

Ceratherm 600-2

Operators Manual

This page only
Superceeded by V2.0



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1. Precautions

The heat radiator must not be used in rooms where there is a risk of explosion, i.e. in the immediate vicinity of anaesthetic gases.

The distance between the surface at which the patient lies and the lower edge of the radiator must not be less than 80cm. If this instruction is not followed, prolonged exposure to the heat radiation may cause burns.

Contact with the protective grating and the reflector should be avoided:

„Danger of burns“

The protective grating on the upper side of the radiator must always be free in order to ensure adequate removal of heat. Do not place sheets or flammable materials on the protective grating.

„Danger of fire“

If the underlay is changed, for example by the use of dark sheets, heating cushions, etc., the support surface may reach excessively high temperatures and thus influence the body temperature of the infant or patient.

After the radiator has been switched on, an acoustic and visual alarm is given after 15 minutes. This can be reset for a further 15 minutes with the red button.

The infant or patient must never be left unattended under the operating heat radiator.

When using the heat radiator over incubators, care must be taken to ensure that there is sufficient space between the lower edge of the radiator and heat-sensitive material, such as perspex or acrylic glass. The distance must not be less than 50cm. Set the heating power to max. level 3.

If the radiator housing is removed, there is a danger of an electric shock. Maintenance and service work must be carried out only by trained personnel.

2. Definitions and Symbols

Note, Important, Caution and Warning

Note: The remark „Note“ is used in the text to indicate procedures or conditions which might otherwise be overlooked or incorrectly understood. A note may also be used to clarify apparently contradictory or confusing situations.

Important: Similar to Note, but used when greater emphasis is necessary.

Caution: The remark „Caution“ is used to draw attention to a procedure which must be followed exactly in order to avoid damaging or destroying the instrument.



Warning: The remark „Warning“ is used in the text to draw attention to dangerous situations in connection with the operation, cleaning or maintenance of the instrument if there is a possibility of injury or danger of death to the operator or to the patient.



Attention: consult accompanying documents.



AC POWER



Danger! High Voltage!



Type B equipment with an F-type isolated (floating) applied part.



**Attention
Hot surface**



Power ON



Power OFF

3. General

3.0 Introduction

This Manual contains instructions for the erection, use and maintenance by the operator. Nufer Medical is not liable for the proper functioning of the heat radiator if it is not operated according to the instructions, if the maintenance recommendations in this Manual are not followed or if repairs are carried out using non-approved components.

Calibration and repairs should be performed only by trained personnel. Maintenance documents are obtainable through your local dealer or from Nufer Medical.

The personnel who work with this heat radiator should read this Manual carefully and should fully understand all instructions contained therein. The Manual should be kept so that it can be easily inspected; it is advisable to store it in an easily accessible place. If you do not understand something, contact a Nufer Medical agent in order to obtain further information.

3.1 Technical data

The technical data of the Ceratherm heat radiant are shown in Table A. All technical data may be changed without prior notice.

Table A

Current requirement	220-240 V AC 50/60 Hz 630W
Protection class	I
Degree of protection	B IP 20
Test provision	IEC 601-2 TUV / CE
Size	Width 21cm Length 55cm Height 90cm
Weight	4,9kg heat radiator
Trolley	Width 61cm Length 82cm Height 10cm
Upright tube	170 / 195 max. Height
Height adjustment	25cm
Swivelarm	45°

4. Operating Instructions

4.0 Structure and use

The radiator is intended for warming baby changing tables and for maintaining the body temperature of infants. The built-in ceramic radiator has very good radiation properties and generates invisible infrared radiation in the region of 3 micro/M. This radiation spectrum is very readily absorbed by the skin, and the child's skin colour is not altered.

4.1 General description

The Ceratherm 600-2 unit has 4 output settings which can be set individually (20-99%). These output settings are indicated by the yellow LED's (1-4), in which only one can be active during operation. (*The numbers in () are shown in Table B on Page 7.*) The choice of output setting is made by pressing the reverse button (5) or the forward button (6). The heater LED (10) indicates when heating is active. When the unit is switched on, a time interval starts, which after 15 minutes triggers an audible alarm for about 5 seconds and a visual flashing LED alarm (red LED 7). 8 seconds later, a reduction in output to a preset value takes place (safety setting), until this is cancelled with button (7), whereupon the time interval is started again. The cancellation also deactivates the flashing alarm.

Switch (8) switches the halogen lamp lighting on and off, while switch (9) switches the entire system on and off.

4.2 Wall mounting

After removing the packaging, compare the instrument data on the type plate with the available connection data. Electrical connection is via a 220V AC 50/60 Hz mains socket and a 6A connected load.

The wall holder (fixed or movable) must be fastened in solid masonry (chalky sandstone, brickwork or concrete) with suitable wall plunges and screws.

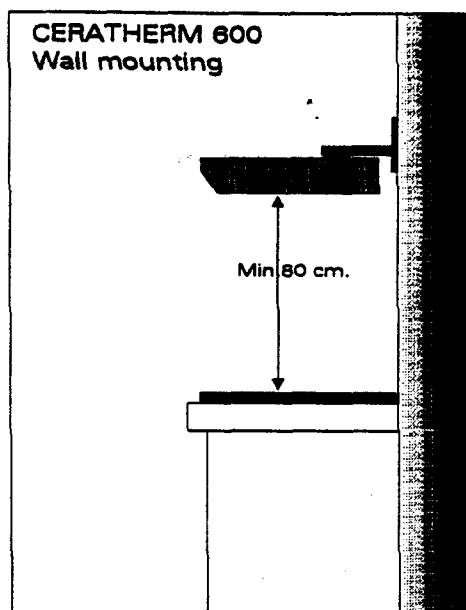
Mount the radiator in such a way that there is a distance of at least 80cm and not more than 100cm between the surface on which the patient lies and the lower edge of the radiator.

WARNING

The distance between the surface on which the patient lies and the lower edge of the radiator must not be less than 80cm. If this instruction is not observed, prolonged exposure to heat radiation may cause burns.

Mounting possibilities

Wall mounting with fixed holder
Wall mounting with movable arm
Ceiling stand with rotatable extension arm
Wall stand with pivotable extension arm
Special version



4.3 Start-up

1. Switch main heater switch to ON. The ceramic heating element is now switched on.
2. Using the adjusting knob, set the desired heating power to level 1-4. The particular setting is displayed on the four LED bars. After about 5-10 minutes, the support surface has been preheated.
3. Set main switch LIGHT to ON. The non-dazzling halogen lamp is used for illuminating the treatment area

4.4 Setting the heating power

The heating output can be set in accordance with actual requirements using the four-step regulation. The factory adjustment corresponds to the following local settings:

The heating output of the individual steps 1-4 can be individually adjusted for special applications, e.g.:

Level 1= 20%

Level 2= 40%

Level 3= 60%

Level 4= 80%

Alarm monitoring

When the unit is switched on, a time interval begins which after 15 minutes triggers an audible alarm and a visual alarm in the form of a flashing LED.

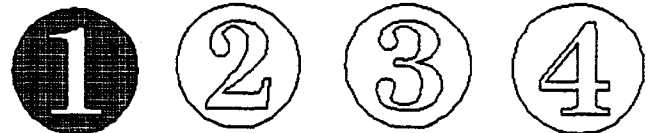
The alarm is cancelled with the red button, causing the red LED to extinguish and the audible signal to stop. The alarm flashing generator is deactivated. If the alarm is not cancelled within 8 seconds, the heating output set is reduced to a preset value (20%) (safety setting). The audible signal stops and the flashing red LED lights continuously.



WARNING!

The child must not be left unattended on the bed with the radiator switched on.

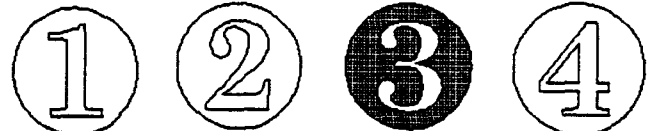
Level 1 = 25%



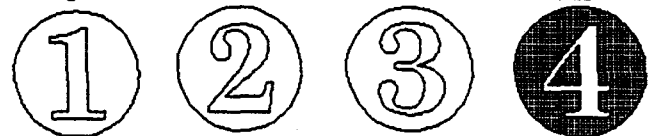
Level 2 = 50%



Level 3 = 75%



Level 4 = 99%



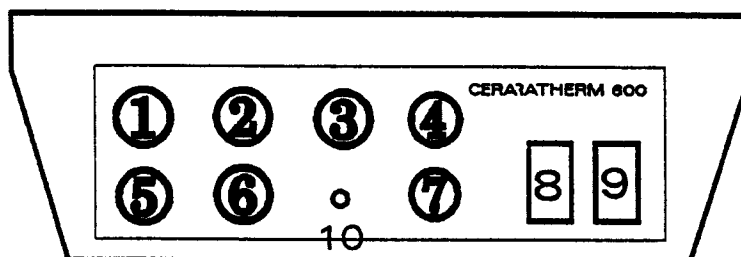
The various power levels can be used as follows:

- Level 1 is used for keeping the support surface warm and for continuous operation
- Level 2 is for normal operation on changing and examination area
- Level 3 provides additional warmth for resuscitation, for the labour room or for the operating theatre
- Level 4 is for increased heat requirement in the operating theatre, during anaesthesia or for adults

4.5 Controllers, displays and connections

This part describes the controllers, displays and connections of the Ceratherm 600-2 thermal radiator.

Front



Rear

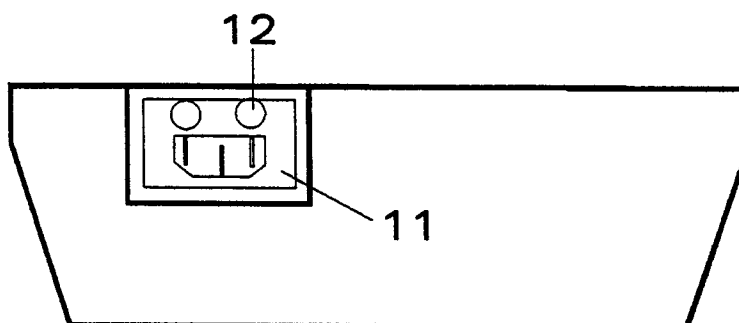


Table B

Part no.	Designation	Function
1-4	LED yellow	Display of selected output setting
5+6	Forward/reverse button	Button for selecting output setting
7	Alarm button	Display and reset button for alarm
8	Lighting switch	Switching on halogen lamp
9	Main switch	Switching unit on and off
10	LED heating monitor	Display indicating that heating active
11	Unit supply socket	Socket for 220-240V / 50Hz connection
12	Fuses	Main fuse 2 x 3,15 Ampère
5 / 6 / 7	Buttons	These buttons are used together for programming the individual output settings



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