Baby changing, Examination, Intensive care

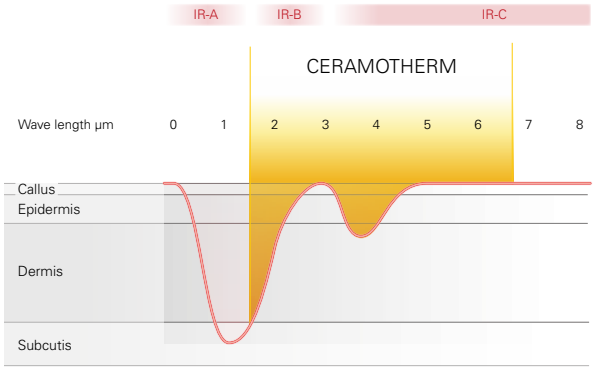
CERAMOTHERM® 3000

One radiant warmer for baby changing,
examination and intensive care

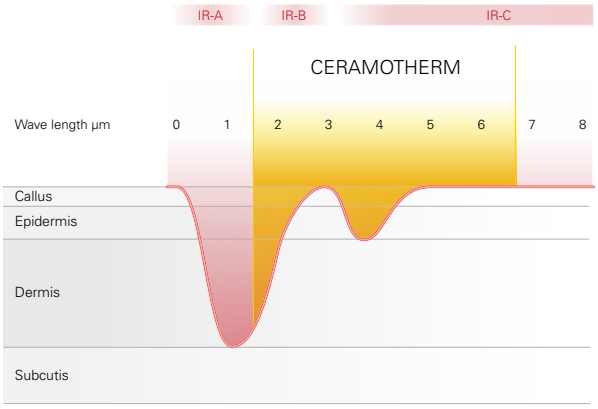
Cosy and gentle warming

In various situations patients need support to maintain their body temperature. This applies to unclothed babies during nappy changing, infants under longer examinations, centralised patients and during theatre preparation and recovery. Infrared radiant warmers are ideal for this purpose. But which is the right one?

Infrared radiation is part of the solar spectrum and invisible for human beings. It is divided into three ranges according to their wave-length.



Baby



Adult

IR-A

Short-wave radiation (0.78-1.4 µm) – penetrates deeply into the subcutaneous tissue and has a deep warming effect. The eye is transparent for short-wave infrared and injuries of the retina can occur without advance warning. Therefore IR-A radiation should only be used for certain intensive-therapeutic applications under medical surveillance. Sufficient eye protection is mandatory. Keeping the deep penetration in mind in particular the thin skin of babies and preterm babies must be protected from injuries.

IR-B

Medium-wave radiation (1.4-3.0 µm) – reaches the medium skin layers (dermis) with the effect of warming the epidermis and the dermis below as well as the bloodstream.

IR-C

Long-wave radiation (3.0-10 µm) – penetrates the upper skin layers, with the effect of an even and gentle warming of the human body.

CERAMOTHERM® radiant warmers

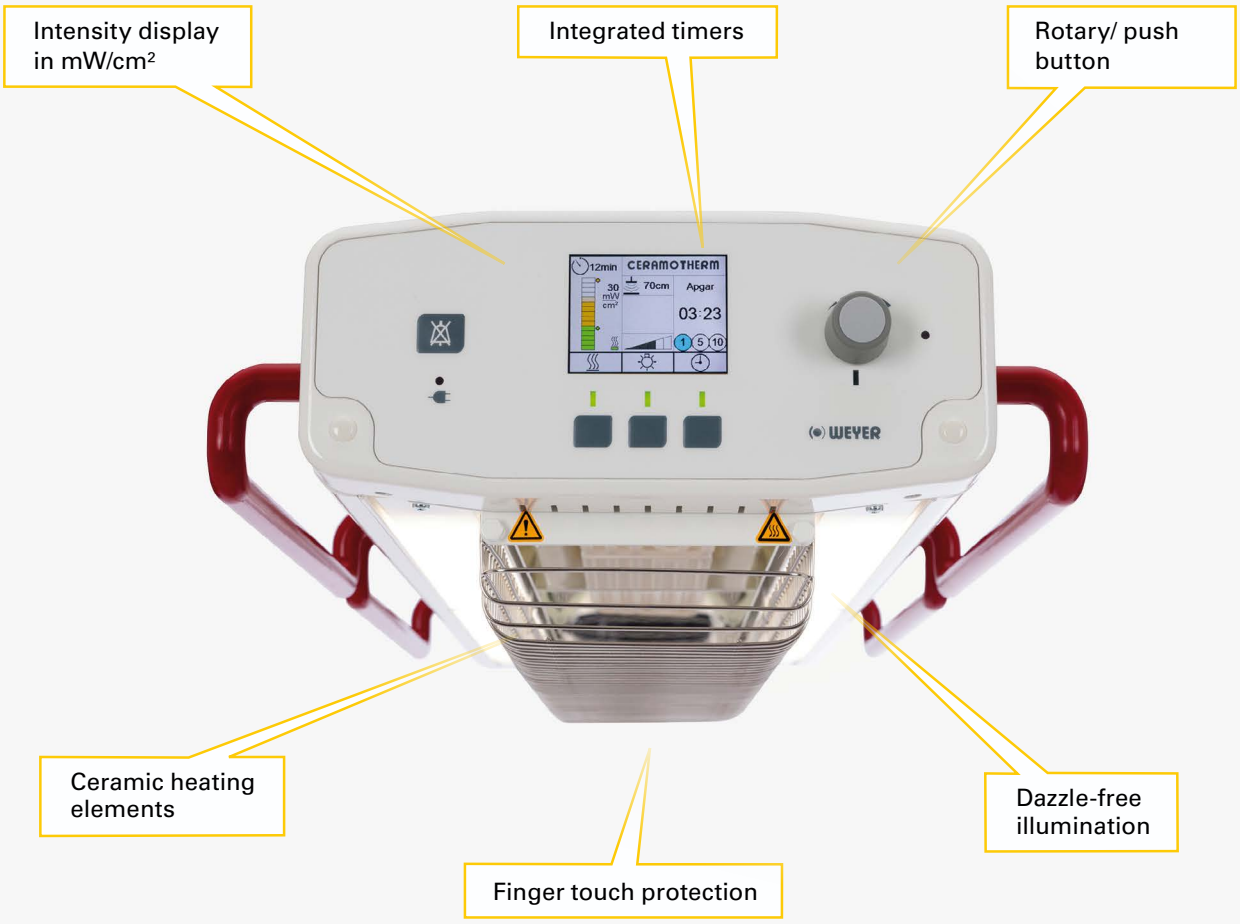
CERAMOTHERM® radiant warmers supply infrared radiation in the wavelength spectrum of **1.5 - 6.8 µm (IR-B + IR-C)**, according to the surface temperature of their ceramic heating elements.

When medium and long infrared rays reach the human body, they are absorbed by the upper skin layers and converted into heat. They do not penetrate deeply into radiation-sensitive tissue layers. The blood circulation is increased and the warmed blood is transported and distributed in the body.

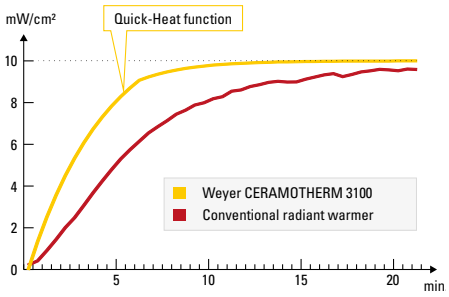
CERAMOTHERM® infrared radiation is gently and efficiently converted into sensible cosy body heat.

The radiant warmer

CERAMOTHERM® radiant warmers are the result of more than 40 years of continuous development in the medical use of infrared radiation. Convenient handling and function, comfortable operation as well as a safe use are the priorities of this radiant warmer.

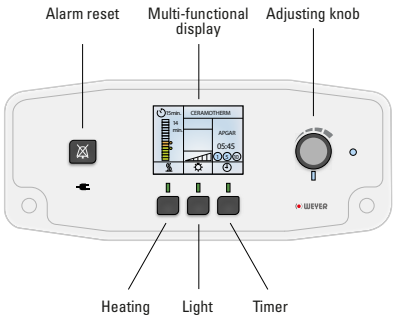


CERAMOTHERM® 3000



Impressive warming efficiency

Infrared rays do not warm the ambient air but are absorbed by the bodies they impinge on and consequently converted into heat. The newly developed high-performance reflector directs the heat to the patient pad even more efficiently and evenly. The **Quick-Heat function** produces the required warming energy within shortest time and outshines conventional radiant warmers.

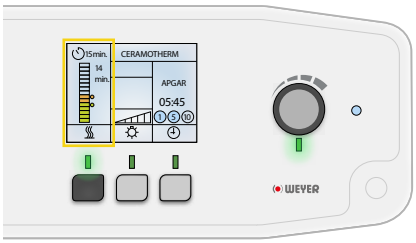


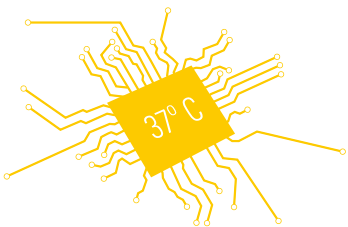
Easy to operate

Analogue to the well-proven product lines THERMOCARE and VARIOTHERM®, intensity and light are selected intuitively according to the principle ‘select – adjust – confirm’.

An unintentional direct adjustment, e.g. by visitors, is prevented.

The colour display adjusts its brightness to existing light conditions. This ensures good readability, day or night. When the device is cooled down after switch-off, the display is darkened to not disturb the night’s sleep.





Intensity adjustment as required

Rough, stepwise setting of heating capacity is a thing of the past. In particular for small infants a sensitive adjustment of the radiation intensity according to their demands is a must.

The CERAMOTHERM® system allows a fine adjustment of the intensity in mW/cm², optionally in %. A pre-set starting value can be chosen in the menu.

The selected intensity emitted to the patient is calculated by a processor according to the distance to the patient pad. It is controlled precisely and indicated in the actual intensity display.

This technique allows maintaining the body temperature in adults, infants and even smallest preterm babies during intensive care.

Homogeneous illumination

For the smallest patients the best light is just good enough. Infants, in particular new born babies, are stressed when they are dazzled by a sudden glaring spotlight. Therefore the large-area lamps of the CERAMOTHERM® 3000 switch the light on and off gently. Small patients remain calm and feel cosy.

The light's colour temperature of 4000 Kelvin guarantees an excellent appearance and is suitable for examinations and minor operations. The light intensity can be adjusted in 5 steps ensuring optimum light. A pre-set starting value can be chosen in the menu.

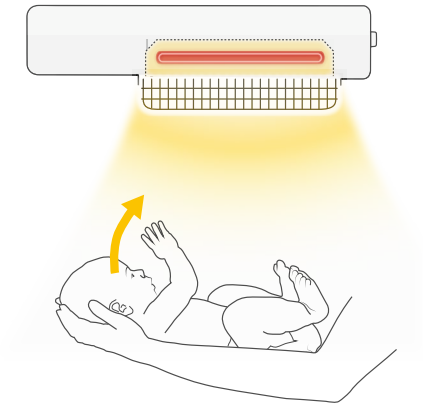
Integrated timers

With 3 integrated timers the CERAMOTHERM® radiant warmer is a device for versatile use.

→ Apgar-Timer, for postnatal care of new born babies.

→ Stop watch, helpful for many applications.

→ Countdown-timer, always indispensable for timewise limited applications.



Integrated safety

For cost reasons many radiant warmers in the market do not provide essential safety features. Parts of their exposed surfaces can become dangerously hot and they do not have efficient protection, switch-off or warning devices.

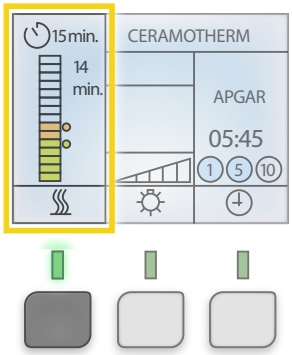
This is not the case with radiant warmers CERAMOTHERM® 3000! They have been designed under consideration of the current standards and with integrated safety a top priority in order to minimise all possible risks. The heating elements are arranged behind a finger-touch protection and prevent active children, operators and other persons from touching the 200 – 800 °C hot heating element. The heating elements are shatter-proof so no risk can arise from them.

Furthermore, a rounded design minimises sharp edges and corners to protect the operator from potential injuries.

CERAMOTHERM® 3000

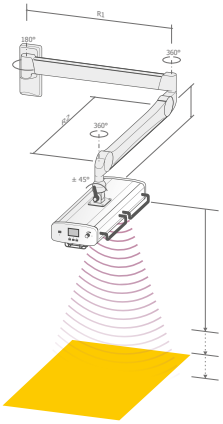
Application with maximum safety

The infrared spectrum of the CERAMOTHERM® radiant warmers was chosen in a way that on the one hand the patients are warmed efficiently and on the other hand it cannot cause any injuries to the eye and the skin.



Very small or hypothermic patients often require a high radiation intensity to maintain their body temperature. In most cases this is above 10 mW/cm² which in the long run can cause hyperthermia and skin injuries. In order to avoid such hazards the radiation intensity is automatically reduced to a safe value after a certain time. A signal sounds to inform the operator. So cooling is avoided and the patient is prevented from hypothermia. The actual intensity and balance time to automatic intensity reduction are displayed.

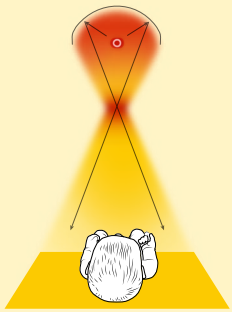
As the heating elements can remain hot some time after switching off, the residual intensity is displayed.



Automatic distance detection with intensity compensation

CERAMOTHERM® radiant warmers with height-adjustable wall or ceiling fixtures have an automatic distance detection with patented intensity compensation **Autodetect**. For other device models this feature is optional.

The Autodetect function will immediately reduce the radiation intensity when the distance to the patient is reduced and it will automatically increase the intensity within shortest time when the distance to the patient is enlarged. The intensity is adjusted to a steady level and the parameters for intensity and distance are displayed accordingly. This is a unique technique which is second to none.



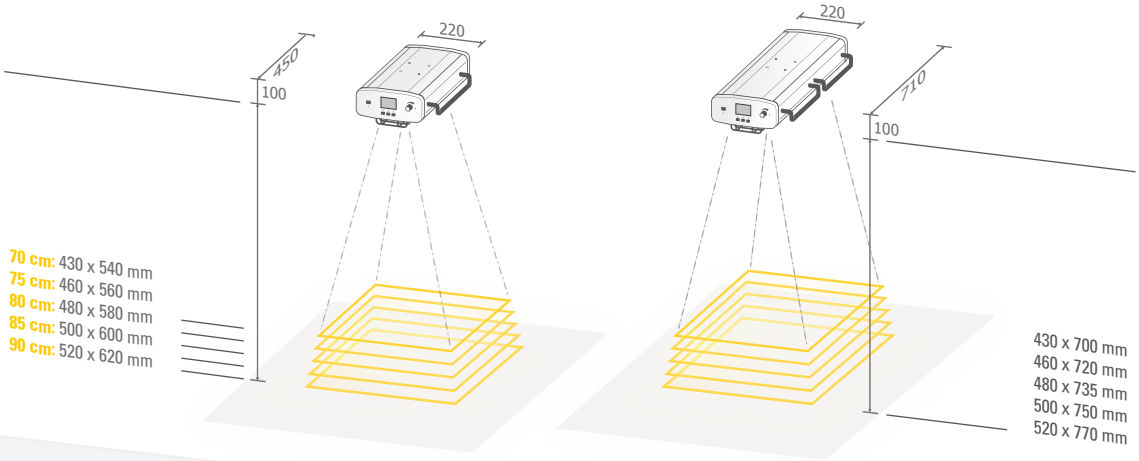
Parabolic reflector with formation of a focus.

The reflector

CERAMOTHERM® radiant warmers have a high-performance reflector that directs the radiation intensity of the heating element directly and evenly to the patient pad. Formation of a hazardous focus is excluded.

Parabolic reflectors with a focus below the radiant warmer (see figure on the left) are a hazard for the operator and a thing of the past.

CERAMOTHERM® 3000 in different sizes



CERAMOTHERM® 3100

CERAMOTHERM® 3100 with 1 heating element, mainly for warming of babies during postnatal care, nappy changing and examination as well as for application during care treatments. The device is also suitable for partial warming of body parts.

CERAMOTHERM® 3200

CERAMOTHERM® 3200 with 2 heating elements, covering a larger area. Safe application for preterm infants, babies, children and adults as well as for pre-warming of patient beds.

CERAMOTHERM® 3300

CERAMOTHERM® 3300 with 3 heating elements, developed especially for treatment of severely burned patients who are not able to regulate their body temperature themselves. Further information on mounting possibilities and device details upon request.

Cosy and gentle warming during care, nappy changing and examination

It must be avoided that in particular unclothed new born babies lose body heat.

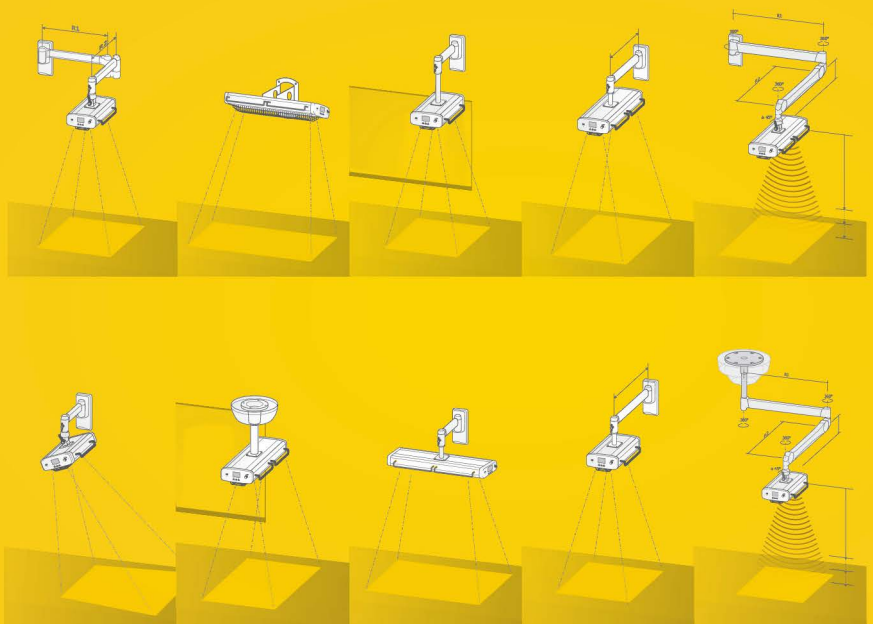
During postnatal care and after bathing there is a considerable heat loss by convection. Often the infant feels uncomfortable and cries or even cools down. Considering that up to 20% of the body heat is lost during nappy changing, baby changing areas should be kept cosy and warm for a longer period.

CERAMOTHERM® radiant warmers provide well-being for the small patients. Babies that are not cold are much more relaxed and calm during treatment, nappy changing and examination. This also calms their parents and supports a relaxed interaction between parents and babies.

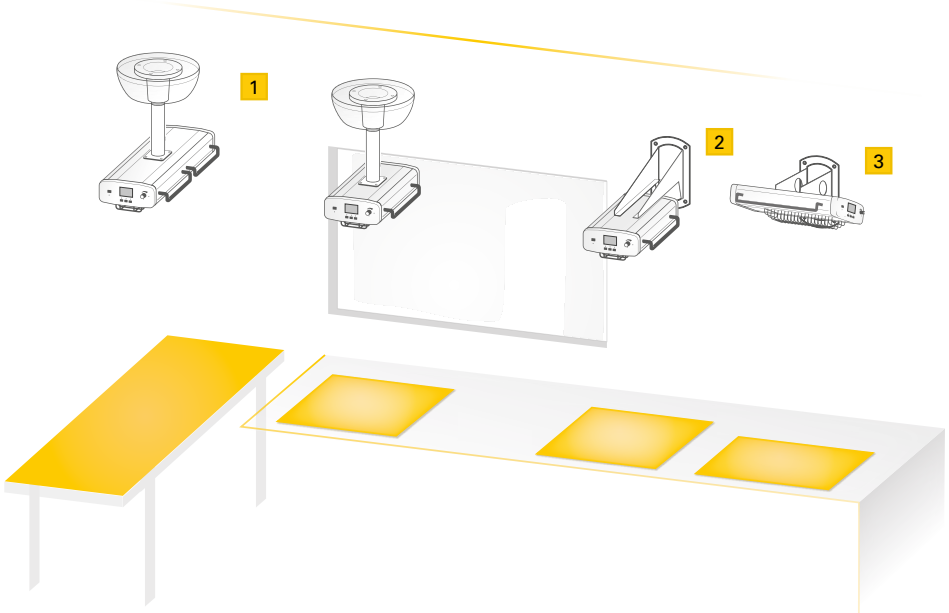
Warming - wherever it is required

Wide range of fixtures

Radiant warmers CERAMO-THERM® 3000 can be mounted at the wall, the ceiling or a mobile stand. Keeping the intended use and constructional conditions in mind a wide range of fixtures is available, for any individual application.



Static arrangement to the patient pad



1 **Ceiling bracket, distance between patient pad and bottom edge of solid ceiling min. 1350 mm and max. 1800 mm**

CERAMOTHERM® 3100
Order No. WY3117

CERAMOTHERM® 3200
Order No. WY3217

Specific cases require a connection flange B0329 and/or ceiling anchorage ring B0327. Refer to mounting information on page 14.

2 **Wall holder**

CERAMOTHERM® 3100
Order No. WY3115

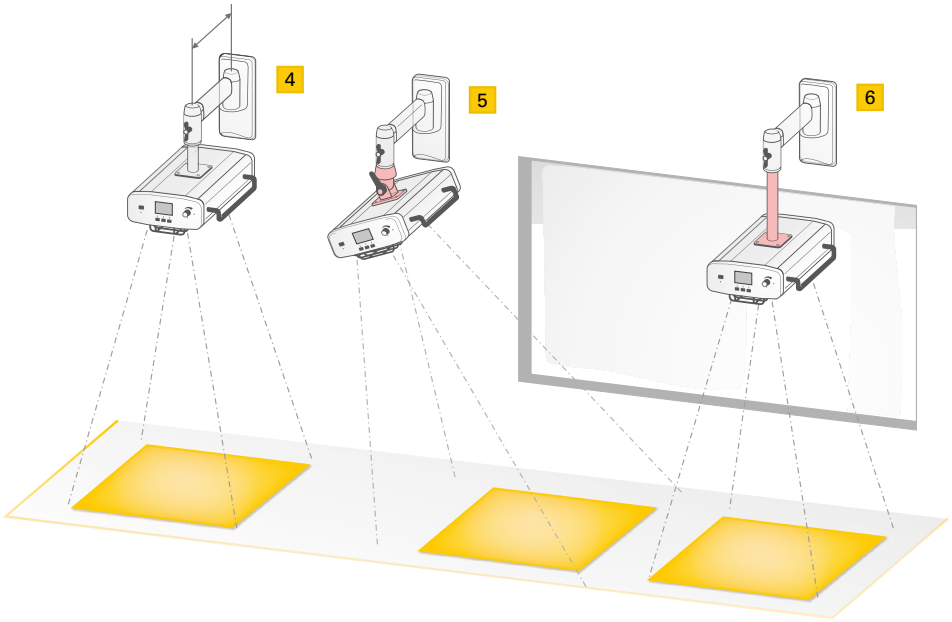
3 **Wall holder, lateral mount**

CERAMOTHERM® 3100
Order No. WY3116

CERAMOTHERM® 3200
Order No. WY3216

Swivelling wall arms

For applications which do not require to adjust the distance between patient pad and radiant warmer, wall arms in 3 lengths are available. These can be swivelled 180°. The radiant warmer can be rotated by 360° and locked in the desired horizontal position. Optionally these arms can also be equipped with vertical extension and vertical adjustment.



4 **Horizontal swiveling 180°, warmer rotatable 360° and position lockable**

Wall arm 320 mm length
CERAMOTHERM® 3100
Order No. WY3101

CERAMOTHERM® 3200
Order No. WY3201

Wall arm 480 mm length
CERAMOTHERM® 3100
Order No. WY3102

CERAMOTHERM® 3200
Order No. WY3202

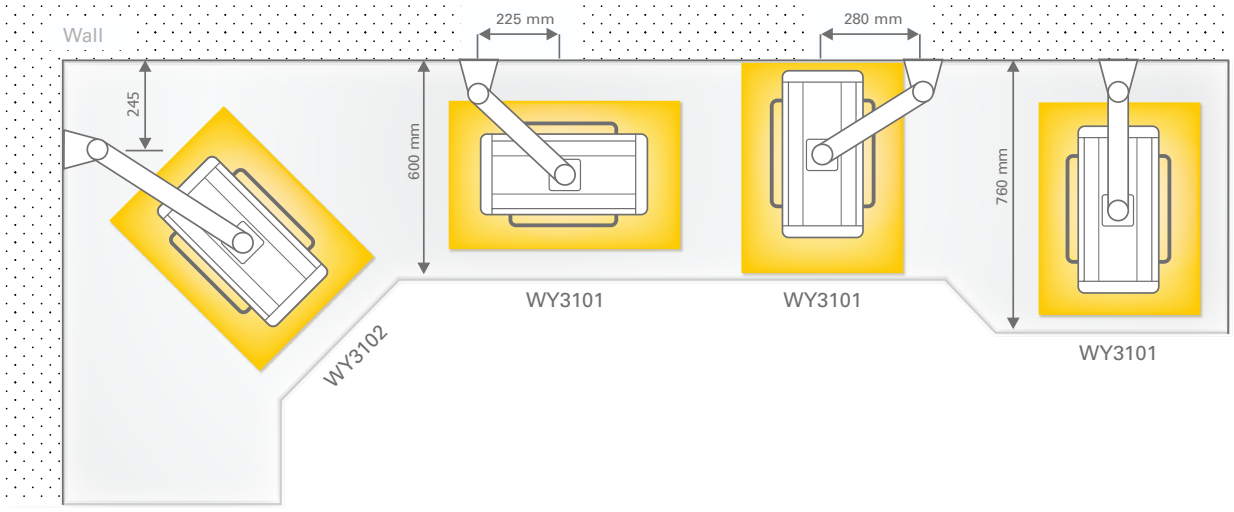
Wall arm 600 mm length
CERAMOTHERM® 3100
Order No. WY3103

CERAMOTHERM® 3200
Order No. WY3203

5 **Upgrade option:**
Vertical adjustment ±45°
Order No. WY1822

6 **Upgrade option:**
Vertical extension
by 250 mm
Order No. WY1846

Arrangement examples



Further arrangements

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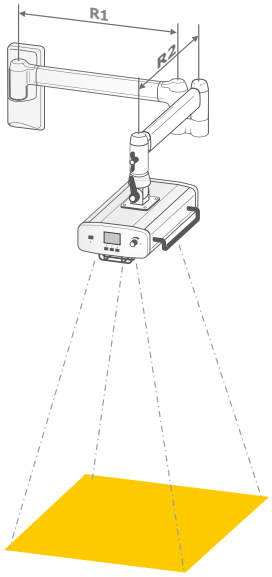

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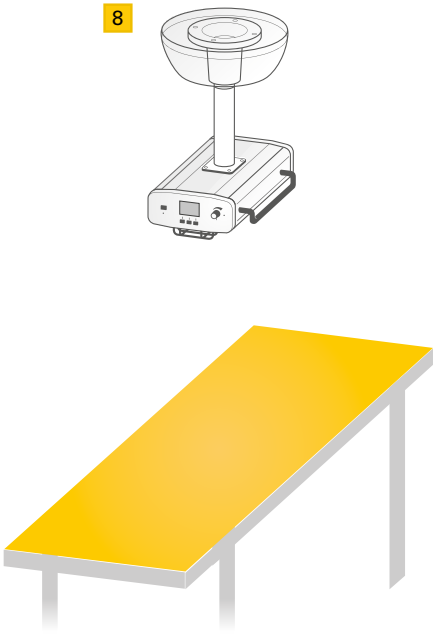


7 Double-joint wall arm, R1 = 480 mm swivelling 180°, R2 = 480 mm swivelling 300°, warmer rotatable 360° and position lockable, vertical adjustment ± 45°

CERAMOTHERM® 3100
Order No. WY3104

CERAMOTHERM® 3200
Order No. WY3204

Option:
R1 = 320 or 600 mm
R2 = 320 or 600 mm

8 Ceiling bracket, distance between patient pad and bottom edge of solid ceiling min. 1350 mm and max. 1800 mm

CERAMOTHERM® 3100
Order No. WY3117

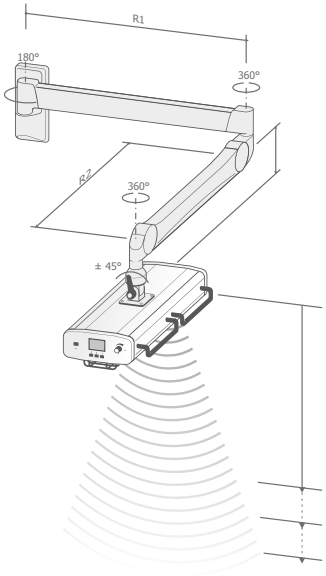
CERAMOTHERM® 3200
Order No. WY3217

Specific cases require a connection flange B0329 and/or ceiling anchorage ring B0327. Refer to mounting information on page 14.

Height-adjustable double-joint arms

Double-joint arms allow an adjustment in nearly any position within the moving range to the patient pad. In addition they provide a vertical adjustment and Autodetect function.

9



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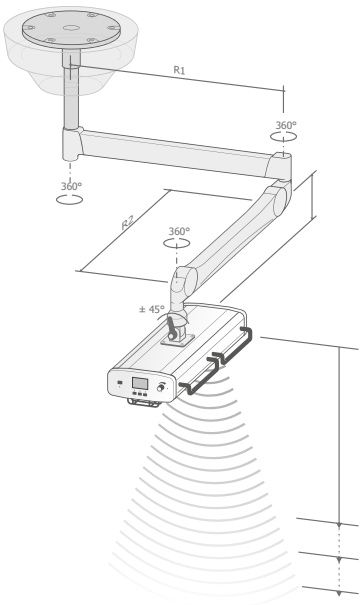


9 Double-joint wall arm, extension arm R1 = 750 mm swivelling 180°, height-adjustable spring balanced arm R2 = 800 mm swivelling 360°, adjustable stop for highest position, warmer rotatable 360°, vertical adjustment ± 90°

CERAMOTHERM® 3110
Order No. WY3107

CERAMOTHERM® 3210
Order No. WY3207

Option:
Extension arm R1 = 950 mm
Order No. WY1847

10 Ceiling bracket with double-joint arm, extension arm R1 = 750 mm swivelling 360°, height-adjustable spring balanced arm R2 = 800 mm swivelling 360°, adjustable stop for highest position, warmer rotatable 360°, vertical adjustment ± 90°, distance between solid ceiling and suspended ceiling max. 400 mm

CERAMOTHERM® 3110
Order No. WY3108

CERAMOTHERM® 3210
Order No. WY3208

In case of larger distance a connection flange B0329 and/or ceiling anchorage ring B0328 is required. Refer to mounting information on page 14.

For each situation the right solution

With a variety of components, CERAMOTHERM® radiant warmers can be fitted for a wide range of special requirements. It is possible to combine radiant warmers with examination lights or phototherapy devices. Even a combination of several radiant warmers for a central baby-changing area can be realised.

Flexible - heat everywhere

Radiant warmers often need to be arranged completely flexible either to ensure the required elbow room, to warm certain body parts or to swivel them into parking position after use.

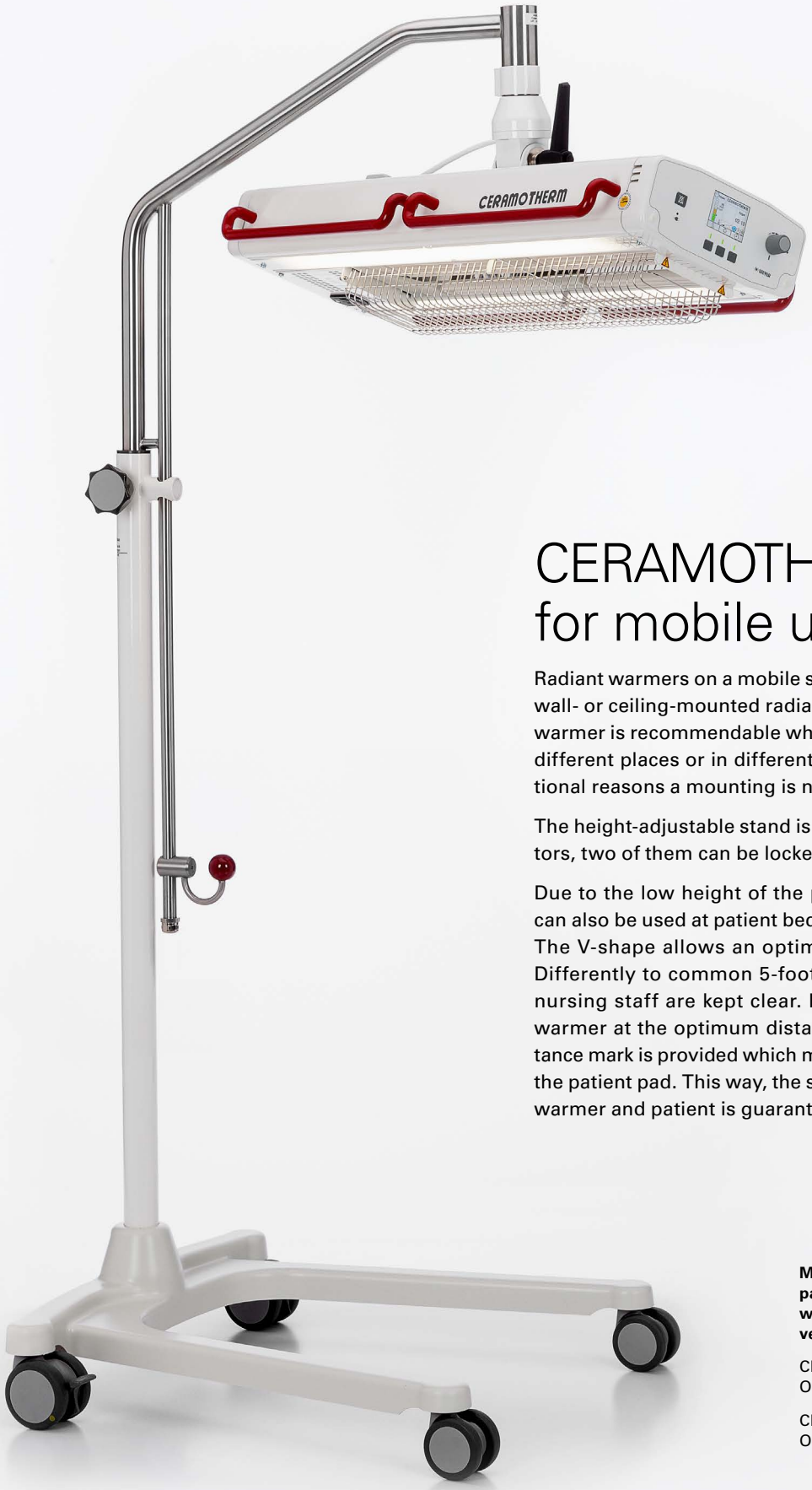
For mobile or height-adjustable examination beds and stretchers in most cases a radiant warmer with swivel facility and variable height is necessary.

For these applications a double-joint arm with large swivel range and flexible fixing head adjusts the radiant warmer to any desired position to the patient. This model is available as wall or ceiling mount.

In connection with height-adjustable systems it must be considered that the radiation intensity emitted to the patient will decisively change according to the distance between radiant warmer and patient. The shorter the distance, the higher the intensity and vice versa.

The patented distance detection Autodetect with automatic intensity compensation balances distance variations quickly. It also guarantees that the heating is switched-off automatically on falling below the safety distance. Any hazard for the patient is excluded.

Patented distance detection with automatic intensity compensation



CERAMOTHERM® 3000 for mobile use

Radiant warmers on a mobile stand are a good alternative to wall- or ceiling-mounted radiant warmers. A mobile radiant warmer is recommendable when the device shall be used at different places or in different rooms or if due to constructional reasons a mounting is not possible.

The height-adjustable stand is mobile on four antistatic castors, two of them can be locked.

Due to the low height of the pedestal the radiant warmer can also be used at patient beds or operating theatre tables. The V-shape allows an optimum utilisation of the room. Differently to common 5-foot pedestals the paths for the nursing staff are kept clear. In order to place the radiant warmer at the optimum distance above the patient, a distance mark is provided which must be adjusted to the level of the patient pad. This way, the safe distance between radiant warmer and patient is guaranteed at any time.

Mobile stand, adjustable to patient level of 600 to 1000 mm, warmer rotatable 360°, vertical adjustement ± 90°

CERAMOTHERM® 3100
Order No. WY3112

CERAMOTHERM® 3200
Order No. WY3212

Made in Germany

ROHS 2 COMPLIANT

Ordering information

Order No.	CERAMOTHERM 3100 4,8 kg	CERAMOTHERM 3200 6,8 kg	Automatic distance detection	Weight (kg) complete	Torque (Nm)	Autodetect: Static, distance between patient pad and solid ceiling min. 1350 mm and max. 1800 mm	Ceiling bracket: Static	Wall holder: 320 mm length	Wall arm: 480 mm length	Wall arm: 600 mm length	Double-joint wall arm: R1 = 480 mm, R2 = 480 mm	Double-joint wall arm: Height-adjustable, R1 = 750 mm, R2 = 800 mm	Ceiling bracket: Distance between solid ceiling and suspended ceiling max. 400 mm	Ceiling bracket: Distance between solid ceiling and suspended ceiling above 400 mm	Mobile stand, height-adjustable	Options: Vertical adjustment ± 45° WY1822	Options: Vertical extension by 250 mm WY1846	Options: Wall arm bracket support M0369	Options: Extension arm R = 950 mm Wall: WY1847, Ceiling: WY1848
WY3101	•			8,8	27			•								•	•	•	
WY3102	•			9,2	39				•							•	•	•	
WY3103	•			9,4	48					•						•	•	•	
WY3104	•			12,8	90						•							•	
WY3107	•		•	17,8	181							•						•	•
WY3108*	•		•	27,4	171								•						•
WY3112	•			21,3	–										•				
WY3115	•			7	17		•												
WY3116	•			6,3	11		•L												
WY3117*	•			12,3	56	•							•	•					
WY3201		•		10,9	35			•								•	•	•	
WY3202		•		11,2	50				•							•	•	•	
WY3203		•		11,4	62					•						•	•	•	
WY3204		•		14,8	111						•							•	
WY3207		•	•	19,8	214							•						•	•
WY3208*		•	•	29,9	202								•						•
WY3212		•		23,3	–										•				
WY3216		•		8,3	16		•L												
WY3217*		•		14,3	59	•							•	•					
B0329*				30 kg/m										•					
M0369				2,1															

L = Lateral mount

* When ordering please indicate dimensions:
Floor to top line of patient pad
Floor to bottom line of suspended ceiling
Floor to bottom line of solid ceiling

Please observe the mounting information on page 14.

Mounting information

Wall mount with flexible arrangement to the patient pad

Mounting in solid brickwork, lime sandstone, concrete, according to the national construction standards.

In agreement with the architect or engineering office cavity and light-weight construction walls must be reinforced as follows: Height 600 mm, width according to the distance between the posts. Material: Sheet steel min. 2 mm thick or multiplex plate min. 35 mm thick, screwed in place from post to post.

As an alternative, for double-planked plasterboard walls (2 x 12.5 mm) the external wall arm bracket support order No. M0369 may be used. In that case expansion anchors Hilti HDD-S 8 or equivalent must be used and the wall arm bracket must be screwed in place on the wall arm bracket support by min. 2 x M6 (8.8) screws.

For Order No. WY3101, WY3102/3202, WY3103/3203, WY3104/3204, WY3107/3207

Ceiling mounts

Mounting at the solid ceiling.

Static: Distance between patient pad and bottom line of solid ceiling min. 1350 mm and max. 1800 respectively distance between solid ceiling and suspended ceiling max. 400 mm.

For Order No. WY3117, WY3217

In case of distance between patient pad and bottom line of solid ceiling above 1800 mm a ceiling anchorage ring B0327 is required. For distance between solid ceiling and suspended ceiling above 400 mm a connection flange B0329 is required.

Height-adjustable: Distance between solid ceiling and suspended ceiling max. 400 mm.

For Order No. WY3108, WY3208

In case of distance between solid ceiling and suspended ceiling above 400 mm a connection flange B0329 is required; above 800 mm a ceiling anchorage ring B0328-0 is required in addition.

Technical Data

Radiant warmer

	CERAMOTHERM® WY3100	CERAMOTHERM® WY3200
Depth	450 mm	710 mm
Width	220 mm	220 mm
Height	100 mm	100 mm
Weight without mount	4.8 kg	6.8 kg

Distance radiant warmer to the patient pad

	CERAMOTHERM® WY3100	CERAMOTHERM® WY3200
Wall and ceiling mounts, fixed height	900 mm	900 mm
Wall and ceiling mounts, height adjustable	650 - 900 mm	650 - 900 mm
Mobile stand, height-adjustable	650 mm	650 mm
Safety distance to the patient pad	650 mm	650 mm
Factory setting to distance 650 - 900 mm possible	Yes	Yes

Performance and operating data

	CERAMOTHERM® WY3100	CERAMOTHERM® WY3200
Operating voltage / power supply	230 V – 50/60 Hz	230 V – 50/60 Hz
Max. power input	690 W / 3 A	900 W / 3,9 A
Heating element(s), ceramic, life >10 years	1 x 600 W	2 x 400 W
Wave length spectrum	1.5 to 6.8 µm	1.5 to 6.8 µm
Illumination	on both sides	on both sides
Dimmable	in 5 steps	in 5 steps
Capacity	2 x 5.5 W	2 x 18 W
Illumination intensity (max.)	2 x 850 lm	2 x 1350 lm
Colour temperature	4000 K	4000 K
Intensity selection display	Yes	Yes

Actual intensity and residual heat display	Yes	Yes
Alarm / automatic intensity reduction after 15 minutes > 10 mW/cm²	Yes	Yes
can be switched-off temporarily	Yes	Yes
Power failure alarm	Yes	Yes

Distance detection

	CERAMOTHERM® WY3100	CERAMOTHERM® WY3200
Distance detection for height-adjustable wall or ceiling mounts	Yes	Yes
Intensity compensation for distance detection	Yes	Yes
Automatic switch-off below the safety distance	Yes	Yes

Irradiated area at distance to patient pad

	CERAMOTHERM® WY3100	CERAMOTHERM® WY3200
650 mm	390 x 520 mm	390 x 680 mm
700 mm	430 x 540 mm	430 x 700 mm
750 mm	460 x 560 mm	460 x 720 mm
800 mm	480 x 580 mm	480 x 730 mm
850 mm	500 x 600 mm	500 x 750 mm
900 mm	520 x 620 mm	520 x 770 mm

Intensity selection at distance to patient pad

	CERAMOTHERM® WY3100	CERAMOTHERM® WY3200
650 mm	2 to 30 mW/cm²	2 to 30 mW/cm²
700 mm	2 to 26 mW/cm²	2 to 30 mW/cm²
750 mm	2 to 22 mW/cm²	2 to 26 mW/cm²
800 mm	2 to 20 mW/cm²	2 to 22 mW/cm²
850 mm	2 to 18 mW/cm²	2 to 20 mW/cm²
900 mm	2 to 16 mW/cm²	2 to 18 mW/cm²

Colours

	CERAMOTHERM® WY3100	CERAMOTHERM® WY3200
Radiant warmer	White RAL 9010	White RAL 9010
Handles of radiant warmer	RAL 3003 (other colours available at choice)	RAL 3003 (other colours available at choice)
Wall and ceiling mounts	White RAL 9010	White RAL 9010
Pedestal of mobile stand	White RAL 9002	White RAL 9002

Technical data mobile stand

	Mobile stand (Order No. WY3112, WY3212)
Depth	560 mm
Width	560 mm
Height	1535 to 1935 mm
Necessary under-pin height	> 95 mm
Castors / kickstop	2 x Ø 75 mm, 2 x Ø 65 mm / 2 x
Adjustable to patient level	600 to 1000 mm
Distance mark	Yes

Classification and standards

	CERAMOTHERM® WY3100 + WY3200
Protection class	1
MDD-class	IIa
Standards	EN 60601-1:2006+Cor:2010+A1:2013 EN 60601-1-2:2015 EN 60601-2-21:2009+A11:2011+A1:2016* *Particular requirements for basic safety of infant radiant warmers

Warming wherever it is required

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