


EVL ULF 40086
GENERAL SPECIFICATIONS

- ✓ **Temperature range from -40°C to -86°C**
- ✓ **Digital temperature control unit with digital display, placed at a visible level on the door front, for easy reading, to control system parameter.**
- ✓ **High energy efficiency for storing samples.**
- ✓ **PT100 sensor with accuracy of 0.1°C in the control.**
- ✓ **Graphic touch-screen 3.4" TFT panel.**
- ✓ **Graphic temperature chart on the screen.**
- ✓ **Continuous monitoring of incidents, with event memory system and temperature logging.**
- ✓ **Audible and visual alarms with battery 48h back-up for:**
 - **Max. / Min. Temperatures**
 - **Open door**
 - **Probe failures**
 - **Power failures**
 - **Empty battery**
 - **Filter saturation**
- ✓ **Dry contact for remote alarm.**
- ✓ **MODBUS RS 485 for remote control.**
- ✓ **USB port to download stored data.**
- ✓ **Access port for cables and sensors.**
- ✓ **Removable and washable filter.**

Model	EVL ULF 40086
Gross Capacity in Liters	415
Net Capacity in liters	400
No. Internal doors	4
No. Levels/Compartments	4
No. shelves	3
Internal dimensions in mm (width x depth x height)	490 x 650 x 1300
External dimensions in mm (width x depth x height)	793 x 910 x 1986

TECHNICAL SPECIFICATIONS

- ✓ Digital temperature controller with digital LED display and double probe (in air and in liquid).
- ✓ Pt-100 probe with 0.1° C accuracy on the display.
- ✓ Temperature digital controller set at -80°C. (Working range from -40° C to -86° C).
- ✓ Audible and visual independent alarms with battery back-up for: maximum and minimum temperatures, also alarms for power and probe failures.
- ✓ Supported by NiCd battery back-up, all with battery charger (this supports over 48 hours).
- ✓ Temperature homogeneity of +/- 2° C in the chamber.



- ✓ **Digital PLUS series CONTROLLER.** Temperature graphic controller with data logger, main powered with independent battery back-up; works even during power failures.



- ✓ Key locked main power switch (on/off).

- ✓ Indication for open door, with audible and visual alarms.



- ✓ Door ajar.

- ✓ Alarm control and control system protected with keyboard code.



- ✓ Controller with maximum and minimum temperature memory records.

- ✓ Temperature probe records every 20 minutes with USB port for data download.

- ✓ Potential free output for remote alarm control (4-20 mA). Dry contact.



- ✓ Remote control by MODBUS RS-485 communication port.



- ✓ Two independent auto-cascade refrigeration system, each one with own compressor. In case of failure of one of them, can maintain the internal temperature at -70 °C.



CONTROL

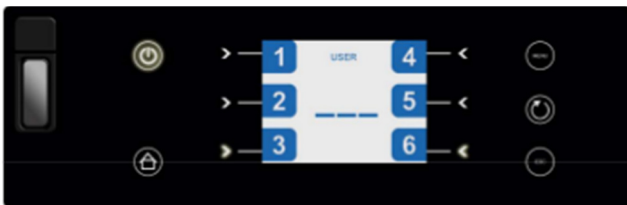
Digital Plus series controller, with large temperature graphic display, user friendly and simple control.

➤ 3,5" touch screen with temperature and possible warnings graphic display	✓
➤ Product stability temperature range of approximately $\pm 1^{\circ}\text{C}$	✓
➤ Temperature uniformity range $\pm 2^{\circ}\text{C}$	✓
➤ PT100 temperature probe with precision of 0,1$^{\circ}\text{C}$ on the display	✓
➤ Acoustic and visual alarms functions in case of:	✓
➤ -High and low temperature	✓
○ -Power failure	✓
○ -Probe failure	✓
○ -Door open	✓
○ -Filter saturation	✓
○ -Empty battery	✓
➤ Alarm status, door opening status and temperature status	✓
➤ Potential-free contact alarm transmission	✓
➤ RS485 remote control interface port	✓
➤ USB port for data downloading	✓
➤ Data logger	✓
➤ Battery supported	✓
➤ Room temperature control probe	✓



Integrated:

- ✓ 3 levels of password protection (user, supervisor, technical service), with PIN code.
- ✓ Re- programmable PIN codes for increased security against unauthorized personnel
- ✓ Visual and audible alarm signalling (with automatic reset) for:
 - High and low temperatures, with programmable limits by the user through the menu
 - Open door alarm /door ajar, delay of 30 seconds to allow standard operations.
 - Programmable alarm time delay through the menu
 - Power failure
 - Probe failure
 - Low level battery status
- ✓ Prepared for connecting 2 additional probes (air and liquid).
- ✓ Secondary probe input for recording function
- ✓ Auto cycle self diagnostic.
- ✓ Self diagnosis
- ✓ Alarms test function to check the buzzer functionality.
- ✓ Battery level indication
- ✓ Battery charging status display.
- ✓ Display text available in 3 different languages
- ✓ Acoustic alarms, with continuous warning indication on the display and automatic ring-back if the alarm situation persists. Programmable ring-back delay through the menu
- ✓ Battery charging status display.
- ✓ Alarm events history of the latest 30 alarm situations (not deletable), with the possibility of verifying on the display -- the alarm incidents and all the related information (starting time, ending time, highest/lowest temperature peaks reached where applicable)
- ✓ Door openings history for the latest 30 days (not deletable), with the possibility of verifying the display -- the number of door openings, alarm conditions and the amount of time that the door is kept open day-by-day
- ✓ Integrated data logger which takes readings every 30", storing the readings of 1,5 years.
- ✓ Lock code -- to access the control system
- ✓ USB port to download stored data
- ✓ Software upgrading through the USB port
- ✓ Dry contact alarm output.
- ✓ RS-485 MODBUS to connect the system with PC or networks.



CONSTRUCTION

✓ Exterior

- External housing of galvanized steel with white and grey epoxy coating finish,
- Base with 4 castors for easy movements, with brake and leveling feet's for fixing on the floor



✓ Interior

- Stainless Steel internal finish.
- Access port for sensors and probes.



✓ Door

- Solid door with integrated handle and key lock.
- Single-hand operation.
- Door opening: 490 x 1297 mm.
- Double silicon magnetic gasket on the door, to ensure it to be ice free and to have a perfect airtight closing.
- 4 Internal Stainless steel Service doors, double insulation by high quality free CFC's polyurethane foam, high-pressure injected with 40 Kg/m3 density and closing gasket, for access to each shelf, avoid temperature losing in case frequent main door openings..
- Door sensor
- Front document holder.
- Factory set right or left opening direction.



✓ Power Supply

- 220-240 /1 F/ 50 Hz
- Optional:**
 - 220-240 /1F/ 60 Hz
 - 110-115 /1F/ 60 Hz
- Special plugs available
- 1,5m power cord with Shuco plug

✓ Insulation

- VIP - vacuum panel insulation.
- Insulation of 120 mm by high quality free CFC's polyurethane foam, high-pressure injected with 40 Kg/m3 density.
- Zero ODP and low GWP



✓ Shelves

- 3 Internal shelves made of stainless steel with a max. load of 65 kg.
- Dimensions of shelves: 470 x 600 mm.

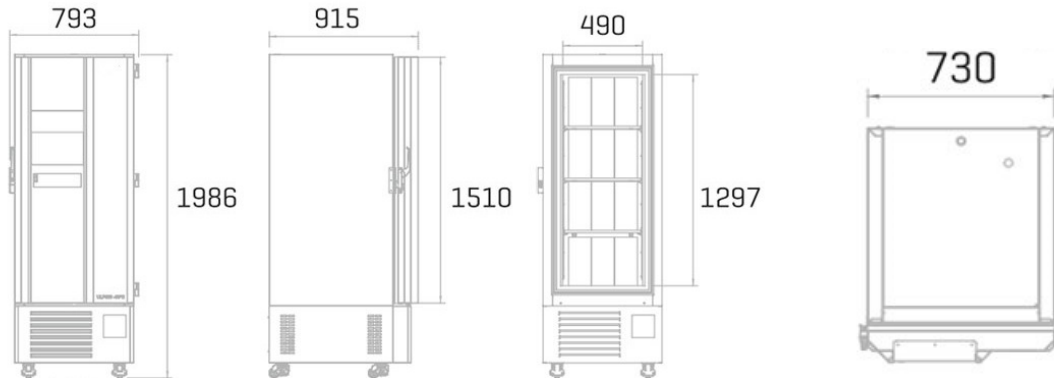


✓ Refrigeration

- Two independent auto-cascade refrigeration system, each one with own compressor. In case of failure of one of them, can maintain the internal temperature at -70 °C.
- System of ventilated condensation
- Washable Air filter against dust on the condenser, frontal installation, easy to remove
- Static surrounded evaporation system.
- Cooling HC natural gases, biodegradable, CFC and HCFC free.
- Low-noise, hermetic compressors.
- Climatic class 4 (30°C, 55% RH).
- Tratamiento permite trabajar hasta +32° C de temperatura en el área de trabajo.



EXTERIOR VIEW



TECHNICAL DATA

GENERAL		ELECTRICAL	
Double compressor in double circuit in cascade, HP	Total 1	Noise level	56dB
Refrigerant gas	Naturals HC	Energy consumption at -80 °C set value and room temperature= +24 °C (KW/day)	24,5kWh/24h
Current	10,7(A)	Nominal voltage (±10 %) at 50 Hz (V)	230
Net /Gross weight in kg.	261 kg	Climate class	4 (30°C, 55HR)
Package dimensions in mm	880 x 1000 x 2060	CONTAINER 20' /40' /40' HC	10/24/24
TRAILER	26		

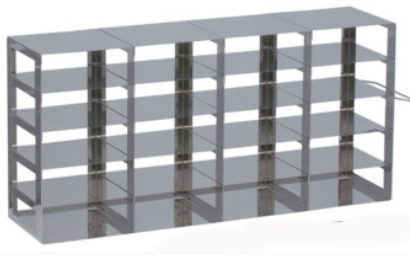


OPTIONAL ACCESORIES. NOT INCLUDED IN THE PRICE



SLIDING RACKS

Ref. rack	For Model	Number of stainless steel racks	No. of 50 mm (2 inches) high boxes, in model	No. of 75 mm (3 inches) high boxes, in model	No. of 100 mm (4 inches) high boxes, in model
	EVF ULF400S	12	288	192	144



STANDARD RACK

	Carton paper made Ref.	Polypropylene made Ref.
50 mm high box with lid	400 341	400 351
75 mm high box with lid	400 342	400 352
100 mm high box with lid	400 343	400 353



**NOTE: Dividers not included in base price.*

- ✓ GSM phone alarm module.
- ✓ Secondary alarm system, independent from the main control.
- ✓ Secondary potential free output.
- ✓ Additional access port.
- ✓ Standard British 13 A plug top with fuse.
- ✓ Standard American plug.
- ✓ Termostato de seguridad por temperatura alta/baja
- ✓ Tropicalization at +42°C room temperature.
- ✓ Electronic door lock with code or magnetic card access.



- ✓ 7 day temperature chart recorder, main powered with an independent battery backup; which works even during power failures. Includes 100 chart papers.
- ✓ Additional stainless steel shelves.
- ✓ Optional 5 internal service doors.
- ✓ CO2/LN2 back-up security system.
- ✓ Cryogenic protection gloves.

