800–2200 W Electrical heat 8 models CE

Elztrip EZ200

Double panel radiant heater for department stores, industrial premises etc.

Application

EZ200 is intended for total and supplementary heating as well as protection against cold draughts from windows in environments such as, department stores, assembly halls, industrial premises etc.

Comfort

Radiant heaters give an efficient and pleasant heat in the dwelling zone and individual comfort can be created with spot and zone heating. No moving parts mean a silent system that does not cause air movements and a hygienic indoor climate is created when the spread of dust, bacteria or odours is reduced.

Operation and economy

Radiant heaters have an easy and flexible installation and require a minimum of maintenance. They give instant heat and no preheating is necessary. Radiant heaters can give cost savings of up to 25 % compared to convector heaters, especially in buildings with high ceilings that are used on an irregular basis.

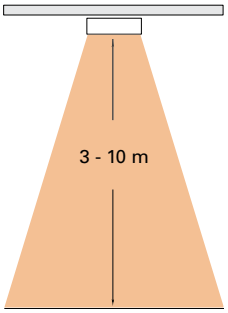
Design

EZ200 is a double panel radiant heater with clean and simple design that blends well with electrical fittings.

Product specifications

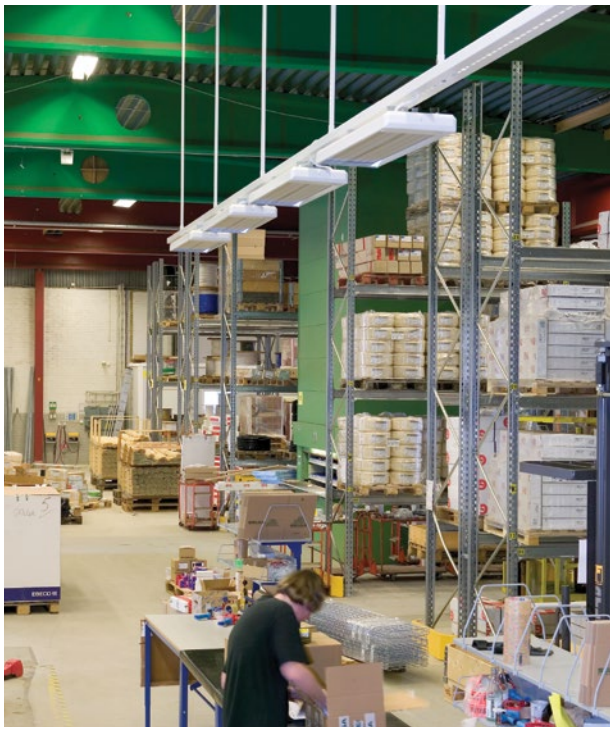
- Integrated elements and a surface structure for improved efficiency.
- The heaters are approved for serial connection.
- Fixtures for easy mounting on the ceiling are included.
- Corrosion proof casing of hot zinc-plated and powder lacquered steel panels. Colour: RAL 9016, NCS S 0500-N. Heating panel of naturally anodised aluminium.

Installation height



2014-03-10

Elztrip is an elegant and effective solution to cold draught problems Hilton in Malmö has adopted this solution in their large glass lobby.



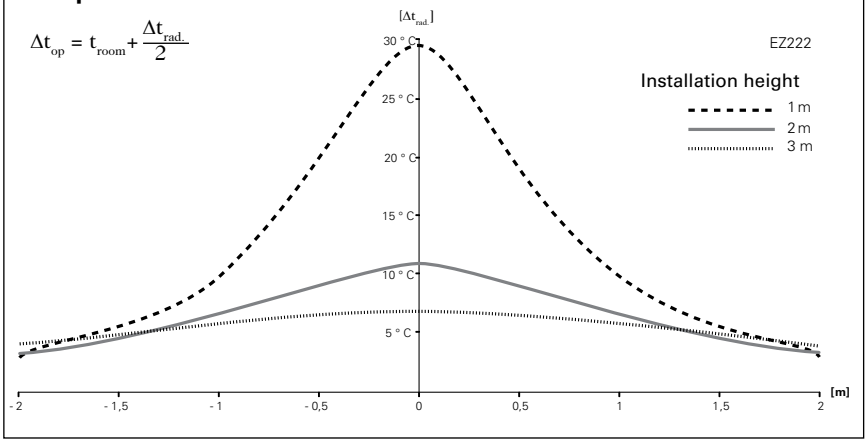
EZ200 is a perfect solution for heating working stations.

EZ200 gives instant heat and no preheating is necessary which makes it ideal for buildings that are used on an irregular basis.

Heating with EZ200 is hygienic since it does not cause any air movements.

Temperature contribution

$$\Delta t_{op} = t_{room} + \frac{\Delta t_{rad.}}{2}$$

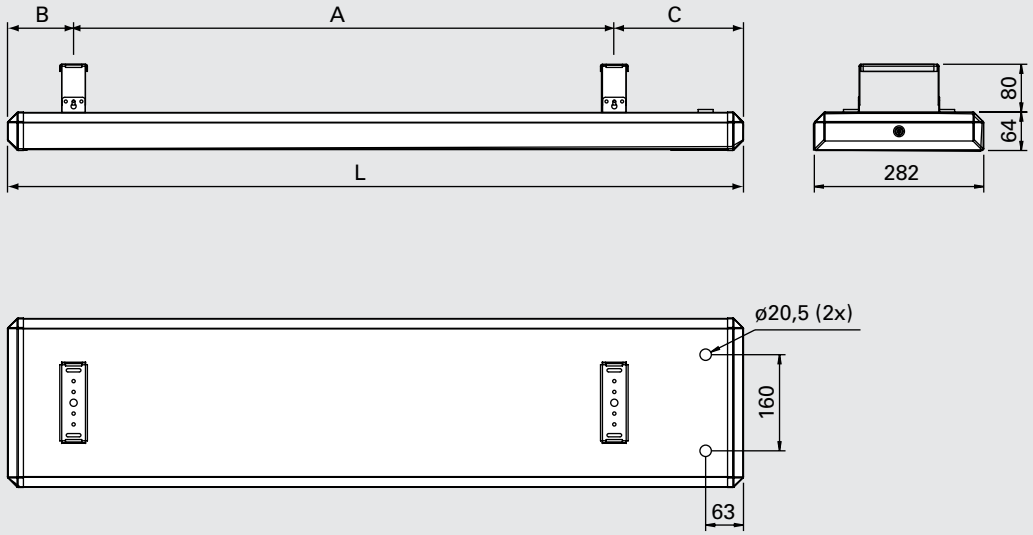


Technical specifications | Elztrip EZ200

Type	Heat output [W]	Voltage [V]	Amperage [A]	Max. element temperature [°C]	Dimensions LxHxW [mm]	Weight [kg]
EZ208	800	230V~	3,5	340	683x64x282	4,9
EZ212	1200	230V~	5,2	340	923x64x282	6,8
EZ217	1700	230V~	7,4	340	1221x64x282	8,8
EZ222	2200	230V~	9,6	340	1520x64x282	10,7
EZ20831	800	400V2~	2,0	340	683x64x282	4,9
EZ21231	1200	400V2~	3,0	340	923x64x282	6,8
EZ21731	1700	400V2~	4,3	340	1221x64x282	8,8
EZ22231	2200	400V2~	5,5	340	1520x64x282	10,7

Protection class: IP44.
Approved by SEMKO and CE compliant.

Dimensions



	L [mm]	A [mm]	B [mm]	C [mm]
EZ208	683	400	90	193
EZ212	923	600	110	213
EZ217	1221	900	109	212
EZ222	1520	1200	108	212

Positioning, mounting and installation

Positioning

To estimate approximately how many radiant heaters are needed to cover an area the formula is:

$$\text{Min. number of heaters} = \frac{\text{Area of the premises [m}^2\text{]}}{\text{Installation heigth [m]} \times \text{Installation heigth [m]}}$$

This formula is a basic estimation of the minimum number of radiant heaters needed to maintain the comfort. To calculate the right output for each heater, the total heating requirement must be calculated, see the Technical handbook.

When planning an Elztrip installation, the distance between the heaters should not be greater than the height between heater and floor, that means (a) should be less than (H). See Fig. 1. In rooms not often used, the comfort demands are usually lower and the distance between the heaters can be increased. In rooms frequently used, the distance between a sedentary person and heater should be at least between 1.5 to 2 metres (Δh). When these two guide lines are followed, the difference in operative temperature will not exceed the comfort level Δtop= 5 °C. This means that the difference between the real temperature and the temperature that we sense, will not be more than 5 °C.

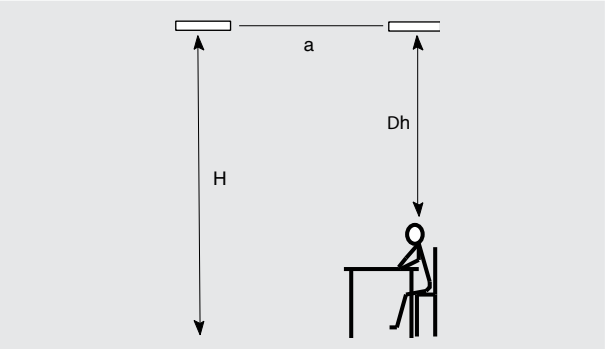
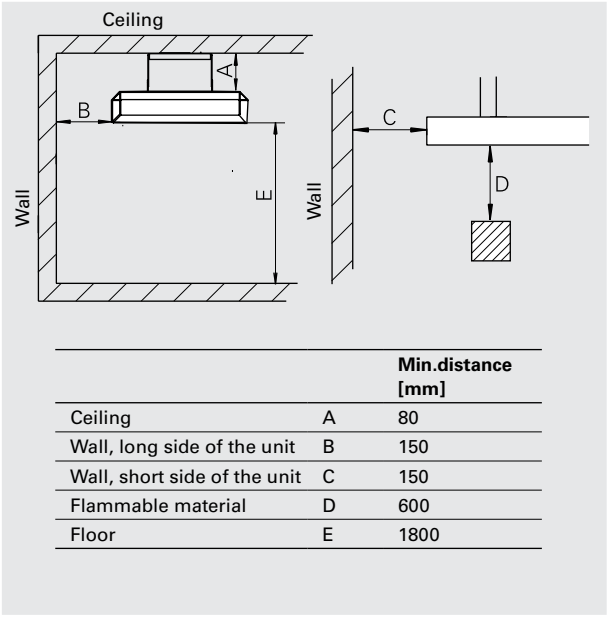


Fig. 1: Positioning vertically.

Mounting

Elztrip is mounted on the ceiling, on armature rails, on wire or suspended. Elztrip should always be mounted horizontally. For minimum mounting distance, see Fig. 2. Standard fittings for mounting are included and are found inside the connection box, see Fig. 3. When mounting on wire, suitable clips that prevent the panel from sliding should be acquired.



		Min.distance [mm]
Ceiling	A	80
Wall, long side of the unit	B	150
Wall, short side of the unit	C	150
Flammable material	D	600
Floor	E	1800

Fig. 2: Minimum mounting distance.

Connection

EZ200 is intended for permanent installation. Serial connection is easily made through the plinth.

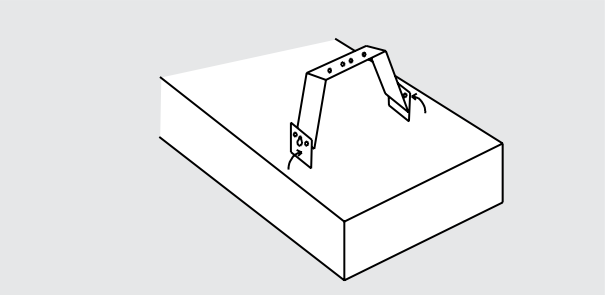


Fig. 3: Standard fitting

Control options

Output control
Stepless control that precisely adapts energy use to the current demand, giving maximal benefit from radiant heating. This results in a soft comfortable heating and lower energy costs.

- ERP, electric heating control
- ERPS, electric heating control (slave)

Control by thermostat and contactor
The choice of thermostat depends on needs and environment. Small loads within the thermostat's setting range do not require a contactor.

- T10S, electronic thermostat with concealed knob
- TKS16, electronic thermostat with visible knob, 1-pole switch
- TD10, thermostat with digital display
- KRT1900, capillary room thermostat, IP55

Output control with timer
Stepless control especially suitable for spot and zone heating. The heat contribution is controlled for best comfort. Built-in timer is set to desired time.

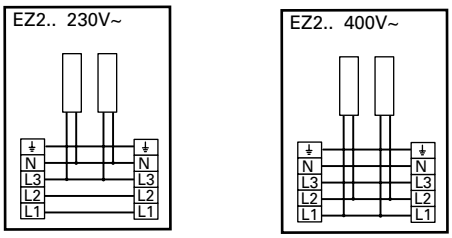
- CIRT, stepless output control with timer

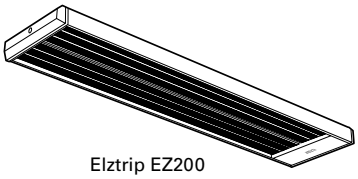
For further information and options, see the "Controls" section.

Controls and other accessories

Type	Description	HxWxD [mm]
ERP	Electric heating control	153x94x43
ERPS	Electric heating control (slave)	153x94x43
T10S	Electronic thermostat, knob	80x80x31
TKS16	Electronic thermostat, knob, 1-pole switch	80x80x39
TD10	Electronic termostat, display	80x80x31
KRT1900	Capillary room thermostat, IP55	165x57x60
CIRT	Stepless control with timer	155x87x43

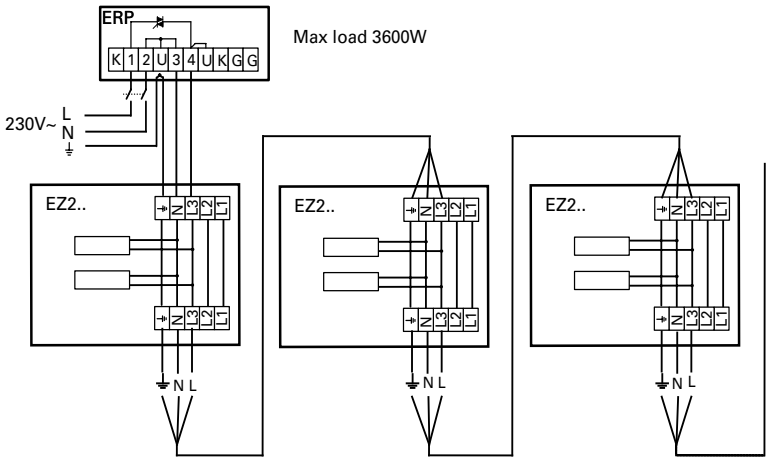
Internal wiring diagram

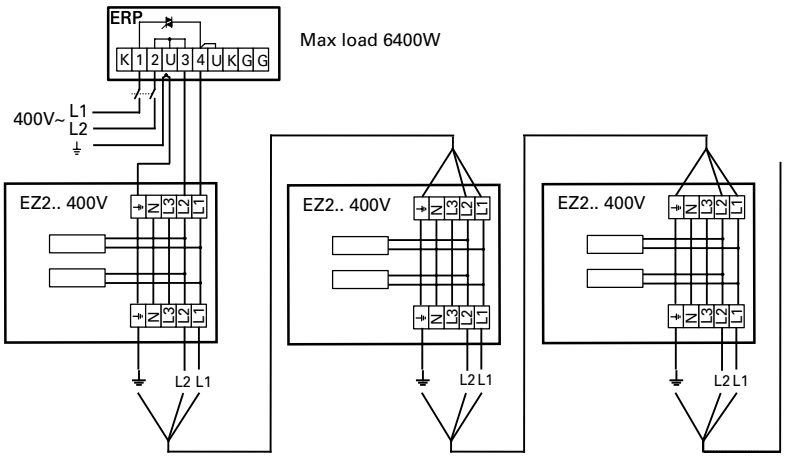


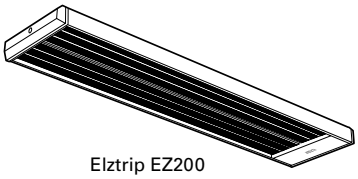


Elztrip EZ200

Output control, Elztrip 230 V / 400 V

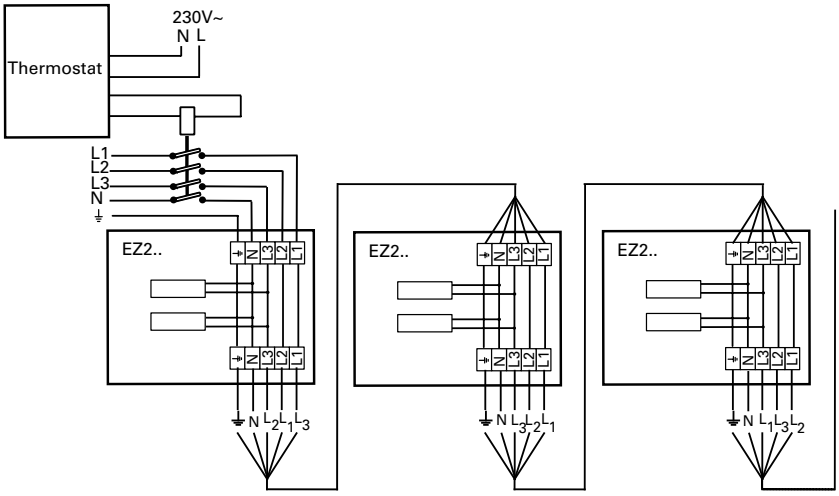




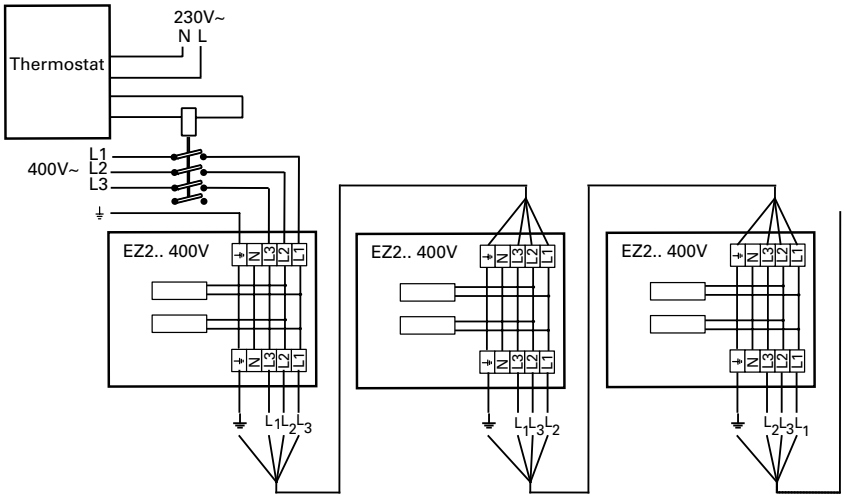


Elztrip EZ200

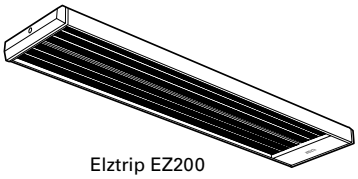
Control by thermostat, Elztrip 230 V



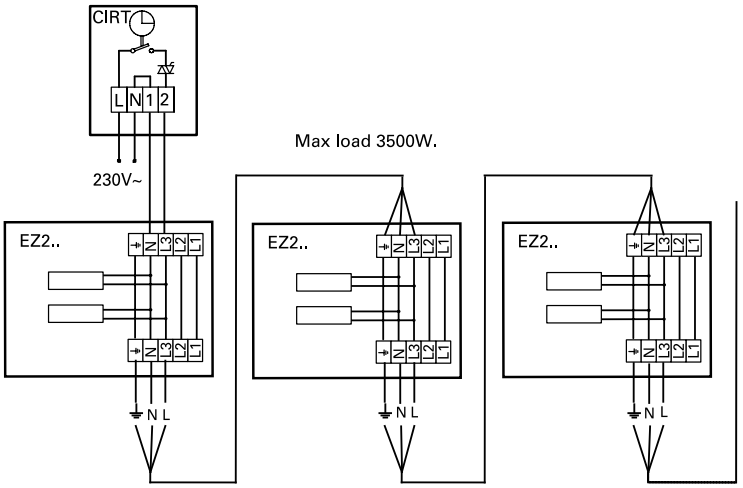
Control by thermostat, Elztrip 400 V



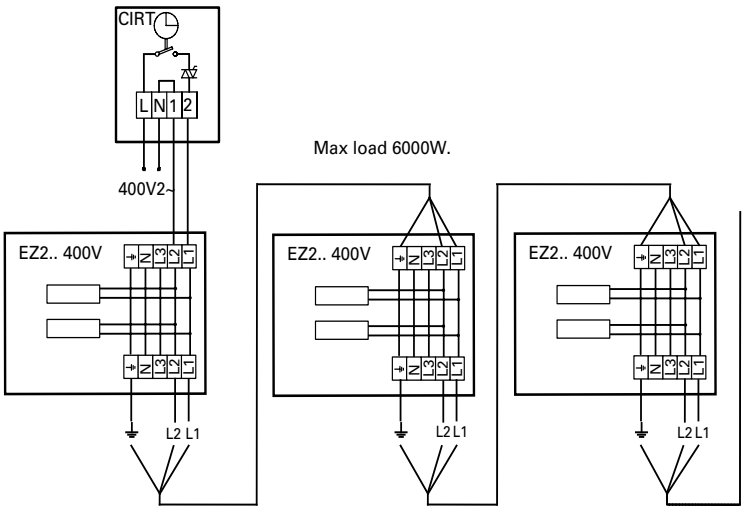
Output control with timer, Elztrip 230 V

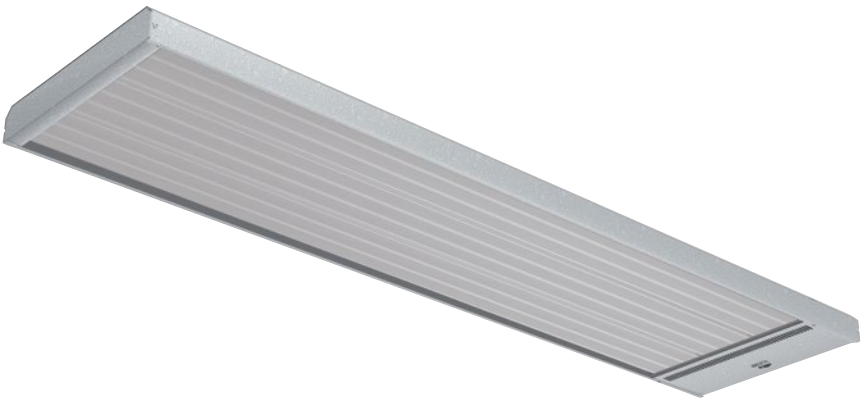


Elztrip EZ200



Output control with timer, Elztrip 400 V





3600 – 4500 W Electrical heat 2 models CE

Elztrip EZ300

Triple panel radiant heater for warehouses, workshops etc.

Application

EZ300 is intended for total and supplementary heating in industrial environments such as warehouses, workshops etc.

Comfort

Radiant heaters give an efficient and pleasant heat in the dwelling zone and individual comfort can be created with spot and zone heating. No moving parts mean a silent system that does not cause air movements and a hygienic indoor climate is created when the spread of dust, bacteria or odours is reduced.

Operation and economy

Radiant heaters have an easy and flexible installation and require a minimum of maintenance. They give instant heat and no preheating is necessary. Radiant heaters can give cost savings of up to 25 % compared to convector heaters, especially in buildings with high ceilings that are used on an irregular basis.

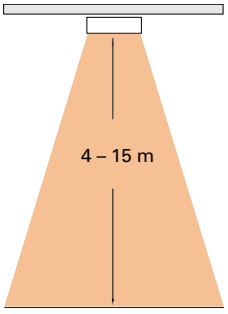
Design

EZ300 is a triple panel radiant heater with discreet and robust design that blends well with electrical fittings.

Product specifications

- Integrated elements and a surface structure for improved efficiency.
- The heaters are approved for serial connection.
- Fixtures for easy mounting on the ceiling are included.
- Casing of grey alu-zinc coated steel panels, very resistant against corrosion. Heating panel of naturally anodised aluminium.

Installation height



Design and specifications are subject to change without notice.

2014-03-10

The heat is directed to the area where it is needed the most.

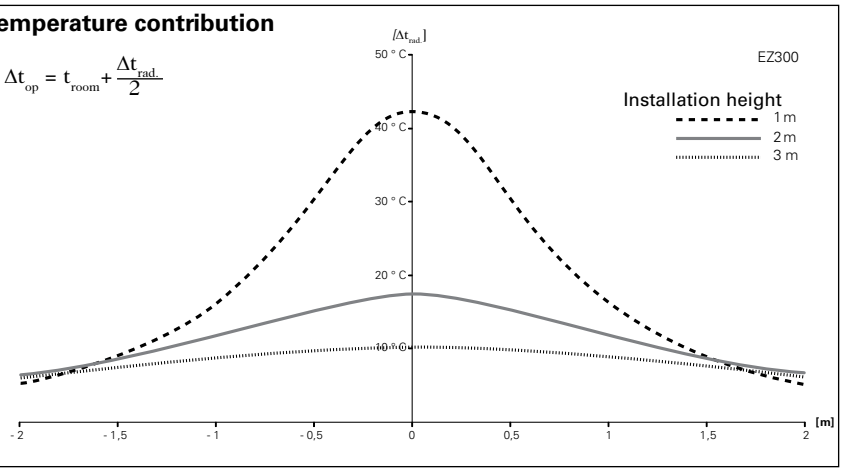
With radiant heaters, the heat is transferred to surfaces such as people, floors and fixtures. This creates comfort even in rooms with large volume.

EZ300 gives instant heat and no preheating is necessary which makes it ideal for buildings that are used on an irregular basis.

Radiant heaters are especially profitable in buildings with high ceilings as no heat losses occur between the heater and the floor.

Temperature contribution

$$\Delta t_{op} = t_{room} + \frac{\Delta t_{rad.}}{2}$$

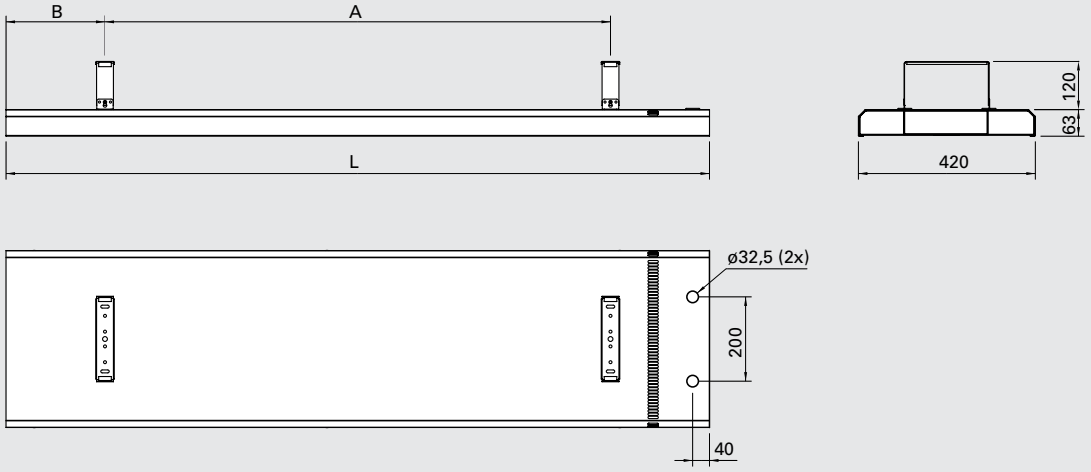


Technical specifications | Elztrip EZ300

Type	Heat output [W]	Voltage [V]	Amperage [A]	Max. element temperature [°C]	Dimensions LxHxW [mm]	Weight [kg]
EZ336	3600	230V3~/400V3N~	9,0/5,2	350	1670x63x420	19,8
EZ345	4500	230V3~/400V3N~	11,3/6,5	350	2030x63x420	24,2

Protection class: IP44.
Approved by SEMKO and CE compliant.

Dimensions



	L [mm]	A [mm]	B [mm]
EZ336	1670	1200	235
EZ345	2030	1500	265

Positioning, mounting and installation

Positioning

To estimate approximately how many radiant heaters are needed to cover an area the formula is:

$$\text{Min. number of heaters} = \frac{\text{Area of the premises [m}^2\text{]}}{\text{Installation heigth [m]} \times \text{Installation heigth [m]}}$$

This formula is a basic estimation of the minimum number of radiant heaters needed to maintain the comfort. To calculate the right output for each heater, the total heating requirement must be calculated, see the Technical handbook.

When planning an Elztrip installation, the distance between the heaters should not be greater than the height between heater and floor, that means (a) should be less than (H). See Fig. 1. In rooms not often used, the comfort demands are usually lower and the distance between the heaters can be increased. In rooms frequently used, the distance between a sedentary person and heater should be at least between 1.5 to 2 metres (Δh). When these two guide lines are followed, the difference in operative temperature will not exceed the comfort level Δtop= 5 °C. This means that the difference between the real temperature and the temperature that we sense, will not be more than 5 °C.

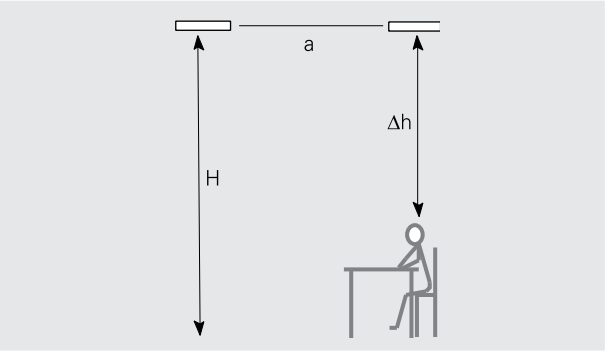
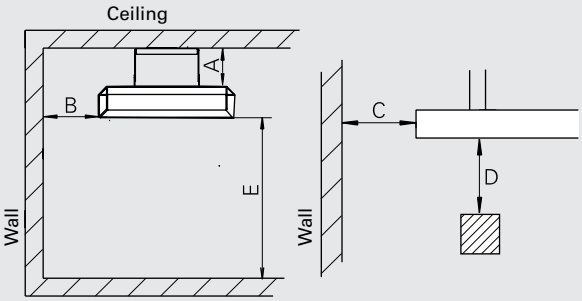


Fig. 1: Positioning vertically.

Mounting

Elztrip is mounted on the ceiling, on armature rails, on wire or suspended. Elztrip should always be mounted horizontally. For minimum mounting distance, see Fig. 2. Standard fittings for mounting are included and are found inside the connection box, see Fig. 3. When mounting on wire, suitable clips that prevent the panel from sliding should be acquired.



		Min.distance [mm]
Ceiling	A	115
Wall, long side of the unit	B	250
Wall, short side of the unit	C	250
Flammable material	D	700
Floor	E	1800

Fig. 2: Minimum mounting distance.

Connection

Elztrip is intended for permanent installation. Serial connection is easily made through the plinth (16 mm²).

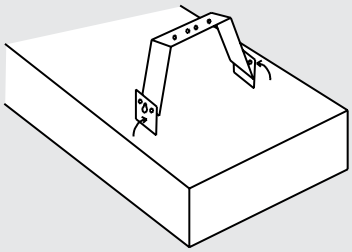


Fig. 3: Standard fitting

Control options

Control with thermostat, contactor and switch
The choice of thermostat depends on needs and environment.

Connection is made by a 3 step switch making it possible to manually connect the elements 1 + 1 + 1.

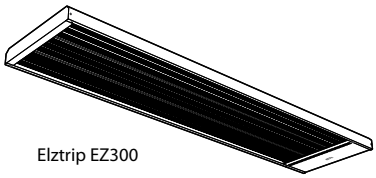
- T10S, electronic thermostat with concealed knob
- TK10S, external thermostat with visible knob
- KRT1900, capillary tube thermostat, IP55
- S123, manual switch for 1-2-3 output steps

For further information and options, see the "Controls" section.

Controls and other accessories

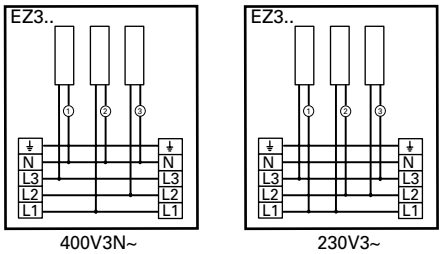
Type	Description	HxWxD [mm]
T10S	Electronic thermostat	80x80x31
TK10S	Electronic thermostat, knob	80x80x31
KRT1900	Capillary room thermostat, IP55	165x57x60
S123	Manual switch for 1-2-3 output steps	72x64x46

Wiring diagrams

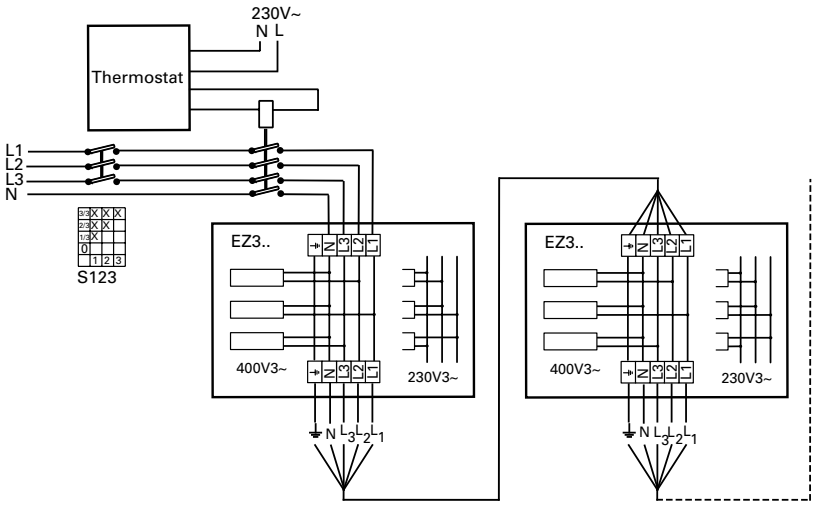


Elztrip EZ300

Internal wiring diagram



Control with thermostat, contactor and switch



Electrical heat 4200 W

1 model CE

Elztrip EZF

Radiant heater for ceiling heights between 4 and 15 metres

Elztrip EZF42 has an option of two or three heating panels and is intended for ceiling heights between 4 and 15 metres. EZF42 is used in for example warehouses, exhibition halls, sport centres and department stores.

Large energy savings are obtained because no unnecessary heat is gathered under the ceiling and because the radiant heat contribution allows for a lower air temperature. Heating with radiant heaters is energy effective and contribute to a high level of heat. EZF42 is suitable both for total heating and additional heat, as well as protection against cold draughts from large glass surfaces.

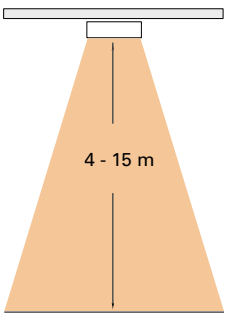
EZF42 has high output, but yet comparatively low surface temperature, which gives a long-wave radiant heating with a high comfort level and performance.

The radiant heater is mounted on the ceiling, armature rails, on wire, or suspended.

Single heaters are easily regulated by any Frico room thermostat. A group of heaters is preferrably regulated by electric heating regulator ERP.

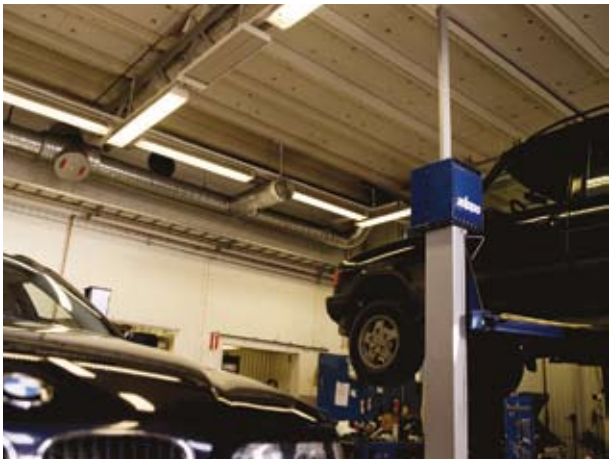
- Surface structure that gives optimal efficiency.
- Casing of natural aluminium zinc which is very resistant against corrosion. Heating panel, natural anodized aluminium. Colour: ”Champagne”.
- The heater is approved for serial connection.
- Ceiling mounting brackets are included as standard.
- Easy to mount together with electric fittings.

Installation height



2007-11-06

Elztrip is an elegant and effective solution to cold draught problems. Hilton in Malmö has adopted this solution in their large glass lobby.



EZF blend in discreetly with the electrical fittings at BMW Group outside Stockholm.

EZF is used both for total and spot heating in this sports centre. The hall is divided into different temperature zones to meet different temperature demands.

When using a conventional heating system, the warm air rises and stays under the ceiling and the cold air drops down to the floor. This is especially notable in buildings with high ceilings. Overheated air causes big energy losses. Radiant heaters on the contrary provide an even temperature.

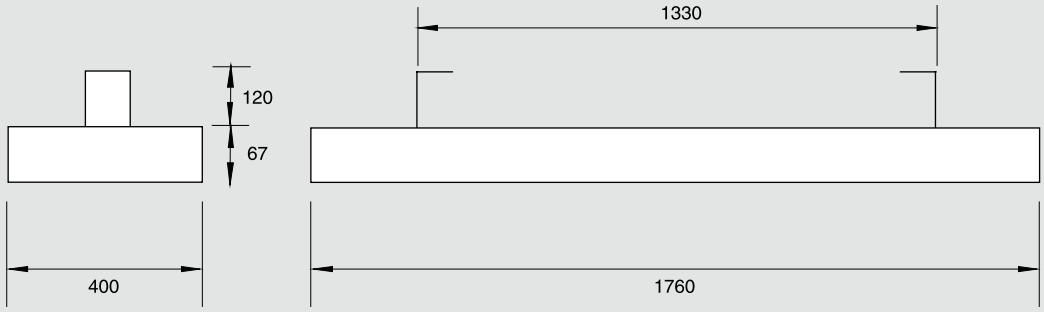
Technical specifications | Elztrip EZF42

Type	Heat output [W]	Voltage [V]	Amperage [A]	Dimensions LxHxW [mm]	Max. surface temperature [°C]	Weight [kg]
EZF42	4200	400V3~	6,1	1760x67x400	370	20

Protection class Elztrip EZF: (IP44), splash-proof design.
CE compliant.

Dimensions

EZF42



Positioning, mounting and installation

Positioning

To estimate approximately how many radiant heaters are needed to cover an area the formula is:

$$\text{Min. number of heaters} = \frac{\text{Area of the premises [m}^2\text{]}}{\text{Installation heigth [m]} \times \text{Installation heigth [m]}}$$

This formula is a basic estimation of the minimum number of radiant heaters needed to maintain the comfort. To calculate the right output for each heater, the total heating requirement must be calculated, see the Technical handbook.

When planning an Elztrip installation, the distance between the heaters should not be greater than the height between heater and floor, that means (a) should be less than (H). See Fig. 1. In rooms not often used, the comfort demands are usually lower and the distance between the heaters can be increased. In rooms frequently used, the distance between a sedentary person and heater should be at least between 1.5 to 2 metres (Δh). When these two guide lines are followed, the difference in operative temperature will not exceed the comfort level Δtop= 5 °C. This means that the difference between the real temperature and the temperature that man senses, will not be more than 5 °C. Max. surrounding temperature is +30°C.

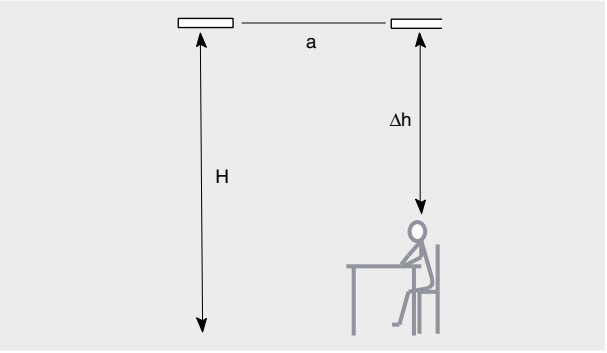
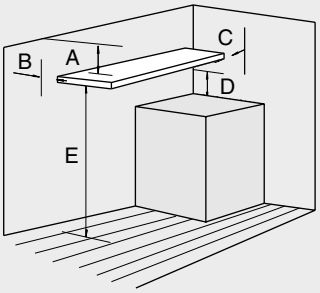


Fig. 1: Positioning vertically



		Min.distance [mm]
		EZF42
Ceiling	A	120
Wall, long side of the unit	B	250
Wall, short side of the unit	C	250
Flammable material	D	1000
Floor	E	1800

Fig. 2: Minimum mounting distance.

Mounting

Elztrip EZF is mounted on the ceiling, on armature rails, on wire or suspended. EZF should always be mounted horizontally. For minimum mounting distance, see Fig. 2. Standard fittings (2 pcs) for mounting are included and are found inside the connection box. When mounting on wire, suitable clips that prevent the panel from sliding should be acquired.

Connection

EZF is intended for permanent installation. Serial connection is easily made through the plinth (16 mm²).

Control options

Control with thermostat, contactor and switch
The choice of thermostat depends on needs and environment.

Connection is made by a 3 step switch making it possible to manually connect the elements 1 + 1 + 1.

- T10, external thermostat with concealed knob
- TK10, external thermostat with visible knob
- KRT1900, capillary tube thermostat, IP55

For further options, see section on thermostats and controls or contact Frico.

Accessories

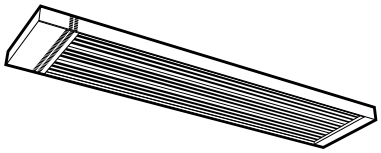
LMSEZ, line mounting set
For mounting of EZF on droprods, wires etc.

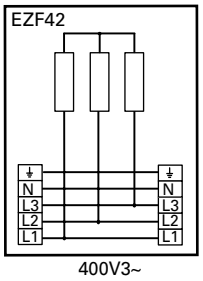
Controls and other accessories

Type	Description	HxWxD [mm]
T10	Electr. thermostat	80x80x31
TK10	Electr. thermostat, knob	80x80x31
KRT1900	Capillary room thermostat, IP55	165x57x60
LMSEZ	Line mounting set	

Wiring diagrams EZF42

Internal wiring diagrams.





Frico AB
031 336 86 00
www.frico.se