

OPERATION, INSTALLATION AND MAINTENANCE MANUAL

Bliss BR Range electric radiant outdoor heaters



Enjoy the outdoors all year round

PRODUCT OVERVIEW

Rev A June 2015

Why choose Bliss® electric radiant heaters for your outdoor or hard-to-heat indoor area?

As there is typically constant air movement in an outdoor or open indoor area, many conventional patio heaters rely on convection heating which works by heating the surrounding air. This can be quite impractical for these areas, as this heated air can easily blow away with natural air movement. Radiant style heaters transfer heat directly to objects through infra-red waves.

Whilst convection heaters heat the air in between objects, radiant heaters heat the surface of the objects themselves. Bliss® electric radiant heaters are more effective within an outdoor or uninsulated indoor area because they provide targeted warmth directly to the people and objects in their path.

Slimline, stylish heating for undercover outdoor and indoor open areas

Using the radiant heating principle, Bliss® heaters can provide effective and energy efficient comfort heating for undercover outdoor and indoor open areas. Bliss® heaters successfully enable commercial venues such as restaurants, pubs and clubs to utilise their outdoor dining areas day and night, through all seasons. Within your workplace or business, Bliss® can provide comfort heating for designated outdoor smoking and leisure areas, as well as for workstation spot heating in factories, warehouses and showrooms. Within your home, Bliss® can provide comfort heating for undercover alfresco dining and BBQ area, patios, verandas, courtyards and balconies.

The stylish, slimline black face of the does not emit light or glow when in use, blending elegantly into your décor. Ceiling, wall and umbrella mounting options ensure that your valuable floor and table space is not wasted.

General Selection Guide

Please note the ideal mounting height for the Bliss electric heater range is 2.3m to 2.5m above ground level.

APPLICATION	BR Range
Indoor insulated areas, classrooms, offices, bathrooms, wet areas, drying rooms	√
Outdoor undercover protected area, such as an alfresco, patio, pergola, café, veranda, balcony etc. ceiling height 2.7m or less	√
Outdoor under cover, café, veranda, patio, balcony ceiling height 2.7m or more * (note for ceilings over 2.7m, use the extension rod accessory or chains/wires to lower the heaters to the 2.3m to 2.5m range)	X
Highly exposed outdoor area	X
Indoor open area, warehouse, factory, production areas, sports facilities	√
Indoor spot heating, above tables, assembly areas	√

STYLISH, HIGH-QUALITY HEATING SOLUTION

Designed and engineered in Australia by an award-winning manufacturer, Bliss is a range of stylish, premium-quality electric radiant heaters, ideal for both indoor and protected outdoor heating applications. Its slimline design will perfectly complement your alfresco dining area, patio, verandah, garage or shed; or enhance commercial environments such as your café, restaurant, showroom, factory or warehouse.

- Elegant, unobtrusive slimline design
- Cost-effective electric heating
- Significantly cheaper to run than bottled gas heaters (refer to brochure for calculations)
- Radiant heat provides gentle, comfortable warmth
- Corrosion-resistant for harsh outdoor environments
- Easy DIY installation for two models, and multiple mounting options
- 2 year residential warranty (1 year commercial)

The standard Bliss[®] heater is controlled by a simple on/off operation, either when plugged directly into a power point, (model BR1100 & BR1360 only) or hard-wired via a wall mounted on/off switch. The unit takes approximately 10 minutes to heat up to maximum temperature and approximately 30 minutes to cool down, depending upon the ambient temperature. Please don't forget to turn it off.

We recommend installing your Bliss[®] heater with a timer controller to ensure the unit is turned off after a preset time. Thermofilm recommends Model TT-MTM controller, which includes a timer function and temperature control.



SPECIFICATIONS - AUSTRALIA

MODEL	POWER (WATTS)	CURRENT (AMPS)	DIMENSIONS (mm)	WEIGHT (Kg)	LEAD LENGTH (mm)	PLUG
BR1100	1800	7.5	1100 x 165 x 48	5.5	1000	YES
BR1360	2400	10	1360 x 165 x 48	6	1000	YES
BR1775	3200	13.3	1775 x 165 x 48	8	1000	NO

MODEL

HEATER TYPE High intensity electric radiant overhead heater with black, high surface area, ceramic coated alloy front panel.

OUTPUT Refer to model code chart above

POWER 230-240 Volts Nominal at 50—60 Hertz, Single Phase

CONNECTION 3 Core Cable 2.5mm²

APPROVALS AUSTRALIA/NZ

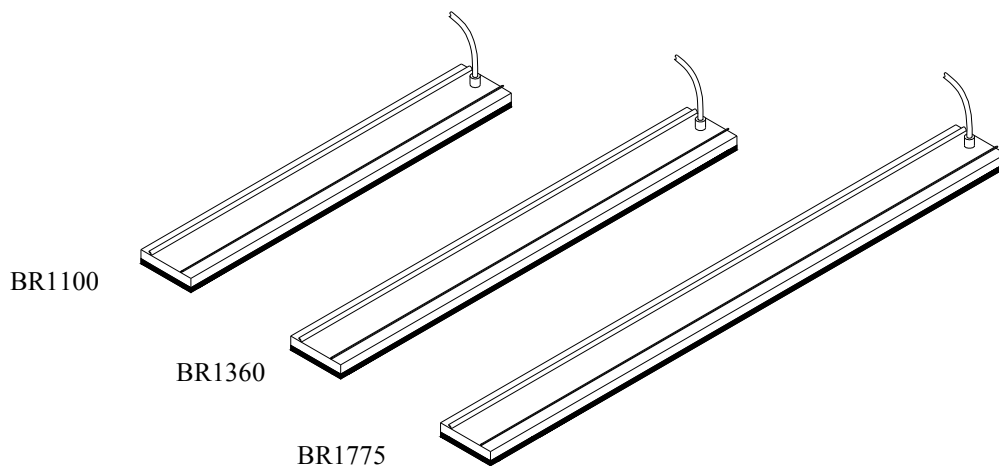
MOUNTING HEIGHT

MINIMUM	2.1 m
RECOMMENDED	2.3 m to 2.5 m
MAXIMUM	2.7 m (For higher ceilings, units can be lowered using chains/wires or optional bracket kits)

MOUNTING OPTIONS Suitable for ceiling, wall, beam, fixed umbrella and recess mounting. Also available for extension mount using rigid fixing poles and chains/wires.

PROTECTION RATING IP55 Protection from water ingress from all directions

COUNTRY OF DESIGN & ASSEMBLY Australia

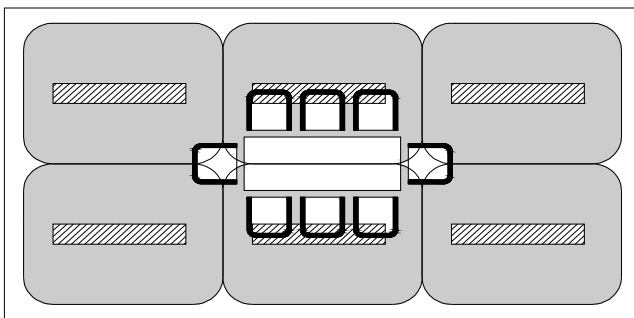


RADIANT HEATING PRINCIPLE

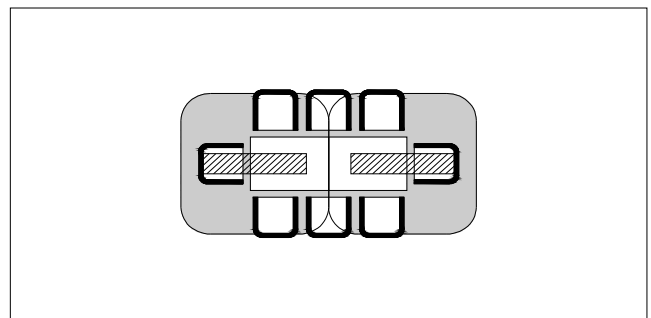
In most outdoor or difficult-to-heat indoor applications, there are 2 options when determining the size and quantity of the heaters required. Option 1 is to comfort heat the entire area based on the total dimensions of the space, regardless of whether the whole area is being fully occupied. Option 2 is to spot heat the high use areas, such as over outdoor tables, BBQ's, lounges, assembly lines or indoor workstations.

Often it is more practical and efficient to spot heat these areas. Spot heating will help to reduce the initial capital cost, as well as the ongoing operating costs. Spot heating will allow the area to be "zoned", meaning heating only the areas that are being used, such as tables in a restaurant or an outdoor alfresco area.

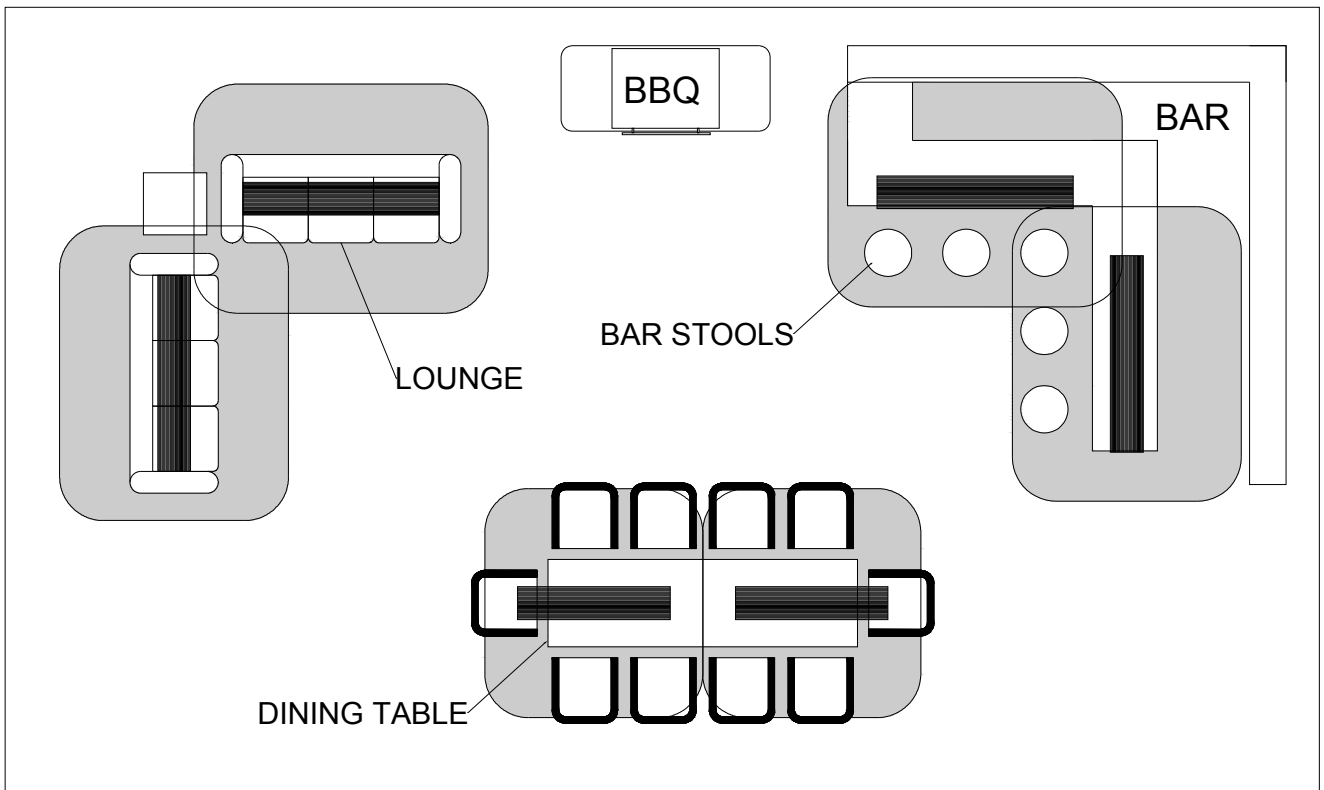
The top diagram shows a comparison between spot heating over a table, or heating an entire area. The bottom diagram shows the flexibility of using Bliss® heaters to provide a comfortable environment, even when the layout of the area is unusual.



6 x BR1360



2 x BR1360



RADIANT HEATING FOOTPRINT

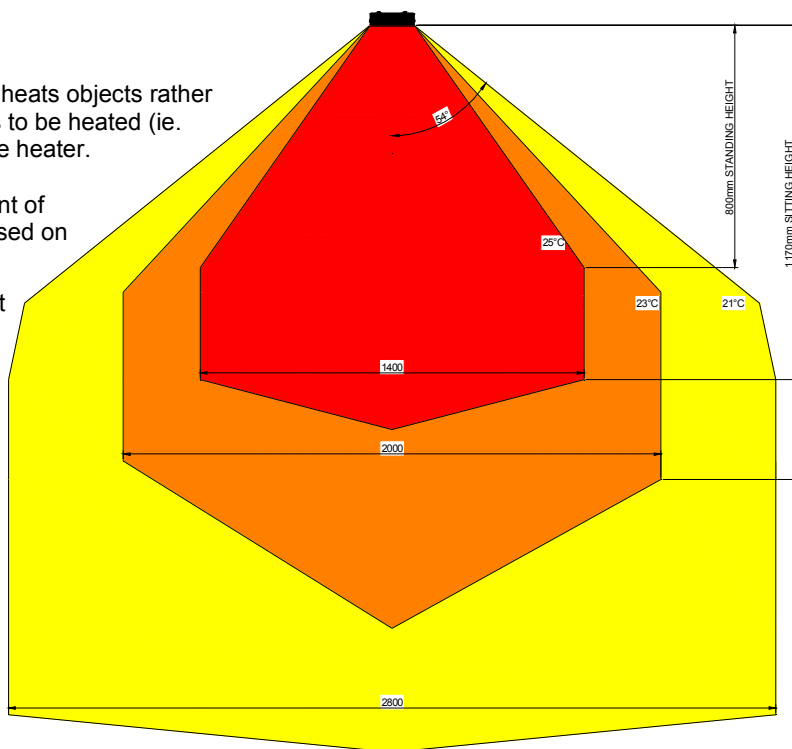
Bliss® electric heaters produce radiant heat which heats objects rather than the air. Therefore, it is imperative that objects to be heated (ie. people), are within the direct radiant footprint of the heater.

The diagram on the right shows the radiant footprint of Bliss® BR Range, and is an approximate guide based on a fully enclosed, outdoor environment.

This diagram shows that the maximum heat output is found directly under the heater, and the temperature decreases as you move away from the heater.

It highlights the importance of maintaining recommended mounting heights, and if possible, positioning the heater directly above the area to be heated.

Also, the temperature (ie. surface temperature) is the same for all 3 models, regardless of the wattage. However, as the size increases and the length of the unit increases, the radiant footprint will be larger.

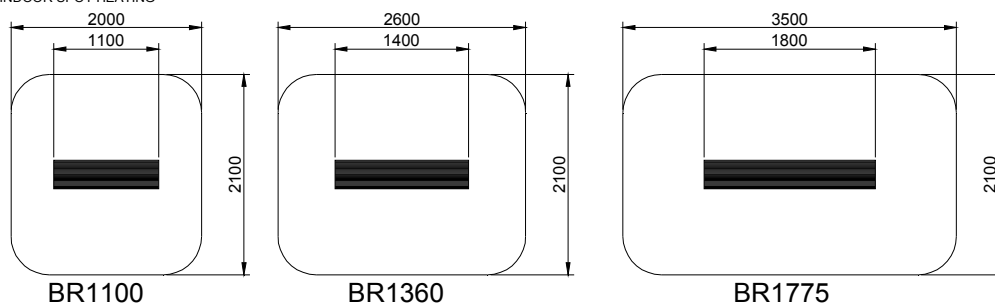


The below diagrams show the approximate heating area for each model, based on both an indoor and outdoor enclosed environment, with direct overhead mounting.

Radiant footprint is reduced in angled, wall mounted applications.

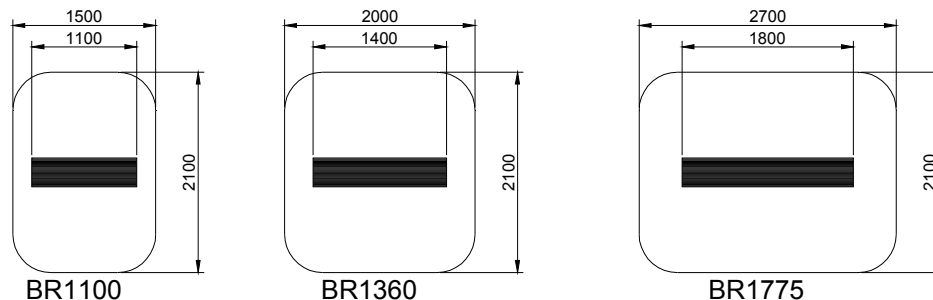
HEATED AREA

INDOOR SPOT HEATING



HEATED AREA

OUTDOOR ENCLOSED AREA



SELECTION GUIDE

General recommendations for the **Bliss® BR Range**:

- Ideal mounting height: 2.3m to 2.5m. Maximum is 2.7m in a well protected outdoor environment.
- Generally for mounting heights greater than 2.5m above ground level, we would strongly recommend that the heaters are lowered to the ideal range of 2.3m-2.5m. This can be done by attaching chains or wires to the standard brackets, or the use of the optional extension rod kits.
- Ideal mounting location: ceiling mounted, directly above area to be heated (eg. above a table)

The below table outlines the coverage of each **Bliss®** model (in m²), based on 2 different scenarios, with direct overhead mounting. For example, for an outdoor area that is protected from prevailing winds by walls, café blinds etc, Model BR1360 will cover 4.8m² and Model BR1775 will cover approx. 6.4m².

For angled wall mounting applications, the coverage can be reduced by up to 40%. The maximum heat projection from the wall is 2.0-2.5m.

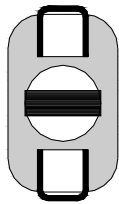
MODEL	INDOOR PROTECTED (m2)	OUTDOOR PROTECTED (m2)
BR1100	4.5	3.6
BR1360	6	4.8
BR1775	8	6.4



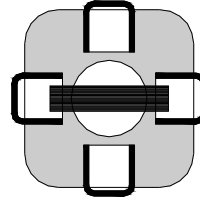
TABLE LAYOUT DIAGRAMS

For the majority of outdoor applications, the most effective method is to spot heat a table or isolated area. The below diagram provides an easy selection guide for the approximate model and quantity of heaters required to heat common residential table settings.

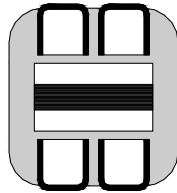
Selections are based on the Bliss® BR Range being mounted at 2.4m from the floor in a undercover fully protected outdoor area.



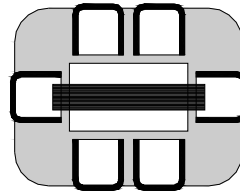
BR1100



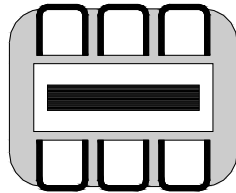
BR1360



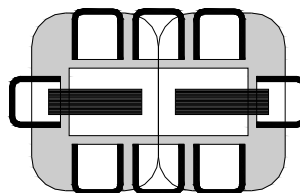
BR1360



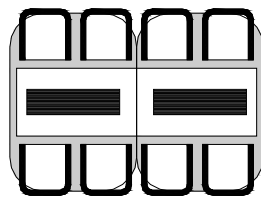
BR1775



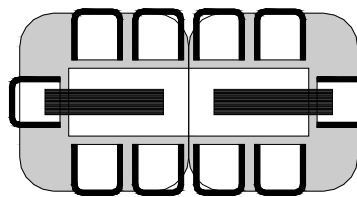
BR1775



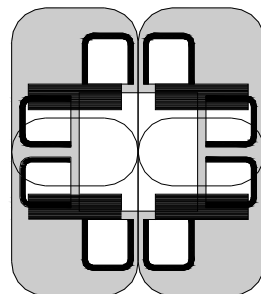
2 x BR1100



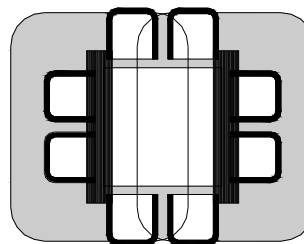
2 x BR1100



2 x BR1360



4 x BR1100



2 x BR1775

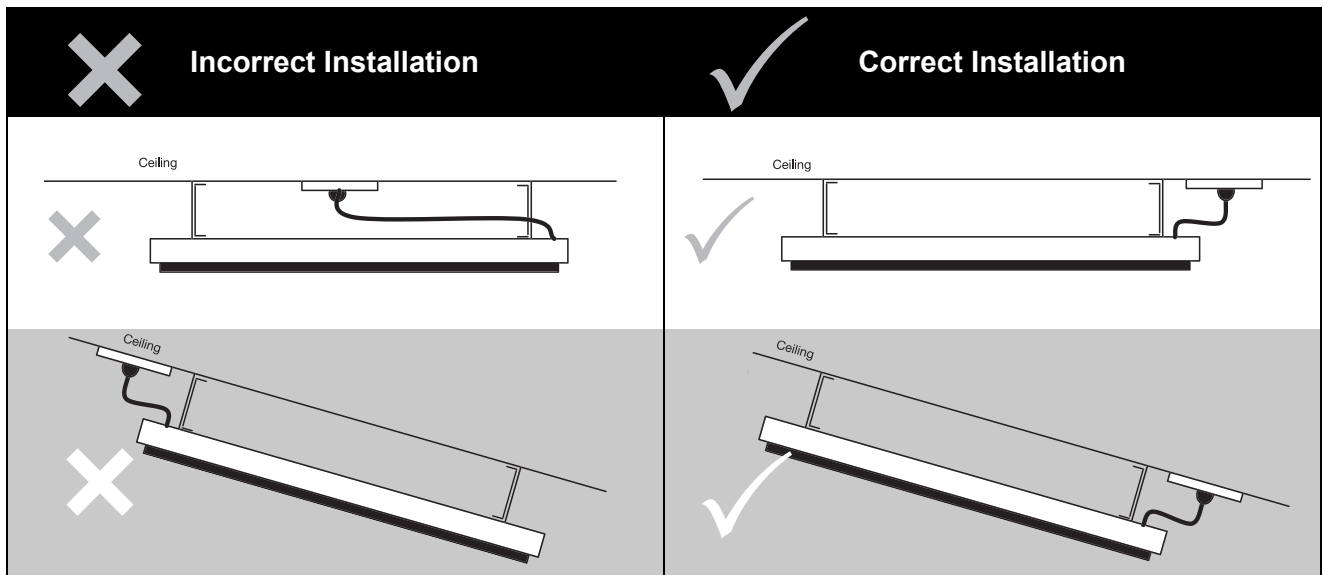
INSTALLATION REQUIREMENTS

The ideal mounting position for the Bliss[®] heaters is on the ceiling, directly above the area to be heated. If this is not possible, heaters can be mounted on a wall and angled downwards. In this situation, ensure the mounting height is in the range of 2.1m to 2.5m and furthest seating location is within 2.0m-2.5m of the wall.

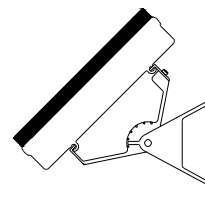
For mounting heights more than 2.7m, we recommend the use of the optional accessories to reduce the height of the heater to 2.3m—2.5 m. This will increase the effectiveness of your Bliss[®] heater. Refer to the Mounting Accessory section for more information.

Electrical connections/GPO's should not be located at the back of the heater. They should be located outside the physical footprint of the units to minimize heat build-up behind the units.

If the heater is to be mounted on an incline (eg. Vaulted ceiling), ensure the electrical connection is located at the lowest point of the heater.



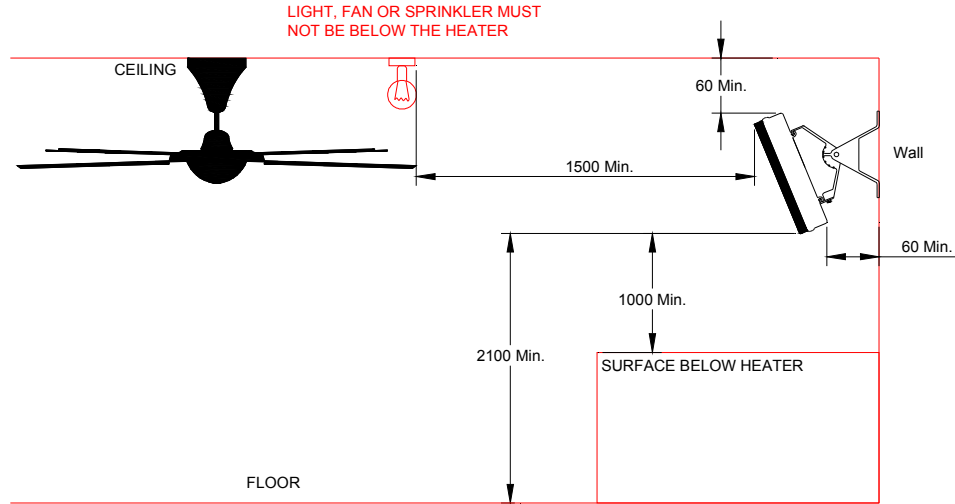
CEILING



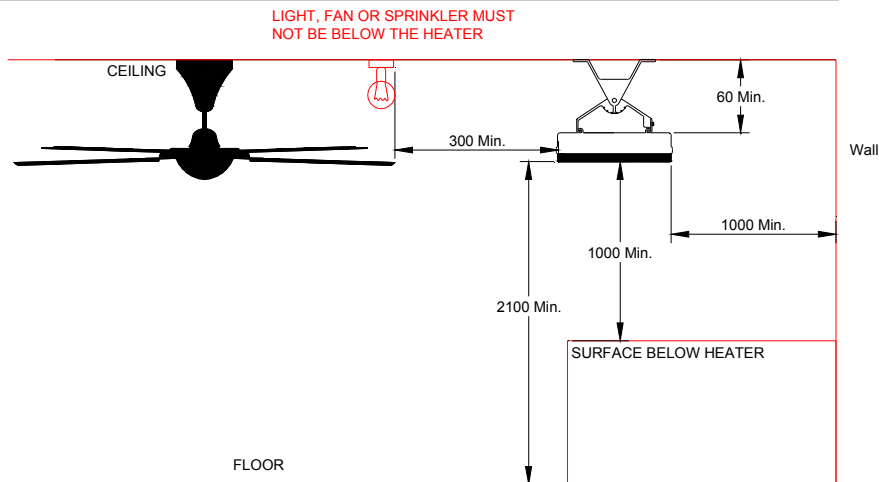
The heating surface must never be directed toward the ceiling

CLEARANCES

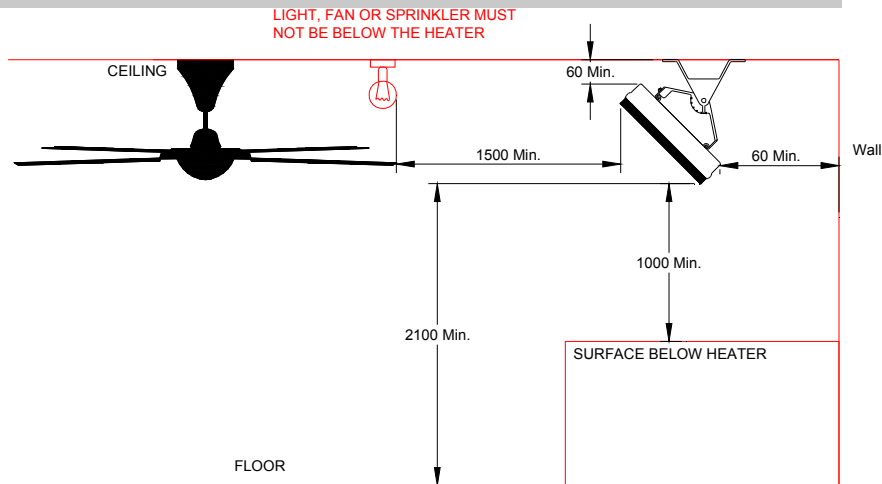
the below diagrams confirm the minimum recommended clearances.



Angled Wall Installation



Ceiling Installation



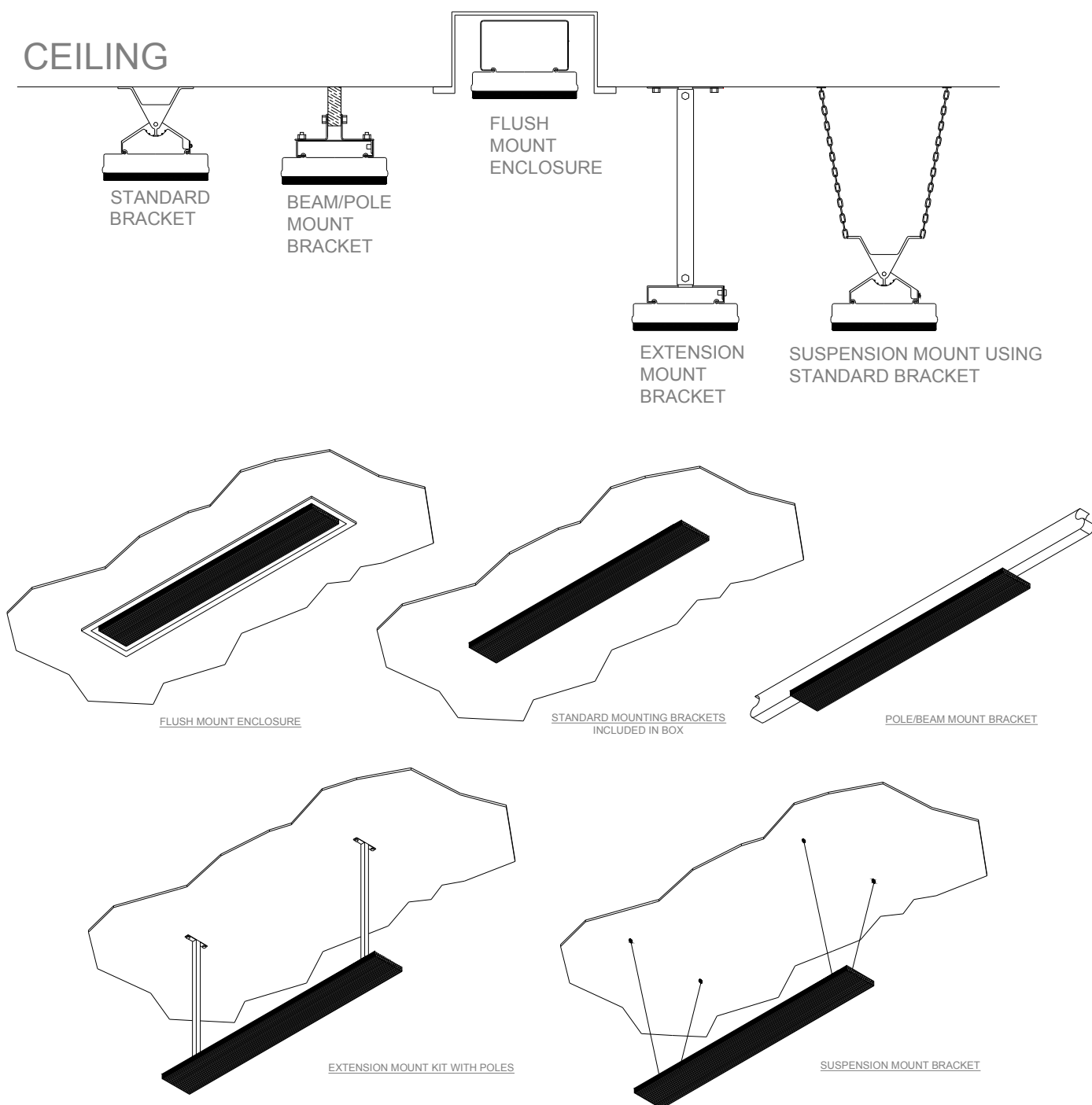
Angled Ceiling Installation

MOUNTING OPTIONS

The installation of Bliss® heaters is simple and easy with the standard mounting brackets supplied. For other more challenging locations, there are a range of mounting options available - refer to below diagrams.

Bliss heaters can be mounted directly to the ceiling, angled downwards on a wall, fitted flush with the ceiling; suspended on chains or poles or attached to beams & rafters. Refer to the following pages for more detailed information on each mounting option.

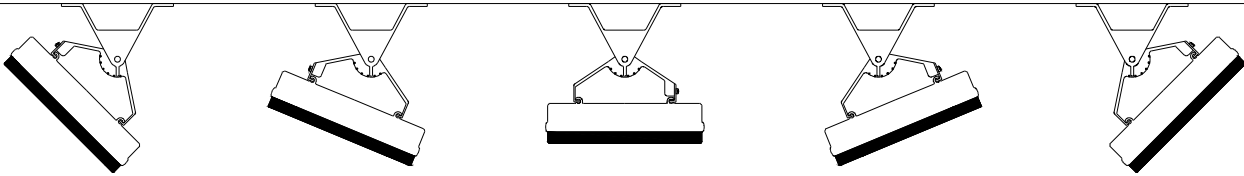
CEILING



STANDARD MOUNTING BRACKETS

The Bliss® BR Range comes with a pair of standard mounting brackets. These adjustable brackets allow direct ceiling or wall mount, and come with preset angle options of parallel, 22.5° and 45°.

CEILING



45°

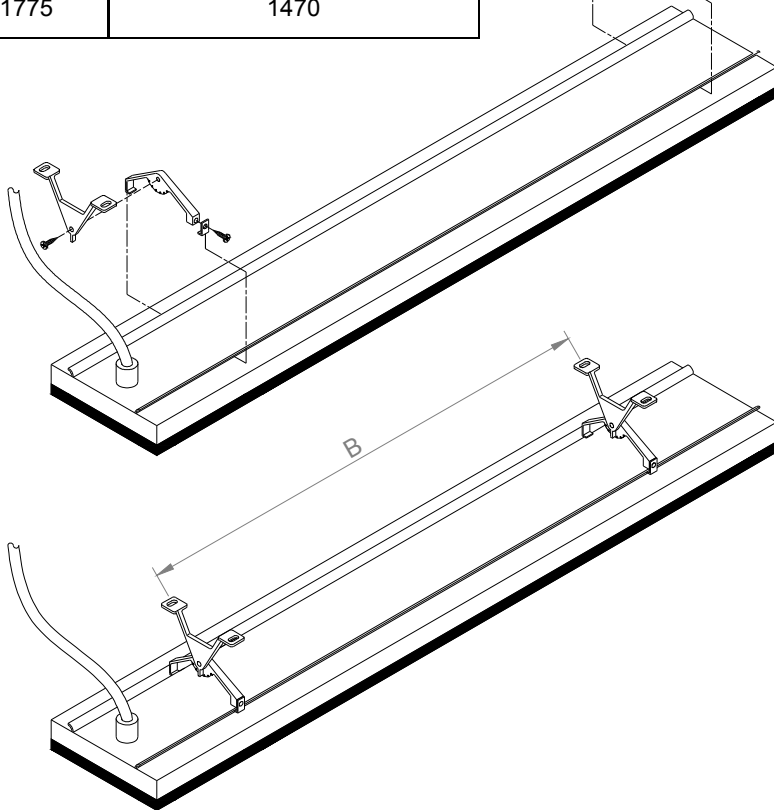
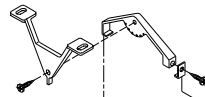
22.5°

PARALLEL

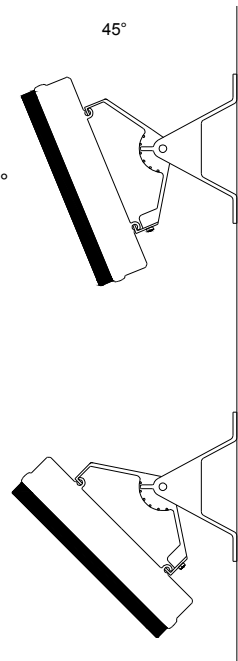
22.5°

45°

MODEL	"B" MINIMUM DISTANCE (mm)
BR1100	710
BR1360	1000
BR1775	1470

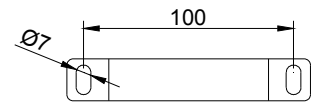


22.5°

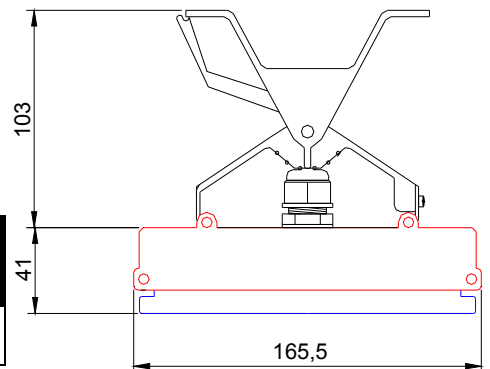


WALL

45°



PART No	PACKAGED DIMENSIONS (mm)	WEIGHT (kg)	MATERIALS
ZBRAK-103B	125 x 150 x 40	0.2	ALLOY

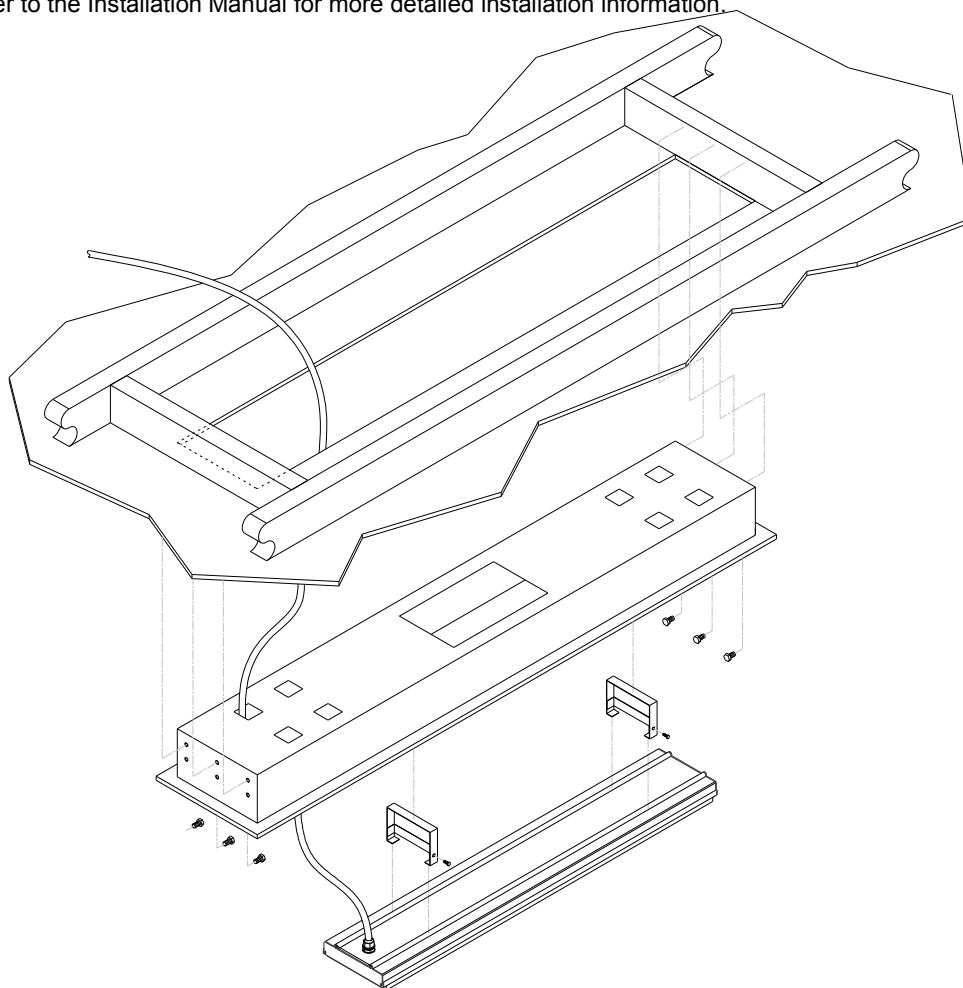


FLUSH MOUNT ENCLOSURE

The Flush Mount Enclosure is an ideal way to neatly install the Bliss® heater into a ceiling. They are available for all Bliss® models, and are supplied as a one-piece unit for mounting of heaters. Flush mounting can be used with plaster or wood lined ceiling materials.

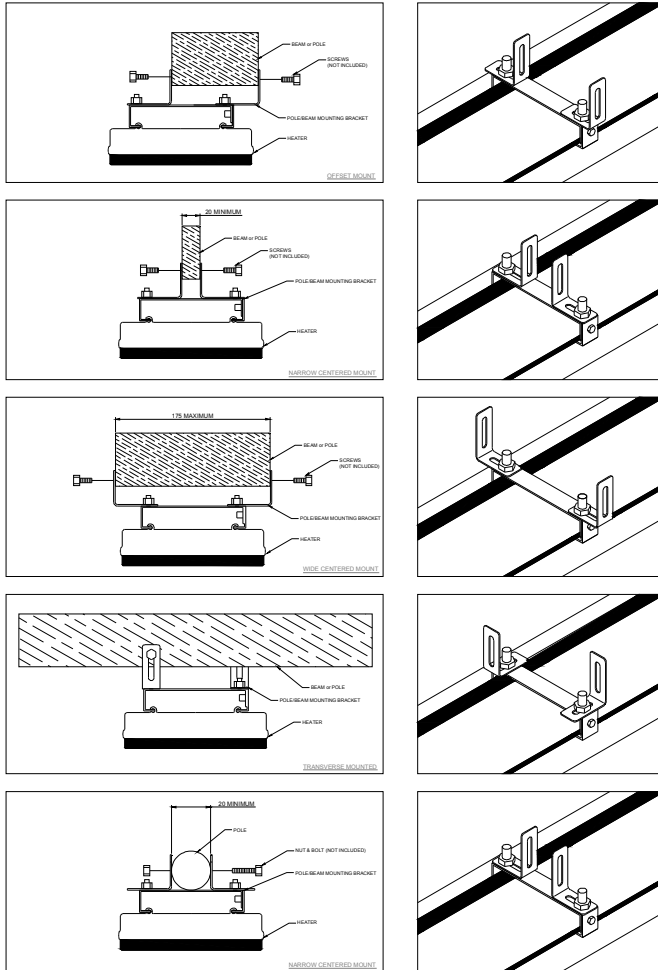
An ideal mounting height is 2.3m-2.5m, with a maximum ceiling height of 2.7m in an outdoor well protected environment. Maximum mounting heights should be strictly followed, otherwise the performance of the units will be reduced.

The fascia of the enclosure is manufactured from 316 Stainless Steel and the rear casing is black zinc coated steel. Please refer to the Installation Manual for more detailed installation information.

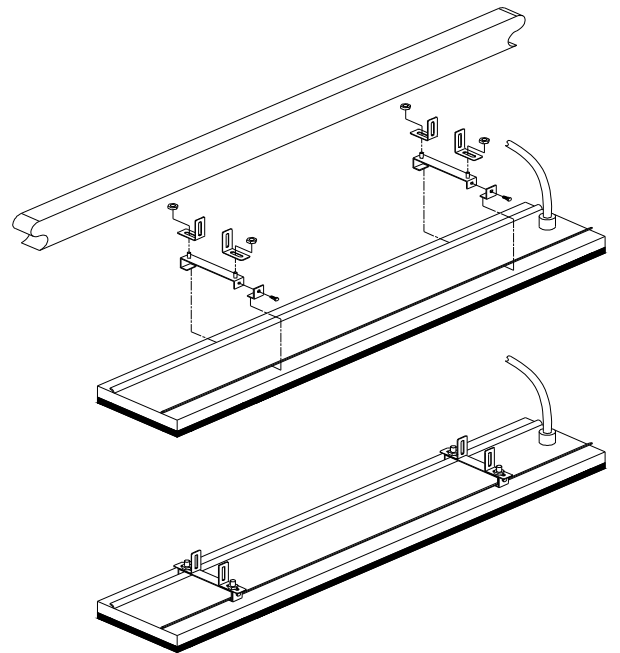
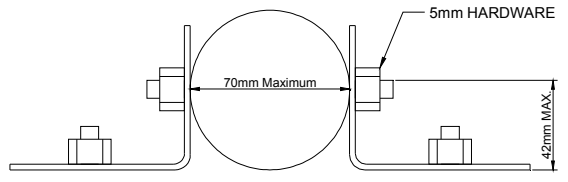


SUITABLE FOR MODELS	PART No	HOLE CUTOUT DIMENSIONS (mm)	OVERALL DIMENSIONS (mm)	WEIGHT (kg)
BR1100	THHAC-010	1160 x 230	1210 x 280 x 125	6
BR1360	THHAC-011	1420 x 230	1470 x 280 x 125	8
BR1775	THHAC-012	1830 x 230	1880 x 280 x 125	9

POLE/BEAM MOUNTING KIT



The optional Pole/Beam mounting bracket kit can be used to mount Bliss® heaters onto wooden beams, rafters, poles, umbrellas struts etc.



Screws for connection to the beam or pole are not included.

Minimum pole diameter 20mm.

Maximum pole diameter 70mm.

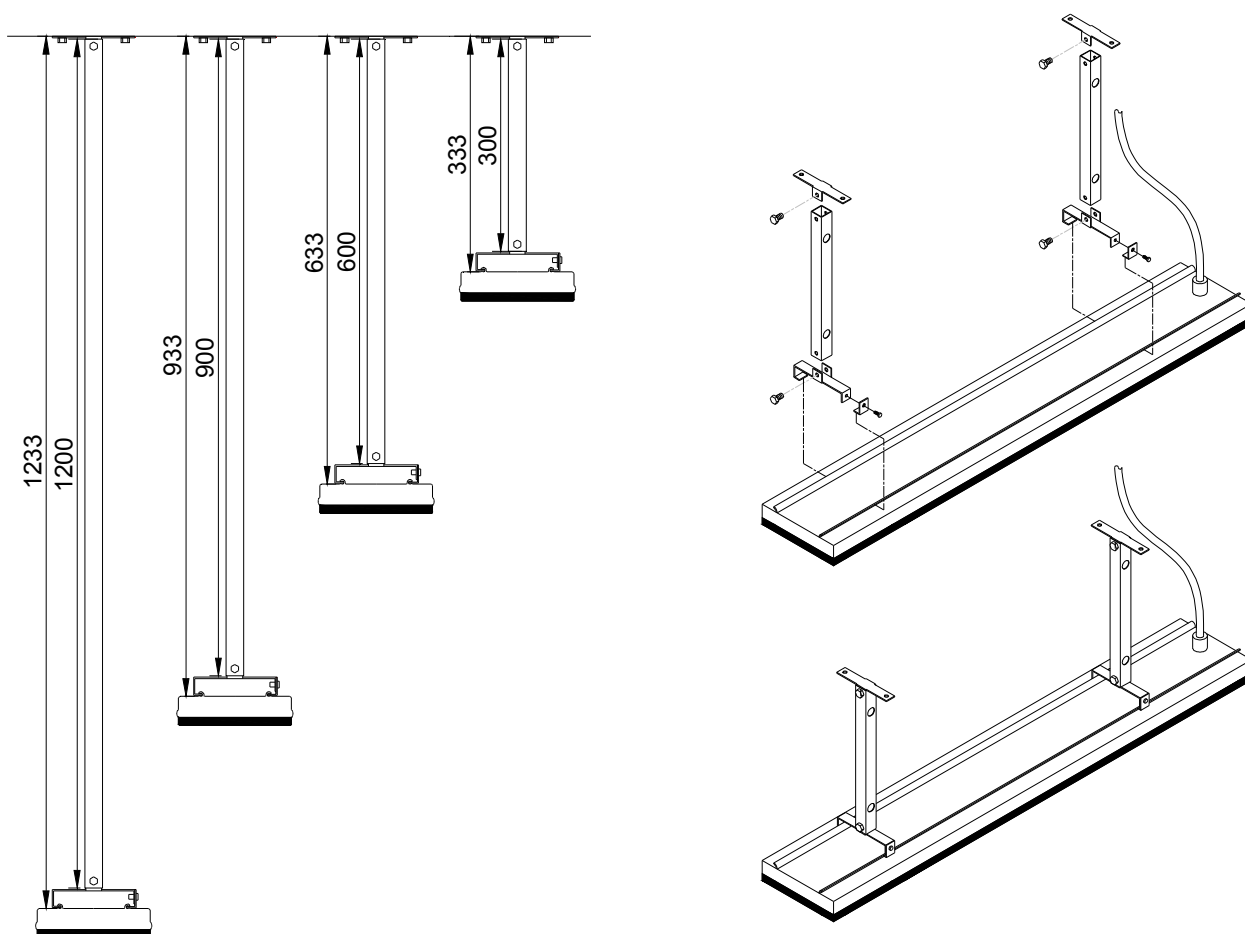
This mounting option is suitable for umbrella struts. The beam/pole can be placed directly on top of the mounting bracket. No clearance is required from the top bracket to the bottom of beam/pole.

PART No	PACKAGED DIMENSIONS (mm)	WEIGHT (kg)	MATERIALS
THHAC-001	150 x 150 x 50	0.5	316 SS

EXTENSION MOUNT BRACKET

The Extension Mount bracket allows Bliss® heaters to be lowered from high ceilings, using rigid connections. The brackets are for use with 25mm x 25mm x 1mm tube (SHS), and can be supplied as brackets only for customising the length of the drop on site; or supplied as a complete kit with brackets, pre-cut poles and connections. The standard length options as part of the kit are 300mm, 600mm, 900mm and 1200mm.

The kits include all brackets, poles and screws necessary for connection to the heaters, however it does not include screws for attachment to the ceiling.



PART No	PACKAGED DIMENSIONS (mm)	WEIGHT (kg)	MATERIALS	NOTES
THHAC-004	150 x 150 x 50	1	316 SS	Brackets only (for use with 25x25x1mm tube)
THHAC-005	300 x 150 x 50	2	316 SS	Kit includes 2x300mm extension pole, screws and brackets
THHAC-006	600 x 150 x 50	2	316 SS	Kit includes 2x600mm extension pole, screws and brackets
THHAC-007	900 x 150 x 50	2.5	316 SS	Kit includes 2x900mm extension pole, screws and brackets
THHAC-008	1200 x 150 x 50	3	316 SS	Kit includes 2x1200mm extension pole, screws and brackets

THERMOFILM[®] WALL CONTROLLER

The Bliss[®] heater range can be controlled via a simple on/off wall mounted switch, however it is recommended to use the optional controller with variable heat settings and a timer, to give the best performance and lowest running cost.

TT-MTM wall controller

This controller is a custom designed and manufactured controller. It has been designed for ease of use and low running costs of your heater. It provides both temperature control (allowing the user to turn the heat output up or down depending on the ambient temperature and conditions) and a timer for automatic heater operation.

The count down timer function has four settings. It can be 1 hour, 2 hours or 4 hours or constantly on. This is ideal when you prefer to operate the heating system for only short times and/or require automatic turn-off. For example a BBQ, alfresco areas, restaurant dining, assembly line production etc. It is simple to use, just press the timer button and it will switch ON, press again and it will be 1 hour. After one hour the heater will switch off.

Depending on the ambient temperature, there may be a requirement to control the heat output of the heater (standard ON position is at full power and temperature). The controller has 3 settings, they are High, Medium and Low.

The controller allows a combination of the multiple timer (1/2/4 hour) and heat outputs (High/Medium/Low). The default operation is continuous operation at full temperature. LED's will indicate the setting.

Controlling multiple units

It is possible to use one wall controller to control multiple heaters. The wall controller is rated at 14 Amps and 240 volts. For larger current draw, it is recommended that you talk to your electrician who can use a time delay relay/contactor to connect more units.

The controller needs a minimum of 250W load for operation. If connecting multiple units ensure one unit is connected directly to the controller and the others are connected using a contactor or relay.

Thermostat controllers

Thermostat controllers are NOT recommended. The temperature sensor for this type of controller is usually measured by the air temperature. The Bliss[®] is a radiant heater where objects are heated, not the air. In open indoor or outdoor areas, it is very difficult to contain warm air within the space and therefore accurately measure air temperature. This may result in unnecessary, continuous operation of the unit.

Dimmers

The use of dimmers is NOT recommended.

Please refer to the Product Installation Manual for more detailed product data.



MODEL	MAXIMUM VOLTAGE (Volts)	MAXIMUM CURRENT (Amps)	PACKAGED DIMENSIONS (mm)	WEIGHT (kg)
TT-MTM	240	14	140 x 90 x 60	0.5

SAFETY

Bliss® BR Range heaters have an IP rating of 55. This means it is protected from water ingress from all directions. Heaters can be safely hosed down using a gentle spray.

All heaters have undergone extensive testing both in laboratory conditions and in Thermofilm's manufacturing facility in Melbourne and field trials in Australia and overseas. It has been this testing that gives the purchaser the confidence of a high quality product.

Independent laboratory testing has confirmed Thermofilm's full compliance with Australian and other International Standards. This includes CE, AS/ANZ, UL/CSE.

Bliss heaters come in both plug-in (1800W, 2400W) and hardwired (3200W) versions. In both cases, the fixed wiring (hard-wiring) must be completed by a licensed electrician in accordance with the relevant wiring regulations.

Bliss® heaters are Class 1 equipment and must be earthed.

In operation, this heater is VERY HOT— do not touch any part of the heater while it is turned on. Do not touch any part until 30 minutes after it is turned off.

This appliance is not intended for use by persons (including children) with reduced physical, sensory or intellectual capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure they do not play with the appliance.

Do not allow any cables, furnishings, flammable materials or other items come in contact with any surface of the heater.

If installed in wet areas, the heater switches or controls must be located so that they cannot be touched by persons in the bath or shower.

The heater needs to be installed as per the installation instructions paying special attention to the minimum clearances. The heater needs to be mounted on a rigid bracket or fixing.

The heater must not be mounted immediately below or in front of a socket outlet.

In case of a heater fault or damaged supply lead, the appliance should be returned to the point of purchase for return to Thermofilm for repair.

Maintenance

Heaters are constructed from durable materials, however regular care and maintenance of your heater will help prolong the life.

It is recommended that you gently hose down the heater or with a soft cloth gently wipe the surfaces of the heater with a mild detergent to remove the built up contaminants from the environment. Then rinse all detergent off the heater. All chemicals in the atmosphere including cigarette smoke, pollution etc. will tarnish the surface of the heater. In this case, additional cleaning and maintenance may be required. The cleaning process at least every three months will reduce the amount of build up and keep it looking as best it can. If the heater is in a corrosive environment (eg. salt spray), we recommend that you clean your heater with a light spray of fresh water every week. After cleaning, turn the heater on for 20 minutes to dry any water residue and prevent water staining.

Before cleaning or inspection activity, the heater must be switched off and cooled down completely.

Do not use any abrasive materials or products to clean the heater, this includes solvents, citrus based cleaners or other harsh cleaning products.

When handling the heater, ensure that your hands are clean or that you use clean gloves as grease or dirt can mark the surface of the heater.

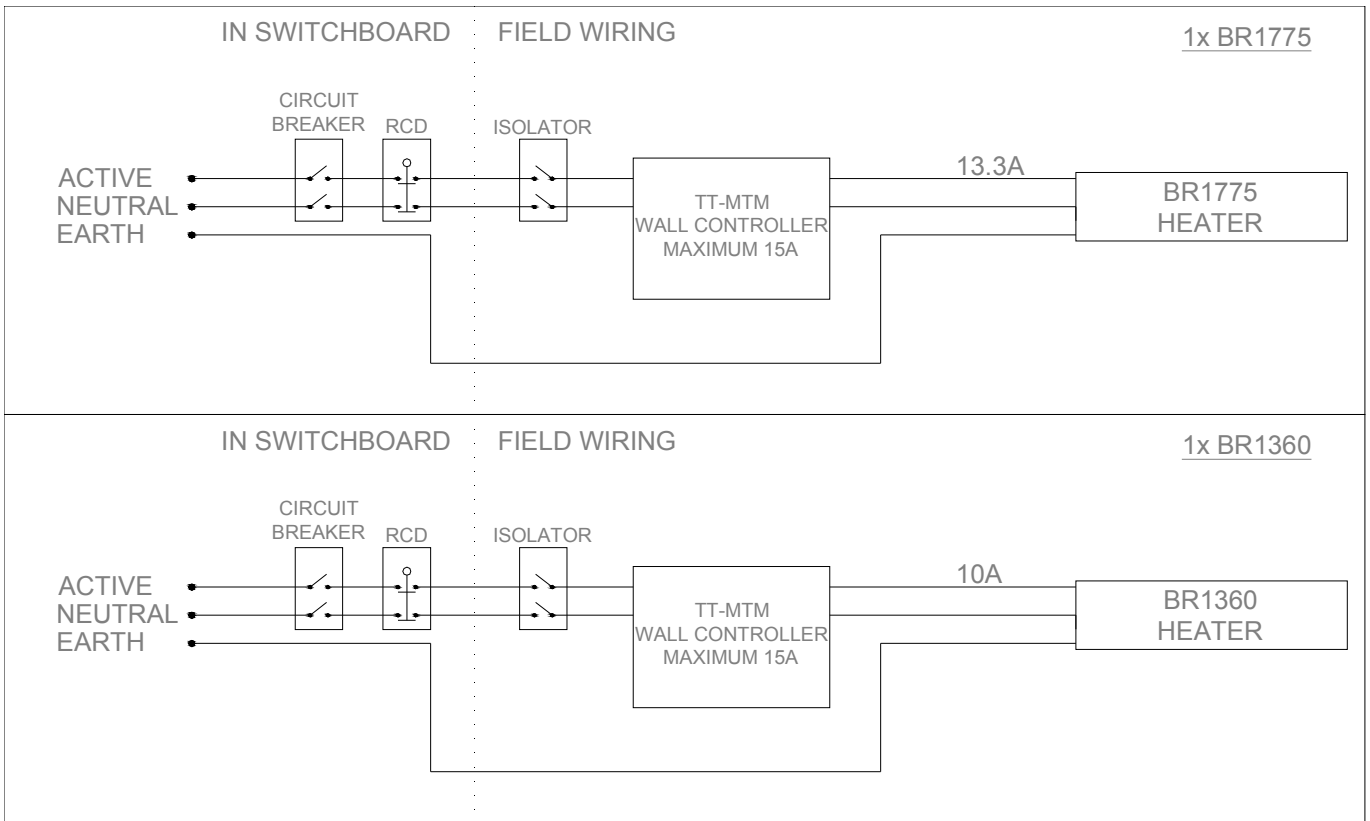
Do not use high pressure water to clean heaters, light water spray only.

HEATER WIRING SCHEMATIC DIAGRAMS

The Bliss® heater is required to be fitted with an "ON/OFF" isolation switch and can also be controlled with the use of a timer type control. It is recommended to use the TT-MTM Wall Controller for maximum performance and control options. Ensure the unit is turned OFF after use.

For direct wiring to the controller, the maximum is one heater.

For multiple units from one wall controller, it is recommended to consult your electrician who will use a relay or contactor.

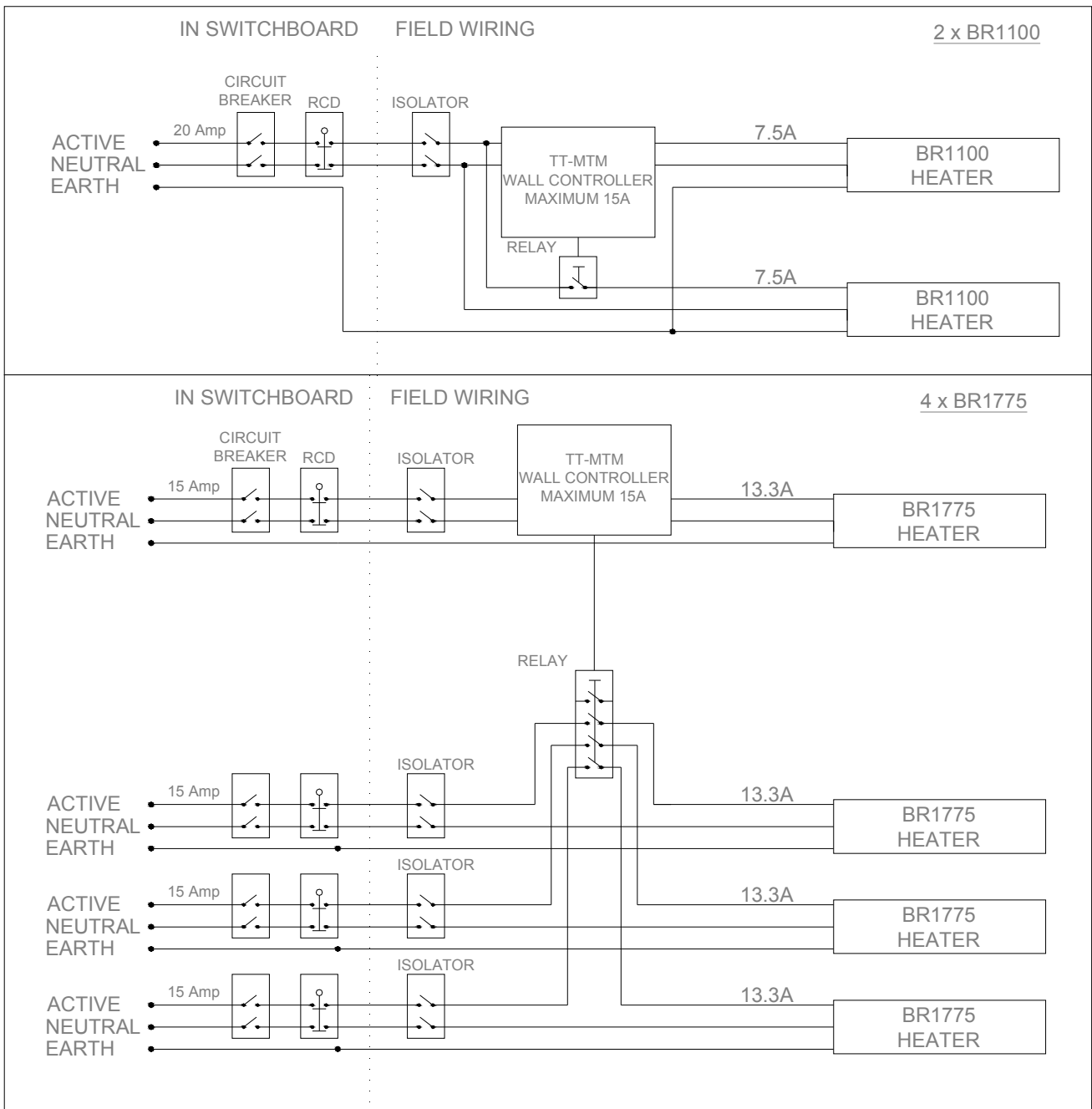


HEATER WIRING SCHEMATIC DIAGRAMS WITH RELAYS

When more heating units need to be connected from the same switch, a relay is needed. It is recommended that you talk to your electrician for more detail.

When using contactors or relays ensure there is a minimum load of 250W on the controller.

Below are some circuits that will help with this situation.



WARRANTY TERMS & CONDITIONS

The below Warranty Terms and Conditions apply for **New Zealand and Australia only**. For international warranty please refer to international warranty terms and conditions.

Thermofilm warrants to the original owner that Bliss[®] products will be free from defects in materials and workmanship for a period of 24 months for residential use from the date of purchase in accordance with the following warranty terms and conditions. For commercial use warranty is 12 months.

Provision of this warranty is subject to:

- The Bliss[®] product must be installed in accordance with the Installation Instructions and relevant electrical standards and codes.
- Bliss[®] product must be maintained and cleaned according to instructions detailed in the Installation Manual.
- There is no warranty expressed or implied with regard to capacity requirements. The selection of the unit or units depends entirely upon the system design and capacities as determined by the purchaser.
- The customer has not repaired, opened or altered the product in any unauthorised manner.
- This warranty excludes damage to the product or components arising from circumstances outside the control of Thermofilm, including, but not limited to, where the product is not used for intended purpose; where the product has been rectified in any way; incorrect installation; incorrect power supply; damaged caused during delivery; misapplication, misuse, abuse, vandalism, lack of maintenance or accident.
- Thermofilm's obligations under this warranty are limited to repair or replacement at Thermofilm's factory of any components of the product which Thermofilm identifies to its satisfaction to be defective.
- Transportation charges involved in return of the product to the Thermofilm factory (or any other location authorised in writing by Thermofilm) is the sole responsibility of the customer.
- All products are inspected and tested before despatch and are at the risk of the purchaser after the shipment from the Thermofilm factory, if not delivered by Thermofilm to destination.
- Discolouration of the surface may occur after a period of time, this does not constitute a warrantable event.
- Twisting and bending of the heaters may occur, this does not constitute a warrantable event.
- No products or components will be supplied in advance of an examination of the faulty product or components by Thermofilm or an authorized representative of Thermofilm.
- Thermofilm does not participate in any site related costs or labour expenses incidental to replacement of parts, repairing, removing, installing, servicing, transportation or handling of parts to complete products, and assumes no liability on parts repaired or replaced without written authorisation. Thermofilm shall not be liable for any default or delay in performance of its warranty obligations caused by any circumstances beyond its control, including, but not limited to, judicial or government restrictions, strikes, fires, floods, abnormal weather conditions, delayed supply of components.

Should products be determined as damaged on arrival, immediately notify the transport company of the condition and have them noted on the freight documents. If damage is discovered after unpacking, demand immediate inspection by the transportation company and insist that a record of the damage is made on the freight documentation.

The customer warrants using the product in accordance with:

- Any instructions provided to it by Thermofilm from time to time.
- All government and local regulations, including but not limited to all relevant electrical, environmental laws and regulations governing the installation, storage, use, handling and maintenance of the goods.
- All necessary and appropriate precautions and safety measures relating to the installation, storage, use, handling and maintenance of goods.

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

All warranty requests for repairs or replacements must be accompanied by a complete "Warranty Claim Form" available from Thermofilm, together with proof of purchase (and where possible, photos of the installation) and the heater returned to the place of purchase.

In the event of a warranty claim, the goods need to be returned to the distributor/retailer for repair/replacement. Contact
Thermofilm Australia Pty Ltd
27 Rosalie Street, Springvale, Victoria 3171, Australia
Telephone: (03) 9562 3455
Email: sales@thermofilm.com.au