

HeatRay

Technical product specifications

Non-Glowing Radiant Heating Panels

Heated Alfresco Systems

Weather Protection Accessories



USA & CANADA

REF: 180610

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Electric Radiant Heating

With over 25 years experience in Radiant Heating Technology, HeatRay International developed the ERH system to compliment their state of the art range of Industrial and Commercial radiant heating equipment. The ERH system is specifically designed for low ceiling and confined space applications, targeting the hospitality market and focusing on both indoor and outdoor structures. In addition, a range of HeatRay umbrellas was developed to provide heating and lighting together with weather protection.

The ERH range was developed in response to a need for a reliable outdoor heating system, together with overwhelming interest in quality and aesthetically appealing permanent heated structures to replace the market umbrella and the cumbersome gas patio heater. The ERH system was developed with a commercial context in mind, for which the patio heater is neither suitable nor intended.

Reasons to use the ERH system over gas/patio heaters:

1. Ventilation

In an area where the ceiling height is low, or the space is confined, ventilation and residual heat above the appliance can be an issue. The ERH system does not produce any toxic by-products or damaging high temperature combustibles, which can be detrimental to the structure above.

2. The quality of heat

The quality of heat that radiant heaters produce, relates to the wave length of energy: The radiant waveband ranges from 1-8 micron.

- Gas fired infra-red radiant heaters operate at a different wave length range to that of the ERH system. Gas heaters operate near the 1 micron wavelength which is visible as a red glow. Further, this range of wavelength creates a high intensity heat that does not distribute evenly. This causes spot heating, where some areas become "too hot" and others remain "too cold".

- ERH on the other hand, falls into the invisible spectrum of 4-5 microns, which is fully compatible with the heat absorption of the human body and therefore ultimate comfort is achieved.

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3 . S a f e t y

Safety and maintenance issues associated with gas burners are completely eliminated with the ERH system. ERH does not rely on an open flame, nor does it require heavy gas bottles to be changed.

4 . A e s t h e t i c s

The aesthetic appeal of the ERH system cannot be matched by any gas heater.

5 . C o s t

As a rule, the running cost of the ERH system is approximately half of gas fired infra-red heaters. Patio type gas heaters can be up to four times the running cost, due to their inefficiency and lack of area coverage.

ERH

Electric Radiant Heating

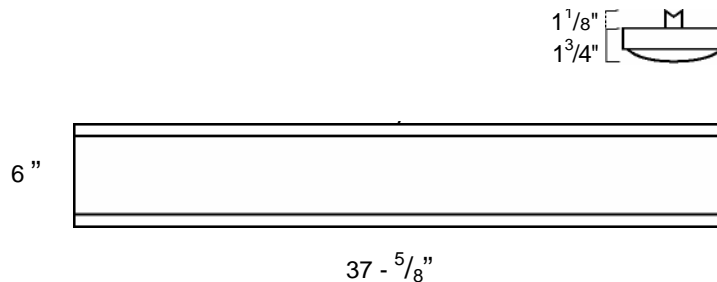


Model ERH 1200



UL LISTED FOR USA & CANADA - ERH 5CA9

HeatRay Electric Radiant Heating panels (ERH 1200) have been designed to provide optimal performance and aesthetic consistency. Hence, the panels are available in one size, with a curved black face for maximum heat dispersion.



IP rating

The ERH panels are IPX5 rated allowing for cleaning and unforeseen exposure to rain, as well as dust protection of critical components (UL tested to comply with UL2021 Rain Test).

Heat Settings

There are two heat settings, high and low, to provide accurate heating options for comfort and energy savings.

The high setting turns on all heating elements of each ERH panel, whereas the low setting turns on half the elements of each ERH panel. Therefore, all panels are in use for both heat settings, ensuring even heat distribution at all times. The units take approximately 20 minutes to reach full operating temperature.

ERH Wiring

Note: This is general information only, separate specific wiring & install information is available. Do not install ERH system based on this information only.

Power

- Each ERH panel is rated at 1.2 KW / 10A @ 120V / 1Ph / 60Hz
- Each panel is suitable for 2 stage heating 600W / 1200W
- Panels must be hard wired to a switch board
- Panels are supplied with 4 feet of "pig tail" cable : 4 Core + Ground

Electrical wiring

Dedicated wiring must be installed by a Licensed Electrician between Main Electrical Panel and HeatRay Control Modules as well between Control Modules and individual heating panels.

HeatRay Control Modules

Available for zone control of up to 4, 8 or 12 heaters, allowing for remote control of LOW/HIGH heat setting as well as ON/OFF functionality. Equipped with all necessary safety cutouts for individual heating stages as well as Ground Fault Interrupt protection required by UL & CSA regulations for safe operation of outdoor heating appliances.



Control Module Components

- Main Isolation Switch
- GFI protection (30mA)
- Circuit Breakers for each heating stage plus umbrella lighting circuit
- High Current Contactors - activated by remote control switches
- Terminal Block for easy site wiring
- Remote Mount Control Switch plate with ON/OFF & LOW/HIGH heat setting

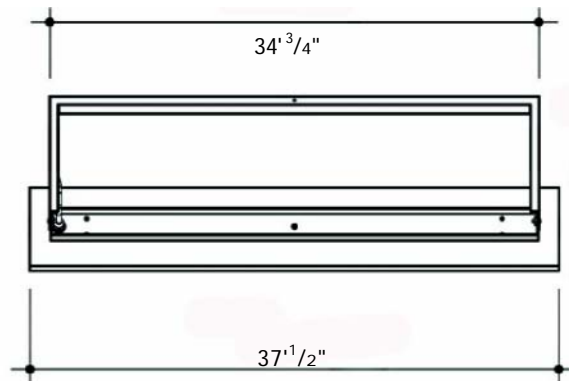
ERH Mounting

Mounting Options:

- a. Wall / Ceiling mounted
- b. Ceiling suspended
- c. Ceiling Recessed
- d. Spoke mounted - HeatRay Umbrella application

Wall/ceiling mounted

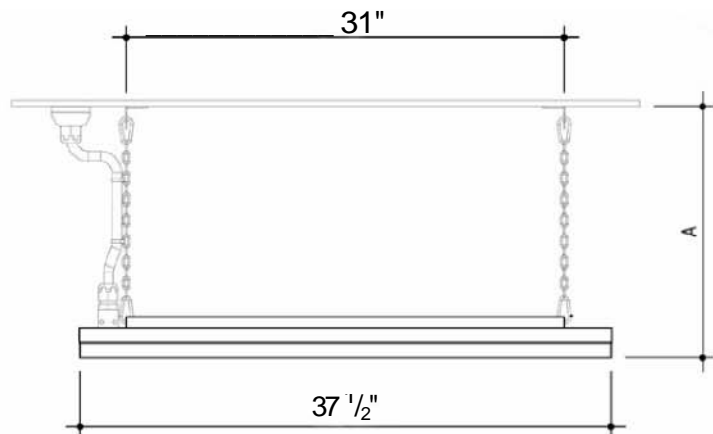
ERH wall mount brackets come in three depth sizes: 3", 10" & 16" ; the size refers to the



offset of the heater from the wall or the ceiling.

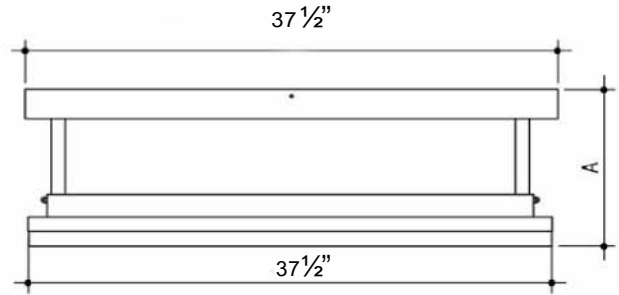
Ceiling Suspended

Ceiling suspension has two hanging options; chain suspension or tube suspension. Standard length of suspension tube or chain is A=35", however, each suspension can be tailored to individual application by trimming the length on site or ordering specific length requirements.

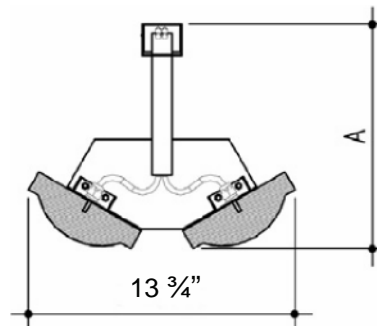


Chain Suspension

Single Unit Tube Suspension

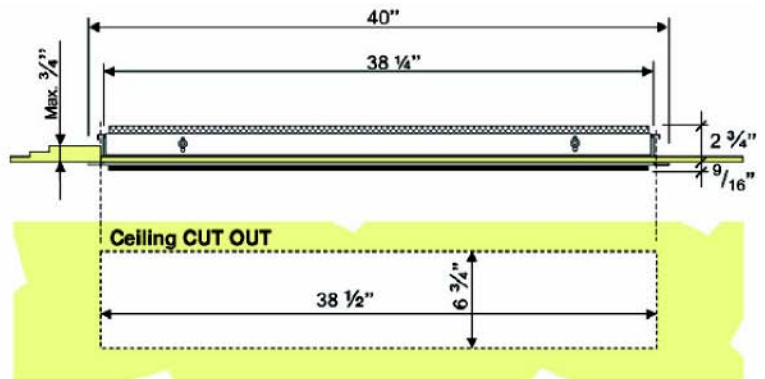


Double unit tube suspension



Ceiling Recessed

For areas with low ceilings, it is possible to recess the ERH unit to create a flush look.



ERH System Design

It is important to look at ERH panels as components of a complete heating system. Most areas will require a number of ERH panels for sufficient heating. To determine how many panels are required for an area, follow these general rules;

Height above floor level

The ERH system is designed for installations between 7'-6" to 8'-6" above floor level.

In order to bring the ERH panels down from a ceiling to 7'-6" - 8'-6" above floor level, wall/ceiling brackets, tube or chain suspension mounts will be required. Wall/ceiling mount brackets are available in 3 sizes, while tube and chain suspension mounts are 3' long and can be trimmed to size for each job by cutting to a required length on site.

Indoor applications

MOUNTING HEIGHT	AREA COVERAGE
7'-6"	40 square ft
8'	35 square ft
8'-6"	30 square ft

Outdoor applications

MOUNTING HEIGHT	AREA COVERAGE
7'-6"	28 square ft
8'	24 square ft
8'-6"	20 square ft

Calculations

To calculate the number of ERH units required, you need;

1. total square feet of the area to be heated,
2. the mounting height from floor level to the bottom of the heater, and
3. the type of application (indoors or outdoors).

Divide the total area (square feet) by the 'area coverage' which corresponds to the approximate 'mounting height' in the table above. Nb. these are a guide only, for accurate calculations contact a HeatRay representative .

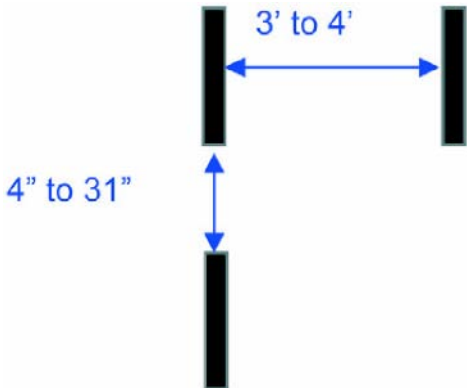
Example:

An outdoor area (16' x 28' = 448 sqft), with a mounting height of 7'-6" from floor level. From the above table, it can be seen that an outdoor area with a mounting height of 7'-6", corresponds to one HeatRay ERH panel providing 28 sqft coverage. Therefore, the calculation for this area is; (16' x 28' = 448) / 28 = 16 panels would be required to heat the entire area.

Spacing between panels

As not all areas that require heating are a simple square shape, other spacing requirements may need to be considered:

As a rule: 3' to 4' between panels and 4" to 31" end to end



HeatRay

Umbrella System



The System

HeatRay Umbrella sizes

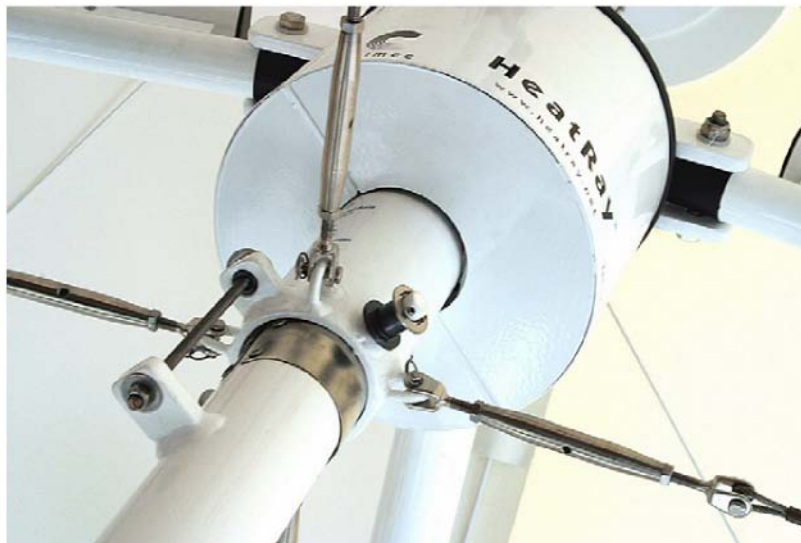
HeatRay Model	Umbrella overall size L x W	Minimum canopy width L x W	Umbrella diagonal overall	Overall height	Under spoke clearance	Closed arms to base plate
C30 (CS32)	10'5" x 10'5"	8'10" x 8'10"	14'7"	10'6"	7'1"	2'9"
C36 (CS38)	12'3" x 12'3"	10'10" x 10'10"	17'2"	10'6"	7'1"	1'6"
ATS (CTS43)	14'1" x 14'1"	12'2" x 12'2"	16'5"	11'	7'6"	2'5"
AS (CS45)	15" x 15"	13'1" x 13'1"	21'	11'3"	7'4"	5"
ALS (CS50)	16'7" x 16'7"	14'10" x 14'10"	23'3"	12'	7'10"	2"
CR45 (45/32)	14'11" x 10'5"	13'4" x 9'8"	18'1"	11'	7'1"	1'6"
CR53 (53/38)	17'5" x 12'4"	15'2" x 11"	21'2"	11'4"	7'1"	4"

All HeatRay umbrellas are standard with a centre pole mast. Alternatively, structures are available with side pole masts for difficult areas such as sidewalks.

Umbrella frame construction

The steel frames are made from either; rust resistant, hot-sprayed zinc and aluminum galvanized tubular steel with 2 layer powder-coated finish, or alternatively, from marine-grade 316 stainless steel for a high tech, up market look.

Note: Powder-coating is more durable, as stainless steel will discolor due to surface corrosion without regular cleaning.



Exposed fittings

For all models, exposed fittings, cables and connectors are manufactured from marine grade 316 stainless steel.

Umbrella fabric

All HeatRay umbrella tensile canopies are made of architectural grade, UV-stabilized, PVDF- coated fabric. The canopies have an expected life of up to 15 years with a finish that's low maintenance, pollution resistant and rot free.

Safety Rating

The HeatRay Umbrella system is IPX5 rated against dust as well as water penetration, allowing the umbrella and heaters to be safely washed and rinsed with a water hose.

Wind rating

The standard HeatRay umbrella withstands high wind loads of up to 75 miles/hr.

Surround heat

ERH panels are positioned on the umbrellas in such a way as to create evenly distributed surround heating under the umbrella.

Lighting

"Warm" white 2750°K diffused lighting reflects off the canopy of the umbrella. See next section for more details (Celight).

Umbrella Hub Loom

The Umbrella Hub Loom is the central wiring termination point for the integral lighting and heating system.

The Hub Loom consists of the following main components

- 6 Core + GND Power Cable. The cable conductors are numbered 1 – 6 and the ground wire is green & yellow striped.
- Sealed Junction Boxes (one or more, depending on umbrella type)
The enclosures are weather proof, complete with cable entry glands to maintain a performance rating of IP65.
- Hub Tray, designed to house and conceal the Junction Boxes and associated wiring and main power cables.

Umbrella Installation

HeatRay Umbrellas can be installed in any location – on timber decks, balconies and roof terraces or can be set into a concrete footing.

Other features

With a patented lever action system CS32, CS38 and CTS43 umbrellas are fully collapsible even with ERH panels and lights attached.

Power Consumption

HeatRay Popular Range: Centre Pole Structures

HeatRay Model	ERH Panels	Power High Setting	Power Low Setting	Voltage
C30 (CS32)	4	4.8 kW	2.4 kW	120 V
C36 (CS38)	4	4.8 kW	2.4 kW	120 V
ATS (CTS43)	8	9.6 kW	4.8 kW	120 V
AS (CS45)	8	9.6 kW	4.8 kW	120 V
ALS (CS50)	8	9.6 kW	4.8 kW	120 V
CR45 (45/32)	6	7.2 kW	3.6 kW	120 V
CR53 (53/38)	8	9.6 kW	4.8 kW	120 V

HeatRay Alternative Structures: Side Pole Structures

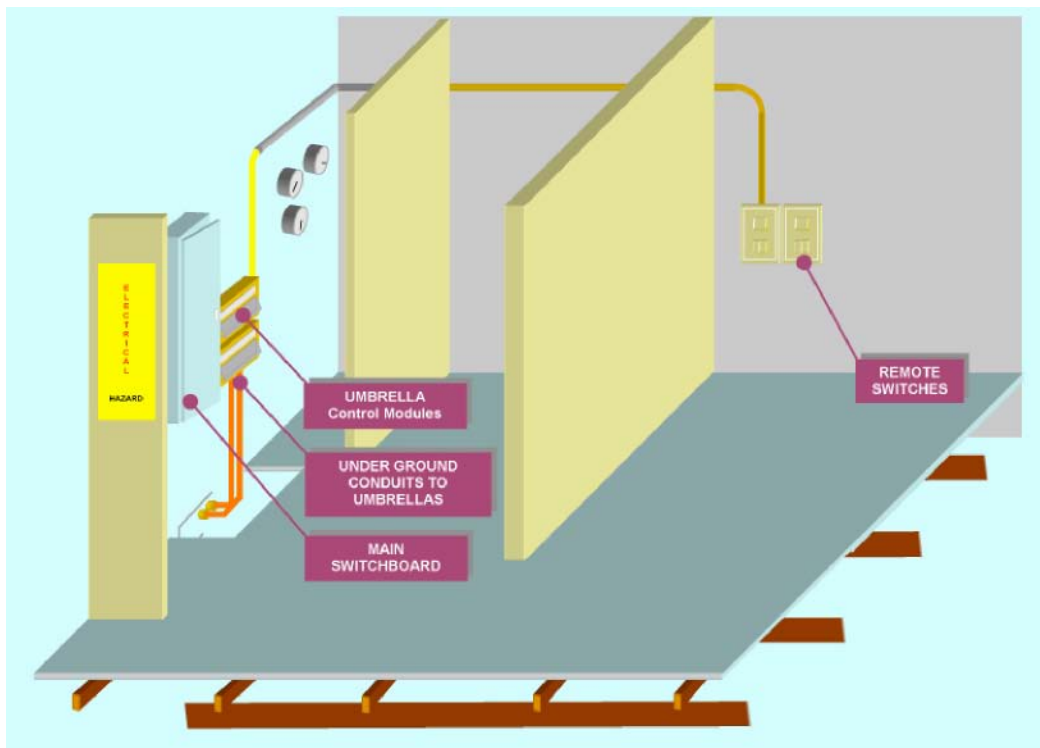
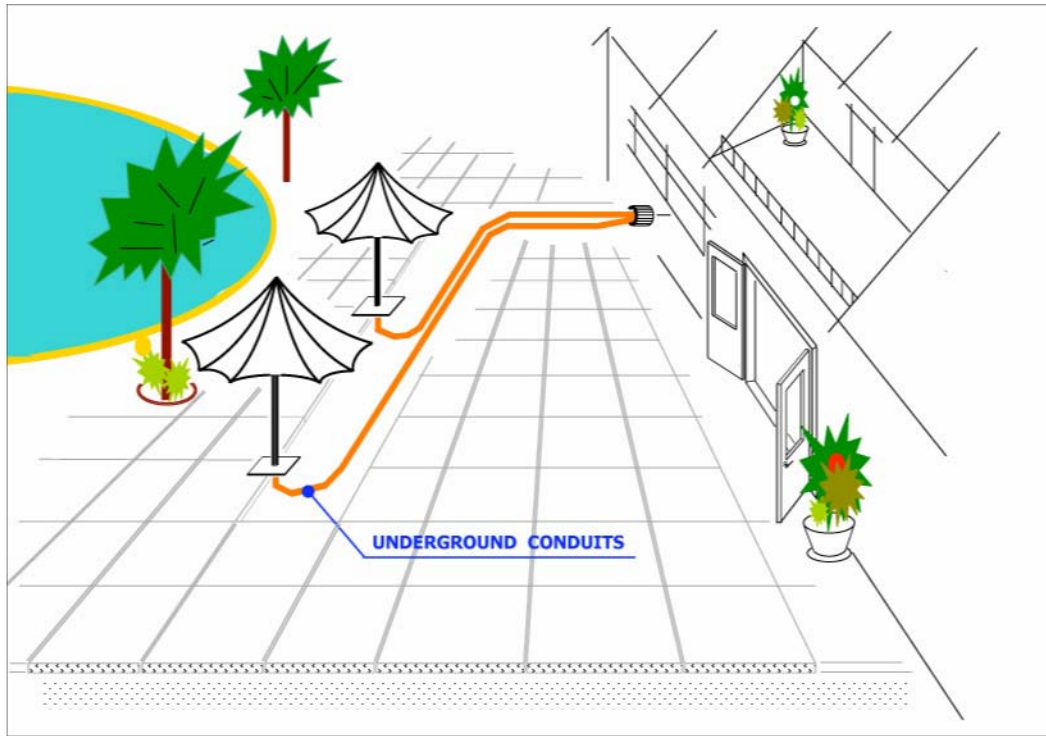
HeatRay Model	ERH Panels	Power High Setting	Power Low Setting	Voltage
LS32	4	4.8 kW	2.4 kW	120 V
LS38	4	4.8 kW	2.4 kW	120 V
LS43	8	9.6 kW	4.8 kW	120 V
LS45	8	9.6 kW	4.8 kW	120 V
LS50	8	9.6 kW	4.8 kW	120 V
LR45	6	7.2 kW	3.6 kW	120 V
LR53	8	9.6 kW	4.8 kW	120 V



Above left: Centre pole HeatRay Umbrella Structure.

Above Right: Side Pole HeatRay Umbrella Structure.

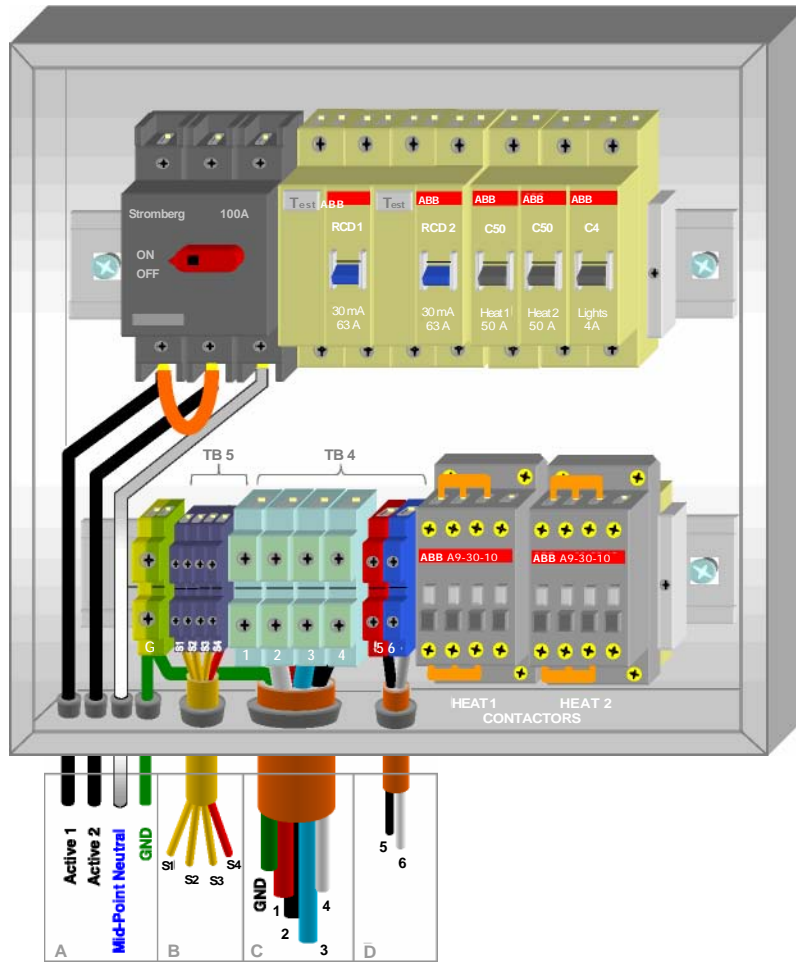
HeatRay Umbrella Wiring



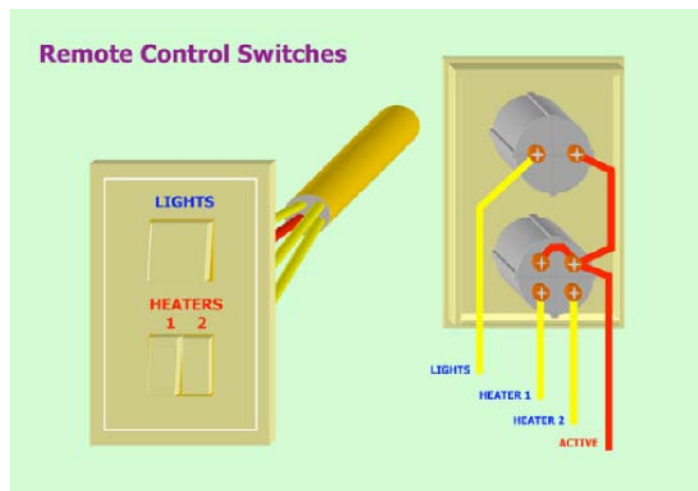
Control Module

CONTROL MODULE Model CM-8 US (120 V only)

1-Phase x 80Amp or "Split - Phase" 2 x 40Amp
(3-wire, Single Phase, Mid Point Neutral)



Remote Control Switch

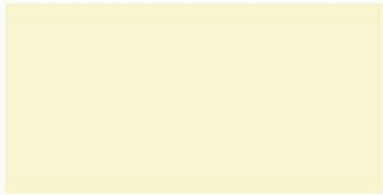


Color selector - Fabric



These colors are NOT 100% accurate, they are merely representations. Contact Celmec International or its HeatRay representative for color swatches.

Color selector - Steel Powder coating



84365-Primrose



33709-Classic Hawthorne



33617-Yellow Gold



57225-Precious Silver Pearl (metallic)



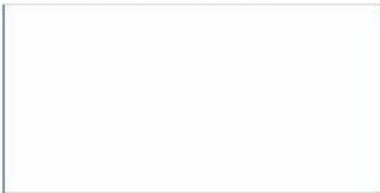
50735-Signal Red



88029-Mesh Black Satin



19941-Blue haze



White-Standard

The colors represented in this section are as close to the actual color as printing methods will allow. They are NOT 100% accurate. For samples contact HeatRay representative.

Umbrella Light Fitting - Celight

The Celight is designed to integrate with the HeatRay Umbrella. It is set on the arms of the umbrella so that the light reflects off the umbrella canopy rather than shining directly onto people below.



Specifications

- Fluorescent G23 type globe / 2750°K
- Curve shaped light fixture complete with pearl carbonate diffuser
- 19¹/₂"L x 2¹/₃"W x 2"H
- Diffusion - wide range
- Side span – 120 degrees, forward bias
- Power – 9W / 0.1 Amp – 120 V / 1Ph / 60Hz
- UL Approved.



Weather Protection Accessories



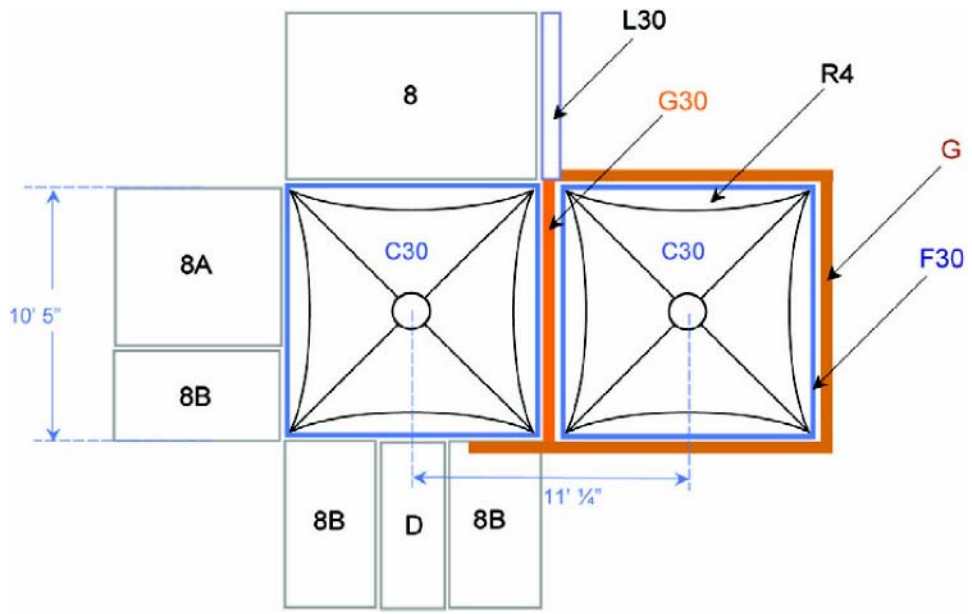
Accessory Range

There is a selection of accessories suited to the HeatRay umbrella system, including;

- Umbrella frames
- Linking gutters
- Canopy infills
- Perimeter gutters
- Transparent side covers
- Wind columns for extra strength

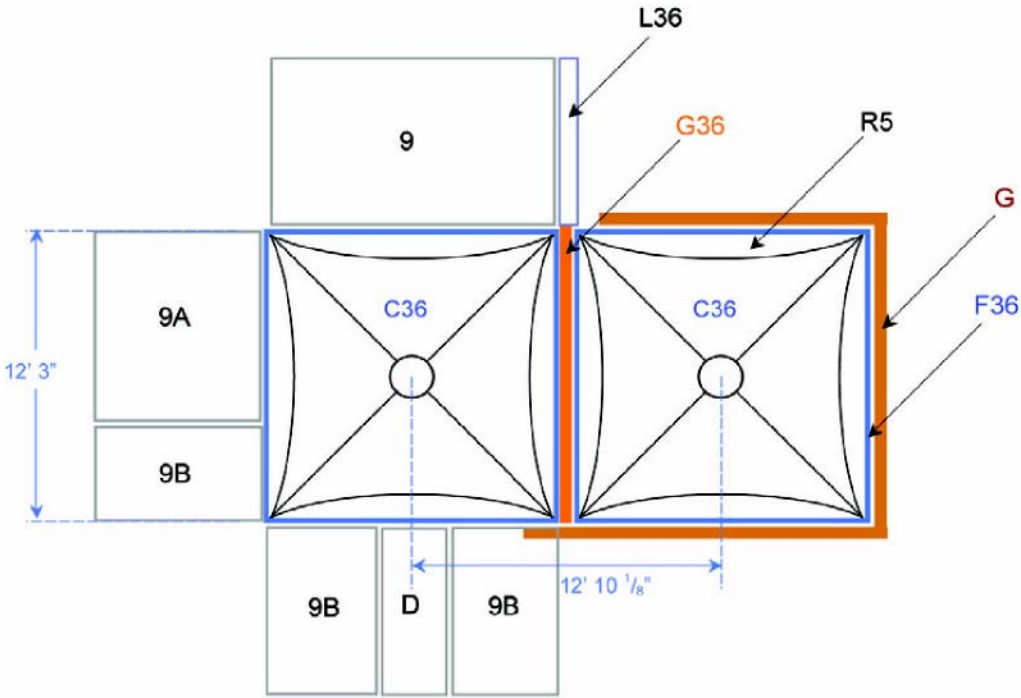
The following pages detail accessory options to create weather protection for the HeatRay Umbrella Systems.

Accessories C30 (CS32)



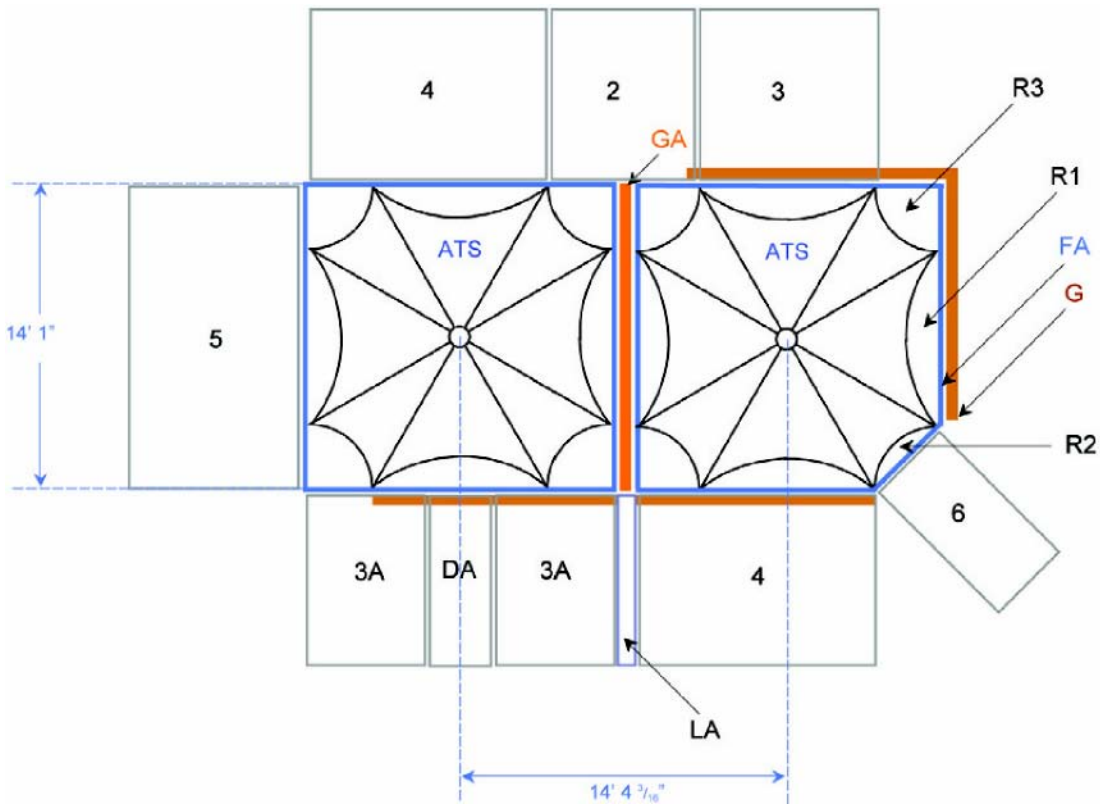
- G** (Gutter by the meter)
- G30** (Link Gutter)
- F30** (Frame)
- L30** (Side cover infill)
- D** (Door)
- 8** (Side cover - full width)
- 8A** (Side cover - 3/4 section)
- 8B** (Side cover - 1/3 section)
- R4** (Roof Infill)

Accessories C36 (CS38)



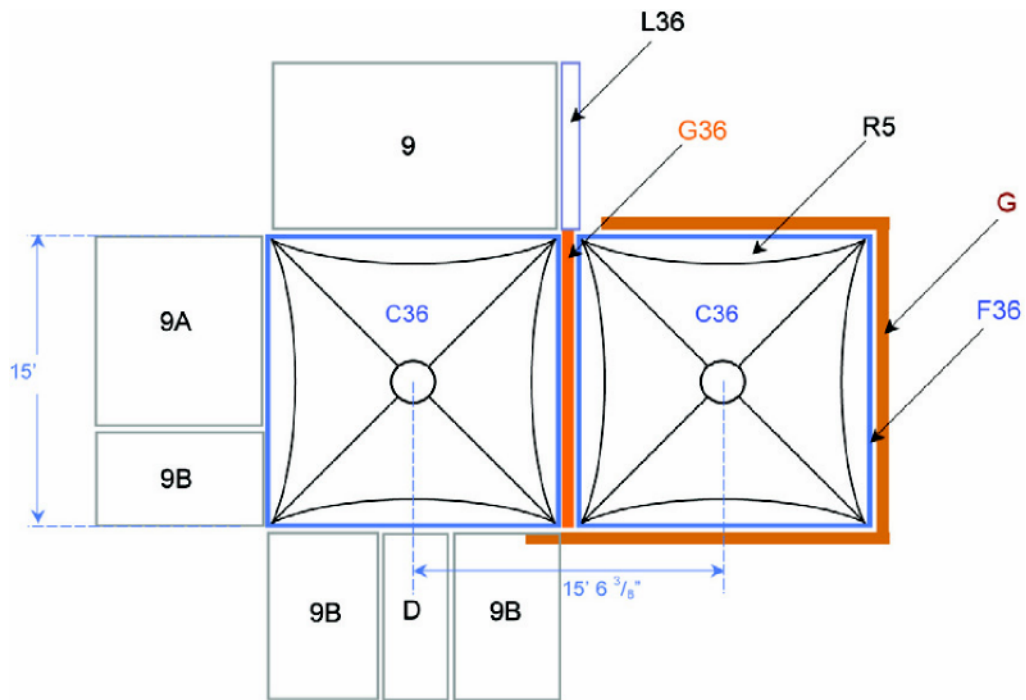
- G** (Gutter by the meter)
- G36** (Link Gutter)
- F36** (Frame)
- L36** (Side cover infill)
- D** (Door)
- 9** (Side cover - full width)
- 9A** (Side cover - 3/4 section)
- 9B** (Side cover - 1/3 section)
- R5** (Roof Infill)

Accessories ATS (CT43)



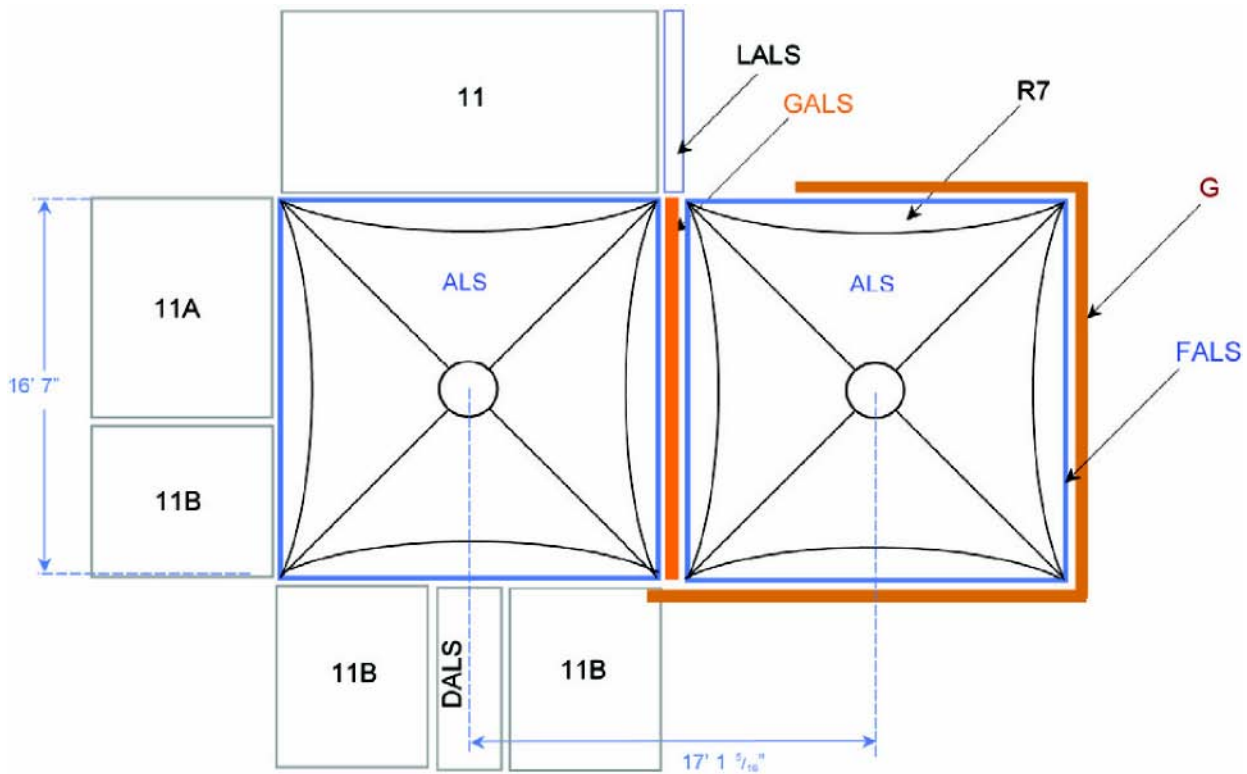
- G** (Gutter by the meter)
- GA** (Link Gutter)
- FA** (Frame)
- LA** (Side cover infill)
- DA** (Door)
- 2** (Side cover - link section)
- 3** (Side cover - middle umbrella section)
- 3A** (Side cover - 1/3 section)
- 4** (Side cover - 3/4 section)
- 5** (Side cover - full width)
- 6** (Side cover - octagonal section)
- R1** (Roof Infill - middle umbrella section)
- R2** (Roof Infill - octagonal corner)
- R3** (Roof Infill - square corner)

Accessories AS (CS45)



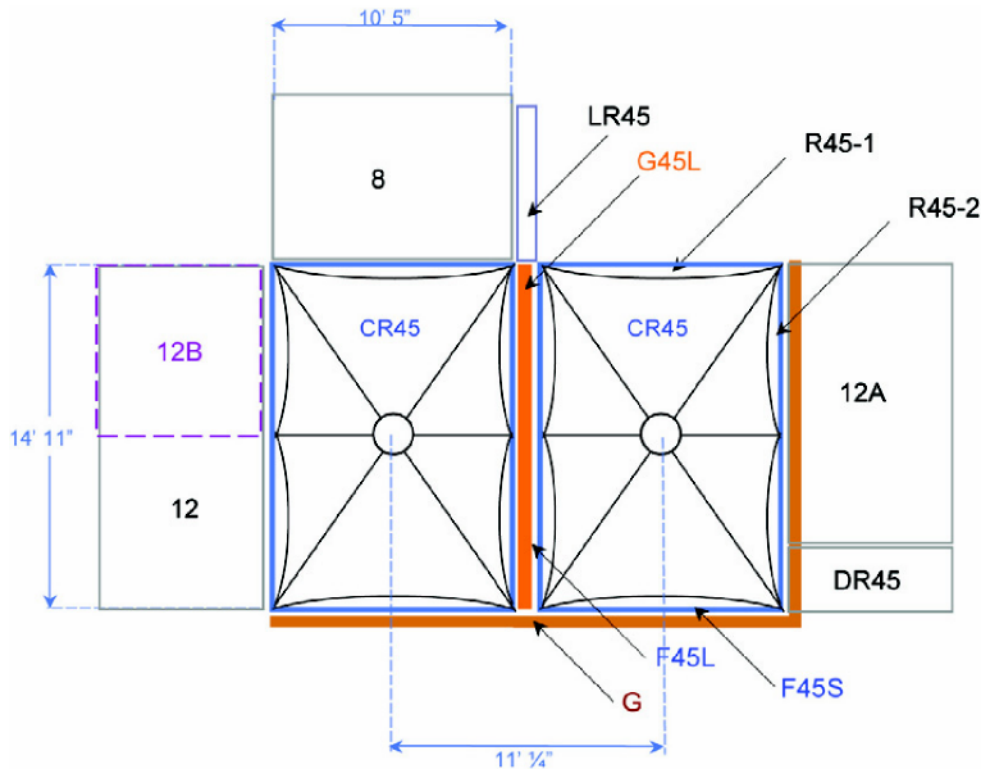
- G** (Gutter by the meter)
- GAS** (Link Gutter)
- FAS** (Frame)
- LAS** (Side cover infill)
- DAS** (Door)
- 10** (Side cover - full width)
- 10A** (Side cover - 3/4 section)
- 10B** (Side cover - 1/3 section)
- R6** (Roof Infill)

Accessories ALS (CS50)



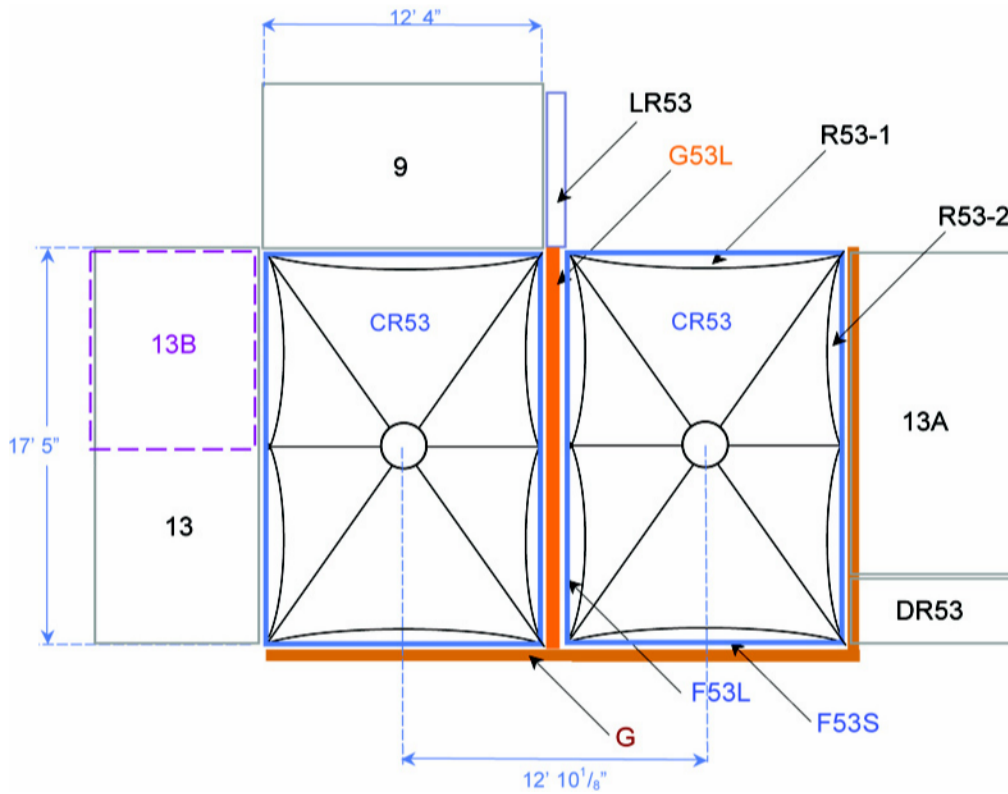
- G** (Gutter by the meter)
- GALS** (Link Gutter)
- FALS** (Frame)
- LALS** (Side cover infill)
- DALS** (Door)
- 11** (Side cover - full width)
- 11A** (Side cover - 3/4 section)
- 11B** (Side cover - 1/3 section)
- R7** (Roof Infill)

Accessories CR45



- G** (Gutter by the meter)
- G45L/45S** (Link Gutter)
- F45L/45S** (Frame)
- LR45** (Side cover infill)
- DR45** (Door)
- 8** (Side cover - full width short side)
- 12** (Side cover - full width long side)
- 12A** (Side cover - 3/4 section long side)
- 12B** (Side cover - 1/2 section long side)
- R45-1** (Roof Infill short side)
- R45-2** (Roof Infill long side)

Accessories CR53



- G** (Gutter by the meter)
- G53L/53S** (Link Gutter)
- F53L/53S** (Frame)
- LR53** (Side cover infill)
- DR53** (Door)
- 9** (Side cover - full width short side)
- 13** (Side cover - full width long side)
- 13A** (Side cover - 3/4 section long side)
- 13B** (Side cover - 1/2 section long side)
- R53-1** (Roof Infill short side)
- R53-2** (Roof Infill long side)

Maintenance

Routine cleaning is necessary to preserve the appearance and integrity of the product. The frequency of cleaning is quite simply to clean whenever the ERH panels, umbrella, stainless steel fittings and weather accessories show signs of dirt. If close to the sea, rinse the ERH panels, umbrella and accessories on a regular basis to prevent salt damage.

For a more thorough clean, the following is recommended;
Gently clean the products using a soft cloth or sponge, warm water and mild soap (avoid rubbing black face of ERH panels). Rinse after cleaning.

If the above is not sufficient, an ordinary household non-scratching cleaning fluid (do not use on black face of ERH panels), can be used with warm water and a sponge or soft brush on the umbrella membrane and fittings. It is imperative to rinse all system components after the cleaning process.

Surface staining is particularly common on stainless steel that is exposed to sea salt and pollution. To clean, repeat the above processes over a few days.

Regular rinsing ERH panels, umbrella and accessories if in highly polluted or salty environment	Rinse off with a high pressure spray water hose from a distance of at least 2 feet	Use a soft spray setting and avoid pointing directly into heater ends
Routine cleaning ERH panels, umbrella and accessories	Diluted mild soap with warm water	Use a sponge and rinse with clean water (not on black face).
Stubborn stains and Discoloration	Concentrated soap or detergent and warm water	Use rag, sponge or soft natural bristle brush (but not on black face of panels). Rinse well with clean water.
Rust and other corrosion on stainless steel umbrella components	Cleaning liquid, specialty stainless steel cleaners	Use rag, sponge, brush or nylon scouring pad. Rinse well with clean water.

Weights & Measures

ERH Panel Heater without bracket	12 lb
ERH Panel Heater with bracket tray	14 lb
"M" Rail Spoke Bracket	2.0 lb
3" Wall Bracket	3.3 lb
5 1/2" Wall Bracket	3.6 lb
10" Wall Bracket	4.0 lb
Single tube suspension	10 lb
Double tube suspension	12.5 lb
Light Fitting - Celight	4.0 lb

UMBRELLAS complete with lights and heaters

C30 (CS32)	210 lb + crate
C36 (CS38)	221 lb + crate
ATS (CTS43)	386 lb + crate

CONTROL MODULE USA 120V

CM4 (330W x 320H x170D)	22 lb (incl box)
CM8 (330W x 320H x170D)	22 lb (incl box)
CM12 (330W x 320H x 170D)	25 lb (incl box)

WEATHER ACCESSORIES

Umbrella frame	1.2 lb / ft
Infill gutter	0.5 lb / ft
Roof infill	2 lb / each
Continuous gutter	0.5 lb / ft
Side covers	2.7 lb / ft
Wind column	6 lb / each

PACKAGING

ERH 4 heater carton	43.5"L x 14.5"W x 7.5"H	3 lb
Control Module CM4/8 carton	14"W x 9"H x 5"D	
Control Module CM12 carton	15"W x 9"H x 5"D	
C30 (CS32) Crate	127"L x 27"W x 30"H	298 lb
C36 (CS38) Crate	127"L x 27"W x 30"H	298 lb
ATS (CTS43) Crate	134"L x 31"W x 34"H	320 lb

Weights & Measures

UMBRELLAS

C30 (CS32) complete with lights and heaters	210 lb + crate
C30 (CS32) umbrella only	146 lb
C36 (CS38) complete with lights and heaters	221 lb + crate
C36 (CS38) umbrella only	157 lb
ATS (CTS43) complete with lights and heaters	387 lb + crate
ATS (CTS43) umbrella only	234 lb

QUANTITIES IN STANDARD ERH CARTON

ERH Panel Heater with bracket tray	4 per box	58.3 lb
Tube Suspension Brackets (single or double)	12 sets per box	90.5 lb
80mm Wall / Ceiling Brackets	22 per Box	77.3 lb
140mm Wall / Ceiling Brackets	18 per Box	67.3 lb
250mm Wall / Ceiling Brackets	6 per Box	28.7 lb
Rain Shield	20 per box	88.3 lb
Control Module CM4/8	4 per box	31.4 lb
Celight	20 per box	75.0 lb
C30 / C36 Hub & Cable Loom	4 per box	57.4 lb
ATS Hub & Cable Loom	3 per box	57.4 lb
AS / CR Hub & Cable Loom	2 per box	57.4 lb
UMB SETS (4 x Celight/1 x Hub& Loom/1 x CM4)	8 per box	57.4 lb

PACKAGING

Standard ERH carton 1100L x 370W x 190H	2.7 lb
C30 (CS32) Crate 3230L x 680W x 760H	298 lb
C36 (CS38) Crate 3230L x 680W x 760H	298 lb
ATS (CTS43) Crate 3400L x 780W x 860H	320 lb

Contact Details

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