 (JET BLACK)
F/M90	GRID/WIRE/DIVIDER/ BASKET	FA9006 (WHITE ALUMINIUM)
F/M07	DECOR FRONT PANEL	FA0632 (STRATUS GREY) FA9005 (JET BLACK)

## Cooling unit



Energy saving fans evaporator



Energy saving fans condenser, reversible



Power cable



CO, remote



Premium LED vertical lighting

## Velando® Compact Space customization

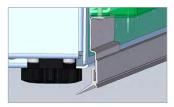
### External fittings



Panorama and solid endwall



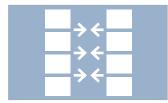
Rear wall panelling



Floor close off seal, front



Gap cover



Multiplex kit

### Internal fittings



Wire shelf



Wire shelf for bottom position



Wire shelf cover



Wire divider



Wire basket



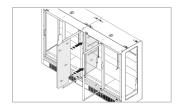
Wire basket for bottom



Scanner price rail for shelves



Scanner price rail for bottom shelf



Partition transparent on cabinet joint



Scanner price rail for baskets 40 mm

## Top Freezer

Advanced solution to extend the chest freezers

#### Benefits at a glance

- Environmentally sustainable design using natural refrigerant
- Two available lengths
- Energy efficient
- Large display area and product visibility
- Optimized floorspace productivity

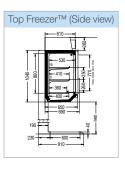


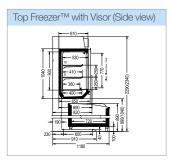
### Standard configuration

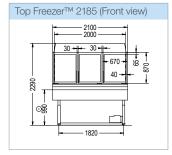
- Internal panels galvanized steel with hard-wearing RAL 9003 white powder-coated finish.
- External panels galvanized steel with hard-wearing RAL 7045 grey powdercoated finish
- Triple glass doors, tempered
- Temperature-assured air-forced cooling with honeycomb air outlet
- Energy saving fans
- 1 row of wire shelves
- Vertical and horizontal lighting LED
- Electronic controller
- Telescopic rack for easy installation



Top Freezer 2585 G



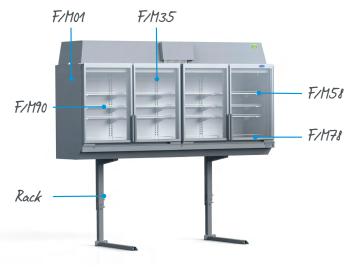






	Units	2185 G	2585 G			
Temperature	[°C]	-2224				
Refrigerant		R290				
Width	[mm]	2100	2500			
Depth	[mm]	80	00			
Height	[mm]	23	50			
Volume	[1]	632	750			
Power consumption ref.	[W]	580	580			
Power consumption def.	[W]	1185	1200			
Energy consumption* (12 h LED light)	[kWh/d]	9.0	11.2			
Heat dispatch*	[W]	475	496			
Temperature class		31	L1			
Application						

# Top Freezer customization



#### Colors

Paintable area		Color options
F/M01	EXTERIOR	FA0588 (TELEGREY 1) FA0666 (ANTHRACITE)
F/M35	INTERIOR EQUIPMENT	Carrier essential and smart colours
F/M58	PRICE RAIL FOR DISPLAY SHELF	FA0605 (SIGNAL WHITE)
F/M78	PRICE RAIL FOR BOTTOM DECK	FA0605 (SIGNAL WHITE)
F/M90	GRID/WIRE/ DIVIDER/ BASKET	FA0605 (SIGNAL WHITE) FA9005 (JET BLACK) FA9006 (WHITE ALUMINIUM)
Rack		FA0588 (TELEGREY 1) FA0666 (ANTHRACITE)

### Cooling unit



Energy saving fans evaporator



Energy saving fans condenser, reversible



Power cable



Modbus interface with RJ45 socket

### Internal fittings



Wire shelf



Wire divider

External fittings



Scanner price rail 52 mm



Owner plate



Vertical and horizontal lighting

Holder for additional top cover



Claddings to cover side and front

## EasyCube Chiller

Transparent Plug-in chiller island for promotional sales

### Benefits at a glance

- Highly transparent island for attractive promotion presentation
- Modern & ergonomic design
- Improved service and maintenance for improved lifecycle

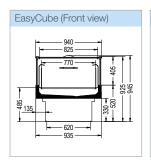


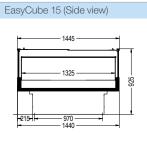
### **Standard Configuration**

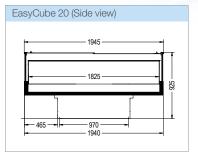
- Internal and external panels galvanized steel with hard-wearing powder-coated finish (RAL 7016)
- Electronic controller
- Temperature forced air cooling
- EC fans
- Automatic defrost with drip water evaporation
- Natural refrigerant R290 (propane)



#### EasyCube 1550 G







	Units	1550 G	2050 G			
Temperature	[°C]	-1+1				
Refrigerant		R2	290			
Width	[mm]	1445				
Depth	[mm]	940				
Height	[mm]	925				
Volume	[1]	280	400			
TDA	$[m^2]$	2.8	3.7			
Power consumption ref.	[W]	300	510			
Power consumption def.	[W]	425	520			
Energy consumption*	[kWh/d]	3.81	5.43			
Heat dispatch*	[W]	160	230			
Temperature class		3M1				
Application						

## EasyCube Chiller customization



#### Colors

Paintab	ole area	Color options		
F/M01	EXTERIOR			
F/M12	KICKPLATE	Carrier approved colors		
F/M35	INTERIOR EQUIPMENT			
F/M60	HANDRAIL	FA7016 (ANTHRAZITGREY)		
F/M90	GRID/WIRE/DIVIDER/ BASKET	FA0117 (WHITE) FA9005 (JET BLACK) FA9006 (WHITE ALUMINIUM)		

## Cooling unit



Power cable



Energy saving fans



Modbus interface with RJ45 socket



Additional temperature display

### Internal fittings



Wire shelves



Product divider



Wire shelf steps



Scanner price rail holder and scanner



Cladding possiblities\*



Scanner price rail holder and rails 60 mm\*



Smart LED handrail lighting

## Multinor® Chiller

Plug-in chiller island for promotional sales

#### Benefits at a glance

- Attractive ergonomic design
- Large branding surfaces for increased customer attention
- Optimal use of floor space provided by four lengths



### Standard configuration

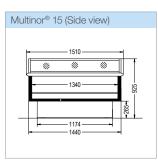
- Internal and external panels galvanized steel with hard-wearing NCS 0501-B58G white powder-coated finish
- Bumpers all around
- Electronic controller

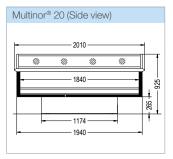
- Temperature-assured air-forced cooling with honeycomb air outlet
- Automatic defrost with drip water evaporation
- Natural refrigerant R290 (propane)



Multinor 2030 G







	Units	1540	2040	1531 G	2030 G	1550 G	2050 G
Temperature	[°C]	0	.+2	+2+4		-1+1	
Refrigerant			R290				
Width	[mm]			100	5		
Depth	[mm]	1510	2010	1510	2010	1510	2010
Height	[mm]	92	25	945		945	
Volume	[1]	242	331	288	366	268	366
Power consumption ref.	[W]	355	419	240	271	276	297
Power consumption def.	[W]	755	815	396	480	785	900
Energy consumption*	[kWh/d]	3.9	4.8	3.3	4.3	4.9	5.4
Heat dispatch*	[W]	163	200	138	179	204	225
Temperature class		3N	И2	3H2		3M1	
Application							

## Multinor® Switchable

Plug-in chiller & freezer island for promotional sales

#### Benefits at a glance

- Two-in-one solution for optimized merchandising flexibility
- Attractive ergonomic design
- Different length for optimized floor space utilization



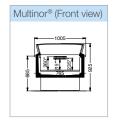
### Standard configuration

- Internal and external panels galvanized steel with hard-wearing NCS 0501-B58G white powder-coated finish
- Bumpers all around
- Electronic controller

- Condenser fan with reversing motor
- Temperature-assured air-forced cooling with honeycomb air outlet
- Automatic defrost with drip water evaporation
- Natural refrigerant R290 (propane)

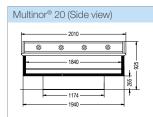


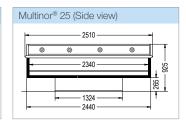
Multinor 2060/80 G











	Units	1540/80	1060/80 G	1560/80 G	2060/80 G	2560/80 G		
Temperature	[°C]	0+2 -2224						
Refrigerant			R290					
Width	[mm]		1005					
Depth	[mm]	1510	1010	1510	2010	2510		
Height	[mm]	925		94	45			
Volume Freezer mode	[1]	220	150	242	331	421		
Volume Chiller mode	[1]	242	150	242	331	421		
Power consumption ref. Freezer mode Chiller mode	[W]	850 580	368 430	733 481	1050 758	1053 760		
Power consumption def. Freezer mode Chiller mode	[W]	1603 1603	1300 1300	1546 1546	1633 1633	2233 2233		
Energy consumption* Freezer mode Chiller mode	[kWh/d]	19.0 7.3	7.7 3.2	13.4 6.5	17.0 7.3	19.1 7.5		
Heat dispatch* Freezer mode Chiller mode	[W]	792 304	321 133	558 271	708 304	706 313		
Temperature class		3M2 / 3L1	3S / 3L1					
Application								

## Multinor® customization



### Colors

Paintal	ole area	Color options			
F/M01	EXTERIOR				
F/M12	KICKPLATE	PLATE Carrier approved colors			
F/M35	INTERIOR EQUIPMENT				
F/M60	HANDRAIL	FA0369 (HERLIT GREY)			
F/M90	GRID/WIRE/DIVIDER/ BASKET	FA0117 (WHITE) FA9005 (JET BLACK) FA9006 (WHITE ALUMINIUM)			
F/M76	ALL AROUND BUMPER	FA0639 (HERLIT GREY)			

## Cooling unit



Power cable



Energy saving fan condenser



Modbus interface with RJ45 socket



Additional temperature display

### Internal fittings





Product divider



Wire divider / display racks



Wire shelf cover



Night cover

Wire shelf steps



Smart LED handrail lighting

## Multinor® customization

## External fittings



Additional bumper rails (all around)



Castors, factory installed



Stainless steel (outside)



Display frame



Stickers



Scanner price rails 40 mm



Scanner price rails 60 mm

## Premor®

Plug-in freezer & switchable island for promotional sales

#### Benefits at a glance

- Promotion in view
- Excellent product visibility and quick orientation
- High storage capacity for chilled and frozen food
- Attractive and robust design



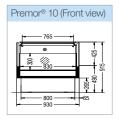
### Standard configuration

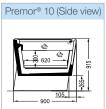
- Internal and external panels galvanized steel with hard-wearing NCS 0501-B58G white powder coated finish
- Electronic control inclusive temperature readout
- Temperature-assured air-forced cooling with honeycomb air outlet
- Electronic controller

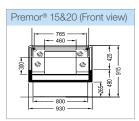
- Automatic defrost with drip water evaporation
- Energy-saving fan with reverse function for condenser
- Energy-saving sliding glass lids
- LED handrail lighting
- Wire shelves (switchable)

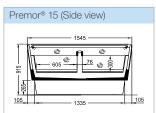


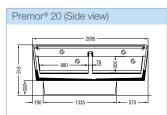
Premor 2060/80 G





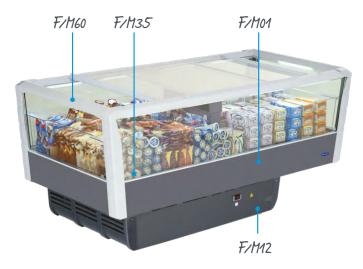






	Units	1080 G	1580 G	2080 G	1060/80 G	1560/80 G	2060/80 G
Temperature	[°C]		-2224		-20 -22 <u>2</u> 4	-1+1 -2224	0+2 -2224
Refrigerant			R290			R290	
Width	[mm]	930	1545	2095	930	1545	2095
Depth	[mm]	915	930	930	915	930	930
Height	[mm]		915			915	
Volume Freezer mode Chiller mode	[1]	158	317	453	158 52	317 109	453 157
Power consumption ref.	[W]	470	930	1036	470	930	1036
Power consumption def.	[W]	543	1139	1217	543	1139	1282
Energy consumption* Freezer mode Chiller mode	[kWh/d]	9.4	17.4	22.0	9.4 6.3	17.4 10.5	22.0 15.5
Heat dispatch* Freezer mode Chiller mode	[W]	392	725	917	392 263	725 376	917 646
Temperature class			3L1		3S / 3L1	3M1 / 3L1	3M2/3L1
Application							

## Premor® customization



### Colors

Paintal	ole area	Color options	
F/M01	EXTERIOR	Carrier approved colors	
F/M12	KICKPLATE	FA0633 (NIMBUS GREY)	
F/M35	INTERIOR EQUIPMENT	Carrier approved colors	
F/M60	HANDRAIL	FA0631 (CIRRUS GREY)	
F/M90	GRID/WIRE/DIVIDER/ BASKET	FA0605 (SIGNAL WHITE) FA0257 (WHITE ALUMINIUM) FA9005 (JET BLACK)	

## Cooling unit



Power cable



Energy saving fans condenser, reversible

## External fittings



Front bumper



Castors: 4 covered rollers, factory installed



Castors: 2 big & 2 small



Scanner price rails 40 mm

## Internal fittings



Product divider 1x16 partitions



Smart LED handrail lighting

## Crystal Chiller

Plug-in chiller island for promotional sales

#### Benefits at a glance

- Transparency is a customer magnet
- Successful staging of seasonal products
- Large product facing area for outstanding product visibility
- Transparent product dividers for quick orientation

### Standard configuration

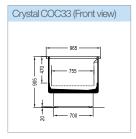
- Internal and external panels galvanized steel with hard-wearing white powdercoated finish
- Electronic controller
- Temperature assured air-forced cooling
- Automatic defrost with drip water evaporation
- Handrail lighting at the front
- Analog thermometer













	Llata	Natural	Standard	
	Units	COC22	COC33	
Temperature	[°C]	0+2	-1+1	
Refrigerant		R290	R134a	
Width	[mm]	1335	1405	
Depth	[mm]	900	965	
Height	[mm]	1000	905	
Volume	[1]	215	320	
TDA	[m <sup>2</sup> ]	1.9	2.3	
Power consumption ref.	[W]	520	900	
Power consumption def.	[W]	520	800	
Energy consumption*	[kWh/d]	10.5	19	
Heat dispatch*	[W]	438	792	
Temperature class		3M2	3M1	
Application				

# Crystal Switchable

Plug-in chiller & freezer island for promotional sales

## Benefits at a glance

- Transparency is a customer magnet
- Perfectly fitting for small shop areas
- Two-in-one solution for optimized merchandising flexibility
- Big product facing areas draw customers' attention

# Standard configuration

- Internal and external panels galvanized steel with hard-wearing white powdercoated finish
- Temperature assured air-forced cooling
- Automatic defrost with drip water evaporation
- Analog thermometer
- Electronic control
- Reversible fan operation
- LED handrail lighting (COG17, 33)













	Units	COG17	COG33	COG17 G
Temperature	[°C]	+2+4 -2224	+4+6 -2224	0+2 -2224
Refrigerant			R290	
Width	[mm]	965	1405	965
Depth	[mm]	810	965	810
Height	[mm]	905	905	920
Volume	[1]	144	310	144
Power consumption ref. Freezer mode Chiller mode	[W]	900	938 682	900 900
Power consumption def. Freezer mode Chiller mode	[W]	1500	1213 1213	1500 1500
Energy consumption* Freezer mode Chiller mode	[kWh/d]	12.4 5.4	20.9 10.1	9.4 4.9
Heat dispatch* Freezer mode Chiller mode	[W]	517 225	871 421	392 204
Temperature class		3H2	> 3H2 / 3L1	3M2 / 3L1
Application				

# Crystal customization



# Cooling unit







Analog thermometer

## External fittings



Glass lids



Castors, factory installed

## Internal fittings



Product divider



Product divider system

# Lighting



Smart LED handrail lighting

# Tulip Chiller

Plug-in chiller island for promotional sales

### Benefits at a glance

- High product visibility with easy access
- Outstanding & handsome design
- Lots of space for small places
- Big product facing areas draw customers' attention



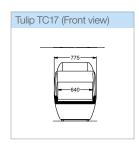
# Standard configuration

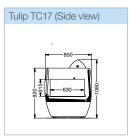
- Internal and external panels galvanized steel with hard-wearing NCS 0501-B58G white powder-coated finish
- Temperature assured air-forced cooling
- Automatic defrost with drip water evaporation
- Analog thermometer
- Electronic controller
- Castors

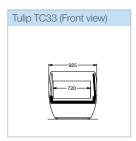


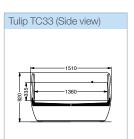


Basic models









	Units	TC17	TC33		
Temperature	[°C]	0+2	+2+4		
Refrigerant		R290			
Width	[mm]	775	925		
Depth	[mm]	850	1510		
Height	[mm]	920			
Volume	[1]	125	328		
Power consumption ref.	[W]	257	490		
Power consumption def.	[W]	53	103		
Energy consumption*	[kWh/d]	3.3	10		
Heat dispatch*	[W]	138	417		
Temperature class		3M2	3H2		
Application					

# Tulip Switchable

Plug-in switchable island for promotional sales

### Benefits at a glance

- Enhanced merchandising opportunities
- Panorama sidewalls for customer attention
- Two-in-one solution for optimized merchandising flexibility
- Illuminated display header for additional promotions

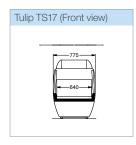


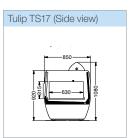
# Standard configuration

- Internal and external panels galvanized steel withhard-wearing NCS 0501-B58G white powder-coated finish
- Temperature assured air-forced cooling Castors
- Automatic defrost with drip water evaporation
- Analog thermometer
- Electronic controller
- Illuminated display header



TS17





		TS17
Tamanawatuwa	[00]	+4+6
Temperature	[°C]	-1518
Refrigerant		R290
Width	[mm]	775
Depth	[mm]	850
Height	[mm]	1080
Volume	[۱]	125
Power consumption ref.		
Freezer mode	[W]	431
Chiller mode		500
Power consumption def.		
Freezer mode	[W]	735
Chiller mode		
Energy consumption*		
Freezer mode	[kWh/d]	9.5
Chiller mode		4.8
Heat dispatch*		
Freezer mode	[W]	396
Chiller mode		200
Temperature class		>3H2 / >3L1
Application		

# Tulip customization



## Colors

Paintal	ole area	Color options
F/M01	EXTERIOR	Carrier approved colors
F/M14	SIGNAGE HEADER	FA0406 (RED) FA0490 (CAPRI BLUE), FA0640 (WHITE) FA0369 (HERLIT GREY) FA9005 (JET BLACK)
F/M35	INTERIOR EQUIPMENT	Carrier approved colors
F/M60	HANDRAIL	FA0406 (RED) FA0490 (CAPRI BLUE) FA0640 (WHITE) FA0369 (HERLIT GREY) FA9005 (JET BLACK)

# Cooling unit



Power cable



Analog thermometer



Energy saving fans

# External fittings



Glass lids



Display head

# Lighting



Smart LED handrail lighting

# Visor

Plug-in freezer & switchable island for promotional sales

### Benefits at a glance

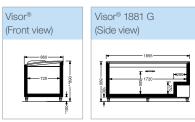
- Large capacity freezer with many layout options
- Modern design with curved sliding lids
- Energy saving components
- Large product facing area

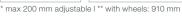


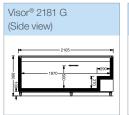
## Standard configuration

- External and internal panels galvanized steel with hard-wearing white powdercoated finish
- Top and bottom bumper at the front
- Automatic defrost & static cooling
- Second cable for lighting
- Electronic control
- Grille insert for automatic defrost incl. wire dividers & divider set
- Curved sliding glass lids & LED lighting



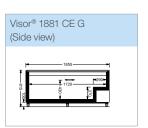












	Units	1881 G	2181 G	2581 G	1881 CE G	1851/81 G	2151/81 G	2551/81 G	1851/81 OE G
Temperature	[°C]		-22.	24			-2224 / -2	20 / -1 +1	
Refrigerant			R290				R290		
Width	[mm]	1885	2105	2505	1885	1885	2105	2505	1885
Depth	[mm]		85	50			88	30	
Height	[mm]	890	890	890	830	890	890	890	830
Volume	[1]	511	595	729	433	444	518	636	444
Power consumption ref.	[W]	348	532	403	346	339 / 413 / 491	410 / 463 / 467	420/549/560	339 / 413 / 491
Power consumption def.	[W]	800	810**	926	796	691 / 711 / 708	905/935/953	881 / 947 / 963	691 / 711 / 708
Energy consumption*	[kWh/d]	7.1	7.2	8.22	6.65	6.1 / 4.5 / 3.9	7.29/5.07/3.54	8.5 / 6.0 / 5.8	6.1 / 4.5 / 3.9
Heat dispatch*	[W]	295	300	342	277	254 / 188 / 163	296 / 183 / 158	354/250/242	254 / 188 / 163
Temperature class		3L1					3L1 / 38	S/3M1	
Application									9 0 to

# Visor customization

## Colors

Other external colors (metal parts) on request

If color is available - minimum order quantity one truck load (13.6)

- VISOR 1881 & 1851/81 G = 28 pcs
- VISOR 2181 & 2151/81 G = 24 pcs
- VISOR 2581 & 2551/81 G = 20 pcs
- VISOR 1881 & 1851/81 CE G = 28 pcs

# Cooling unit



Power cable



Variable speed drive compressor\*

## External fittings



Endwall bumper (both sides)



Block grouping sets



Front bumper

## Internal fittings



Divider set

## Lighting



Smart LED handrail lighting

# GD with display

Plug-in glass door cooler with display header in various sizes

### Benefits at a glance

- Customization with stickers directly from factory
- Quick cooling of beverages with forced air cooling
- Illuminated display header for better merchandise

# Standard configuration

- Temperature-assured forced-air cooling Display shelves incl. price rails
- Double glass door, tempered, with black frame
- Exterior color white
- Interior color white
- Door lock
- Adjustable leveller feet
- Analog thermometer
- Internal panels in robust plastic

- T8 fluorescent tubes



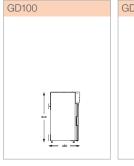


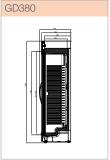


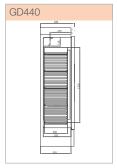


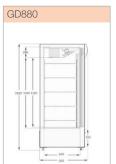
GD100

Basic models









	Units	GD100	GD380	GD440	GD880	
Temperature	[°C]	+4+6				
Refrigerant			R600a		R290	
Width	[mm]	480	595	680	1110	
Depth	[mm]	520	640**	655**	825	
Height	[mm]	840	1980	2105	2010	
Volume	[1]	84	372	438	989	
Capacity 0.33 I can		60	364	480	1008	
Capacity 0.5 I PET bottle		40	~ 245	324	560	
Power consumption ref.	[W]	250	350	350	940	
Energy consumption* (10 h light on)	[kWh/d]	2.68	3.38	4.69	5.92	
Heat dispatch*	[W]	111	140	195	247	
Application				Q		

# GD without display

Plug-in glass door cooler in various sizes

### Benefits at a glance

- Customization with stickers directly from factory
- Quick cooling of beverages with forced air cooling
- Minimum dimensions with maximum volume

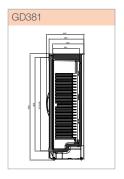
# Standard configuration

- Temperature-assured forced-air cooling Adjustable leveller feet
- Double glass door, tempered, with black frame
- Exterior color white
- Interior color white
- Door lock

- Analog thermometer
- Internal panels in robust plastic
- Display shelves incl. price rails
- T8 fluorescent tubes



GD381



	Units	GD381
Temperature	[°C]	+4+6
Refrigerant		R134a
Width	[mm]	595
Depth	[mm]	640**
Height	[mm]	1840
Volume	[1]	372
Capacity 0.33 I can		364
Capacity 0.5   PET bottle		~ 245
Power consumption ref.	[W]	370
Energy consumption* (10 h light on)	[kWh/d]	4.59
Heat dispatch*	[W]	191
Application		

# GD E

Plug-in glass door cooler with improved design

### Benefits at a glance

- Customization with stickers directly from factory
- Quick cooling of beverages with forced air cooling
- Lower operating costs due to low energy consumption

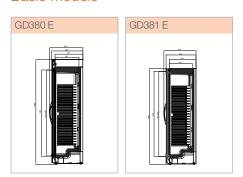
## Standard configuration

- Double glass door, tempered, with grey frame
- Exterior color white
- Interior color white
- Door lock
- Adjustable leveller feet

- Analog thermometer
- Internal panels in robust plastic
- Display shelves incl. price rails
- T8 fluorescent tubes
- Power cable
- Temperature-assured forced-air cooling



Optimized for stand-alone installation, no line-up possible



	Units	GD380 E	GD381 E	
Temperature	[°C]	+4.	+6	
Refrigerant		R6	500a	
Width	[mm]	595		
Depth	[mm]	6	340**	
Height	[mm]	1980	1840	
Volume	[1]	3	72	
Capacity 0.33 I can		364		
Capacity 0.5 I PET bottle		1	91	
Power consumption ref.	[W]	325	325	
Energy consumption* (10 h light on)	[kWh/d]	3.23	2.79	
Heat dispatch*	[W]	134	116	
Application			Ó	

# Impulse cooler

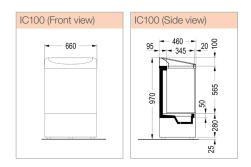
Bottle cooler for promotion and impulse sales

### Benefits at a glance

- A point-of-purchase merchandiser and marketing tool like no other
- High product visibility increases impulse sales
- Easy refill of products
- Small footprint ideal for c-stores and kiosks

## Standard configuration

- Panels galvanized steel grey powder-coated finish
- Robust plastic opening on top
- Automatic drip water evaporation using waste heat of refrigeration system
- Single-row lighting in canopy
- Power cable





IC100

	Units	IC100
Temperature	[°C]	+4+6
Refrigerant		R600a
Width	[mm]	660
Depth	[mm]	460
Height	[mm]	970
Volume	[1]	110
Capacity 0.33 I can		144
Capacity 0.5 I PET bottle		84
Power consumption ref.	[W]	170
Energy consumption*	[kWh/d]	2.5
Heat dispatch*	[W]	104
Application		

<sup>\*</sup> at climate class 3 according to ISO 23953

# Technical Info

# Powder paint selection guide

When it comes to customization, Carrier offers a wide range of possibilities in the design of each product – from the front aesthetic to the endwalls and pedestals. These are available in a variety of designs, material finishings and colors. Through the creative use of colors, you can illustrate an inviting and pleasant atmosphere that evokes positive emotions. Shades of reds can express passion, enthusiasm, and energy; whereas blue and green express nature and freshness.



### **Exclusive colors**

Differentiate your market and customize your cabinet in a wide range of colors. Contact your local sales representative for more information.

A wide spectrum of colors and shades to set your store's ambiance await you...

# The natural way



# A promotion world



# The premium retailer



# Excellence in Tests and Qualification of cabinets

### Outstanding technology based on 60 years development experience

With around twenty testing rooms, Carrier is one of the best-equipped manufacturers in Europe. The most testing rooms are equipped according to ISO 23953 standard (refrigerated display cabinets classification, requirement and test conditions) to ensure comparable and good product performance. Besides fulfilling ISO 23953 requirements Carrier has its own, internal tests, standards and requirements that each cabinet has to pass before going to market. This ensures the right quality and is reflected in robust, reliable products to maximize the lifetime of each refrigerated display cabinets.

## Measuring temperature performance

Carrier declares the temperature performance of the cabinet according to the ISO 23953 standard, which defines the refrigerated cabinet requirements and test conditions.

# ISO 23953 - Refrigerated display cabinets classification, requirement and test conditions

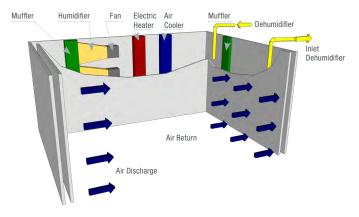
The refrigerated display cabinets are classified according to the standard ISO 23953. This standard defines the classification, requirement and test conditions for representative refrigerated display cabinets including the minimum size of the test room, side air-flow, light intensity, temperature and humidification control, calibrated measurements etc.

Thanks to ISO 23953 customers can compare temperature classification according to the same testing procedure for all manufacturers in Europe who strictly follow the standard.

### Climate room requirements and setup

ISO 23953 defines exactly the requirements and tolerances of a climate room including:

- Size of the room
- Side airflow speed and direction relative to the cabinet
- Calibration of the measurement equipment
- Where to place the cabinet in the climate room
- Color of room and light intensity



Example of Carrier testing room. The above picture illustrates how a climate room for testing the refrigeration equipment looks like.

### Climate class - describes the environment outside of the cabinet

The climate class defines the certain ambient test condition (temperature and relative humidity) during the testing period. The standard describes several climate classes out of which for commercial refrigeration usually climate class 3 is used to measure

and declare the temperature performance.

Example: "climate class 3" Temperature: 25 °C Rel. humidity: 60 %

# Temperature class – describes the temperature performance inside the cabinet

The temperature performance is tested in a cabinet with product-simulation dummies which are called M-package. The M-package simulates thermal characteristic of meat products.

Cabinet Temperature performance means:

- How good can the cabinet hold the temperature of a chilled or frozen product – simulation dummies at lab climate conditions
- How small is the cabinet storage temperature deviation of product – simulation dummies at lab climate conditions
- Temperature performance is tested by simulating different operation use cases: shop closed (light off, night curtain down, no door opening) shop open and commissioning of cabinet (doors / lids long open) shop open consumer take products (regular door / lid opening)

There are three main temperature class groups: Low, Medium and High temperature. These main groups are split in different temperature classes indicated by a number following the group letter: Example M2. The higher the number the higher the difference between the lowest M-package temperature and highest M-package temperature.

Example: "Temperature Class M2" (Medium temperature class 2) Warmest M-package: max. +7°C Coldest M-package: min. -1 °C

### Link between climate class and temperature class

Because the temperature inside a cabinet is strongly influenced by the environment's temperature and humidity, the temperature class is only a meaningful declaration if it is linked to a climate class. For this reason, a full cabinet declaration always consists out of climate class and temperature class.

Example "3M2" (At climate class 3, the cabinet reaches temperature performance M2)

3= climate class (certain ambient test condition during testing)
M2= Temperature class (specified highest and lowest
M-package temperature)

# Laboratory vs. operation in real store environment

According the ISO 23953-2 standard Appendix B are significant different operation conditions between lab and store operation especially for remote cabinets. The following section describes and explains the difference to the application in the field.

# Difference between laboratory and store data for remote cabinets

The conditions of a remote cabinet in the store differ very much from the lab conditions. Usually the cabinets in a store are multiplexed, located against a wall and the ambient conditions are lower. Using directly lab data for remote cabinets would lead to an oversizing of piping and compressor racks. Based on this Carrier provide for E6 remote cabinets in the technical data sheets rack sizing data for the standard configuration at store condition 25 °C / 60 % rel. H. and 22°C / 55 % rel. h. This data are already made for investment and life cycle optimized sizing of rack and piping. Based on the long Carrier expertise in refrigerant system design our general recommendation is:

- Rack design data 25/60 application:
   Stores in warm climates, stores with difficult climate situations, cabinet in a non-ideal place (high humidity, high temperature, close to a door etc...)
- Rack design data 22/55 application:
   Store in middle and north Europe, stores with moderate climate (with air conditions, multiplexing remote cabinets)

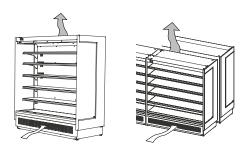
### Technical data for plug-in cabinets

To have comparable energy consumption within the Carrier range, we specify the energy consumption for the standard configuration of plugin cabinets according to ISO 23953 and climate class 3 conditions. This makes the data comparable; however, the real energy consumption in a store is usually lower.

### Influence of the cabinet installation on the performance

The installation can have major effects on the energy and temperature performance. There are some requirements, which need to be kept to ensure that the cabinets are working properly.

- Do not install the cabinet outside or next to heating radiators or other heat sources.
- Keep a distance from the wall as indicated in the operating manual
- Avoid direct sunlight radiation impact
- Keep free the air intake and outlet area (only plug-in).



Example of a plug-in cabinet which needs free air flow on front and top of cabinet.

## Carrier internal testing

To ensure a long life-time and proper operation, Carrier has defined internals standards for robustness and stress tests of cabinet as well as components.

#### Static robustness test

To test the cabinet and shelf strength, all shelves are loaded with a certain weight for several days. The deflection of brackets and shelves is checked under load and after unloading the cabinet. Only if the cabinet deflection and deformation stays within the small tolerances defined by the Carrier quality department, the cabinet will be released to the market. With high requirements on cabinet stability and strength Carrier ensures a high-quality product, safe and stable for years of operation.

### Dynamic testing of doors and lids

With the door opening test it is possible simulate several years of lifetime of our doors, hinges and handles within a few weeks. During the test, the system is continuously monitored and checked in terms of abrasion, break / damage and deformation The system will only pass the internal qualification if it can resist several simulated years in the tough life of a supermarket. For double glass doors Carrier requires additional tests to ensure that the sealing works properly and the doors do not get condensation between the glasses after some years.

### Packaging and shipping test

Before each serial launch, Carrier conducts a special packaging and transportation test. This happens with one or several cabinets in a truck going on a defined road with various road conditions. After the transport, the cabinet and the packaging are checked visually. This ensures that the cabinets will arrive to our customers in the same condition as they were packaged in the factory.

# CE (Conformité Européenne) certification

The Carrier cabinets are compliant with the relevant standards or parts of the standards as confirmed with the CE declaration of conformity:

- ISO 23953-1 (Refrigerated display cabinets, general)
- ISO 23953-2 (Refrigerated display cabinets, requirement)
- EN 60335-1 (Household and similar electrical appliances. Safety. General requirements)
- EN 60335-2-89 (safety requirement for household and similar electrical appliances, particularly for commercial refrigerating appliances)

To ensure maximum safety, all plug-in cabinets with flammable refrigerant are additionally CE certified by an independent body.

# **Factory certifications**

All Carrier cabinet factories have a certified quality management and environnemental management systems

- EN ISO 9001 (General quality management system)
- EN ISO 14001 (Environmental management systems)

# echnical Inf

# Plug-in & remote cabinets in comparison

We can split the refrigerated display cabinets in two types. Remote cabinets have a common central condensing system which supplies several units with the refrigerant. The cabinets have a fix location and are connected with pipes and wires to the central compressor rack and controller unit. Plug-in cabinets work like a household fridge and have the compressor, condenser and controller unit built in the cabinet itself. They only need a power supply. Both systems come with several advantages and trade-offs.

### **PLUG-IN SYSTEM**

### Advantages:

- No piping / installation needed
- No machinery room
- Very flexible layout changes

#### Trade-offs:

- Head rejection in store (bigger air condition needed)
- Less space inside the cabinet
- Regular cleaning of condenser
- Higher energy consumption



Plug-in cabinet with characteristic machine compartment, which includes compressor, drip water evaporation and condenser.

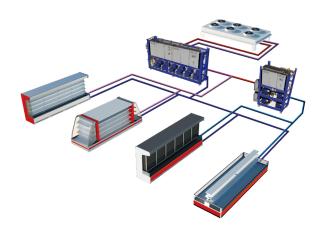
### **REMOTE SYSTEM**

#### Advantages:

- Lower system energy consumption
- Low-noise
- Large usable volume for products
- Wide range of multiplexing options
- Open Cabinet de-humidify store climate

### Trade-offs:

- Installation needed
- Fixed installation, not flexible



Remote cabinets connected to the central rack with the gas cooler

# **Technical Info**

# Carrier's small store program

Carrier has developed a program that offers solutions for the specific conditions and requirements of small store formats. The chillers and freezer display cabinets in Carrier's small store program provide optimal presentation of food in limited retail space small dimensioned and in homogeneous design.

A variety of lengths allow for the ideal adaptation of the cabinets to any given store dimensions (such as wall lengths). The combination of remote and plug-in solutions are suited to the small store concept with building restrictions and are flexible enough to accommodate changes or enlargement of the refrigerated or frozen food range. Carrier's small store program has been designed with forthcoming environmental legislation in mind – both the remote as well as the plug-in cabinets can be operated with natural refrigerants.



Remote and plug-in (Mendos® XU & Velando® CS)



Pure plug-in (Optimer® L & Velando® CS)











# Complete & Sustainable

# Refrigeration Solutions

# for Food Retailers

## · Project Planning

- Display cabinets to maximize merchandising opportunities
- Energy and environmental impact consulting and analysis
- Optimal refrigeration technology solutions for each store type
- Complete project design and documentation

# **Product Development & Manufacturing**

- Next-generation display cabinets to help increase sales
- Advanced refrigeration technology and integrated systems
- Energy-efficient solutions for the system lifecycle
- Sustainable natural refrigerant technologies









### Lifecycle Care

- Preventative maintenance program
- 24/7 call center and service assistance
- Remote monitoring to ensure optimized performance
- System modernization for improved efficiency

# Installation

- Approach tailored to unique customer requirements
- Experienced teams with standard work processes
- A focus on quality throughout the process
- Limited on-site time for minimal business disruption



