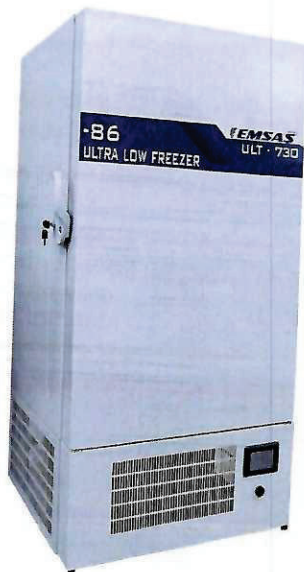




MEDICAL COOLING & HEATING SYSTEMS

ultra low freezer series



ULT 470

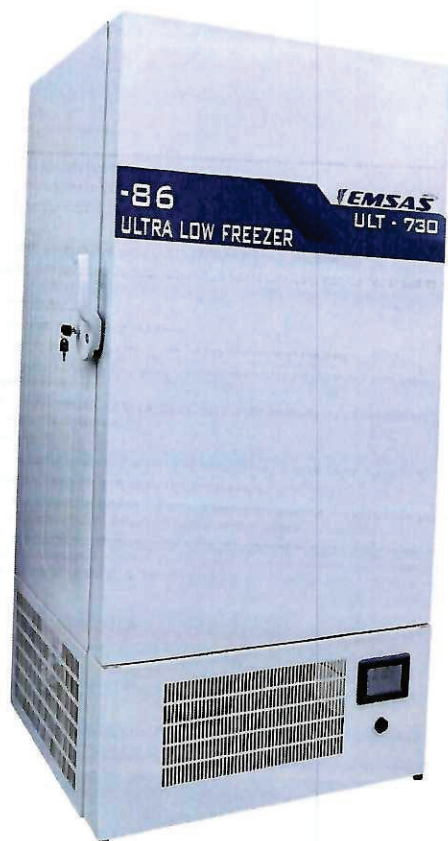


EF 600



EE 150

## ULT serie -86



ULT 730

### -86 ultra low freezers:

- Ultra low freezers have net volume of 470 and 720 liters.
- The temperature set value can be adjusted the range of -50°C and -86°C on the device's screen.
- The device roll out from our factory by being set to -86°C.
- The inner surface of the device is made of cr-ni alloyed stainless steel material. The outer surface is made of sheet material painted with antibacterial electrostatic powder paint.
- The thermostat which sends data to the control panel of the device, measures with sensitivity of 0,1°C.
- The inner cabin is cooled by the static direct cooling method with the cooling pipes surrounding the cabin.
- The device has cascade cooling system.
- The temperature/time graph of the last 140 minutes can be seen on the screen of the device.
- The device has usb port for recording temperature data. 30 days of temperature data can be recorded to usb memory.
- Pt100 temperature sensor is used in the device.
- 12 cm polyurethane foam is used for good insulation in the device.
- There are two sealing gaskets in order to improve the insulation on the door part of the device.
- Insulating material covers are used in the cubicle of the device, so that the temperature in the cabin does not rise too much when the door of the device is opened.
- Covers with insulating material are used in the cell of the device so that the temperature inside the cabinet does not rise too much when the door of the device is opened.
- The device is microprocessor controlled.
- Every step is done with encryption method in order to prevent unauthorized people from using the device.
- There are 2 free wheels and 2 stoppers wheels for easy transport of the device.
- There is an automatically charged accumulator system on the control panel of the device. This system ensures that the digital control panel continues to operate for 72 hours in case of power failure.
- The device gives warning with visual and audible warning signals when the upper and lower temperature limits are exceeded, when the door of the device is left open, when there is a power cut or low voltage problem while the ultra low freezers are operating. It sends the error codes to the screen, the thermal printer and the files received from the usb.



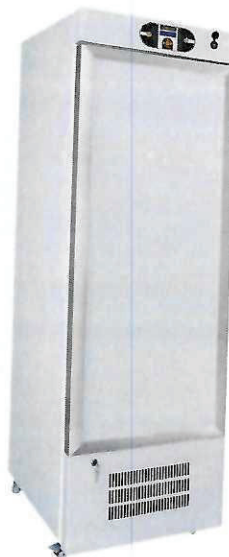
YULT 300



MODEL	ULT 470	ULT 730	YULT 300
Temperature Range	-50°C/-86°C	-50°C/-86°C	-50°C/-86°C
Set Point	-80°C	-80°C	-80°C
Internal Dimensions (W*d*h) Mm	750*750*1280	670*595*1205	1057*515*612 Mm
External Dimensions (W*d*h) Mm	990*1000*1980	910*870*1930	1300*755*828 Mm
Screen	5,5" Touch Tft Screen	5,5" Touch Tft Screen	5,5" Touch Tft Screen / Icd
Net Volume (L)	720 Liter	470 Liter	267 Liter
Insulating Material	Cfc-free Polyurethane Foam	Cfc-free Polyurethane Foam	Cfc-free Polyurethane Foam
Temperature Sensor	Pt100	Pt100	Pt100
Gas	R404a/r508b	R404a/r508b	R404a/r508b
Alarm System	Audio And Visual	Audio And Visual	Audio And Visual
Control System	Microprocessor Controlled	Microprocessor Controlled	Microprocessor Controlled
Wheels	2 Free Wheels / 2 Stopper Wheels	2 Free Wheels / 2 Stopper Wheels	2 Free Wheels / 2 Stopper Wheels
Graphic Screen	Yes	Yes	Yes
Internal Surface	Cr-ni Stainless Alloy	Cr-ni Stainless Alloy	Cr-ni Stainless Alloy
External Surface	Electrostatic Powder Painted Stainless Steel	Electrostatic Powder Painted Stainless Steel	Electrostatic Powder Painted Stainless Steel
Number Of Shelves	Cr-ni Alloy Stainless Steel 4 Shelves (Optionally Can Be Increased)	Cr-ni Alloy Stainless Steel 4 Shelves (Optionally Can Be Increased)	Cr-ni Alloy Stainless Steel 4 Shelves (Optionally Can Be Increased)



## EF serie -40



**YEF 300**

**EF 150**

**EF 300**

**EF 600**

Our laboratory freezers are produced with 3 different capacity option.

- The outer surface of the device is made of galvanized steel, painted with electrostatic paint to protect against rust. The inner surface is produced of stainless steel.
- The device operates with 195-230 V/50 Hz network voltage.
- The door of the device comes with a high density polyurethane filling insulation, which has a heating surface and magnetic seal rings to provide impermeability.
- The inner shelf system has been produced of stainless steel material. It has been designed ergonomically for speeding up the air circulation.
- The deep freezer provides the opportunity to store between -20°C / -40°C.
- The insulation of the deep freezer is provided with a high density of polyurethane material.
- The device works smooth and quietly.
- The lightening of the inner cabin of the device is carried out with LED lights.
- The user-friendly digital control panel, which carried out with a micro processor, enables to keep the data in memory for 30 days.
- There is a USB socket to transfer the cabinet temperature information to the computer

when requested. In this way, the 10 year old temperature records can be transferred to the PC in excel format.

- There is an accumulator system charged automatically at the control panel of the device. This system allows the control panel and thermal printer (if available) to operate for 24 hours when the electricity cuts off.
- The freezer alerts you with visual and audio signals when the lower and upper temperature limits are exceeded, the door of the device is left open, low voltage and/or electricity cut off problems occurs.
- The refrigerant and the insulation of the deep freezer do not contain CFC gas which is harmful for the OZONE.
- There are two braked and two regular castors on the device that provide easy portability.
- As per request of the user, a thermal printer can be installed at the device. The numerical printout of the recorded data can be taken with the thermal printer.
- All medical devices produced by Emsas A.S. are guaranteed for 2 years.
- All our products are produced in line with the ISO 9001:2008, TSE service place competence certificates. Our deep freezers have CE certificates.

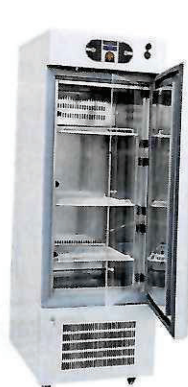
MODEL	YEF 300	EF 150	EF 300	EF 600
Temperature Sensor	-5°C/-45°C	PT 100	PT 100	PT 100
Temperature Adjustment Range °C	-40°C	-20/-40 °C	-20/-40 °C	-20/-40 °C
Cooling System	R404a	R404A	R404A	R404A
Alarm (temperature, Open Door, Electricity)	Audio And Visual	Visual and Audio	Visual and Audio	Visual and Audio
Insulation mm	100	100	100	80
Digital Microprocessor Control	+	+	+	+
Thermal Printer	Optional	Optional	Optional	Optional
PC Connection	Ntc	USB	USB	USB
Voltage	230 V - 50 Hz	230 V - 50 Hz	230 V - 50 Hz	230 V - 50 Hz
Internal Surface Structure	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
External Surface Structure	Epoxy-Polyester Electrostatic Painted Stainless Steel	Epoxy-Polyester Electrostatic Painted Stainless Steel	Epoxy-Polyester Electrostatic Painted Stainless Steel	Epoxy-Polyester Electrostatic Painted Stainless Steel
External Dimensions WxDxH mm	1300*755*828 Mm	600x650x1700	765x820x2000	923x820x2000
Internal Dimensions WxDxH mm	1086*558*660 Mm	450x460x1000	565x540x1190	753x630x1427
Packed Dimensions WxDxH mm	1310*755*828 Mm	610x700x1800	775x865x2020	943x840x2020
Gross Volume L	340	207	363	677
Net Volume L	335	180	320	590
Weight Kg	150	120	165	200



# laboratory freezer - plasma freezer

**EMSAŞ**  
www.emsas-as.com.tr

## EE serie -30



EE 150



EE 300



EE 600

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- The outer surface of the device is made of galvanized steel, painted with electrostatic paint to protect against rust. The inner surface is produced of stainless steel.
- The device operates with 195-230 V/50 Hz network voltage.
- The door of the device comes with a high density polyurethane filling insulation, which has a heating surface and magnetic seal rings to provide impermeability.
- The inner shelf system has been produced of stainless steel material. It has been designed in ergonomics for speeding up the air circulation.
- The deep freezer provides the opportunity to store between -5°C / -30°C.
- The insulation of the deep freezer is provided with a high density of polyurethane material.
- The device works smooth and quietly.
- There is a filter warning indicator showing the air filter status on the front control panel of the device. The air filter is easily removable and washable.
- The device has full automatic defrost system in order to protect the productivity of the cooling evaporator.
- The lighting of the inner cabin of the device is carried out with LED lights.
- A user-friendly digital control panel with a micro processor has been used on the device. This system can keep the data in memory for 30 days.

- There is a USB socket to transfer the cabinet temperature information to the computer when requested. In this way, the 10 year old temperature records can be transferred to the PC in excel format.
- The thermostat at the control panel of the device can make measurements with 0.1 degree sensitivity.
- There is an accumulator system charged automatically at the control panel of the device. This system allows the control panel and thermal printer (if available) to operate for 24 hours when the electricity cuts off.
- The freezer alerts you with visual and audio signals when the lower and upper temperature limits are exceeded, the door of the device is left open, low voltage and/or electricity cut off problems occurs.
- The refrigerant and the insulation of the deep freezer do not contain CFC gas which is harmful for the OZONE.
- There are two braked and two regular castors on the device that provide easy portability.
- As per request of the user, a thermal printer can be installed at the device. The numerical printout of the recorded data can be taken with the thermal printer.
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MODEL	EE 150	EE 300	EE 600
Cooling System	Direct Air Cooling	Direct Air Cooling	Direct Air Cooling
Temperature Sensor	PT 100	PT 100	PT 100
Temperature Adjustment Range °C	-5/-30 °C	-5/-30 °C	-5/-30 °C
Cooling Gas	R404A	R404A	R404A
Alarm (temperature, Open Door, Electricity)	Visual and Audio	Visual and Audio	Visual and Audio
Insulation mm	100	100	100
Digital Microprocessor Control	+	+	+
Thermal Printer	Optional	Optional	Optional
PC Connection	USB	USB	USB
Internal Surface Structure	Stainless Steel	Stainless Steel	Stainless Steel
External Surface Structure	Epoxy-Polyester Electrostatic Painted Stainless Steel	Epoxy-Polyester Electrostatic Painted Stainless Steel	Epoxy-Polyester Electrostatic Painted Stainless Steel
External Dimensions W x L x H mm	600x650x1700	765x820x2000	923x820x2000
Internal Dimensions W x L x H mm	450x460x1000	565x540x1190	753x630x1427
Packed Dimensions W x L x H mm	610x700x1800	775x865x2020	943x840x2020
Gross Volume L	207	363	677
Net Volume L	180	320	590
Weight Kg	120	165	200

**EMSAŞ**

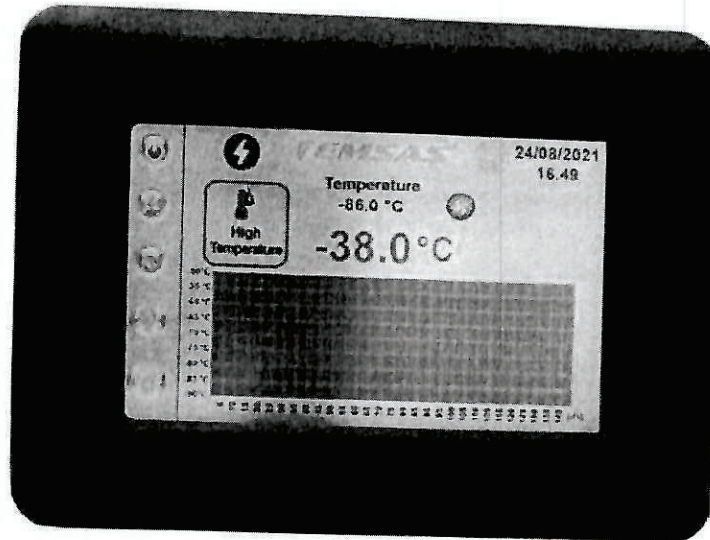
MEDICAL COOLING & HEATING SYSTEMS



www.emsas-as.com.tr  
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ISO 9001:2008 CE  
ISO 13485

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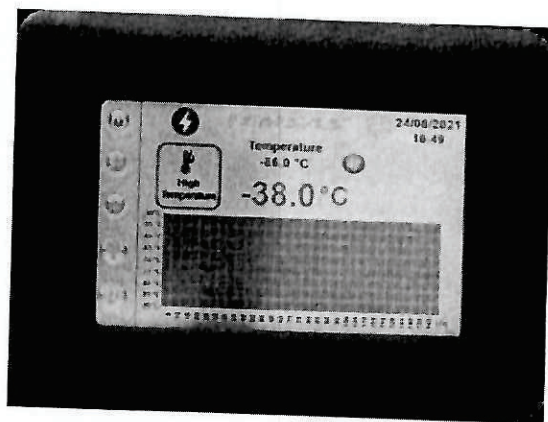


**TOUCH SCREEN FEATURES**

- 7p.
- 5.5 inch touch screen
  - temperature - time graph
  - Encryption system that prevents unauthorized access
  - Changing screen color and audible warning in case of alarm
  - 10 years data recording on USB.
  - Remote access via optional wifi, ethernet or rs232.
  - Alarm; low high temperature, open door, power failure alerts.
  - Operation error control and warning system (Sensor, compressor, communication)
  - There is a remote alarm connection output.
  - Instant temperature monitoring with optional wifi, ethernet, and the ability to send e-mail and voice messages over the Internet in case of alarm.
- 7p.



8p.



#### TOUCH SCREEN FEATURES

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#### JUTIMO EKRANO FUNKCIJOS

- 5,5 colio jutiklinis ekranas
- 6p. • temperatūra – laiko grafikas
- Šifravimo sistema, kuri apsaugo nuo neteisėtos prieigos
- 10p. • Ekran spalvos keitimas ir garsinis įspėjimas aliarmo atveju