

OUR PRODUCTS

HOT AIR STERILIZERS
UV STERILIZER
INCUBATORS
LABORATORY OVENS
COOLED INCUBATOR
INFANT INCUBATOR
INFANT WARMER
PHOTOTHERAPY EQUIPMENT
BABY'S COT
WATER BATHS (INCUBATING)
WATER (STEAM) BATHS
CENTRIFUGES
MICRO-HAEMATOCRIT CENTRIFUGES
ELECTROSURGICAL UNITS
WATER DISTILLING APPARATUS
FURNACES
HEATING MANTLES
SAND BATHS
HOTPLATES
INDUSTRIAL OVENS
STIRRERS
MAGNETIC STIRRERS
VORTEX MIXER

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AB-0006-YS



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Medikal Cihazlar K.Y.S
TS EN ISO/IEC 17021
AB-0006-YS



CIRCUIT DIAGRAM

User's manual are made for different models. Please, compare the picture and the details of your device with the information given in the user's manual.

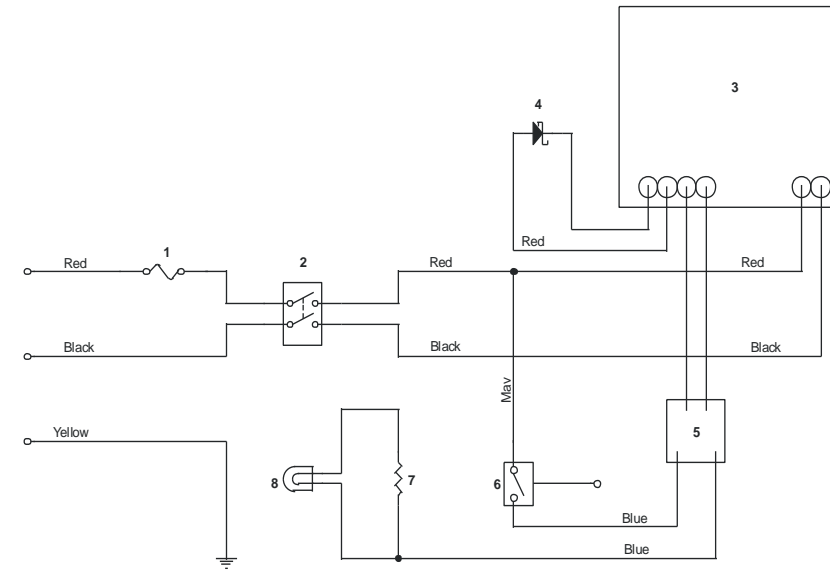
Before operating your device, you should read and follow all of the instructions given in this document.

In case you sell or give the device to another, or need information for later application sources, you should keep the all documents carefully.

Danger of Suffocation

Your new device had been packed as required.

Folios and cartoons can be dangerous. To avoid danger of suffocation keep these packages away from babies and children.



Title	M 6040 P	
Size	Document Number	
A	[Doc]	
Date	Saturday, October 23, 2004	Sheet 1 of 1

- 1) Fuse
- 2) On-off switch
- 3) PID thermostat
- 4) Thermo couple
- 5) Solid state relay
- 6) Safety thermostat
- 7) Heater
- 8) Indicatorq

Symptom	Possible Cause	Corrective Action
The hot air sterilizers doesn't work	<input checked="" type="checkbox"/> The power of the hot air sterilizer to be used is not turned on.	Turn on the power.
	<input checked="" type="checkbox"/> The glass fuse is blown.	Replace the glass fuse or check for the short circuit.
	<input checked="" type="checkbox"/> There is no electricity.	When the electricity is on again, the program runs again.
	<input checked="" type="checkbox"/> The plug is defective.	Check the plug and if necessary change it.
The heater doesn't work.	<input checked="" type="checkbox"/> Digital thermostat.	Be sure that you have set the digital thermostat over ambient temperature.
	<input checked="" type="checkbox"/> Safety thermostat.	Be sure that you have set the safety thermostat higher than the working temperature.

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SERIAL NUMBER:

SAFETY PRECAUTIONS

- The unit can be used only where the power supply is AC 220V,50Hz.It cannot be used else where.
- Do not drop or place heavy items on the power cable. If the power cable is damaged, turn off the power immediately. It is dangerous to use the unit with a damaged cable.
- Connect the power cable to the wall AC outlet.
- Unplug the unit from the wall outlet if it is not to be used for several days or more.
- Disconnect the power cable from the wall AC outlet by holding the plug, not pulling the cord.
- Adjust only those controls that are covered by the operating instructions. Improper adjustment of other controls may result in damage and may require repair by qualified service representative.
- Wear gloves which are resistant to heat while using the incubator.
- Be sure that vapours and gases which are generated during the incubation are not flammable or explosive or harmful to humans.
- Open the ventilation hole to discharge the gases and vapours which occur during sterilizers.
- Do not heat liquids in sealed containers.
- Be sure that the set temperature does not destroy the structure of the samples.

TROUBLESHOOTING

Unplug the hot air sterilizers from the wall outlet and refer servicing to qualified service personnel under the following conditions.

- ➔ When the power cord or plug is damaged or frayed.
- ➔ If it does not operate normally when the operating instructions are followed. Adjust only those controls that are covered by the operating instructions since improper adjustments of other controls may result in damage and will often require extensive work by a qualified technician to restore the product for normal operation.
- ➔ If it has been dropped or the cabinet has been damaged.
- ➔ If it exhibits a distinct change in performance, indicating a need for service.
- ➔ If you can not isolate the problem with the information given on page 13 consult your nearest dealer or service center.

PERIODICAL MAINTENANCE AND CLEANING

Warning!

Pull out the power plug before cleaning it.

Maintenance

To keep the unit looking brand-new periodically clean it with a mild detergent solution. Never use strong solvents. Gas, benzene, thinner or abrasive cleaners can damage the cabinet.

Warning!

When cleaning, keep liquid away from electrical contacts and connectors.

After every operation wipe down the incubation chamber surface to remove any undesirable effects of the incubation.

You should use a soft brush to clean internal surface.

Warning!

Please be aware of the undesirable effects of the chemicals and be careful while applying them.

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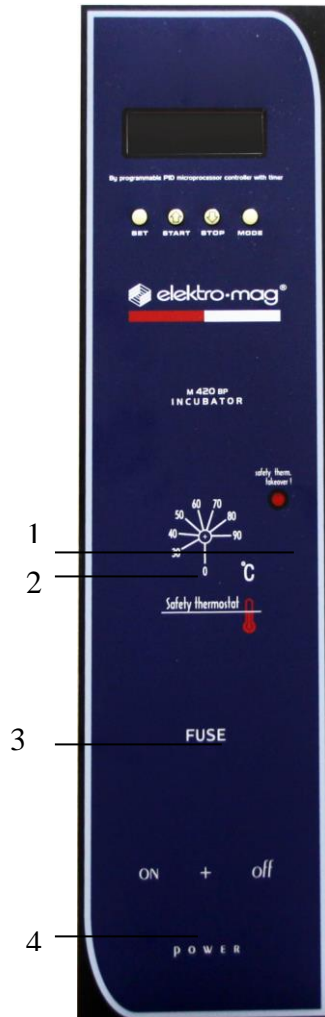
GENERAL VIEW



Hot Air Sterilizers (Digital)

- 1) Front Panel
- 2) Shelves
- 3) Metal Door
- 4) Ventilation Hole

FRONT PANEL



SET Button :To set working temperature, timer, low and high temperature alarms.

↑ **Button (START)** : To increase values on display when programming. Also used to start the process.

↓ **Button (STOP)** : To reduce values on display when programming and it stops process.

MODE Button : To enter programming to make necessary adjustments.

Thermostat Take Over Lamp: Shows that heater is working properly.

2)Safety Thermostat : It automatically shuts down the system if any malfunction occurs in digital thermostat.

3)Fuse : 10 amps. glass fuse.

4)ON/OFF Switch : On / Off Switch has a built in indicator lamp when “ON” position. Enables energy to equipment when on.

Adjusting The Programmable PID Controller

☑ Press STOP first. Press **MODE** switch and first see **Process Time** on display and press **SET** switch to see the display flashing. In this stage you can change desired digit by pressing on → and ← switches. Adjusting hour and minutes by pressing ↑ and ↓ switches. Press **SET** if wish to keep desired values in memory.

☑ Press **MODE** one more time to see **Postpone Time** on display. (**Postpone Time** is to delay the process for desired period of time). Press **SET** switch to see display flashing. At this stage select desired digit by pressing → and ← and change hour and minutes by ↑ and ↓ switches. To keep in memory by keep pressing SET switch until flashing on display stops.

☑ Press **MODE** switch one more time to see **Temperature Set** on display. Last step can be repeated.

☑ **Press MODE** repeatedly to **adjust and set** Low and High Alarm values.

☑ Low Alarm value is the condition when temperature is lower than set temperature High Alarm value is the condition when temperature is higher than set temperature.

☑ When power interrupts after equipment reaches the set temperature value and process timing begins, equipment will still work between set temperature alarm values. If temperature exceeds these limits than it will give audible and visual warning and waits for user’s confirmation.

Ideal Working Conditions

Please pay special attention to the followings,

- ◆ Temperature: -5⁰C/+40⁰C
- ◆ Humidity level %80 up to 22°C
- ◆ Max.performance is obtained between 15⁰C and 25⁰C
- ◆ Indoor use only
- ◆ IP 22

OPERATING

Before you start to run hot air sterilizers, check the installation.

- Connect the power cord to the wall AC outlet.
 - Place the shelves according to the height of the material you will test inside.
 - Turn the 'On/Off Switch' (Power) on. The microprocessor activates and shows the ambient temperature.
 - Set the safety thermostat. Safety thermostat set value should always be 10 degrees higher than the working temperature.
 - Set the PID controller thermostat.(See setting the programmable PID controller)
 - Turn the 'On/Off Switch' (Power) off when the program is over.While running the apparatus of high heat , do not forget that on outer surface's heat will increase.
- Do not forget that the sterilizer will still remain hot for some time.
- Hot air sterilizers must used by adequate / trained personnel.

Setting The Programmable PID Controller

- Press 'D' key for a while and see " off" on the screen.Push 'D' key again.
- Push 'A' key. You will see "Set" on the screen.
- Push 'A' key again; meanwhile the digital display starts to flash. Now, you can set the temperature which you want to work by pressing 'B' or 'C' keys.('B' key increases, 'C' key decreases the value of temperature in one unit.) If you want fast increasing/decreasing of the values, push the keys continuously.
- Push the 'A' key once more. You will see "Sure" on the screen which means that you had completed the setting of temperature.

USAGE AND FUNCTIONS

Hot air sterilizer are designed for ho air sterilization operation of hospital, consulting room and also for heating and drying of conventional laboratory.

Sterilizers are used in biological, medical and pharmaceutical laboratories and in many industrial control laboratories.

Heater are placed both sides and the bottom of the incubation chamber to heat homogenously.

All models are equipped with an inner (toughened) glass door for sample examination during operation without significant loss of heat from the chamber.

Temperature and time are controlled by PID based, programmable electronic thermostat. The units are also equipped with an independent hydraulic thermostat for overheat protection.

HANDLING, TRANSPORT AND INSTALLING

TECHNICAL SPECIFICATIONS

MODEL	M 3025 P	M 420 P	M 5040 P	M 6040 P
Temperature Range	50 °C to 250 °C			
Temperature Control	By programmable PID controller			
Temperature Sensor	Fe-Cons. thermocouple			
Temperature Setting Interval	To 1 °C			
Thermostat Control Sensitivity	± 1°C			
Temperature Display Sensitivity	1 °C			
Temperature variation in chamber	± 2 °C			
Timer Range	1-5999 minutes			
Timing Starts	When the unit reaches preset temperature			
Power Supply	220 V- 50 Hz.			
Current Fuse	6 Ampere			
Interior Material	Aluminium			
Outer Casing Material	Sheet steel with stoved enamel finish			
Shelves	3	2		
Power Rating	650 W	1000 W	1300 W	1300 W
Capacity, Internal Volume (litre)	24	48	100	120
Internal Dimensions (wxhxd /cm)	29x31x27	42x35x33	51x50x40	51x60x40
Overall Dimensions (wxhxd /cm)	58x50x41	71x54x49	50x50x40	50x50x40
Net Weight (kg.)	24	31	51	53

Handling and Transport

All handling and transport must be carried out using proper handling equipment. Sterilizers should be supported from underneath and never turned over.

During transporting, it must be protected from vibration and impact.

Warning!

Do not try to hand the equipment from the bulged parts your incubator can be damaged.

Before repacking :

- Turn off On/Off switch.
- Disconnect all cables and cord.

Do not throw away the cartoon and packing materials. They make an ideal container with which to transport the unit. When shipping to the another location repack it.

Electrical Connections

The name plate indicates operating voltage, power consumption etc., is located on the rear of the incubators. Before starting, check that the mains supply is suitable for the instruments power consumption.

Do not place the sterilizers on a surface that is smaller than sterilizer's bottom panel. Be sure to locate incubators on a flat, wide surface.