

EMSAS[®]

BLOOD BANK REFRIGERATOR • PLATELET INCUBATOR / AGITATOR • -86 ULT FREEZER - ULTRA LOW TEMPERATURE FREEZER
 -30 - 40 DEEP FREEZER • LABORATORY AND PLASMA FREEZER • PLASMA THAWER - PLASMA THAWING DEVICE • PHARMACY AND VACCINE REFRIGERATOR
 COMBINED REFRIGERATOR AND FREEZER • EK SERIE VACCINE FRIDGE • DT 12-24 V MOBILE REFRIGERATOR FOR CAR AND PORTABLE COOLER
 POWER UNIT • BREAST MILK FRIDGE AND FREEZER • MATERNITY AND NEONATOLOGY DEVICES • BABY BOTTLE WARMER AND INJECTOR HEATER
 FLUID AND BLANKET WARMING CABINET • INCUBATOR • ETUVE • DRYING AND HEATING OVEN • WATER BATH • COOLED INCUBATOR
 STABILITY TEST CHAMBER • BOD INCUBATOR

QUALITY & SAFETY PROTECTION

Since 1975..



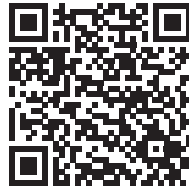
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ISO 9001



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Promotional Film



Product Introduction
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BLOOD BANKING DEVICES



**BLOOD BANK
REFRIGERATOR**

EKN



-30/-40

DEEP FREEZER

EE / EF



-86

**ULTRA LOW
TEMPERATURE
FREEZER**

ULT



**PLASMA
THAWING DEVICE**

EPS / EPT



**PLATELET
INCUBATOR /
AGITATOR**

ECI / EAJ





Receiving Reports
via USB Memory





EKN Serie (+4°C)

- Temperature range of +2°C/+8°C , working with 0,1 tolerance
- User-friendly microprocessor digital control panel, capacity to store data in memory for 30 days, login with password protection system.
- USB output
- Ability to record cabinet temperatures to an external USB flash drive for up to 10 years and transfer the data to a PC in Excel format
- Measurement accuracy of $\pm 0.1^{\circ}\text{C}$
- Equipped with 2 probes: one for measuring the internal cabinet temperature and the other for measuring the temperature of the blood plasma sample
- Double-layer thermal glass doors with locking mechanism and magnetic gaskets
- Cr-Ni 304 stainless steel drawer system with pool-type structure. Each drawer features a plexiglass cover, internal dividers, and reinforcement bars underneath
- Inner chamber made of CR-NI 304 stainless steel
- Multi-air flow system ensures even temperature distribution across all shelves
- Fin evaporator-based cooling system with fully automatic defrost function
- Automatic defrost system
- Built-in rechargeable accumulator system supports the digital control panel and printer for up to 48 hours during power outages
- Visual and audible alarm system activates when upper or lower temperature limits are exceeded, the door is left open, or there is a power outage
- Remote alarm output port
- External sensor input port
- Quiet and vibration-free operation
- LED lighting system
- Equipped with 2 lockable (stopped) wheels and 2 free-moving wheels
- 2-years warranty
- Certified with ISO 9001:2015, ISO 13485, CE, ISO 14001

MODEL	EKN 25 / 70 L	EKN 50 / 167 L	EKN 100 / 225 L	EKN 200 / 380 L	EKN 300 / 630 L	EKN 600 / 1300 L
Temperature Range of	+2°C / +8°C	+2°C / +8°C	+2°C / +8°C	+2°C / +8°C	+2°C / +8°C	+2°C / +8°C
Set Temperature	+4°C	+4°C	+4°C	+4°C	+4°C	+4°C
External Dimensions (WxLxH) mm	450*660*760	600*676*1161	600*671*1361	600*676*2000	765*835*2000	1450*835*2000
Capacity - LT / Bags	70 L / 25 Bags	167 L / 60 Bags	225 L / 120 Bags	380 L / 240 Bags	630 L / 363 Bags	1300 L / 672 Bags
Polyurathane Thickness	41 mm	40 mm	41 mm	41 mm	51,5 mm	44 mm
Packaging Dimensions (WxLxH) mm	580*790*890	605*700*1270	730*690*1550	730*690*2000	900*950*2150	940*1570*2150
Gross KG	65 Kg	97 Kg	128 Kg	175 Kg	229 Kg	380 Kg
Internal Lighting	+	+	+	+	+	+
Door Lock	+	+	+	+	+	+
Alarm	+	+	+	+	+	+
Internal Surface Material	Stainless Steel CR-NI 304	Stainless Steel CR-NI 304	Stainless Steel CR-NI 304	Stainless Steel CR-NI 304	Stainless Steel CR-NI 304	Stainless Steel CR-NI 304
External Surface Material	Galvanized Steel with Electrostatic Powder Coated	Galvanized Steel with Electrostatic Powder Coated	Galvanized Steel with Electrostatic Powder Coated	Galvanized Steel with Electrostatic Powder Coated	Galvanized Steel with Electrostatic Powder Coated	Galvanized Steel with Electrostatic Powder Coated
Heating / Cooling System	Fan-forced	Fan-forced	Fan-forced	Fan-forced	Fan-forced	Fan-forced
Insulation	CFC-Free Polyurathane	CFC-Free Polyurathane	CFC-Free Polyurathane	CFC-Free Polyurathane	CFC-Free Polyurathane	CFC-Free Polyurathane
Number of Stainless Steel Drawers	2	2	3	6	6	12
PC Connection	USB	USB	USB	USB	USB	USB
Castors	2 Braked , 2 Regular	2 Braked , 2 Regular	2 Braked , 2 Regular	2 Braked , 2 Regular	2 Braked , 2 Regular	2 Braked , 2 Regular
Temperature Sensor	NTC	NTC	NTC	NTC	NTC	NTC
Control System	Microprocessor Controlled	Microprocessor Controlled	Microprocessor Controlled	Microprocessor Controlled	Microprocessor Controlled	Microprocessor Controlled
Voltage / Hz	220V-50Hz / 110V-60HZ	220V-50Hz / 110V-60HZ	220V-50Hz / 110V-60HZ	220V-50Hz / 110V-60HZ	220V-50Hz / 110V-60HZ	220V-50Hz / 110V-60HZ
Cooling Gas	R134a/R600/R290	R134a/R600/R290	R134a/R600/R290	R134a/R600/R290	R134a/R600/R290	R134a/R600/R290
Power	230 Watt	230 Watt	230 Watt	277 Watt	400 Watt	400 Watt
Thermal Printer / Graphical Chart Recorder	Optional	Optional	Optional	Optional	Optional	Optional
Natural Gas	Optional	Optional	Optional	Optional	Optional	Optional
SMS and E-mail Module	Optional	Optional	Optional	Optional	Optional	Optional
5/5 inch Touch Screen Display	Optional	Optional	Optional	Optional	Optional	Optional

PLATELET INCUBATOR



Optional Thermal Printer



Optional Circular Printer



Optional Touch Screen



Receiving Reports via USB Memory

PLATELET AGITATOR



ECI SERIE INCUBATOR

(+22°C/+24°C)

- Set temperature +22°C, operating with a tolerance of $\pm 0.5^{\circ}\text{C}$
- User-friendly digital control panel with microprocessor technology
- Data storage capacity for up to 30 days
- Password-protected access for enhanced security
- When the door is opened while the incubator is operating, the internal fan system and platelet agitator stop automatically. Once the door is closed, the system resumes normal operation.
- Inner chamber made of CR-NI 304 stainless steel
- In the event of an agitator failure, the incubator continues to trigger an active alarm.
- USB output
- Capability to store cabinet temperature data to an external flash drive for up to 10 years, with export in Excel format
- Automatic defrost system
- Temperature measurement accuracy of $\pm 0.1^{\circ}\text{C}$
- Equipped with 2 probes: one measures the internal cabinet temperature, and the other measures the temperature of the liquid sample in the blood component
- Double-layered thermal glass doors, lockable, with magnetic gaskets for secure sealing
- Multi-air flow system ensures uniform temperature distribution across all shelves
- Fin-type evaporator cooling system with fully automatic defrost function
- Built-in rechargeable accumulator system supports the digital control panel and printer for up to 48 hours during power outages
- Visual and audible alarm system activates when upper or lower temperature limits are exceeded, the door is left open, or in the event of a power failure
- Remote alarm output port
- External sensor input port
- Designed for silent and vibration-free operation
- LED lighting system
- 2-years warranty
- Certified with ISO 9001:2015, ISO 13485, CE, ISO 14001

EAJ SERIE AGITATOR

- 6 to 11 apheresis capacity in each shelf
- Stainless steel shelves with PVC side edges that provide air circulation.
- Operates at 60 strokes per minute
- Low noise level for quiet operation
- 2-years warranty
- Certified with ISO 9001:2015, ISO 13485, CE, ISO 14001



MODEL	EAJ 05	EAJ 09	EAJ-L 09
Capacity / Bags	30 pcs	54 pcs	100 pcs
Voltage / Hz	220 V / 50 HZ	220 V / 50 HZ	220 V / 50 HZ
Net KG	25 KG	28 KG	35 KG
External Dimensions (WxLxH) mm	450*356*350	450*356*450	890*380*450
Packaging Dimensions (WxLxH) mm	550*450*500	550*450*500	970*450*530
Gross KG	32 KG	35 KG	65 KG

MODEL	ECI 01	ECI 02	ECI 03
Temperature Range of	+22°C / +24°C	+22°C / +24°C	+22°C / +24°C
Set Temperature	+22°C	+22°C	+22°C
External Dimensions (WxLxH) mm	600*700*871	1220*700*871	697*1215*2000
Capacity / LT	140 L	320 L	1078 L
Polyurethane Thickness	52 mm	50 mm	50 mm
Gross KG	88 Kg	125 Kg	200 Kg
Internal Lighting	+	+	+
Door Lock	+	+	+
Alarm	+	+	+
Internal Surface Material	Stainless Steel CR-NI 304	Stainless Steel CR-NI 304	Stainless Steel CR-NI 304
External Surface Material	Galvanized Steel with Electrostatic Powder Coated	Galvanized Steel with Electrostatic Powder Coated	Galvanized Steel with Electrostatic Powder Coated
Heating / Cooling System	Fan-forced	Fan-forced	Fan-forced
Insulation	CFC-Free Polyurethane	CFC-Free Polyurethane	CFC-Free Polyurethane
Capacity / Agitator	1 Agitator (EAJ05 or EAJ09)	2 Agitator (EAJ05 or EAJ09) OR 1 Agitator (EAJ-L09)	6 Agitator (EAJ05 or EAJ09) OR 3 Agitator (EAJ-L09)
Cr-Ni Shelves	+	+	+
PC Connection	USB	USB	USB
Castors	2 Braked , 2 Regular	2 Braked , 2 Regular	2 Braked , 2 Regular
Temperature Sensor	NTC	NTC	NTC
Control System	Microprocessor Controlled	Microprocessor Controlled	Microprocessor Controlled
Voltage / Hz	220V-50Hz / 110V-60HZ	220V-50Hz / 110V-60HZ	220V-50Hz / 110V-60HZ
Power	230 Watt	230 Watt	230 Watt
Cooling Gas	R134a/R600/R290	R134a/R600/R290	R134a/R290
Natural Gas	+	+	+
Thermal Printer / Graphical Chart Recorder	Optional	Optional	Optional
SMS and E-mail Module	Optional	Optional	Optional
5/5 inch Touch Screen Display	Optional	Optional	Optional

-86 ULT FREEZER - ULTRA LOW TEMPERATURE FREEZER

ULT 200
(-50/-86)



240 L

ULT 470
(-50/-86)



470 L

ULT 730
(-50/-86)



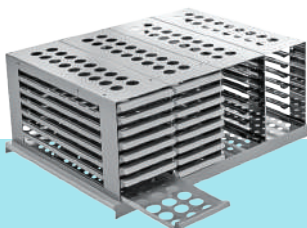
730 L

CHEST FREEZER

YULT 350
(-50/-86)



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via USB Memory



OPTIONAL RACK SYSTEM



OPTIONAL TPP BOX



OPTIONAL UPS / VOLTAGE REGULATOR



OPTIONAL GSM



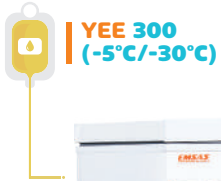
OPTIONAL WIFI

ULT Serie

(-50/-86)

- 5.5-inch color touchscreen display with microprocessor control and password protection,
- Temperature setting range from -50°C to -86°C
- On-screen temperature/time graph display for the last 140 minutes
- Built-in rechargeable accumulator system supports the digital control panel and printer for up to 72 hours during power outages
- Visual and audible alarm system is activated when temperature limits are exceeded, the door is left open, or in case of power failure
- Inner chamber made of CR-NI 304 stainless steel
- Measurement accuracy of $\pm 0.1^{\circ}\text{C}$
- Designed with cascade static direct cooling system - cooling pipes are placed outside the cabinet
- Automatic defrost system
- Ability to store temperature data for up to 10 years via USB, and export in Excel format to a PC
- Remote alarm output port
- External sensor input port
- Equipped with PT100 temperature sensor
- Dual sealing gaskets to ensure airtight performance
- Pressure equalization valve
- Equipped with 2 braked and 2 swivel caster wheels for easy mobility
- Compatible with CO₂ (Carbon Dioxide) Back-Up System
- Optional ambient temperature display
- 1-year warranty
- Certified with ISO 9001:2015, ISO 13485, CE, and ISO 14001

MODEL	ULT 200 / 240 L	ULT 470 / 470 L	ULT 730 / 730 L	ULT 800 / 800 L	YULT 350 / 350 L
Temperature Range of	-50°C / -86°C	-50°C / -86°C	-50°C / -86°C	-50°C / -86°C	-50°C / -86°C
Set Temperature	-80°C	-80°C	-80°C	-80°C	-80°C
External Dimensions (WxLxH) mm	836*812*1546	975*920*1851	985*1151*1933	1047*1153*1933	1800*800*840
Polyurathane Thickness	120 mm	120 mm	120 mm	120 mm	120 mm
Capacity / LT	240 L	470 L	730 L	800 L	350 L
Gross KG	172 Kg	240 Kg	286 Kg	310 Kg	120 Kg
Internal Lighting	-	-	-	-	-
Door Lock	+	+	+	+	+
Alarm	+	+	+	+	+
Internal Surface Material	Stainless Steel CR-NI 304	Stainless Steel CR-NI 304	Stainless Steel CR-NI 304	Stainless Steel CR-NI 304	Stainless Steel CR-NI 304
External Surface Material	Galvanized Steel with Electrostatic Powder Coated	Galvanized Steel with Electrostatic Powder Coated	Galvanized Steel with Electrostatic Powder Coated	Galvanized Steel with Electrostatic Powder Coated	Galvanized Steel with Electrostatic Powder Coated
Heating / Cooling System	Cascade	Cascade	Cascade	Cascade	Cascade
Insulation	CFC-Free Polyurathane	CFC-Free Polyurathane	CFC-Free Polyurathane	CFC-Free Polyurathane	CFC-Free Polyurathane
Number of Chrome Shelves	3	4	4	4	2 pcs plastic coated baskets
Screen	5'5 inch Touch Screen Display	5'5 inch Touch Screen Display	5'5 inch Touch Screen Display	5'5 inch Touch Screen Display	5'5 inch Touch Screen Display
Graphic Display	+	+	+	+	+
PC Connection	USB	USB	USB	USB	USB
Wheels	2 Braked , 2 Caster	2 Braked , 2 Caster	2 Braked , 2 Caster	2 Braked , 2 Caster	2 Braked , 2 Caster
Temperature Sensor	PT100	PT100	PT100	PT100	PT100
Control System	Microprocessor Controlled	Microprocessor Controlled	Microprocessor Controlled	Microprocessor Controlled	Microprocessor Controlled
Voltage / Hz	220V-50Hz / 110V-60HZ	220V-50Hz / 110V-60HZ	220V-50Hz / 110V-60HZ	220V-50Hz / 110V-60HZ	220V-50Hz / 110V-60HZ
Cooling Gas	R404a-R508B / R290-R170	R404a-R508B / R290-R170	R404a-R508B / R290-R170	R404a-R508B / R290-R170	R404a-R508B / R290-R170
Natural Gas	Optional	Optional	Optional	Optional	Optional



EE Serie

(-5°C/-30°C)

- Temperature range from -5°C to -30°C, operating with a $\pm 0.5^\circ\text{C}$ tolerance
- Stainless steel shelves that provide air circulation, each covered with individually insulated lids
- Plastic-coated wire shelves, adjustable according to user preference
- External sensor input port
- Remote alarm output port
- Multi-air flow system ensures even temperature distribution across all shelves
- Fin-type evaporator cooling system with fully automatic defrost function
- User-friendly microprocessor-controlled digital control panel
- Data storage capacity of 30 days, with password-protected access
- USB data logging: Records cabinet temperature for up to 10 years to an external USB flash drive and exports in Excel format to a PC
- Built-in rechargeable battery system powers the digital control panel and printer for up to 48 hours during power outages
- Visual and audible alarm system activates when temperature limits are exceeded, the door is left open, or in the event of a power failure
- Equipped with 2 lockable and 2 swivel caster wheels for easy mobility
- 2-year warranty
- Certified with ISO 9001:2015, ISO 13485, CE, and ISO 14001

MODEL	YEE 300	EE 100	EE 150	EE 300	EE 600
Temperature Range of	-5°C / -30°C	-5°C / -30°C	-5°C / -30°C	-5°C / -30°C	-5°C / -30°C
Set Temperature	-30°C	-30°C	-30°C	-30°C	-30°C
External Dimensions (WxLxH) mm	1300*800*840	600*660*150	600*670*1650	765*852*1950	910*830*1938
Polyurethane Thickness	100 mm	61 mm	75 mm	97,5 mm	78,5 mm
Capacity / LT	275 L	110	180 L	350 L	600 L
Gross KG	150 Kg	100 Kg	125 Kg	200 Kg	260 Kg
Internal Lighting	-	-	-	-	-
Door Lock	+	+	+	+	+
Alarm	+	+	+	+	+
Internal Surface Material	Stainless Steel CR-NI 304	Stainless Steel CR-NI 304	Stainless Steel CR-NI 304	Stainless Steel CR-NI 304	Stainless Steel CR-NI 304
External Surface Material	Galvanized Steel with Electrostatic Powder Coated	Galvanized Steel with Electrostatic Powder Coated	Galvanized Steel with Electrostatic Powder Coated	Galvanized Steel with Electrostatic Powder Coated	Galvanized Steel with Electrostatic Powder Coated
Heating/Cooling System	Fan-forced	Fan-forced	Fan-forced	Fan-forced	Fan-forced
Insulation	CFC-Free Polyurethane	CFC-Free Polyurethane	CFC-Free Polyurethane	CFC-Free Polyurethane	CFC-Free Polyurethane
Number of Shelves (Cr-Ni)	2 pcs plastic coated basket	2	3	4	4
5'5 inch Touch Screen Display	Optional	Optional	Optional	Optional	Optional
PC Connection	USB	USB	USB	USB	USB
Castors	2 Braked , 2 Regular	2 Braked , 2 Regular	2 Braked , 2 Regular	2 Braked , 2 Regular	2 Braked , 2 Regular
Temperature Sensor	NTC	NTC	NTC	NTC	NTC
Control System	Microprocessor Controlled	Microprocessor Controlled	Microprocessor Controlled	Microprocessor Controlled	Microprocessor Controlled
Voltage / Hz	220V-50Hz / 110V-60HZ	220V-50Hz / 110V-60HZ	220V-50Hz / 110V-60HZ	220V-50Hz / 110V-60HZ	220V-50Hz / 110V-60HZ
Cooling Gas	R404a/R290	R404a/R290	R404a/R290	R404a/R290	R404a/R290
Thermal Printer / Graphical Chart Recorder	Optional	Optional	Optional	Optional	Optional

EF 100
(-20°C/-40°C)



EF 150
(-20°C/-40°C)



EF 300
(-20°C/-40°C)



EF 600
(-20°C/-40°C)



YEF 300
(-20°C/-40°C)



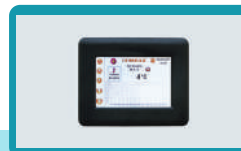
Receiving Reports
via USB Memory



Optional Thermal Printer



Optional Circular Printer



Optional Touch Screen

EF Serie

(-20°C/-40°C)

- Temperature range between -20°C and -40°C, operating with $\pm 0.5^\circ\text{C}$ tolerance
- Stainless steel shelves that provide air circulation, each covered with individually insulated lids
- Inner chamber made of CR-NI 304 stainless steel
- External sensor input port
- Remote alarm output port
- Multi-air flow system ensures uniform temperature distribution across all shelves
- Automatic defrost system
- User-friendly microprocessor-controlled digital control panel
- 30-day data storage capacity
- Password-protected access
- USB data logging system: Stores cabinet temperature for up to 10 years on an external flash drive, with Excel export capability to PC
- Built-in rechargeable accumulator system supports the digital control panel and printer for up to 48 hours during power outages
- Visual and audible alarm system activates when: Upper or lower temperature limits are exceeded, Door is left open, power failure occurs
- Heated sealing surface, magnetic gasket for air-tight closure, and high-density polyurethane foam-filled door for superior insulation
- Equipped with 2 lockable and 2 swivel caster wheels for easy mobility
- 2-year warranty
- Certified with ISO 9001:2015, ISO 13485, TSE, CE, and ISO 14001

MODEL	YEF 300	EF 100	EF 150	EF 300	EF 600
Temperature Range of	-20°C / -40°C	-20°C / -40°C	-20°C / -40°C	-20°C / -40°C	-20°C / -40°C
Set Temperature	-40°C	-40°C	-40°C	-40°C	-40°C
External Dimensions (WxLxH) mm	1300*755*828	600*660*1050	600*670*1650	765*830*1950	910*842*1938
Polyurathane Thickness	100 mm	61 mm	75 mm	97,5 mm	78,5 mm
Capacity / LT	275L	110L	180L	350L	600L
Gross KG	150 Kg	100 Kg	125 Kg	200 Kg	260 Kg
Internal Lighting	-	-	-	-	-
Door Lock	+	+	+	+	+
Alarm	+	+	+	+	+
Internal Surface Material	Stainless Steel CR-NI 304	Stainless Steel CR-NI 304	Stainless Steel CR-NI 304	Stainless Steel CR-NI 304	Stainless Steel CR-NI 304
External Surface Material	Galvanized Steel with Electrostatic Powder Coated	Galvanized Steel with Electrostatic Powder Coated	Galvanized Steel with Electrostatic Powder Coated	Galvanized Steel with Electrostatic Powder Coated	Galvanized Steel with Electrostatic Powder Coated
Heating/Cooling System	Fan-forced	Fan-forced	Fan-forced	Fan-forced	Fan-forced
Insulation	CFC-Free Polyurathane	CFC-Free Polyurathane	CFC-Free Polyurathane	CFC-Free Polyurathane	CFC-Free Polyurathane
Number of Shelves (Cr-Ni)	2 pcs plastic coated baskets	2	3	4	4
5'5 inch Touch Screen Display	Optional	Optional	Optional	Optional	Optional
PC Connection	USB	USB	USB	USB	USB
Castors	2 Braked , 2 Regular	2 Braked , 2 Regular	2 Braked , 2 Regular	2 Braked , 2 Regular	2 Braked , 2 Regular
Temperature Sensor	NTC	NTC	NTC	NTC	NTC
Control System	Microprocessor Controlled	Microprocessor Controlled	Microprocessor Controlled	Microprocessor Controlled	Microprocessor Controlled
Voltage / Hz	220V-50Hz / 110V-60HZ	220V-50Hz / 110V-60HZ	220V-50Hz / 110V-60HZ	220V-50Hz / 110V-60HZ	220V-50Hz / 110V-60HZ
Cooling Gas	R404a/R290	R404a/R290	R404a/R290	R404a/R290	R404a/R290
Thermal Printer / Graphical Chart Recorder	Optional	Optional	Optional	Optional	Optional

EPS (+20°C/+45°C)



- Plasma thawing is performed using a water-based system
- Thawing occurs with natural circulation and vibration within the water bath
- 20-liter capacity
- Temperature is adjustable by the user with a microprocessor-controlled system
- Operating temperature range: +5°C to +45°C
- User-adjustable upper and lower temperature alarm limits
- Equipped with a stainless steel basket system for holding blood bags
- Operates on 220V, 50Hz or 110V , 60Hz
- The heating element is placed in a separate compartment, preventing direct contact with water or products
- 300 W heating power allows for rapid temperature rise to the desired level
- The circulation system shortens the thawing time of the plasma products
- Includes a drain valve for quick and easy emptying of the water bath
- Integrated PID-controlled heating system ensures precise temperature maintenance and minimized energy consumption
- Features delayed start and timer functions, allowing the device to automatically shut off after the program is completed
- 2-year warranty

MODEL	EPS 10
Temperature Range of	+5 / +99°C
Set Temperature	+37°C
Capacity / Bags	4 pcs Bags
External Dimensions (WxLxH) mm	362*333*410
Capacity / LT	20 L
Rockwool Thickness	17,5 mm
Packing Dimensions	540x440x540 mm
Gross KG	21
Internal Surface Material	Stainless Steel CR-NI 304
External Surface Material	Galvanized Steel with Electrostatic Powder Coated
Heating / Cooling System	Electric
Insulation	Rockwool
Castors	Ball Joint Foot
Temperature Sensor	NTC
Control System	Microprocessor Controlled
Voltage / Hz	220V-50Hz / 110V-60Hz
Water Circulation	+
Drainage System	+
Bags Chamber	Stainless Steel Basket



EPT
 (+20°C/+45°C)

EPT 6
 (+20°C/+45°C)

MODEL	EPT 6
Temperature Range of	+5 / +45°C
Set Temperature	+37°C
Capacity / Bags	6
External Dimensions (WxLxH) mm	362*333*410
Capacity / LT	20 L
Rockwool Thickness	17,5 mm
Packing Dimensions	540x440x540 mm
Gross KG	30
Internal Surface Material	Stainless Steel CR-NI 304
External Surface Material	Galvanized Steel with Electrostatic Powder Coated
Heating / Cooling System	Electric
Insulation	Rockwool
Castors	Ball Joint Foot
Temperature Sensor	NTC
Control System	Microprocessor Controlled
Voltage / Hz	220V-50Hz / 110V-60Hz
Vibration	+
Drainage System	+
Bags Chamber	Silicone Pockets

- The plasma thawing process is performed using a dry-wet system
- Plasma bags do not come into direct contact with water – they are placed in silicone pockets that completely isolate them from water
- Easy loading and unloading of plasma bags via an automated lid mechanism controlled by up/down buttons
- Vibration is generated through the automatic up-and-down movement of the lid, combined with water circulation
- User-adjustable temperature control via microprocessor-based system
- Operating temperature range: +5°C to +45°C
- User-defined upper and lower alarm temperature limits
- Operates on 220V, 50Hz or 110V , 60Hz
- The heating element is housed in a separate compartment, completely isolated from water and products
- 300 W heating power ensures rapid temperature rise to the desired set point
- Circulation system shortens plasma thawing time, enhancing process efficiency
- Includes a drain valve for quick emptying of the water reservoir
- PID-controlled heating system allows for stable temperature control and optimized energy consumption
- Equipped with delayed start and timer functions, enabling the device to automatically shut off after program completion
- 2-year warranty

EKT 80
(2°C/8°C)



EKT 150
(2°C/8°C)



EKT 175
(2°C/8°C)



EKT 250
(2°C/8°C)



EKT 425
(2°C/8°C)



EKT 725
(2°C/8°C)

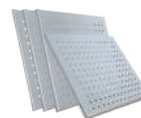


EKT 800
(2°C/8°C)



Receiving Reports
via USB Memory

EKT 1450
(2°C/8°C)



OPTIONAL CHROME SHELF



OPTIONAL VACCINE TRACKING SYSTEM



Optional Thermal Printer



Optional Circular Printer



Optional Touch Screen



OPTIONAL BLOCK
DOOR

EKT Serie

(2°C/8°C)

- Temperature range: +2°C to +8°C (factory set to +4°C)
- User-friendly microprocessor-controlled digital panel, stores data for up to 30 days and password-protected access
- USB port for data logging: Stores temperature data for up to 10 years on an external flash drive, data can be transferred to PC in Excel format
- 0.1°C measurement precision
- Inner chamber made of Cr-Ni 304 stainless steel
- Double-layered thermal glass doors, lockable and sealed with magnetic gaskets
- Plastic-coated wire shelves, adjustable based on user preference
- Multi Air Flow System ensures uniform temperature distribution across all shelves
- Fin-type evaporator cooling system with fully automatic defrost
- Built-in rechargeable accumulator system supports the digital control panel and printer for up to 48 hours during power outages
- Visual and audible alarm system is triggered when: Temperature limits are exceeded, Door is left open, power outage occurs
- External sensor input port
- Remote alarm output port
- Equipped with 2 lockable and 2 swivel caster wheels for easy mobility
- Silent and vibration-free operation
- Integrated LED lighting system
- 2-year warranty
- Optional vaccine tracking system
- Certified with ISO 9001:2015, ISO 13485, TSE, CE, and ISO 14001

MODEL	EKT 80 / 70 L	EKT 150 / 150 L	EKT 175 / 200 L	EKT 250 / 280 L	EKT 425 / 380 L	EKT 725 / 630 L	EKT 1450 / 1320 L
Temperature Range of	0 / +15 °C	0 / +15 °C	0 / +15 °C	0 / +15 °C	0 / +15 °C	0 / +15 °C	0 / +15 °C
Set Temperature	+4°C	+4°C	+4°C	+4°C	+4°C	+4°C	+4°C
External Dimensions (WxLxH) mm	450*600*750	600*676*1161	600*671*1361	600*690*1720	600*680*2040	765*850*2020	1450*840*2030
Capacity / LT	70 L	150L	200	280	380	637 L	1320
Polyurethane Thickness	41 mm	50 mm	42,5 mm	42,5 mm	42,5 mm	51,5	40 mm
Gross KG	65 Kg	97 Kg	115 Kg	128 Kg	175 Kg	229 Kg	380 Kg
Internal Lighting	+	+	+	+	+	+	+
Door Lock	+	+	+	+	+	+	+
Alarm	+	+	+	+	+	+	+
Internal Surface Material	Stainless Steel CR-NI 304	Stainless Steel CR-NI 304	Stainless Steel CR-NI 304	Stainless Steel CR-NI 304	Stainless Steel CR-NI 304	Stainless Steel CR-NI 304	Stainless Steel CR-NI 304
External Surface Material	Galvanized Steel with Electrostatic Powder Coated	Galvanized Steel with Electrostatic Powder Coated	Galvanized Steel with Electrostatic Powder Coated	Galvanized Steel with Electrostatic Powder Coated	Galvanized Steel with Electrostatic Powder Coated	Galvanized Steel with Electrostatic Powder Coated	Galvanized Steel with Electrostatic Powder Coated
Heating/Cooling System	Fan-forced	Fan-forced	Fan-forced	Fan-forced	Fan-forced	Fan-forced	Fan-forced
Insulation	CFC-Free Polyurethane	CFC-Free Polyurethane	CFC-Free Polyurethane	CFC-Free Polyurethane	CFC-Free Polyurethane	CFC-Free Polyurethane	CFC-Free Polyurethane
Number of Shelves	2	2	3	4	5	5	12
PC Connection	USB	USB	USB	USB	USB	USB	USB
Castors	2 Braked , 2 Regular	2 Braked , 2 Regular	2 Braked , 2 Regular	2 Braked , 2 Regular	2 Braked , 2 Regular	2 Braked , 2 Regular	2 Braked , 2 Regular
Temperature Sensor	NTC	NTC	NTC	NTC	NTC	NTC	NTC
Control System	Microprocessor Controlled	Microprocessor Controlled	Microprocessor Controlled	Microprocessor Controlled	Microprocessor Controlled	Microprocessor Controlled	Microprocessor Controlled
Voltage / Hz	220v-50hz/110V-60HZ	220v-50hz/110V-60HZ	220v-50hz/110V-60HZ	220v-50hz/110V-60HZ	220v-50hz/110V-60HZ	220v-50hz/110V-60HZ	220v-50hz/110V-60HZ
Cooling Gas	R600/R290/R134a	R600/R290/R134a	R600/R290/R134a	R600/R290/R134a	R600/R290/R134a	R600/R290/R134a	R600/R290/R134a
Thermal Printer	Optional	Optional	Optional	Optional	Optional	Optional	Optional
Graphical Chart Recorder	Optional	Optional	Optional	Optional	Optional	Optional	Optional
5'5 inch Touc Screen Display	Optional	Optional	Optional	Optional	Optional	Optional	Optional
Sms ve E-posta Modülü	Optional	Optional	Optional	Optional	Optional	Optional	Optional

EKT-D 175
(2°C/8°C) (-5°C/-30°C)



EKT-D 425
(2°C/8°C) (-5°C/-30°C)



EKT-D 500
(2°C/8°C) (-5°C/-30°C)



Optional Thermal Printer



Optional Touch Screen

EKT-D Serie

(2°C/8°C)
(-5°C/-30°C)

- Refrigerator compartment operates between 0°C and +15°C , set to +4°C
- Freezer compartment operates between -5°C and -30°C, set to -20°C
- Multi Air Flow System ensures uniform temperature distribution across all shelves
- Equipped with two compressors; both compartments are displayed independently on the digital control panel
- Fin-type evaporator cooling system with fully automatic defrost function
- User-friendly microprocessor-controlled digital control panel, stores data for 30 days and password-protected access
- USB port for exporting up to 10 years of temperature data to an external flash drive in Excel format
- High-precision temperature measurement with 0.1°C accuracy
- Inner chamber made of Cr-Ni 304 stainless steel
- Built-in rechargeable accumulator system supports the digital control panel and printer for up to 48 hours during power outages
- Visual and audible alarm system activated in case of: Temperature deviations , Door left open , Power outage
- External sensor input port
- Remote alarm output port
- Double-layered thermal glass doors, lockable and equipped with magnetic gaskets
- Adjustable plastic-coated wire shelves per user preference
- Equipped with 2 lockable and 2 swivel caster wheels for easy mobility
- Integrated LED lighting
- 2-year warranty
- Optional vaccine monitoring system
- Certified to ISO 9001:2015, ISO 13485, TSE, CE, ISO 14001 standards

MODEL	EKT-D 175		EKT-D 425		EKT-D 500	
	Refrigerator Section	Freezer Section	Refrigerator Section	Freezer Section	Refrigerator Section	Freezer Section
Temperature Range of	0 / +15 °C	-10°C / -30°C	0 / +15 °C	-10°C / -30°C	0 / +15 °C	-10°C / -30°C
Set Temperature	+4°C	-20°C	+4°C	-20°C	+4°C	-20°C
External Dimensions (WxLxH) mm	600*671*1530		600*660*2040		765*825*2030	
Polyurathane Thickness	42,5 mm	60 mm	42,5 mm	60 mm	49 mm	67 mm
Capacity / LT	148 L	67 L	230 L	70 L	355 L	140 L
Gross KG	130 Kg		175 Kg		197 Kg	
Internal Lighting	+	-	+	-	+	-
Door Lock	+	+	+	+	+	+
Alarm	+		+		+	
Internal Surface Material	Stainless Steel CR-NI 304		Stainless Steel CR-NI 304		Stainless Steel CR-NI 304	
External Surface Material	Galvanized Steel with Electrostatic Powder Coated		Galvanized Steel with Electrostatic Powder Coated		Galvanized Steel with Electrostatic Powder Coated	
Heating/Cooling System	Fan-Forced		Fan-Forced		Fan-Forced	
Insulation	CFC-Free Polyurathane		CFC-Free Polyurathane		CFC-Free Polyurathane	
Number of Drawer (Cr-Ni)	3 pcs	1 pcs	3 pcs	1 pcs	3 pcs	1 pcs
PC Coonection	USB		USB		USB	
Castors	2 Braked , 2 Regular , 2 Ball Joint Feet		2 Braked , 2 Regular , 2 Ball Joint Feet		2 Braked , 2 Regular , 2 Ball Joint Feet	
Temperature Sensor	NTC		NTC		NTC	
Control System	Microprocessor Controlled		Microprocessor Controlled		Microprocessor Controlled	
Voltage / Hz	220v-50hz / 110v-60hz		220v-50hz / 110v-60hz		220v-50hz / 110v-60hz	
Cooling Gas	R134a/R290	R404a/R290	R134a/R290	R404a/R290	R134a/R290	R404a/R290
Door Type: Glass/Solid	Optional		Optional		Optional	
Thermal Printer	Optional		Optional		Optional	
5'5 inch Touch Screen Display	Optional		Optional		Optional	

EK 380

- Power Supply: Operates with 195–230 V / 50 Hz or 110V / 60Hz mains voltage.
- Temperature Range: Adjustable between +0°C and +15°C, factory-set to +4°C.
- Door: Made of double-layered thermal glass, lockable, and features magnetic seals for secure closure.
- Shelving: Includes plastic-coated wire shelves, adjustable based on user requirements.
- Air Circulation: Equipped with a reinforced fan system to ensure even temperature distribution throughout the cabinet.
- Operation: Designed for quiet and vibration-free performance.
- Defrosting: Features a fully automatic defrost system to maintain evaporator efficiency.
- Interior Lighting: Integrated LED lighting inside the cabinet for better visibility.
- Control System: Uses a user-friendly microprocessor-based digital control panel.
- There is a USB to transfer the temperature information to PC. In this way, the 10 year old temperature record.
- Alarm System: When temperature limits are exceeded, the device emits audible and visual alerts.
- Eco-Friendly Design: The cooling and insulation systems are free from ozone-depleting CFC gases.
- 2-year warranty.
- Certified with ISO 9001:2015, ISO 13485, CE, ISO 14001



EKL 380

- Power Supply: Operates with 195–230 V / 50 Hz or 110V / 60Hz mains voltage.
- Temperature Range: Adjustable between +0°C and +15°C, factory-set to +4°C.
- Door: Made of double-layered thermal glass, lockable, and features magnetic seals for secure closure.
- Shelving: Includes plastic-coated wire shelves, adjustable based on user requirements.
- Air Circulation: Equipped with a reinforced fan system to ensure even temperature distribution throughout the cabinet.
- Operation: Designed for quiet and vibration-free performance.
- Defrosting: Features a fully automatic defrost system to maintain evaporator efficiency.
- Interior Lighting: Integrated LED lighting inside the cabinet for better visibility.
- Control System: Uses a user-friendly microprocessor-based digital control panel.
- There is a USB to transfer the temperature information to PC. In this way, the 10 year old temperature record.
- Alarm System: When temperature limits are exceeded, the device emits audible and visual alerts.
- Eco-Friendly Design: The cooling and insulation systems are free from ozone-depleting CFC gases.
- 2-year warranty.
- Certified with ISO 9001:2015, ISO 13485, CE, ISO 14001



DT 12-24 V MOBILE REFRIGERATOR FOR CAR AND PORTABLE COOLER



- It is designed to operate in vehicles with 12/24 Volt systems.
- The device operates within a range of +2/+15°C and is set to 4°C.
- The refrigerant used in the device is R290.
- The interior and exterior of the device are made of stainless steel (Cr-Ni material).
- The external dimensions of the device are 410x800x600 mm.
- The internal volume of the device is 80 L

EMG POWER UNIT



- The power unit is available in 1kW, 2kW, and 3kW capacity options.
- Operates with 12V/24V DC or 220V AC input.
- Inverter system allows the user to prioritize and select the preferred power source.
- Operating temperature range: -15°C to +55°C
- Integrated temperature sensors and cooling system protect the unit from overheating.
- Functions as a UPS (Uninterruptible Power Supply) to stabilize voltage during power fluctuations or outages.
- Designed to operate connected devices for up to 8 hours during power failures (extendable upon request).
- Compatible with solar panels for alternative energy input.
- All connection cables are equipped with plugs and sockets for easy installation.
- Power unit capacity should be selected based on the energy requirements of the connected device(s).
- Solar panels are mounted on a foldable and lockable frame, making them easy to stabilize and deploy.

NEWBORN HOSPITAL PRODUCT GROUPS



**BREAST MILK FRIDGE AND FREEZER /
COMBINED REFRIGATOR**



**BABY BOTTLE WARMER
AND INJECTOR HEATER**



ANS-F 150
(-25°C)



ANS-E 175
(0°/+15°C)



ANS-D 425
(2°C/8°C) / (-5/-25)



Receiving Reports
via USB Memory

EBI Serie 6-9-12-24 Pcs



EBI 6



EBI 12



BREAST MILK FRIDGE AND FREEZER / COMBINED REFRIGATOR

- As EMSAŞ A.Ş., we manufacture breast milk devices specifically designed for use in neonatal intensive care units, milk banks, and maternity departments. These units preserve and freeze breast milk without compromising its nutritional value.
- Each drawer of the device is made of stainless steel material and contains 20 eyes separated by letter and number systems for prevent baby bottles fall and easily trace the stocks.
- Temperature ranges: 0°C to +15°C and -5°C to -30°C
- User-friendly microprocessor-controlled digital panel with 30-day data storage and password protection
- USB output allows external storage of temperature data for up to 10 years, exportable to Excel format
- High-precision temperature measurement with 0.1°C accuracy
- Interior chamber made of Cr-Ni 304 stainless steel
- Double-glazed, lockable doors with magnetic gaskets for thermal insulation
- Adjustable plastic-coated wire shelves, customizable to user needs
- Multi air-flow system ensures uniform temperature distribution across all shelves
- Fin evaporator cooling system with fully automatic defrost
- Built-in rechargeable accumulator system supports the digital control panel and printer for up to 48 hours during power outages
- Visual and audible alarm system for temperature deviations, open door, or power failure
- External sensor input port and remote alarm output port
- Equipped with 2 lockable and 2 swivel caster wheels for easy mobility
- Silent and vibration-free operation
- Integrated LED lighting system
- 2-year warranty
- Optional vaccine monitoring system
- Certified with ISO 9001:2015, ISO 13485, CE, ISO 14001

MODEL	ANS-F 150	ANS-E 175	ANS-D 425	
			Üst Bölme	Alt Bölme
Temperature Range of	-5 / -30°C	0 / +15°C	0 / +15°C	-5 / -30°C
Set Temperature	-20°C	+4°C	+4°C	-20°C
External Dimensions (WxLxH) mm	600*670*1650	600*660*1446	600*660*2040	
Capacity / LT	210 L	225 L	166 L	138 L
Polyurethane Thickness	75 mm	42,5 mm	42 mm	60 mm
Gross KG	125 KG	105 Kg	190 Kg	
Internal Lighting	-	-	+	-
Door Lock	+	+	+	-
Alarm	+	+	+	
Internal Surface Material	Stainless Steel CR-Ni 304	Stainless Steel CR-Ni 304	Paslanmaz Çelik CR-Ni 304	
External Surface Material	Galvanized Steel with Electrostatic Powder Coated / Optional / Stainless Steel CR-Ni 304	Galvanized Steel with Electrostatic Powder Coated / Optional / Stainless Steel CR-Ni 304	Galvanized Steel with Electrostatic Powder Coated / Optional / Stainless Steel CR-Ni 304	
Heating / Cooling System	Direct Air Cooling	Direct Air Cooling	Direct Air Cooling	
Insulation	CFC-Free Polyurethane	CFC-Free Polyurethane	CFC-Free Polyurethane	
Number of Drawers	4 pcs	3 pcs	3 pcs	3 pcs
Baby Bottle Capacity (per each Drawer)	20 pcs	20 pcs	20 pcs	20 pcs
Total Baby Bottle Capacity	80 pcs	80 pcs	80 pcs	80 pcs
Thermal Printer	Optional	Optional	Optional	
PC Connections	USB	USB	USB	
Castors	2 Braked , 2 Regular	2 Braked , 2 Regular	2 Braked , 2 Regular	
Temperature Sensor	NTC	NTC	NTC	
Control System	Microprocessor Controlled	Microprocessor Controlled	Microprocessor Controlled	
Voltage / Hz	220V-50Hz / 110V-60Hz	220V-50Hz / 110V-60Hz	220V-50Hz / 110V-60Hz	
Cooling Gas	R404a/R290	R404a/R290	R134a/R290	R404a/R290
Graphical Chart Recorder	Optional	Optional	Optional	
5'5 inch Touch Screen Display	Optional	Optional	Optional	

BABY BOTTLE WARMER AND INJECTOR HEATER

MODEL	EBI 6	EBI 9	EBI 12	EBI 24
Temperature Range of	+20°C / +55°C	+20°C / +55°C	+20°C / +55°C	+20°C / +55°C
Set Temperature	+37°C	+37°C	+37°C	+37°C
Baby Bottle Capacity	6 pcs (50ml-120ml)	9 pcs (50ml-120ml)	12 pcs (50ml-120ml)	24 pcs (50ml-120ml)
External Dimensions (WxLxH) mm	350*330*200	450*330*200	650*330*200	679*660*200
Isolation Thickness	55 mm	55 mm	55 mm	55 mm
Heater System	Resistance	Resistance	Resistance	Resistance
Internal Surface Material	Aluminum	Aluminum	Aluminum	Aluminum
External Surface Material	Galvanized Steel with Electrostatic Powder Coated	Galvanized Steel with Electrostatic Powder Coated	Galvanized Steel with Electrostatic Powder Coated	Galvanized Steel with Electrostatic Powder Coated
Insulation	Rockwool	Rockwool	Rockwool	Rockwool
Control System	PID	PID	PID	PID
Safety Thermostat	(Until to +90°C)	(Until to +90°C)	(Until to +90°C)	(Until to +90°C)
Voltage / Hz	220V-50Hz / 110V-60HZ	220V-50Hz / 110V-60HZ	220V-50Hz / 110V-60HZ	220V-50Hz / 110V-60HZ
TIMER	+	+	+	+
Accessories (Syringe Block)	Optional	Optional	Optional	Optional
Power	1200 Watt	1200 Watt	1200 Watt	1200 Watt

and an aluminum heating plate

- For safety, the unit includes an external mechanical safety thermostat to protect the heating elements from overheating
- Controlled by a microprocessor-based electronic board
- Optional temperature alarm system alerts the user when temperatures exceed pre-set upper or lower limits
- The built-in timer function enables the device to operate for a specified duration and then automatically shut off
- 2-year warranty
- Certified with ISO 9001:2015, ISO 13485, CE, ISO 14001

- EBI bottle warmers provide a dry and sterile environment for hygienically warming baby bottles.
- Available in capacities of 6, 8, 12, and 24 bottles, each holding 130 ml
- Equipped with PID control system, which intermittently supplies power to the heating element—ensuring energy efficiency and maintaining bottle temperatures at a stable set value
- Continuous operation mode allows the device to maintain a stable temperature for 24 hours
- Even heat distribution is achieved using silicone heating elements

EMI 80
(+20°C/+80°C)



EMI 100
(+20°C/+80°C)



EMI 150
(+20°C/+80°C)



EMI D - 500
(+20°C/+80°C)



EMIX 250
(+20°C/+80°C)



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via USB Memory

EMI Serie

(+20°C/+80°C)

- Designed specifically for warming fluid and blankets.
- Temperature range of 20°C and 80°C, with a default setting of 50°C.
- User-friendly microprocessor-based digital control panel with 30 days of memory storage, featuring a password protection system for access.
- The device allows data to be saved to an external USB flash drive for up to 10 years and can transfer this data to a PC in Excel format.
- Automatically rechargeable accumulator system that powers the digital control panel and printer for 48 hours in case of power loss.
- Visual and audible alarm system activates when temperature limits are exceeded, the door is left open, or during power outages.
- Electronic over-temperature protection up to 80°C, with mechanical over-temperature protection reaching 90°C.
- Enhanced fan system ensures uniform heat distribution.
- To prevent external contamination, the air circulation system is equipped with a filter.
- LED lighting system inside the cabinet.
- Dual-cabinet design allows for independent temperature control for each compartment, with temperatures monitored via a digital display.
- External sensor adjustments can be made via the electronic board to synchronize with cabinet temperatures.
- Double-glazed, lockable, magnetic-sealed doors.
- 2-year warranty
- Certified with ISO 9001:2015, ISO 13485, CE, ISO 14001

MODEL	EMI 80	EMI 100	EMI 150	EMIX 250	EMI 350	EMI 500
Temperature Range of	+20°C / +80°C	+20°C / +80°C	+20°C / +80°C	+20°C / +80°C	+20°C / +80°C	+20°C / +80°C
Set Temperature	+50°C	+50°C	+50°C	+50°C	+50°C	+50°C
External Dimensions (WxLxH) mm	452*661*765	600*695*910	600*671*1361	662*620*712	600*660*2040	765*835*2020
Capacity / LT	70L	110L	225 L	250 L	380 L	"250 L x 2 (for 2 Compartment)"
Polyurethane Thickness	4 mm	52 mm	42,5 mm	42,5 mm	42,5 mm	50 Mm
Gross KG	55 Kg	85 Kg	90 Kg	95 Kg	100 Kg	130 Kg
Internal Lighting	+	+	+	+	+	+
Door Lock	+	+	+	+	+	+
Alarm	+	+	+	+	+	+
Internal Surface Material	Stainless Steel CR-NI 304	Stainless Steel CR-NI 304	Stainless Steel CR-NI 304	Stainless Steel CR-NI 304	Stainless Steel CR-NI 304	Stainless Steel CR-NI 304
External Surface Material	Galvanized Steel with Electrostatic Powder Coated	Galvanized Steel with Electrostatic Powder Coated	Galvanized Steel with Electrostatic Powder Coated	Chrome	Galvanized Steel with Electrostatic Powder Coated	Galvanized Steel with Electrostatic Powder Coated
Heating/Cooling System	Fan-forced	Fan-forced	Fan-forced	Fan-forced	Fan-forced	Fan-forced
Insulation	CFC-Free Polyurethane	CFC-Free Polyurethane	CFC-Free Polyurethane	CFC-Free Polyurethane	CFC-Free Polyurethane	CFC-Free Polyurethane
Number of Chrome Shelves	2	2	3	5	5	2/2
5.5 inch Touch Screen Display	Optional	Optional	Optional	Optional	Optional	Optional
PC Connection	USB	USB	USB	USB	USB	USB
Castors	2 Braked , 2 Regular	2 Braked , 2 Regular	2 Braked , 2 Regular	2 Braked , 2 Regular	2 Braked , 2 Regular	2 Braked , 2 Regular
Voltage / Hz	220V-50Hz / 110V-60HZ	220V-50Hz / 110V-60HZ	220V-50Hz / 110V-60HZ	220V-50Hz / 110V-60HZ	220V-50Hz / 110V-60HZ	220V-50Hz / 110V-60HZ



EMSAS[®]

SINCE 1975

EKT-I Serie 22-24



Receiving Reports
via USB Memory

COOLED INCUBATOR

COOLED: -10°C / +80°C



ETUVE

ETU : +5°C / +250°C



ESB WATER BATH



EKL

CLIMATIC TEST
CHAMBER



BOD INCUBATOR



EKT-I 80
(22/24)



EKT-I 150
(22/24)



EKT-I 175
(22/24)



EKT-I 250
(22/24)



EKT-I 425
(22/24)



EKT-I 725
(22/24)



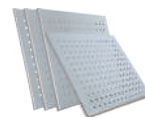
EKT-I 1450
(22/24)



Receiving Reports
via USB Memory



OPTIONAL VACCINE TRACKING SYSTEM



OPTIONAL CHROME SHELF



Optional Thermal Printer



Optional Circular Printer



Optional Touch Screen



OPTIONAL BLOCK
DOOR

EKT-I Serie

(22/24)

- Temperature range: +15°C to +25°C, set to +22°C.
- User-friendly microprocessor-controlled digital panel with password protection and 30-day data storage capacity.
- USB port for exporting up to 10 years of temperature data to an external flash drive in Excel format.
- Measurement accuracy of 0.1°C
- Interior chamber made of Cr-Ni 304 stainless steel
- Double-glazed insulated doors with magnetic seals and locking mechanism.
- Height-adjustable wire shelves with plastic coating, customizable to user preferences.
- Multi air-flow system ensures even temperature distribution across all shelves.
- Fin evaporator cooling system with fully automatic defrost function.
- Built-in rechargeable accumulator system supports the digital control panel and printer for up to 48 hours during power outages
- Visual and audible alarm system in case of temperature deviations, open door, or power failure.
- External sensor input port
- Remote alarm output
- Equipped with 2 lockable and 2 swivel caster wheels for easy mobility
- Silent and vibration-free operation
- LED interior lighting system
- 2-year warranty
- Optional vaccine monitoring system available
- Certified with ISO 9001:2015, ISO 13485, CE, and ISO 14001

MODEL	EKT-I 80	EKT-I 150	EKT-I 175	EKT-I 250	EKT-I 425	EKT-I 725	EKT-I 1450
Temperature Range of	+15C/+25C	+15C/+25C	+15C/+25C	+15C/+25C	+15C/+25C	+15C/+25C	+15C/+25C
Set Temperature	+22C	+22C	+22C	+22C	+22C	+22C	+22C
External Dimensions (WxLxH) mm	450*600*750 mm	600*680*1161 mm	600*680*1361 mm	600*680*1640 mm	600*680*2040 mm	765*835*2020 mm	1450*840*2030 mm
Capacity / LT	70 L	150L	200	270	380	630	1320
Polylurathane Foam Thickness	41 mm	41 mm	42,5 mm	42,5 mm	42,5 mm	51,5 mm	40 mm
Internal Lighting	+	+	+	+	+	+	+
Gross KG	60 KG	107 KG	105 KG	115 KG	156 KG	220 KG	320 KG
Alarm	+	+	+	+	+	+	+
Door Looc	+	+	+	+	+	+	+
External Surface Material	Galvanized Steel with Electrostatic Powder Coated	Galvanized Steel with Electrostatic Powder Coated	Galvanized Steel with Electrostatic Powder Coated	Galvanized Steel with Electrostatic Powder Coated	Galvanized Steel with Electrostatic Powder Coated	Galvanized Steel with Electrostatic Powder Coated	Galvanized Steel with Electrostatic Powder Coated
Internal Surface Material	Stainless Steel CR-Ni 304	Stainless Steel CR-Ni 304	Stainless Steel CR-Ni 304	Stainless Steel CR-Ni 304	Stainless Steel CR-Ni 304	Stainless Steel CR-Ni 304	Stainless Steel CR-Ni 304
Insulation	CFC-Free Polyurethane	CFC-Free Polyurethane	CFC-Free Polyurethane	CFC-Free Polyurethane	CFC-Free Polyurethane	CFC-Free Polyurethane	CFC-Free Polyurethane
Heating/Cooling System	Fan-forced	Fan-forced	Fan-forced	Fan-forced	Fan-forced	Fan-forced	Fan-forced
PC Connection	USB	USB	USB	USB	USB	USB	USB
Number of Shelves	2	2	3	4	5	5	12
Temperature Sensor	NTC	NTC	NTC	NTC	NTC	NTC	NTC
Castors	2 Braked , 2 Regular	2 Braked , 2 Regular	2 Braked , 2 Regular	2 Braked , 2 Regular	2 Braked , 2 Regular	2 Braked , 2 Regular	2 Braked , 2 Regular
Voltage / Hz	220V-50Hz / 110V-60Hz	220V-50Hz / 110V-60Hz	220V-50Hz / 110V-60Hz	220V-50Hz / 110V-60Hz	220V-50Hz / 110V-60Hz	220V-50Hz / 110V-60Hz	220V-50Hz / 110V-60Hz
Control System	Microprocessor Controlled	Microprocessor Controlled	Microprocessor Controlled	Microprocessor Controlled	Microprocessor Controlled	Microprocessor Controlled	Microprocessor Controlled
Chrome Shelf	Optional	Optional	Optional	Optional	Optional	Optional	Optional
Cooling Gas	R600/R290/R134a	R600/R290/R134a	R600/R290/R134a	R600/R290/R134a	R600/R290/R134a	R600/R290/R134a	R600/R290/R134a
Basket	Optional	Optional	Optional	Optional	Optional	Optional	Optional
Thermal Printer	Optional	Optional	Optional	Optional	Optional	Optional	Optional
5'5 inch Touch Screen Display	Optional	Optional	Optional	Optional	Optional	Optional	Optional
SMS and E-mail Module	Optional	Optional	Optional	Optional	Optional	Optional	Optional
Graphical Chart Recorder	Optional	Optional	Optional	Optional	Optional	Optional	Optional

ETUVE / DRYING AND HEATING OVEN (+5 / 250)



- **External Surface:** The exterior is made of galvanized steel, coated with electrostatic paint for rust resistance. The interior is made of 304 CR-NI stainless steel.
- **Power Supply:** Operates with 195-230 V/50 Hz mains voltage.
- **Functionality:** The dry heat sterilizer is used for heating, drying, and sterilization processes.
- **Heat Distribution:** Ensures homogeneous heat distribution within the unit through a turbo fan motor.
- **Digital Control System:** The sterilizer can be operated for 1 minute to 99.9 hours.
- **Continuous Operation Mode:** The device allows for unlimited operation at a desired set point, without a time limit.
- **Ease of Cleaning:** The device features curved corners to minimize dirt accumulation, ensuring easy cleaning.
- **Safety Thermostat:** A safety thermostat can be adjusted between +50°C to +300°C, providing protection against overheating.
- **Operating Temperature Range:** The working temperature is 5°C above ambient temperature to 250°C.
- **Warranty:** The device is covered by a 2-year warranty.

MODEL	ET 150
Temperature Range	+5 / +250°C
Set Point	+250°C
External Dimensions (WxLxH) mm	650x750x950
Internal Dimensions (WxLxH) mm	476x455x565
Volume	148 L
Shelves	2 pcs Shelves
Rock Wool (mm)	60 mm
Packaged Dimensions (WxLxH) mm	650x750x950
Gross KG	70 Kg
Interior Lighting	-
Door Lock	+
Alarm	+
Internal Surface	Stainless Steel Cr-Ni 304
External Surface	Galvanized sheet with electrostatic paint
Heating / Cooling System	Electric Heated Air Circulation
Insulation	Rock Wool
Castor	Ball Joint
Temperature Sensor	J Type
Control System	Microprocessor Control
Power	1200 Watt
Voltage	220v-50hz

ESB WATER BATH (-10/+80)



- The device is used to ensure that the chemicals used in laboratories are heated without fire.
- The device ensures that chemical solutions and samples are kept constant at desired temperatures at desired times.
- The device performs melting process with the watery system. Water is constantly circulated in the device. Therefore, homogeneous heat distribution is provided in the device.
- Glass wool is used on the upper part of the device as insulation material.
- Since there is no heater or pump in the chamber, there is no loss in net volume.
- The device provides precise temperature measurement thanks to its microprocessor control.
- Additional safety measures have been taken against overheating with the safety thermostat adjustable between 30 and 90 degrees in the device.
- There is a drainage system for the discharge of excess water in the device.
- The inner chamber is made of monoblock stainless steel with rounded corners to reduce the risk of contamination of the device.
- The outer surface is stainless steel made of electrostatic painted galvanized sheet.
- The device provides the user the opportunity of programming between 0 and 99.99 hours.
- The device provides wide usage opportunity with its delayed start and indefinite working mode.
- Emsaş A.Ş. All medical devices manufactured by us are guaranteed for 2 years.

MODEL	ESB 10
Temperature Range	+5 / +99°C
Set Point	+45°C
External Dimensions (WxLxH) mm	362x333x410
Internal Dimensions (WxLxH) mm	327x298x199
Volume	20 L
Rock Wool (mm)	17,5 mm
Packaged Dimensions (WxLxH) mm	520x420x530 mm
Gross KG	21 Kg
Interior Lighting	-
Alarm	-
Internal Surface	Stainless Steel Cr-Ni 304
External Surface	Galvanized sheet with electrostatic paint
Heating / Cooling System	Electricity
Insulation	Rock Wool
Castor	Ball Joint
Temperature Sensor	NTC
Control System	PID
Power	1137 Watt
Voltage	220v-50hz
Amper	5 Amper

ESI 100

ESI Serie
(-10/+80)

- Cooled incubator operates in the temperature range of -10°C to +80°C and is typically set at 37°C.
- The observation window inside the incubator allows for monitoring the internal environment without opening the door, preventing temperature loss.
- Equipped with two adjustable-height 304 CR-Ni stainless steel racks, designed to be perforated to allow air circulation and avoid obstruction.
- User-friendly microprocessor-based digital control panel with the ability to store data for up to 30 days and includes a password protection system for access.
- The thermostat on the control panel can measure temperature with a precision of 0.1°C.
- Visual and audible alarm system is triggered if the temperature limits are exceeded, the door is left open, or during a power outage.
- The incubator's exterior is made from galvanized sheet metal coated with electrostatic paint, offering corrosion resistance, while the interior is made from stainless steel.
- The unit operates on 195-230V/50Hz or 110V / 60Hz mains voltage.
- The incubator features a polyurethane block door for insulation.
- It includes two stoppered and two free-moving wheels for easy mobility.
- LED lighting system inside the incubator.
- 2-year warranty.
- Certified with ISO 9001:2015, ISO 13485, CE, ISO 14001



Optional Thermal Printer

MODEL	ESI
Temperature Range of	-10°C / +80°C
Set Temperature	+37°C
External Dimensions (WxLxH) mm	600*700*871
Capacity / LT	132 L
Inner Glass Door	+
Number of Shelves	2 pcs Stainless Steel Cr-Ni Shelves
Polyurethane Thickness	61 mm
Packing Dimensions	740x690x1130 mm
Gross KG	115 Kg
Internal Lighting	-
Door Lock	+
Alarm	+
Internal Surface	Stainless Steel CR-NI 304
External Surface	Galvanized Steel with Electrostatic Powder Coated
Heating / Cooling System	Fan-forced
Insulation	CFC-Free Polyurethane
Castors	2 Braked , 2 Regular , 2 Ball Joint Feet
Temperature Sensor	NTC
Control System	Microprocessor Controlled
Thermal Printer	Optional
Graphical Chart Recorder	Optional
PC Connection	USB
Voltage / Hz	220V-50Hz / 110V-60HZ
Cooling Gas	R134a/R290
5'5 inch Touch Screen Display	Optional



EKL Serie (-10/+70)

EKL 100



MODEL	EKL 100
Temperature Range (°C)	-10°C/+70°C
Temperature Accuracy (°C)	+/-0,1°C-+/-0,5°C
Humidity Range (%)	%0-%99
Humidity Accuracy (%)	+/- %2
Insulation Material	CFC Free Polyurethane Foam
Insulation Thickness	61
Humidity Material	Ultrasonic Humidifier
Refrigeration System	Compressor Refrigeration System Fan Circulation
Heating System	Heater Element With PID Control
Step Program Quantity	5
Program Mode Continuous and Discontinuous	+
Voltage	180-230 Volt
Frequency	50 Hz
Interior Material	304 Quality Stainless Steel
Exterior Material	Galvanized Steel With Electrostatic Painted
Interior Dimensions (G*D*Y) mm	475*493*555
Exterior Dimensions (G*D*Y) mm	600*660*1037
Volume Lt.	130
Net Volume	110
Refrigerant	R134A

- The Devices have temperature range from -10°C to +70°C. The end user can adjust the temperature from -10°C to +70°C.
- The devices have humidity range from %0 to %99. The end user can adjust the humidity from %0 to %99.
- The device have maximum +/- %2 humidity accuracy.
- The high density CFC free Polyurethane foam was used in the device for the device insulation.
- The device humidifier is ultrasonic humidifier. The boiler humidifier was not used in the Emsas stability test chambers. so that when the humidifier works the device do not have temperature accuracy because of boiler. So that the end user have advantage by ultrasonic humidifier according to the boiler humidifier.
- The Stabilite chambers have refrigerations systems with compressors coolings. And the same time our refrigerations system have circulations ventilator inside of cabinet to have equal temperature uniformity inside of the chamber.
- The heating systems of the device was made of heater element. The heater elements was control by PID system. So that the heater elements ensure low energy consumption. At the same time the heater element ensure the temperature stability inside of the chamber by PID control system.
- The Emsas Stabilite chambers softwares have steps programs. The steps programs have 3 different mode. The 3 different modes are continuously mode, discontinuously mode and endless mode.
- The Endless Mode: when the end user choose this mode, the end user should adjust one temperature set point, one humidity set point and the chamber will work the set point the end user was adjusted up to end user turn off the device.
- Discontinuously Mode: When the end user choose this mode, the end user should adjust temperature set point and humidity set point in the step program up to 5 steps. The maximum step program have to be 5. if end user want, the end user can choose less than 5 steps. When the device will be finished all of the programs, the device will turned off by itself in this working mode.
- Continuously Mode: The end user can adjust maximum 5 different step program or less than 5. When All of the steps programs will be finished, the device can turn back the first steps programs again. And then the device will work in this cycle up to the end user will turn off the device.
- Emsas Stabilite Chambers have "TIMER" specification. The timer specification is when the cabinet temperature and humidity reach set points degrees, the timer start to count up to zero. Timer start to count according to the end user adjust.
- Emsas Stabilite chamber have delaying starting mode specification. Delaying starting mode is when the temperature and humidity reach the set point, the timer start to count. Temperature and humidity can not reach set point degree, the timer do not start to count.
- The device works with 220 Voltages and 50 Hz frequency.
- The device interior material was made of 304 quality stainless steel. So that this interior material ensure the inside of the cabinet from the contamination.

BOD INCUBATOR

(-10/+ 70)

- Product Description: BOD incubator (Biochemical Oxygen Demand) Inkubator , The BOD incubator is that measure microorganisms in a water sample amount of oxygen consumption in one period. We can use the Bod incubators to make water quality tests. Microorganisms take oxygen from the water sample. So that Water sample oxygen amount is decreased. If the oxygen amount will be decreased ,that means that water sample is dirty.
- The BOD incubators ensure stabil chamber temperature and oxygen level. The end users put the water sample of the BOD incubators. The microorganism consumes the oxygen in water samples. After that end users measure oxygen concentration decreasing in a period. In the end of the end user calculates a BOI value according to the oxygen consumption.
- Area Of Use:
 - Water Quality Tests
 - Researching of microorganism and Metabolism
 - Determining the growth rate of microorganisms
 - In meeting the growth rates of microorganisms under different conditions
- The Devices have temperature range from -10°C to +70°C. The end user can adjust the temperature from -10°C to +70°C.
- The Device temperature accuracy is from +/-0.1°C to +/-0.5°C.
- The high density CFC free Polyurethane foam was used in the device for the device insulation.
- The device insulation thickness can be changed from 61mm to 97.5mm according to the device volumes.
- The BOD incubators have refrigeration systems with compressors coolings. And at the same time, our refrigeration system has circulation ventilator inside of cabinet to have equal temperature uniformity inside of the chamber.
- The heater element was used in the BOD incubator heating system.
- The heating systems of the device were made of heater element. The heater elements were controlled by PID system. So that the heater elements ensure low energy consumption. At the same time, the heater element ensures the temperature stability inside of the chamber by PID control system.
- The BOD incubators have step program. When the cabinet temperature comes to the set point degree, the timer of the device starts to count. After that the device works according to the program end user adjusted. The device was turned off automatically.
- The Timer can have up to 99 minutes.
- The device electrical power is 220 Volt / 50 Hz.
- The device was made of 304 quality stainless steel. So that the contamination risk will be minimum.
- The device exterior surface was made of electrostatic painting galvanized stainless steel.
- The Refrigerant of the device is R134a. This refrigerant is not flammable.



EBOD 100



MODEL	EBOD 100
Temperature Range (°C)	-10°C/+70°C
Temperature Accuracy (°C)	+/-0,1°C-+/-0,5°C
Insulation Material	CFC Free Polyurethane Foam
Insulation Thickness	61
Refrigeration System	Compressor Refrigeration System Fan Circulation
Heating System	Heater Element With PID Control
Step Program Quantity	1
Program Mode Continuous and Discontinuous	+
TIMER	99 Minutes
Voltage	180-230 Volt
Frequency	50 Hz
Interior Material	304 Quality Stainless Steel
Exterior Material	Galvanized Steel With Electrostatic Painted
Interior Dimensions (G*D*Y) mm	475*493*555
Exterior Dimensions (G*D*Y) mm	600*660*1037
Volume Lt.	130
Net Volume	110
Refrigerant	R134A



MEDICAL COOLING & HEATING DEVICES



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



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EKT SERIES

PHARMACY REFRIGERATOR

MANUAL BOOK

GENERAL INFORMATION

Please read the manual book carefully and keep the book for forward before using your device.

If there can be any defect contact with the shipping company to the report damage. According to ICC regulations, the responsibility belongs to the consumer.

When operating the device;

1. Follow the warning labels
 2. Do not remove the labels
 3. Do not operate the damaged device
 4. Do not operate the device with a damaged cable system.
 5. Do not move the device while the device operating.
-
- * In case of any problem please contact with EMSAŞ A.Ş technical service.
 - * Read the manual book carefully before using the device, this ensures you to get high efficiency.
 - * The EMSAŞ A.Ş has the right of changing and developing the device structure.
 - * Please keep the product package until be sure the device is full, complete, and correct.
 - * The warranty is valid until the precautions described in this manual are followed.

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WARRANTY CONDITIONS

1. The warranty period starts from the delivery date of the goods and is two years.
2. The entire product, including all parts, is under our company's warranty.
3. In case of malfunction of the product within the warranty period, the period of repair is added to the warranty period. The repair period of the goods is maximum of thirty working days. This period starts from the date of notification of the goods to the service station. In case there is no service station, respectively; it starts from the date of notification to one of the seller, dealer, agency, representative, importer or manufacturer of the goods. If the defect of the industrial goods cannot be fixed within 15 working days, the manufacturer or the importer; it has to allocate another industrial good with similar characteristics to the use of the consumer until the repair of the good is completed.
4. If the product fails during the warranty period due to material and workmanship or assembly errors, it will be repaired without any charge under any other name, such as labor cost, replacement part price, or any other name.
5. Despite the consumer's use of the right to repair, the goods;
 - The fact that the same fault is repeated more than twice within a year from the date of delivery to the consumer, or that different faults occur more than four times, or that the sum of different faults is more than six within the specified warranty period, and that these faults perpetuate the inability to benefit from the goods,
 - Exceeding the maximum time required for repair,
 - In cases where it is determined that the repair of the fault is not possible with the report to be issued by the company's service station, if the service station is not available, respectively, one of the dealers, agents, representatives, importers, or manufacturers, the consumer may request a free replacement of the goods, a refund or a price reduction at the rate of the defect.
6. Defects arising from the use of the product contrary to the terms in the user manual are not covered by the warranty.
7. For problems that may arise regarding the warranty certificate, the Ministry of Industry and Trade, General Directorate of Protection of Consumer and Competition can be applied.

CUSTOMER MATTERS REGARDING THE WARRANTY

Issues that our customers should pay attention to regarding the warranty

1. Malfunctions arising from the use of the device other than its normal use,
2. Defects arising from exposure to substances with physical or chemical effects,
3. Damages and malfunctions that occur in case of non-compliance with the points in the user manual,

4. Damages due to lower excess voltage faulty installation or using a voltage different from the voltage written on the label of the device,
5. Damages that will occur during loading, unloading, and transportation under the responsibility of the customer,
6. The device has been disassembled for various reasons or its functions have been changed by people other than service officials,
7. Malfunctions and damages that may occur due to fire and lightning,
8. Responsibility for the completion of the warranty certificate and the delivery to the consumer belongs to the seller, dealer, agency, or representative office from which the consumer purchased the goods,
9. This warranty is void if the warranty document has been tampered with, the original serial number on the product has been removed or tampered with.

THIS MANUAL MUST BE READ CAREFULLY BEFORE OPERATING THE DEVICE.

WARRANTY CONDITIONS APPLY IF THE INSTRUCTIONS AND WARNINGS DESCRIBED IN THE DEVICE'S USER MANUAL ARE COMPLIED.

***THE INFORMATION CONTAINED IN THIS MANUAL BELONGS TO EMSAS.
THE INFORMATION IN THE MANUAL CANNOT BE REDUCED OR DISTRIBUTED WITHOUT
EMSAS' PERMISSION.***

In the above-mentioned cases, troubleshooting is done for a fee.

The product's installation and transportation to the place of use are not included in the product price.

* The useful life of the goods announced by the Ministry of Industry and Trade in accordance with the Law on the Protection of the Consumer No. 4077 is 10 years.

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11.1. SPARE PARTS

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1.INTRODUCTION

1.1. DESCRIPTION OF DEVICE, FUNCTION, AND OPERATING PRINCIPLE

Products such as vaccines, kits, drugs and serums are designed to be used in hospitals, laboratories, pharmacies, health inspection centers and departments where products such as drugs, kits and serum are stored.

Cabinets with a cooling system that allows them to be stored at 0°C / +15°C for up to 12 months are called "Kit Storage Cabinets".

PURPOSE:

In all health centers, products such as vaccines, medical kits, drugs and serums are at temperatures between 0°C / +15°C.

It is to be kept at +4 °C for up to 12 months. Our kit storage cabinets are designed to serve for many years in health centers.

WORKING PRINCIPLES:

The device is designed to control temperatures in the range of 0°C / +15°C.

All of our cabinets in the EKT series can be adjusted to the desired temperature between 0°C / +15°C.

However, the factory set value is +4°C.

The cooling system in our EKT series cabinets works with the on/off (open / close) principle.

In all our EKT series cabinets, air circulation is provided with the help of a fan in order to ensure equal heat distribution in the inner cabinet.

Microprocessor-controlled electronic cards are used in our devices.

CFC-free polyurethane foam insulation material is used so that the device can maintain the temperature in the interior for a longer period of time.

Our EKT series cabinets are divided into 5 main groups:

EKT Series: Double Glass Door Model.

EKT-A Series: Double Glass Door & Simple Card Model

EKT-B Series: Block Door Model

EKT-AB Series: Block Door & Simple Card Model

EKT VK Series: Thermal Printer Model

Matters to be considered by the User During Use:

- When putting blood bags in your cooler, do not stack products in the cabinet in a way that prevents air circulation. This will cause unwanted temperature differences in the upper and lower parts of your cooler.
- There is 1 sensor in the blood storage cabinets that measures the temperature inside the cabin. On the electronic card, this temperature is reflected on the screen and shown to the user.
- After starting your cooler, it can give an alarm visually and audibly until it reaches the ideal operating temperature on the digital display. When the cooler reaches the ideal temperature (between 0°C and +15°C), the visual and audible alarm will stop. After that, you can load your cabinet.

External Probe Input;

The plug on the right side of the cabinet is removed and the probe is placed (If the thickness of the probe is high, the plastic can be expanded.) Take care that the inserted probe tip is inserted into the cabinet and fixed next to the sensor inside the cabinet.

2. TECHNICAL SPECIFICATIONS

2.1. Technical Specifications Table

FEATURES / MODEL	EKT 80	EKT 150	EKT 175	EKT 250	EKT 425	EKT 725	EKT 1450
TEMPERATURE RANGE	0 / +15 °C	0 / +15 °C	0 / +15 °C	0 / +15 °C	0 / +15 °C	0 / +15 °C	0 / +15 °C
SET TEMPERATURE	+4°C	+4°C	+4°C	+4°C	+4°C	+4°C	+4°C
TEMPERATURE HOMOGENITY	+/-1.99 °C	+/-1.99 °C	+/-1.99 °C	+/-1.99 °C	+/-1.99 °C	+/-1.99 °C	+/-1.99 °C
EXTERNAL DIMENSIONS (W*D*H)mm	450*600*750	765*823*900	600*660*1446	600*660*1720	600*660*2040	765*820*2020	1450*821*2030
INTERNAL DIMENSIONS - NET (W*D*H)mm	368*365*520	660*360*622	516*472*797	515*472*1070	515*472*1390	662*654*1350	1370*715*1346
INTERNAL DIMENSIONS- GROSS (W*D*H)mm	368*365*520	660*462*622	516*542*797	515*542*1070	515*542*1390	662*713*1350	1370*715*1346
GROSS VOLUME	70 L	150 L	200 L	280 L	380 L	630 L	1320 L
POLYURETHANE THICKNESS	41 mm	50 mm	42,5 mm	42,5 mm	42,5	51,5 mm	40 mm
PACKAGE DIMENSIONS	470*675*785	765*825*870	700*750*1550	700*710*1660	700*740*2120	800*850*2100	1550*900*2090
GROSS WEIGHT	60 KG	107 KG	105 KG	115 KG	156 KG	220 KG	320 KG
INTERIOR LIGHTING	EXIST	EXIST	EXIST	EXIST	EXIST	EXIST	EXIST
LOCK SYSTEM	EXIST	EXIST	EXIST	EXIST	EXIST	EXIST	EXIST
ALARM	EXIST	EXIST	EXIST	EXIST	EXIST	EXIST	EXIST
INNER SURFACE MATERIAL	STAINLESS STEEL Cr-Ni 304	STAINLESS STEEL Cr-Ni 304	STAINLESS STEEL Cr-Ni 304	STAINLESS STEEL Cr-Ni 304	STAINLESS STEEL Cr-Ni 304	STAINLESS STEEL Cr-Ni 304	STAINLESS STEEL Cr-Ni 304
OUTER SURFACE MATERIAL	ELECTROSTATIC POWDER-COATED GALVANIZED	ELECTROSTATIC POWDER-COATED GALVANIZED	ELECTROSTATIC POWDER-COATED GALVANIZED	ELECTROSTATIC POWDER-COATED GALVANIZED	ELECTROSTATIC POWDER-COATED GALVANIZED	ELECTROSTATIC POWDER-COATED GALVANIZED	ELECTROSTATIC POWDER-COATED GALVANIZED
HEATING/COOLING SYSTEM	FAN BLOW	FAN BLOW	FAN BLOW	FAN BLOW	FAN BLOW	FAN BLOW	FAN BLOW
INSULATION MATERIAL	NON-CFC POLYURETHANE	NON-CFC POLYURETHANE	NON-CFC POLYURETHANE	NON-CFC POLYURETHANE	NON-CFC POLYURETHANE	NON-CFC POLYURETHANE	NON-CFC POLYURETHANE
SHELFs	2 PCS	2 PCS	3 PCS	4 PCS	5 PCS	5 PCS	12 PCS
THERMAL PRINTER	OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL
MESSAGE OR E-MAIL MODULE	OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL
NOISE LEVEL	48 dB	48 dB	48 dB	48 dB	48 dB	48 dB	48 dB
COMPUTER CONNECTION	USB	USB	USB	USB	USB	USB	USB
CASTORS	4 PCS BALL JOINT	2 REGULAR, 2 BRAKED	2 REGULAR, 2 BRAKED	2 REGULAR, 2 BRAKED	2 REGULAR, 2 BRAKED	2 REGULAR, 2 BRAKED	2 REGULAR, 2 BRAKED

2.2 Technical Specifications Description

material, and the inner surface is made of chrome-nickel alloy sheet material.

- The device is 195-230 V/50 Hz. It works with mains voltage.
- The door of the device is double glazed, lockable and magnetically sealed. In this way, it allows stock tracking.
- Inside of the device there is a user arrangeable plastic coated shelf. The device works in the range of 0°C / +15°C, which is the ideal storage temperature of products such as kits, vaccines, drugs, and serum, and can be adjusted to +4°C.
- Equal heat distribution is provided in the cabinet with the reinforced fan system in the cabinet.
- The device works silently and smoothly without separating kits components.
- The device has full automatic defrost system for protecting evaporators efficient work.
- Cabinet interior lightning realized with LED lighting module.
- Eco friendly microprocessor controlled panel is used in our device.
- The device has a USB port that enables the transfer of temperature information to the computer environment at any time.
- The thermostat in the cabinet control panel can measure with an accuracy of 0.1°C.
- The device has a sensor for measuring the cabin temperature inside.
- In control panel there is a accumulator system that can be charged automatically. In case of a electricity cut this system ensures that the digital control panel and thermal printer continue to work for 24 hour long.
- The device gives an audio and visual warning signal when the device's doors open, in power cut, when the upper and lower limits are exceeded, and low voltage situations while the device working.
- The insulation material does not include CFC that harmful for environment and ozon layer.
- 2 pieces of braked and 2 pieces of regular castors are used at the bottom of our EKT series devices, except EKT 80, EKT 80 include 4 pieces of ball joint.
- All medical devices produce by Emsaş A.Ş are guaranteed by 2 years.
- As per the request of the user, a thermal printer can be installed at the device. The numerical and graphical printout of the data recorded with the thermal printer can be taken.
- All of our products are produced in accordance with ISO 9001:2008, TSE service place qualification requirements. Our blood cabinets that we have produced have CE, UBB registration and barcode.

OPTIONAL FEATURES:

USB MEMORY: Electronic card system can be sent as USB memory upon user request. Up to 10 years, degrees can be stored and transferred to the computer environment. The transfer is provided in excel format.

VK (THERMAL PRINTER SYSTEM): The thermal printer system can be optionally attached to our devices. It can give output at intervals between 5 minutes and 60 minutes. It has the feature of printing the temperature of the device inside the cabinet on paper.

MAINBOARD WITHOUT USB MEMORY: In line with the user's request and requirement, a card that does not keep the temperature in the cabinet in its memory can also be inserted.

3.INSTALLING THE DEVICE

3.1. Environmental Conditions

Your device works efficiently under the following environmental conditions:

- Using only indoor area
- Storage and Transportation conditions: +25°C / +45°C
- Relative Humidity: %65
- Temperature Values: 0°C / +15°C
- Maximum Altitude: 2000 meter
- Temperature range for maximum performance: 15°C / 20°C

3.2. Handling and Shipping

- Because of, the device weight all the shipping should apply with the proper equipment and

- Interior hardware (shelf rails, supports, wire shelves, drawers) is shipped inside the unit. The device is fixed to a wooden base by means of screws or packaged with cardboard, Styrofoam, and burst nylon.

3.3. Unpacking

- Open the device cardboard package.
- Remove the stretch and styrofoam, which is the second packaging on the device.
- Remove the wooden base
- Check is there any transportation damage on the device with eye.
- If is there any transportation damage firstly take a picture of damage and secondly Inform the transport company officer to keep a report.

3.4. Determination and Placement of Settlement

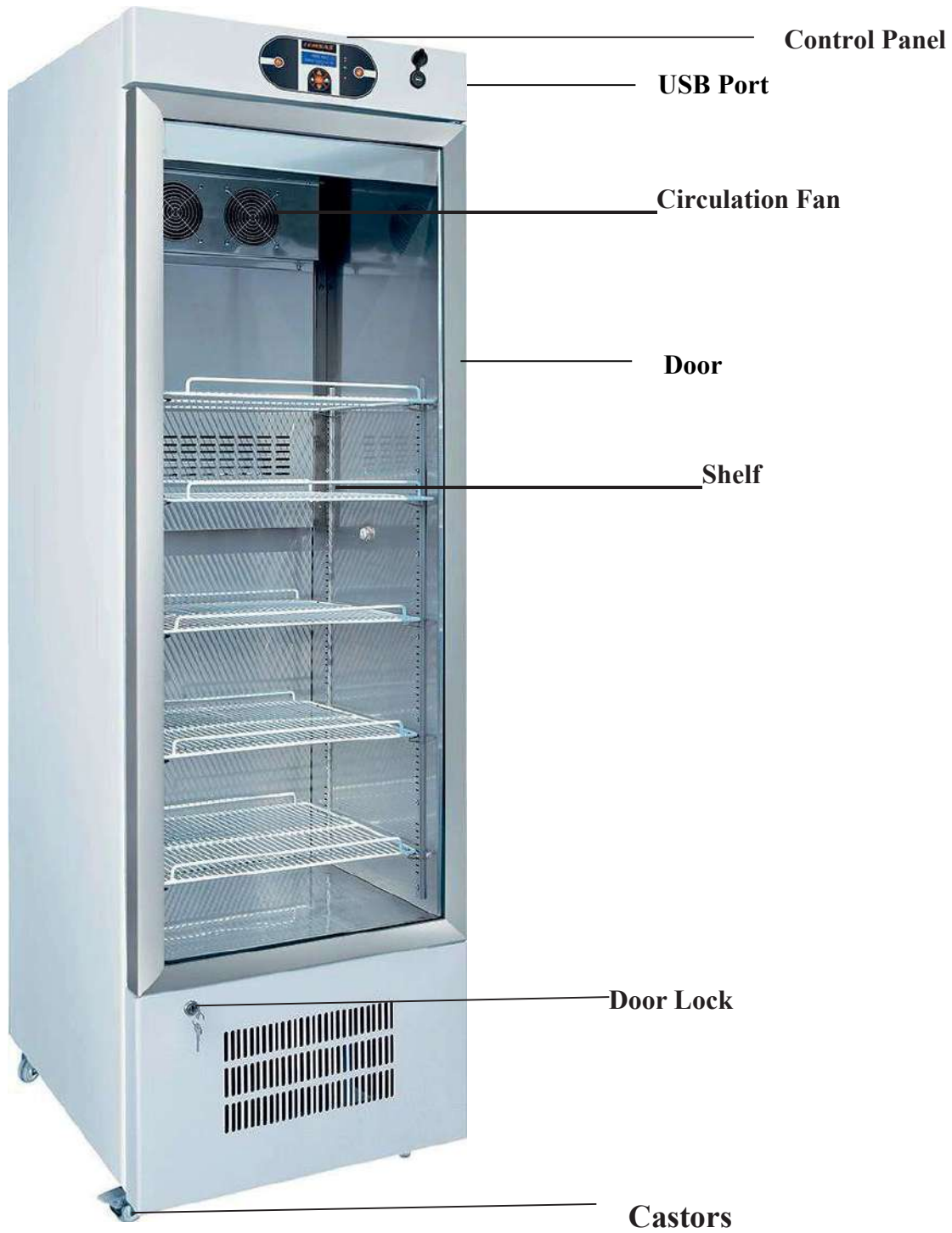
- Check that the placement spot is suitable
- Avoid direct sunlight and heat sources
- Remove the accessory from the unit
- Care should be taken to carry the device vertically during the relocation phase and during the transport phase. Otherwise, the device will not work or will not work properly and cannot be used because the balance of the device will be disturbed.
- Check that the ambient temperature where the device is installed is between 15°C and 20°C. Otherwise, the cooling performance of your device will decrease.
- Installation should be on flat ground and with four legs. Otherwise, it may not work properly.
- The placement of the device shall not be wet or damp. Otherwise, it can cause damage to devices electrical systems.
- The device shall not be close to any other dissipate heat device. Otherwise, it can cause damage to devices electrical systems.
- Check that the user has the opportunity to monitor the device if he/she does other work.
- When placing your device, you should pay attention to the fact that there must be a minimum of 10 cm space between the side, back and top surfaces and the place to be placed, and 20 cm from the top. There should be no plates behind the device that may cause evaporation.
- The hose in the compressor compartment of your cooler; for evacuation of dripping water during defrosting. Before operating the cabinet, be sure to check whether there is water in the hose in the container.
- When your device needs to be moved or relocated, have it done through the service channel if necessary.

4. INSTRUCTIONS FOR USE

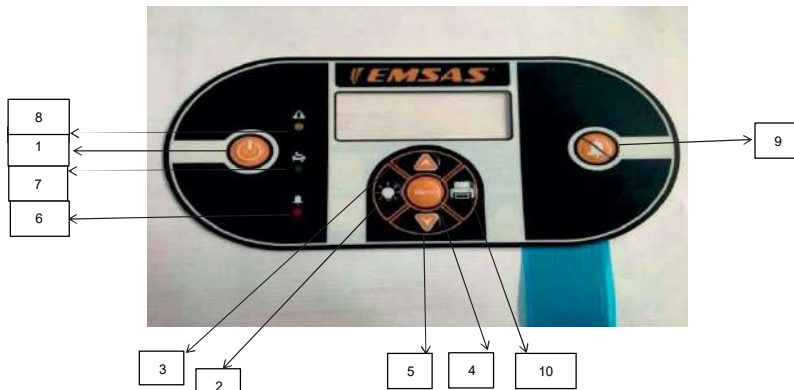
4.1 Device Operation

- Plug the device in (grounded plug)
- Press the on/off switch, enter the password and turn on the device.
- The operating range of the device is between 0°C ve +15°C.
- Before operating your device, have technical personnel (electrician) check whether the socket to be used is grounded or not and the mains voltage. Do not operate if it is not grounded.
- Wait before operating your device at least 45 minutes after unpacking your device. This will prevent the compressor of your cooler from being damaged.
- Service representative at first start-up; Information about the device; technical personnel and health personnel (nurse - Dr) of the relevant customer should transfer.

4.2 Introduction Image













PIC1. EKT Pharmacy Refrigerator


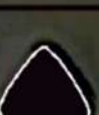
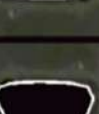


PIC2. Control Panel



PIC3. Control Panel Without USB Port

DISPLAY BUTTONS	1		ON/OFF BUTTONS
	2		LIGHT ON/OFF BUTTONS
	3		UP ADJUSTMENT BUTTON
	4		MENU AND SETTINGS BUTTON
	5		DOWN ADJUSTMENT BUTTON
DIGITAL DISPLAY BUTTONS	6		RED LIGHT (LCD DISPLAY)
	7		GREEN LIGHT(WHEN COMPRESSOR IS ON)
	8		YELLOW LIGHT (POWER LIGHT)
	9		ALARM SILENCE BUTTON
	10		PRINTER BUTTON

1		ENTER BUTTON
2		UPPER ADJUSTMENT BUTTON
3		LOWER ADJUSTMENT BUTTON

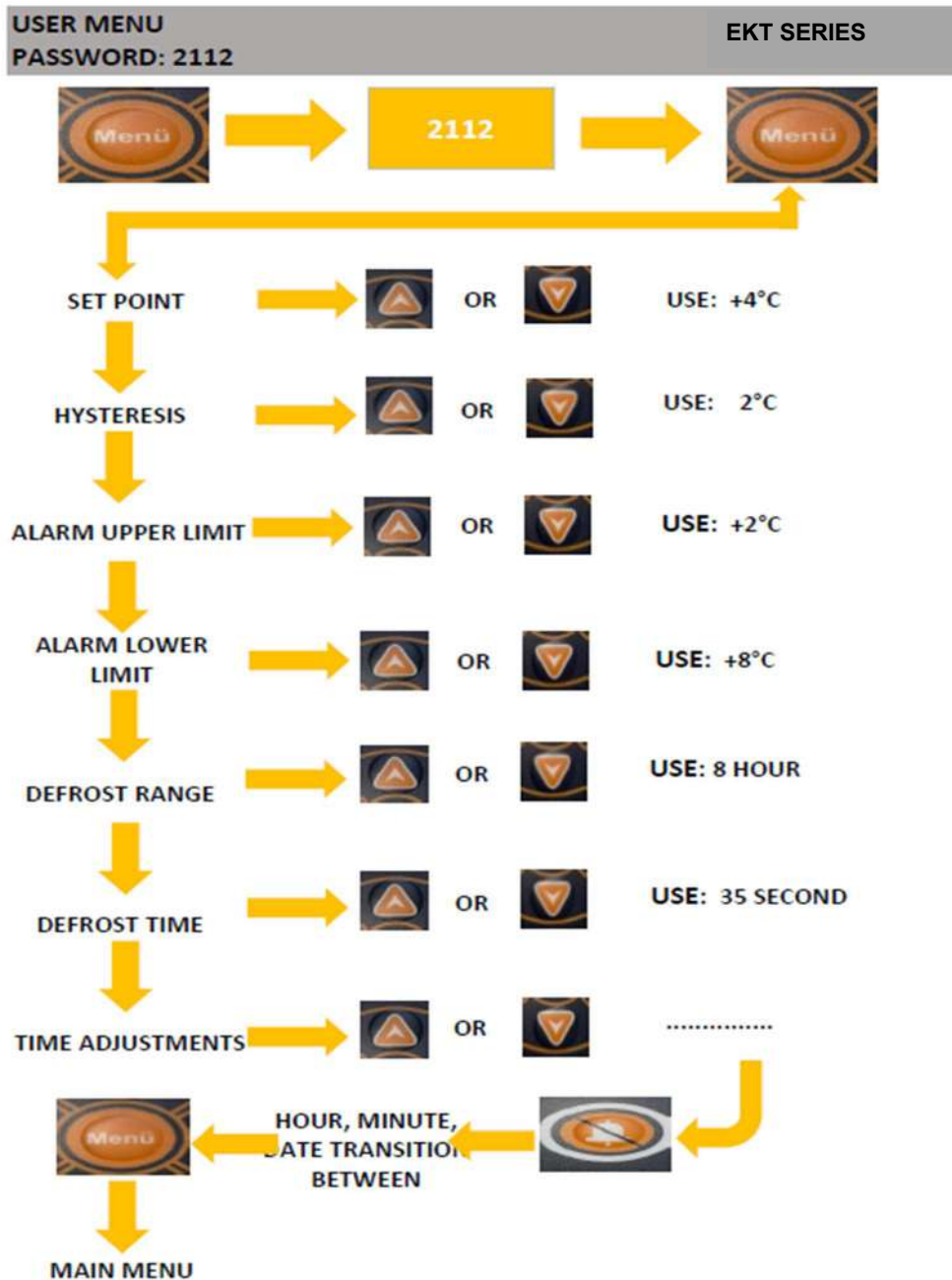
Factory Output Settings

EKT SERIES

- | | |
|---------------------------------|-------------|
| 1)Operating Temperature Range | : 0 / +15°C |
| 2)Set Temperature Value | : +4°C |
| 4)Comprasor Delay Time | : 30sec. |
| 5)Door Open Alarm Waiting Time | : 2 min |
| 6) Alarm Silence Time | : 30 sec. |
| 7)Thermal Printer Printing Time | : 8 hour |

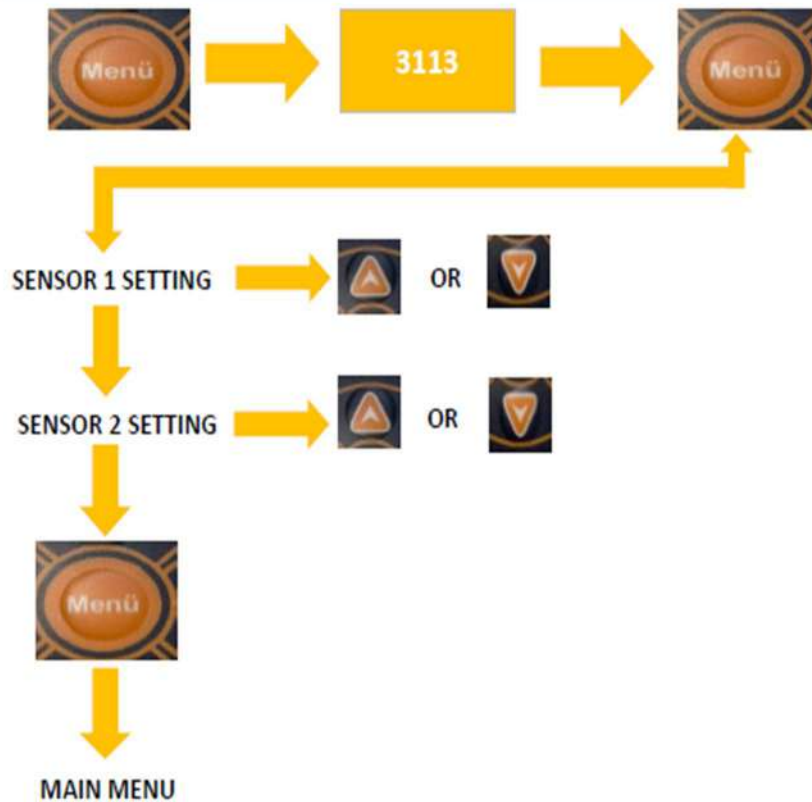
Set Parameters

By pressing the SET Button, the parameter entry screen is accessed. There are 3 separate passwords, these passwords have separate functions.



CALIBRATION MENU
PASSWORD: 3113

EKT SERIES



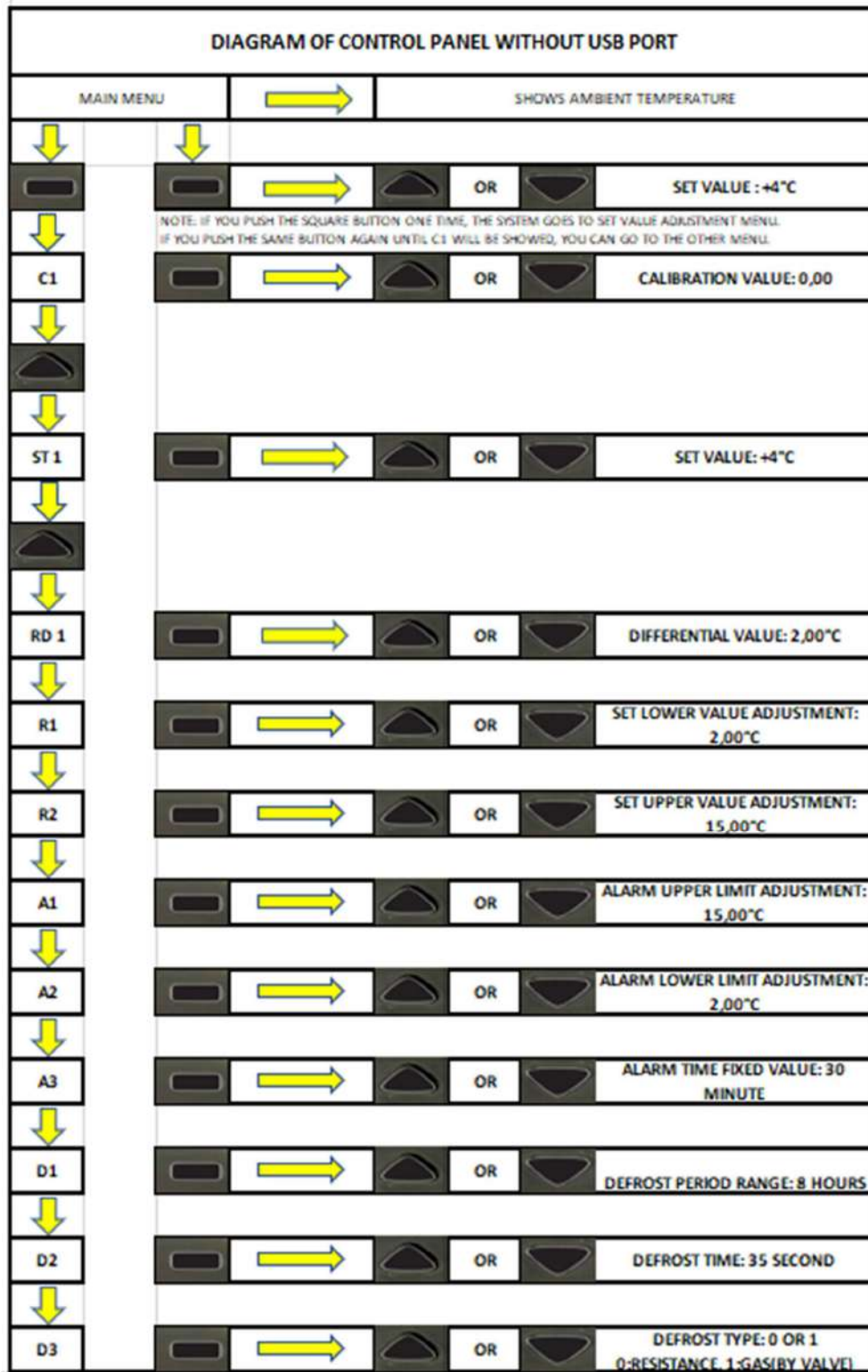
ERROR CODES

1. H1: Sensor Errors
 2. H2: Door Open Error
 3. H3: No Electricity Error
 4. H4: Alarm Upper Limit Exceed Alarm
 5. H5: Alarm Lower Limit Exceed Alarm
 6. H6: The Agitator Is Not Working Alarm
- Supply Voltage: 220Vac/50Hz

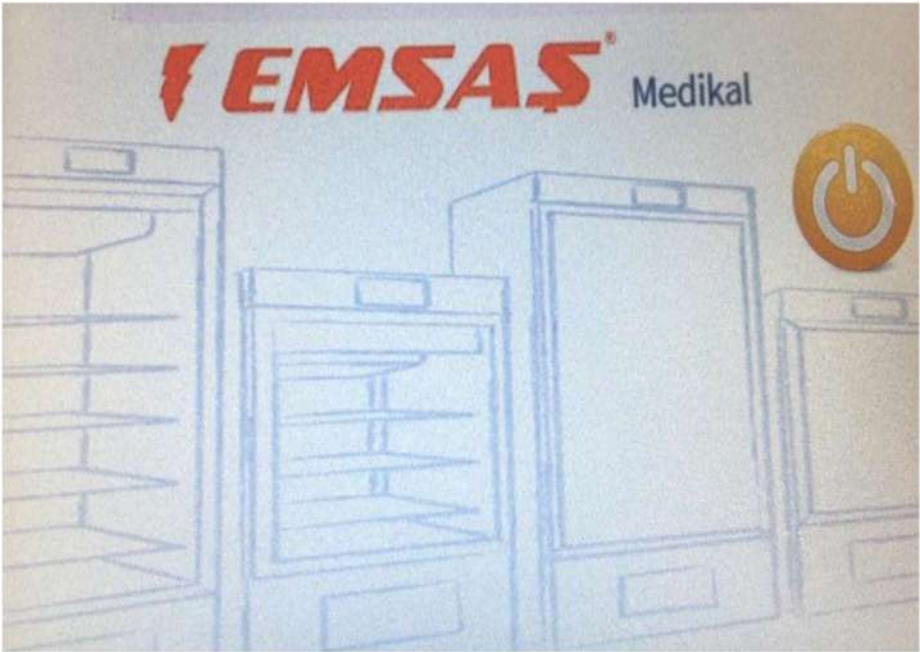
Control Panel Without USB Port



1		ENTER BUTTON
2		UPPER ADJUSTMENT BUTTON
3		LOWER ADJUSTMENT BUTTON

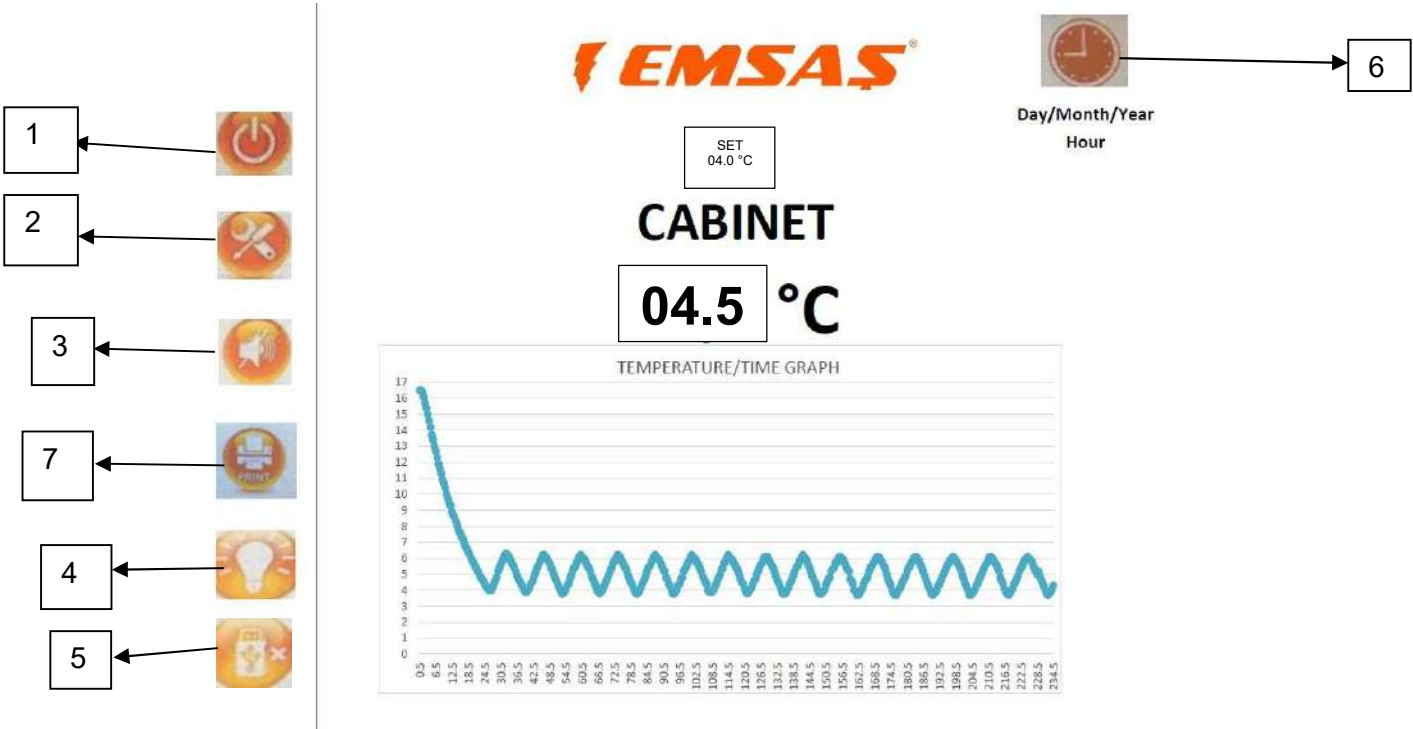


CONTROL AND FUNCTIONS OF TOUCH SCREEN PANEL











PIC5. Start Screen

CONTROL PANEL



PIC6. Touch Screen Control Panel

CONTROL BUTTONS	1		ON/OFF BUTTON
	2		SETTINGS BUTTON, ITS USED FOR TO ENTER THE MENU
	3		ALARM QUIET BUTTON
	4		LIGHT ON/OFF BUTTON, NO INTERIOR LIGHTING USAGE FOR FREEZERS
	5		USB DOES NOT READ / NOT READ SYMBOL
	6		TIME ADJUSTMENTS BUTTON
	7		PRINTER BUTTON
DIGITAL MONITOR			THE TEMPERATURE SYMBOL, SHOWS THE SET VALUE
			INSTANT VALUE OF CABIN TEMPERATURE
			CABIN TEMPERATURE/TIME GRAPHIC
			220 VOLT SUPPLY SYMBOL
			ALARM CONDITIONS SYMBOL

ON / OFF BUTTON



- Use for on/off the system.
- When press this button (For on and off)will request for password. (Depends on us).
- The device won't work directly after plug in, The password section will appear on the screen. The system will start after key-in the password.
- Password: *11#

BUTTON FOR HOME PAGE

- User can go back home page directly from another page by pressing this button.
- This button can use for resetting the main page.

SETTING MANU



- The device will request for password after pressing this button.
- The system will open the menu based on the entered password.
- The settings in the entered passwords may vary depending on the operating mode

USER SETTINGS PASSWORD: 2112



- SET TEMPERATURE: (Between 0C and 15C) **4C set**
- HYSTERESIS VALUE : (Between 0,0 and 2) **2C set**
- ALARM MIN. LIMIT :(Between 0 and +/- 10) **2C set**
- ALARM MAX. LIMIT :(Between 0 and +/-10) **8C set**
- DEFROST RANGE: (HOUR) **8 set**
- DEFROST TIME: (MINUTE) **1 set**
- Note: Setting for time and date by pressing this icon.
- User must key in the password 2112 to set the date and time.



SERVICE SETTING PASSWORD:1111



- Only EMSAS A.S authorized technician can access this menu.
- This menu will be accessible with a password by an authorized technician. The password will be shared only with authorized technicians.
- Password is **1111**.

Parameters to be applied in this menu:

- LANGUAGE: TURKISH/ **ENGLISH**
- USB: ON / OFF (Optional)
- PRINTER: ON / OFF (Optional)
- SAMPLE LIQUID: ON/**OFF**
- PRINT FREQUENCY DURATION: 05 Mins– 60 Mins (Optional)
- DEFROST TYPE: GAS / **RESISTANCE**
- AUTOMATIC PRINTER: ON / OFF (Optional)
- RECORD TYPE: **CABINET TEMPERATURE** / SAMPLE LIQUID / AVERAGE



SERVICE SETTINGS BUTTON PASSWORD: 3113

- The calibration menu will appear on the system after key in the password 3113.
- The parameters are:
- Calibration 1: **+/-00,0**
 - Calibration 2 : **+/-00,0**



SERVICE SETTINGS BUTTON PASSWORD: 4114

- When the service setting button is pressed and the 4114 password is entered, the system will enter the operating mode menu. Parameters to be included in the operating mode menu:

•4 – 8C Degree (Vaccine/ Medicine Bank Refrigerator)

- Deep Freezer (EE and EF Serie)
- Double Compressor (EKT – D Serie)
- Incubator (ECI Serie)
- Climatic Cabinet

Note: This system is prepared for the Vaccine/ Medicine Bank Refrigerator EKT series.

SILENT ALARM BUTTON



- This button mutes the alarm when the device starts to give an audible alarm for any reason.
- After the button is pressed, the device does not ring for a certain period of time when it is in alarm. This period depends on our request.
- After the specified time has passed, the alarm starts to ring again.

PRINT BUTTON



- This button is used for the thermal printer system.
- This is the button used if we want to record outside of the automatic recording time in the system setting.
- This button is used to manually record from the thermal printer.

LIGHT ON / OFF BUTTON



- To on/off the LED light manually inside the cabinet.
- When the freezer part is selected in the operating mode, this icon does not need to be seen on the main screen since deep freezers do not use LED light.

ALARM INDICATOR

- We can see two alarms at the same time on the main screen of the touch screen.
- When the device gives an alarm normally, it should appear as red stripes on the whole screen and instead of these two icons, it shows the error code and error name of the alarm.
- The entire screen turns red when the device alarms.

USB INDICATOR



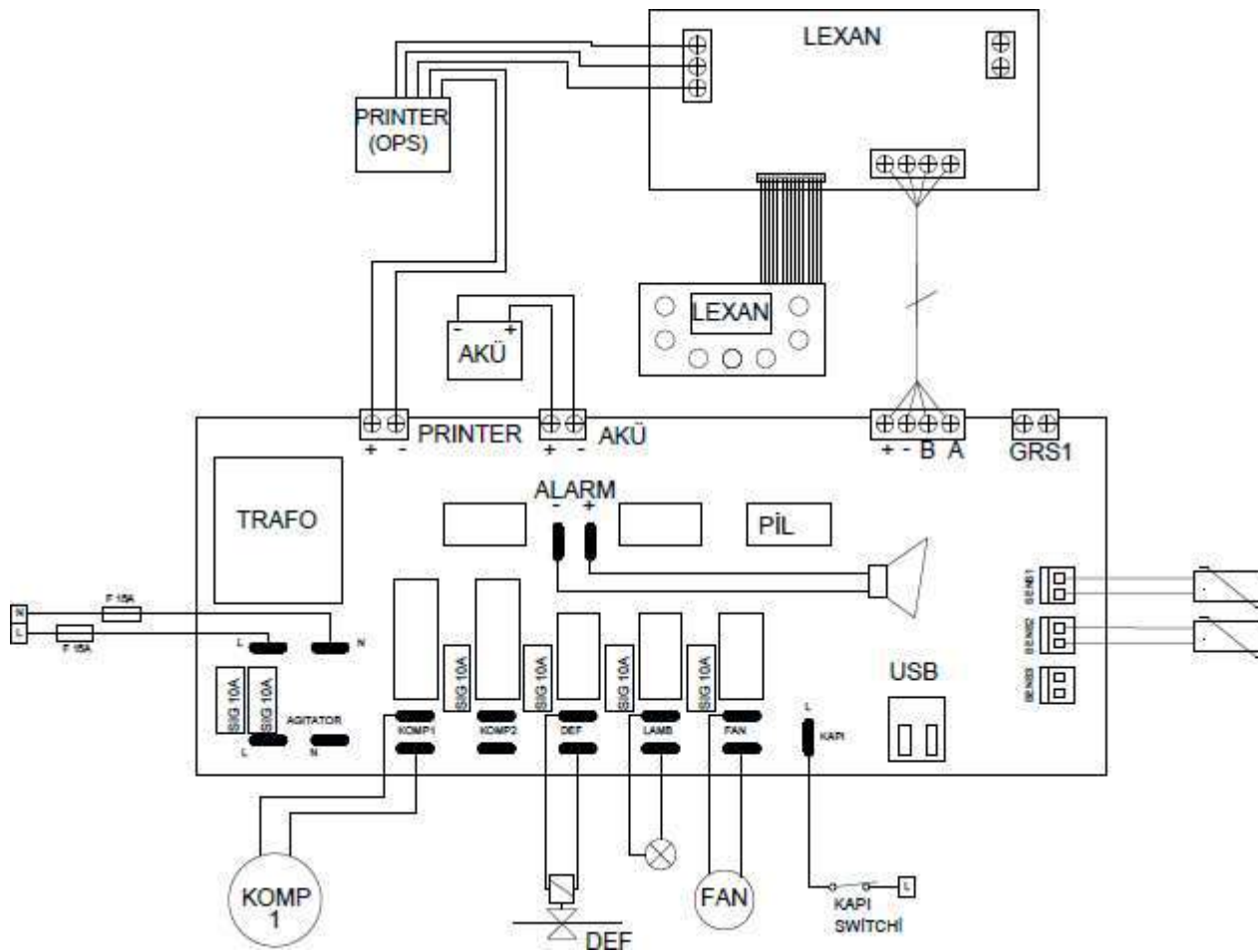
- Indicates whether a USB Flash Disk is inserted in the device.
- After USB is plugged in, it will turn green and have a tick on it.
- When the USB is not plugged in, a small red cross may appear in its original color and above it.

COMPRESSOR IS ON



- Since our system works on / off, a sign should appear on the main screen when the compressor is activated. This sign should disappear after the compressor is deactivated. This cycle should continue as the compressor starts up and enters.
- Compressor icon can also be used instead of this icon.
- In addition, we can show whether the fan is active or not with this sign.

4.3 Electronic Wiring Diagram



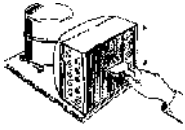
5. CLEANING AND MAINTENANCE

5.1 Maintenance:

Periodic maintenance should be carried out once a month depending on the ambient conditions in which the device is located, and once every 6 months under normal conditions.

5.2 Cleaning

- The device is cleaned in our factory before delivery to the customer.
- Clean the device at ambient temperature after disconnecting the power cable from the device.
- Wipe your device with a damp and dry cloth against dirt and dust. Finally, plug in your cabinet and start it from the on-off button.
- Depending on the environmental conditions of your Medical Device, clean it regularly once a month or once every 6 months.
- In order to clean the condenser of your device, it is necessary to clean it from dust first.
- The condenser compartment of your device should be cleaned by a technical personnel with a vacuum cleaner or a soft paint brush, and the electrical components should not be damaged.
- Clean the condenser under your device with a damp cloth at least once every 4 months by pulling out the electrical outlet.



- The glass doors can clean with proper glass cleaner.
- Do not clean the engine compartment of your cooler with water, etc. It will damage the electrical components of your water closet and the user may be exposed to electric shocks.
- Wipe the plastic drainage bowl next to the compressor, where the defrosting water reaches, with a damp cloth.
- Do not use abrasive and purifying chemicals while cleaning inside and outside your cooler with a damp cloth, it can cause damage. Faults and errors that may arise from this reason will be treated out of warranty.

6. SAFETY

- Before doing cleaning and maintenance please review and read your safety instructions.
- If the device needs to be relocated or moved for maintenance, be sure to check the brakes of the wheels. Otherwise, the wheels may be damaged and broken. In this case, the balance of your device may deteriorate and may not work efficiently.
- Do not touch the unit with wet hand and/or feet
- Do not insert screwdrivers or other pointed objects between the moving parts of the device.
- The device cannot use by an unauthorized person.
- Before doing any kind of cleaning or maintenance operations please cut the electricity.
- Disconnect the main switch from the switching power before unplugging the appliance when cleaning or maintaining the appliance.
- Check that the device placed where it will be used is on flat ground and with four legs. It's dangerous to do any repair or service operations about device by unauthorized persons.
- When your device plug in do not any kind of maintenance and reparation.
- We strongly recommend you to use a voltage regulator in order not to damage the compressor in places where there may be larger changes.
- Do use your device according to the principles of the user manual.
- When you have a service request regarding your product, please contact our Service Center at the phone numbers above.

7. DISPOSAL

The user is responsible for the proper disposal of each part as waste. Electronic parts used, except power and current sources, should be disposed of according to the rules specified for the waste of electronic devices. When the product is to be disposed of, hospital, laboratory and national legislation should be followed.

8. WARNINGS & PRECAUTIONS

Pay attention to the warnings down below

- Do not use the device out of usage aim
- The device should operate after reading the manual book by authorized and educated personnel. In case of any problem, only authorized personnel can interfere to the device.
- The voltage in the electrical network must be suitable for the power of the device and must be grounded.
- Only spare parts and accessories provided by Emsaş A.Ş should be used.
- There should be no substances in the usable volume that may be affected by the operating temperature of the device and damage the device.
- We strongly recommend you to use a voltage regulator in order not to damage the compressor in places where there may be larger changes.
- When putting the vaccines in your device, do not stack them on the back to prevent air circulation. This will cause unwanted temperature differences in the upper and lower parts of your cooler.
- After operating your cooler, your cooler can give audible and visual alarms until it reaches the ideal operating temperature (0°C/+15°C). when your cooler reaches ideal operating temperature, the alarms shuts down. Then you can load the products.
- When you receive your product confirm the warranty certificate your authorized dealer.

9. MEANING OF SYMBOLS

9.1. Meaning of Symbols on top of the Device



CE Certificate



Manufacturer Name and Address



Date of Manufacture

Indicates the date of manufacture of the medical device.



Catalog Number

Indicates the manufacturer's catalog number by which the medical device can be identified.



Serial Number

Indicates the manufacturer's serial number by which a particular medical device can be identified.



Fragile

Indicates that a medical device may break or be damaged if not handled carefully. It is located on the parcel.



Keep away from the sun.



Protect from heat and radioactive sources.

The device is affected by heat. For this reason, the device must be protected from heat sources.



Protect from moisture. Located on the parcel.



Storage conditions: 20°C / 45°C



Usage Instruction

A synonym for "refers to using instructions" is "refer to operating instructions".



This symbol draws attention to safety warnings and potentially dangerous situations. Failure to follow these warnings could result in damage to the device and injury to users.



Indicates that the user should refer to the instructions for use for important warning information such as warnings and precautions that cannot be presented on the medical device for many reasons.



Grounded Socket

Operate in a place with protective grounding



Alternative Current



Dangerous Voltage!

It is a symbol indicating the current available on the device. The place where there is electricity is also the symbol that should be specified.



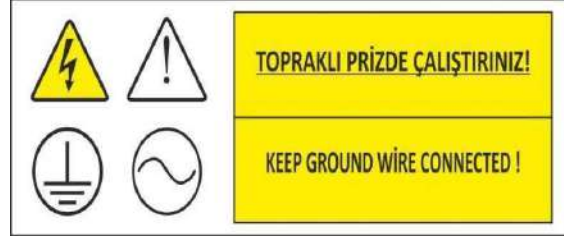
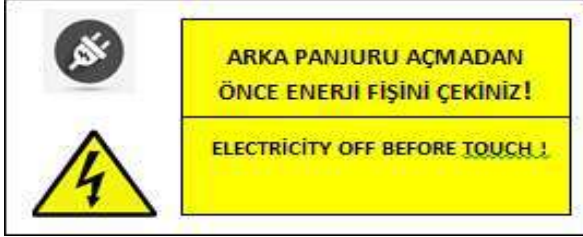
Do not touch!



Do not touch with wet hand and/or feet!



Keep Upright. It is located on the parcel.



10. SERVICE

Your device can give audible and visual alarms in first operation. In case of this situation press the alarm silent button located on the display
Do not allow the repair of the device to anyone other than the authorized service during the warranty period. In case of interventions other than authorized service, the device will be subject to operation out of warranty.

When you encounter a problem with the device, call the authorized service or Emsaş numbers that made the first installation.

10.1 Troubleshooting Table

FAULT	CAUSE /CORRECTION
THE COOLER DOES NOT WORK THERE IS NO ELECTRICITY	<ul style="list-style-type: none">*Make sure it is plugged in.*Make sure there is electricity in the mains.*If there is voltage outside the tolerances given in the network, the device it doesn't work.*Make sure the power button is on.
LIGHT IS NOT WORKING WHEN THE DOOR OPEN	<ul style="list-style-type: none">* The lamp can be broken or it may have moved from the lamp socket. If its broken inform the service* The lamp switch may be damaged. Inform the service
THE TEMPERATURE DISTRIBUTION IN THE CABINET IS NOT HOMOGENEOUS ENOUGH, THE TOP AND BOTTOM ARE AT SEPARATE TEMPERATURES.	<ul style="list-style-type: none">* Material may have been placed in front of the indoor fan. For better air circulation materials should not be placed in front of the fan.* The inner fan may be damaged, inform the service.* The fan switch may be damaged, inform the service.
THE DEVICE IS NOT COOLING	<ul style="list-style-type: none">* Keep condenser clean. Do control fan in the back is working or not* If the fan is not working, inform the service* If the fan is working and the cabinet is not getting cold, inform the service
THE PRINTER IS NOT WORKING	Check the battery current. If the battery is 12V low, the battery is replaced or charged in a separate place. The paper is checked.
THE DEVICE MAKE NOISE	Check the battery voltage. If it is less than 10V, replace the battery and charge it separately. Check the printer settings as described in Chapter "Troubleshooting".
BATTERY IS NOT WORKING/ COMPRESSOR IS NOT WORKING	Do call your authorized service immediately

11. SPARE PARTS & ACCESSORIES

11.1 Spare Parts

There are no spare parts on the device that you can replace. Please notify our authorized service in case of malfunction.

11.2 Accessories

Warranty Certificate and Manual Book.

2 pieces shelves for EKT 80 model

2 pieces shelves for EKT 150 model

3 pieces shelves for EKT 175 model

4 pieces shelves for EKT 250 model

5 pieces shelves for EKT 425 and EKT 725

There is no other accessories than these

Contact

For any service request or training or questions about your device please use this guide kalite@emsas-as.com.tr.

For general information use info@emsas-as.com.tr or to see <http://www.emsas-as.com.tr>