C SERIES - *EVO* Line

PROFESSIONAL FREEZERS

Temperature range from -42 °C to -10 °C

INTENDED USE

The appliance is intended for the controlled-temperature storage of laboratory products and medicines requiring constant monitoring and alerts in the event of cold chain interruption.

More specifically:
– Medicinal products
– Vaccines
– Laboratory samples
– Heat-sensitive (non-flammable) chemical reagents

CONSTRUCTION FEATURES

EXTERNAL

External structure made of anti-corrosion and non-toxic hot-dip galvanised steel with rounded edges, coated with light grey PVC film for easy cleaning.

INTERNAL

Internal structure made of Scotch-Brite stainless steel with rounded chamber corners to facilitate cleaning operations. Antibacterial and treated against corrosion. Easy-to-remove shelves and drawers for more thorough cleaning.

INSULATION

The thickness of the insulation varies depending on the model (see Product table) from 60 to 100 mm, to ensure optimum product storage and considerable energy savings. Insulation obtained by injection of environmentally-friendly, CFC- and HCFC-free, high-density expanded polyurethane (40 kg/m³ for the body insulation, 43 kg/m³ for the door insulation).

DOOR

Blind door equipped with an automatic spring-loaded closure system (for openings up to 90°), key-operated safety lock and magnetic gasket on all four sides to ensure a perfect seal. The single-door models have hinges on right side (unless the left-side option is specified when ordering). The door opens from left to right, whereas the 1400-litres double-door model C25V140C2EVO has doors that open from the middle outwards. Full-height, built-in, ergonomic handle for door opening.

REFRIGERANT GAS - *for European countries (EU)*

R290 – CFC/HCFC-free, environmentally-friendly refrigerant gas.

R290 gas (refrigerant grade propane) is a pure hydrocarbon (HC) characterised by an extremely low GWP (Global Warming Potential) index of 3, meaning it is a gas with an extremely low environmental impact.

R290 gas is a flammable refrigerant with A3 flammability classification. For further information on the gas, consult its safety data sheet. For the amount of gas present in the different models, see the Product table.

POWER SUPPLY

Single phase 230 V - 50 Hz / (*) Single phase 230 V - 60 Hz model available on request.

The power cord is 2 metres long, provided with a Schuko plug, and can be easily exchanged for a power cord with a British or American plug (available as optionals).

Table 1 – C series	C20V10C1EVO	C30S16C1EVO	C30S22C1EVO	C30S25C1EVO	C30S32C1EVO	C40S30C1EVO	C40S60C1EVO	C25V70C1EVO C30V70C1EVO	C25V140C2EVO
Internal volume (L)	100	160	220	250	320	300	600	700	1400
Temperature range (°C) Minimum/Maximum	-25 / -10	-32 / -10	-32 / -10	-32 / -10	-32 / -10	-42 / -15	-42 / -10	-25 / -10 -32 / -10	-25 / -10
Default operating temperature (°C)	-22	-30	-30	-30	-30	-40	-40	-22 -30	-22
Setting accuracy (°C)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Internal/external dimensions WxDxH (cm)	60x60x86 48x46.5x46	64x62x140 48x46.5x72	64x62x160 48x46.5x92	64x62x180 48x46.5x112	64x62x200 48x46.5x132	68x66x204 48x46.5x132	78x84x193 58x67x140	70x80x199 58x67x150	140x80x199 128x67x150
Number of self-closing doors	1	1	1	1	1	1	1	1	2
Insulation thickness (mm)	60	80	80	80	80	100	100	60	60
Power supply (V) (*)	230	230	230	230	230	230	230	230	230
Nominal power consumption (W)	138	320	351	384	416	416	425	410	775
Net weight (Kg)	81	85	94	103	115	145	173	144	171
Refrigerant gas	R290	R290	R290	R290	R290	R290	R290	R290	R290
Quantity of gas (g)	60	80	80	90	90	150	150	110	150
Noise level dB(A)	<45	<45	<45	<45	<45	<50	<52	<50	<60
Electricity consumption (kWh/24h)	4	4.2	4.6	5	5.4	5.4	3.9	5.6	6.2

STANDARD FEATURES

Depending on the specific model, the internal chamber space is organised by means of smooth Scotch-Brite stainless steel shelves with a raised lip (mounted on rails and with an adjustable height), or fully-extractable Scotch Brite stainless steel drawers with a Perspex front panel.

All units have:

- 4 one-way wheels (6 for the 1400-litre two-door model C25V140C2EVO);
- 2 adjustable feet, which can be used either as a brake for the refrigerator or as a rear wall spacer;
- 1 key-operated lock for each door (except for -40°C freezers versions: C40S30C1EVO and C40S60C1EVO);
- 1 2-metre power cord with Schuko plug (British or American plugs available as optionals) with a spare fuse (10 mA for all models except -20°C 700-1400-litre or -40°C models: 15 A) for each compartment.

The electronic control panel is specifically designed to be user-friendly and to indicate alarm conditions in an easy and intuitive manner, with the simultaneous activation of a visual alert message describing the alarm and an acoustic buzzer.

Parameter setting and authorised switch-off of the appliance are conditional to entry of a password or a double confirmation message.

An RFI interference filter has been built into the electrical circuit to reduce the components of interference that any electronic device tends to release.

The standard features are completed with a dry contact for remote alarm and a data-logger with USB port for downloading data (USB pen drive included) in .pdf format.

Table 2 – C series	C20V10C1EVO	C30S16C1EVO	C30S22C1EVO	C30S25C1EVO	C30S32C1EVO	C40S30C1EVO	C40S60C1EVO	C25V70C1EVO C30V70C1EVO	C25V140C2EVO
Number of shelves provided as standard (max) (*)	0 (2)	0 (3)	0 (5)	0 (6)	0 (7)	0 (6)	0 (8)	4 (7)	4+4 (7+7)
Number of drawers provided as standard (max) (*)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	6 (6)	6 (6)	0 (7)	0+0 (7+7)
Shelf dimensions (WxD) (cm)	44x40	44x40	44x40	44x40	44x40	44x40	52x60	52x60	52x60
Drawer dimensions (WxDxH) (cm)	41x39.5x9	41x39.5x9	41x39.5x9	41x39.5x9	41x39.5x9	41x39.5x9	48.8x60x9	48.8x60x9	48.8x60x9
Shelf load-bearing capacity (kg/m²)	152	152	152	152	152	152	152	152	152
Defrosting system with condensation water evaporation	MANUAL	MANUAL	MANUAL	MANUAL	MANUAL	MANUAL	MANUAL	AUTOMATIC	AUTOMATIC
Evaporator	STATIC	STATIC	STATIC	STATIC	STATIC	STATIC	STATIC	FAN ASSISTED	FAN ASSISTED
Lock with key	1	1	1	1	1	0	0	1	2
Data-logger	✓	✓	✓	✓	✓	✓	✓	✓	✓
Dry contact for remote alarm	✓	✓	✓	✓	✓	✓	✓	✓	✓
USB port for data downloading	✓	✓	✓	✓	✓	✓	✓	✓	✓
Wheels and locking system	4 wheels 2 feet	4 wheels 2 feet	4 wheels 2 feet	4 wheels 2 feet	4 wheels 2 feet	4 wheels 2 feet	4 wheels 2 feet	4 wheels 2 feet	6 wheels 2 feet

(*) – The data provided are to be considered for a configuration consisting exclusively of drawers or shelves.

OPERATIONAL FEATURES

CONTROL SYSTEM

Digital control panel with high-resolution 7" True Color full touch-screen graphic display with variable intensity full-LED technology, 800x480 pixel resolution, 154x86 mm, customisable real-time temperature graph always visible on display.
Wireless connectivity for data storage and remote control as standard. Optional cloud access for operational data and parameter, alarm and warning storage and monitoring.
Built-in data-logger for recording any operational parameter, alarms and warning messages for up to 10 years, data sampling with customisable frequency.
Control system equipped with 4 temperature probes, of which 3 are NTC probes for temperature adjustments and for evaporator and condenser control and 1 is a PT100 probe for alarm control and management.
Self-diagnostics section, navigation section for checking and changing machine parameters, protection by freely-configurable multi-level password system.

Selectable languages: ITALIAN, ENGLISH, FRENCH and SPANISH

N° 22 acoustic and visual alarm systems, including:
- Temperature too high with adjustable threshold
- Temperature too low with adjustable threshold
- Open door
- Fouled condenser
- Probe failure
- Voltage absent
- Buffer battery flat
- Refrigerant system empty of gas

Alarms and notifications are recorded in the memory and can be consulted on the display.

REFRIGERATOR CIRCUIT

Silent, airtight, closed-circuit compressor with thermal protection and finned pack condenser system, equipped with helical electric fan (suitable for tropical climates). Static or forced-air fan-assisted evaporator (depending on the specific model - see TABLE 2).
The fan-assisted type evaporator has a finned structure and is provided with a helical electric fan. The forced-air circulation system inside the refrigerated cabinet makes it possible to achieve the required temperature inside the compartment quickly and with a high degree of uniformity. When the door is opened, the electric fan automatically stops to prevent the cold escaping and an excessive formation of condensation inside the compartment.
In the presence of a probe failure alarm, which notifies the user of the presence of an anomaly with a visual and acoustic alarm, the appliance does not interrupt refrigeration and normal activation of the refrigeration circuit. The refrigeration of the compartment is therefore guaranteed even in alarm conditions.
All parts of the refrigeration system, probes included, are fully accessible to facilitate maintenance work and inspection operations.
All refrigeration circuits are studied and duly sized to react optimally to door opening in order to promptly restore the set-point temperature and for rapid cooling of the material introduced.

DEFROSTING

Manual and fully-automatic defrosting cycle with automatic condensation water evaporation (depending on the specific model - see TABLE 2).

CLIMATE CLASS

SN+T, meaning that the refrigerator can operate in climate conditions within the temperature range +10°C / +43°C

OPTIONAL ACCESSORIES

- Smooth Scotch-Brite stainless steel shelves for easy surface cleaning
- Fully-extractable Scotch-Brite stainless steel drawers with Perspex front panel
- Perspex dividers for optimum organisation of the samples stored in the drawers
- Kit with 4 wheels and 2 front-mounted brakes to improve the handling of the unit when moving it
- Ø25 mm through-hole (insulated) for the introduction of external probes to be used as a validated reference
- External GSM module for reporting alarms by text message (up to 5 numbers can be saved)
- 12V buffer battery for temperature display and alarm acquisition in the absence of electrical current for up to 48 hours
- Schuko socket inside the positive compartment for connecting electronic instruments
- Account for accessing the appliance monitoring page via Cloud.
- Electronic door lock - PIN code 3 digits
- Door key lock for -40°C freezers

MODEL CODE SYSTEM

The models are characterised by a mnemonic code, which summarises the physical and technical characteristics of the appliance.

The first letters describe the type of appliance: C - Freezer. The two numbers after the letter C indicate the temperature range family that can be set (20 for -20°C, 30 for -30°C, 40 for -40°C). This is followed by a letter indicating the type of evaporator: V (fan-assisted) or S (static), except for the 100-litre model, where V stands for vertical. This is followed by two digits indicating the tens of litres of the appliance's volume (e.g. 16 for 160 litres). The next letter indicates the type of door, C - Blind. The following number indicates the number of doors: 1 or 2. The final EVO code indicates the type of electronics present, i.e. the 7" full-colour touch-screen display.

smeg a.p.s
Via leonardo da vinci, 4
42016 guastalla (re) italy