



Manufacturer of Neonatal Resuscitation Systems

Intensive phototherapy

Model 022-024-025

Operating manual



ISO:13485 (2003)
ISO:9001 (2000)



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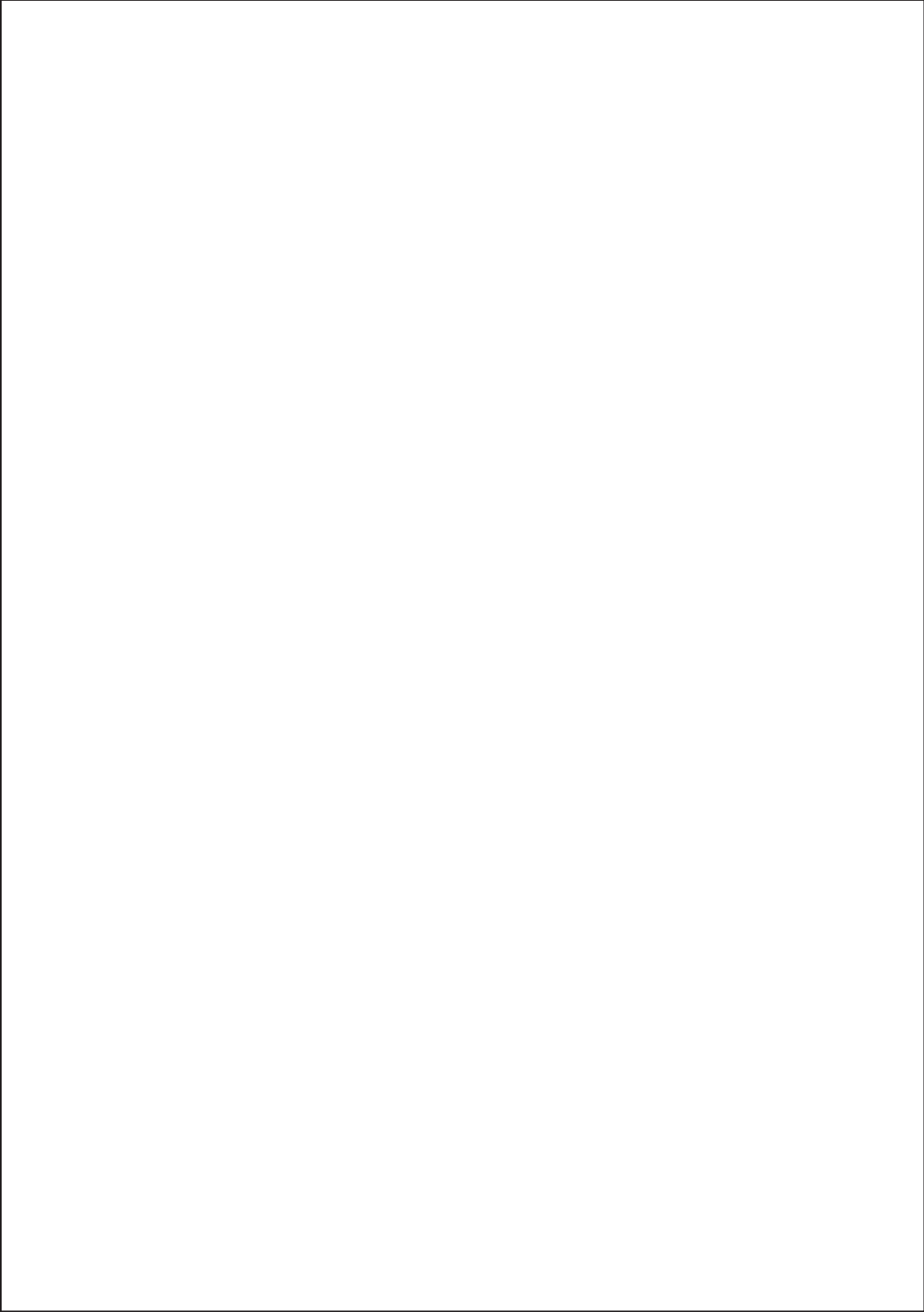
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Preface

The company of Manufacturing Neonatal Resuscitation Systems (Tosan) is a research, Production, industrial unit in neonatal medical equipment field, works about designing, producing, and installation and after sales service of this equipment. The company has worked in this field since 1983 until now and products of this company are as follow:

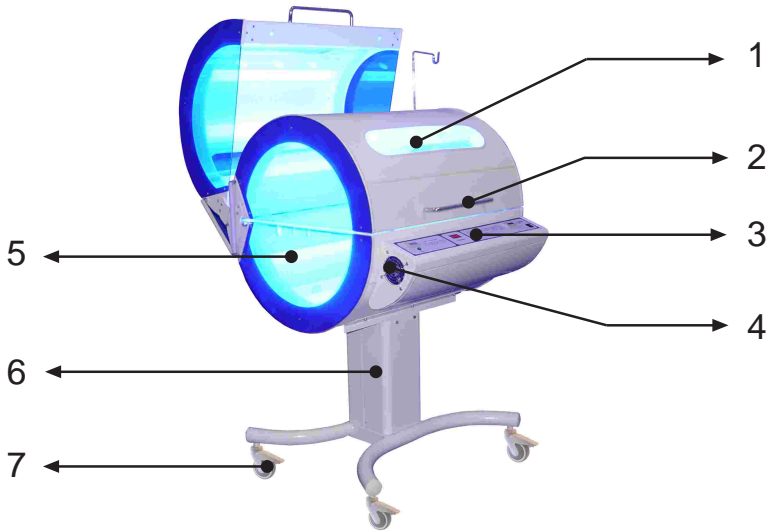
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Preface

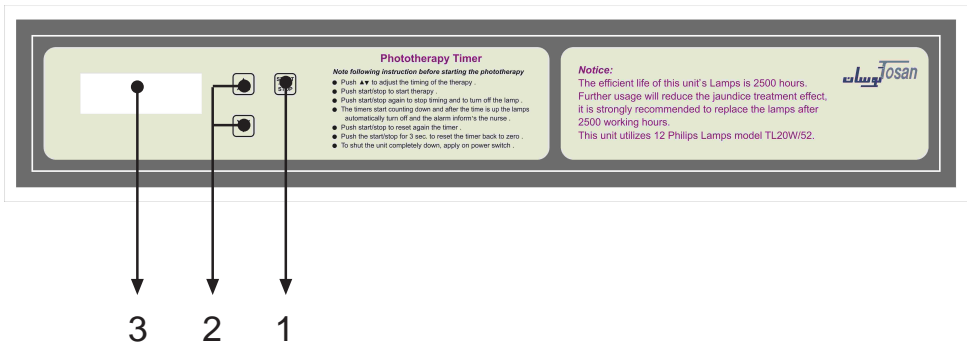
Tosan Company, Is the first designer and producer of infant medical equipment in IRAN, besides of making use of systems as communication with customers and producing on the basis of specified requirement by the customer, with standardizing and immunizing of equipment according to the updated standards of world, provides safety conditions of users and patients

Summaries of these accomplishments are as follow:

- Holding certification ISO 9001:2000 from Associated Partners Germany
- Holding certification of ISO 13486:2003 from Associated Partners Germany
- Holding certification ISO 13485 : 2003 from QS Swiss
- Holding CE from QS Swiss
- Holding international standard for Incubator.
- Having wide sales agency and after sales service in the country and also abroad.



1. Infant observation window
2. Door handle of enclosure
3. Equipment panel
4. Air circulation fan
5. Phototherapy lamps
6. Column
7. Wheel



1. Equipment ON/OFF key
2. Adjustment keys of light therapy timer
3. L.C.D Display

Proper temperature for installation place is between 25 to 30 centigrade degrees. Exceeding temperature increasing might increase the temperature of inside of equipment. Therefore install and start the equipment at proper place.

Attention

- Don't place equipment under direct radiation of the sun.
- Don't place equipment near heater or cooler instrument.
- In order to fix equipment, use of wheels lock.

In order to prevent of occurrence of any event, observe the following items about electrical cases.

1. Connect the plug to the closest outlet to the equipment...
2. Use of separate plug for each of equipment.
3. Electricity outlet should have ground wire.

before starting the equipment, user should be familiar with equipment operation. Training has been done by after sales representatives who have the responsibility of instalation and training the operating instruction. After placing the equipment at suitable environment, open the door of equipment slowly.

Attention

Pay attention that the infant net mattress in the metal frame is placed at the special grip on the inner of the equipment.

Close the enclosure slowly. Insert the plug in to electrical outlet and turn on the equipment using the ON/OFF key.

NOTE:

on/off key in 8 Lamps equipment(model 022)contain one On/Off botton and 12 and 16 Lamps(model 024-025)contain tow On/Off bottons.

After turning on the equipment just ventilation system and display turns on.

- 1.Air temp:
- 2 Baby temp:
- 3 Treatment Timer:
- 4 Lamp life timer:

Please do the following procedures to turn on lamps and start light therapy:

- Adjust the required time for light therapy with keys. **p d**
- Press start key, lamps turns on and begins to operate.

Attention

Light therapy display operates reversely and with beginning light therapy, display has an reverse counting.

When adjusted time for light therapy is finished, equipment gives audible alarm and display shows flashed. So to stop the audible alarm you can turn off the equipment.

So you can remove the infant of equipment or adjust again light therapy time.

Attention

If changing or being zero the time is necessary just press start/stop key for 3 seconds and adjust it again.

Attention

If during light therapy, visiting the infant is necessary just press start/stop key for a moment. So without the change of display figures, equipment lamps would turn off and lamps lifetime display inactivate.

After visiting the infant and closing the door of equipment, with pressing start/stop key, the equipment will begin to operate. Also lamp life time display and light therapy display will activate.

Attention

After turning on the equipment, to make sure of proper operation of the equipment pay attention to the following items:

1. Turning on the air circulation fan properly at the both side of equipment unit.
2. Turning on all the lamps.
3. Turning on temperature display inside of enclosure.
4. Activeness of light therapy timer.
5. Activeness of the lamps lifetime timer.

If there is no problem observed in the above- mentioned items the equipment is ready to use.

Turn off the equipment lamp with pressing start/stop key and slowly open the door of equipment and place the infant on the net mattress and close the door slowly.

Attention

- During the opening of door, pay attention that the door opens thoroughly so that the weight of the enclosure door carries by the back of equipment.
- When closing the door pay attention that the infant's hand is not place under the door.
- The strength of the mattress is calculated for weight up to 6 kg. Avoid of placing more than one infant over the net mattress.
- Do not exert any pressure on air vent net.
- Use of infant eye cover before light therapy.

The lamps life time of the equipment is 2500 hours after this time reduce the Lamp's efficiency up to %60.

Thus in order to increase the lamps efficiency, they should be replaced after 2500 hours.

To place new infant at phototherapy, equipment should be cleaned and disinfected. So it is necessary to do the following steps:

1. First open enclosure door and remove the mattress.
2. Wipe clean and saturated cloth with disinfection solution to surfaces.
3. Replace the net mattress of equipment after any use.

Attention

- Don't use of alcohol, ether, hibtan, formal to clean the equipment.
- In order to prevent of infection transfer, for cleaning equipment use of separate cloth for each of equipment.
- During moving or cleaning equipment, have a care of infant's mattress. If it tears, danger of infant fall is possible.
- Never move the equipment when it is on, this action leads to burn up the lamps.
- If you want to move equipment, 10 minutes before moving, turn it off .

Remove mattress frame with net mattress from their place. From one corner of the frame, pull the small rod out of big rod with a little strength so using the same procedure pull out the other three sides and after replacing the mattress return it to initial manner.

To replace the lamps please contact to repair service representatives.

Attention

If lamps are changed by unlawful representatives and lamps are not confirmed by Tosan co.or our Agent are installed this company is not responsible for this case.

Lamp life time

Lamps which are used at the equipment are philips TL 20w/52 and have 2500 hours life time, after reaching this time the power of the lamps is reduced by 60%.When life time timer of lamp reaches at hours of 00, the display flashes so the equipment lamps should be changed by representative of Tosan Company or our Agent and display of lamp life time should be adjusted.

Attention

Since air circulation system always replaces the air inside of enclosure and causes to cool the electrical and electronic circuit, so avoid of covering the equipment. Covering the equipment will increase the temperature and prevent of air refreshing and eventually deprive the infant from sufficient oxygen and increase the temperature of electrical and electronic devices.

- Avoid of placing phototherapy near or at the presence of flammable gases.
- Avoid of placing medicine or injections near radiation environment.
- Regularly inspect, protection instruments which are for patient and places on radiation effective level.
- During the light therapy, don't place any flammable solution inside of phototherapy enclosure.
- Regularly measurement of patient temperatur is necessary, since phototherapy equipment effects on infant's temperature.
- Recommended, don't look directly at phototherapy light for a long time.

Effective life

Effective life of this equipment is 6 years that during these years accessories instrument of equipment will have been provided by Tosan Company or our Agent .

Calibration:

Recommended that every 6 months equipment calibrates and services by lawful representatives of Tosan Company and precise measurement.

Trouble - shooting

If any disorder occurs at equipment operation , please before contact to repair service group of Tosan, pay attention to the following items:

<i>Symptom and sign of disorder</i>	<i>Cause(s) and possible solution(s)</i>
Equipment doesn't ON	On/off key isn't on. Plug doesn't connect to the electricity outlet. The electricity of equipment is cut off.
Inside temperature of enclosure is more than allowed value	Equipment is near to heater instrument. Equipment places under direct radiation of the sun. Digital display is not calibrated.
Equipment gives audible alarm	Time of light therapy has finished.

Technical specifications

<i>Power supply</i>	<i>220 to 240 volts-AC -50 hertz 2 Ampere</i>
Classification	Class I –BF – Normal equipment alternative operation
Equipment dimensions	Length : 70 cm Width : 76 cm Height : 165 cm
Weight of equipment	50 kg
Lamps specifications	Philips model TL 20w/52, 20W
Radiation range	360 degrees
Optional items	Serum upright
Life time of equipment	6 years
Wavelength	420 to 470 nanometers

Address and specifications of European representative

European representative:

Atta Motedayen No. 27A Kaiser Str. 44135 Dortmund,
Germany

