

ENSTO

Electric Heating Solutions

For new buildings and renovation

Better life.
With electricity.

Electric heating is an easy, reliable, and flexible way to solve the heating needs of a home. When your home heating system needs updating, Ensto will find solutions that are easy to install.

ensto.com



This brochure provides practical tips for energy efficient electric heating solutions, installation as well as benefits homeowners will be enjoying for years to come.

Ensto electric heating products offer a great combination of energy efficiency, comfort, safety, reliability, flexibility and low capital costs. Add ease of installation and an almost non-existent need for the maintenance – Ensto electric heating is clearly the smart choice.

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Electric heating

Energy-efficient, flexible, comfortable and cost-effective

Electric heating is the most sensible, cost-efficient source of heating for an energy-efficient house. In a well-insulated building, the need for additional heating is low that an expensive heating system is useless investment. Electric heating is the most reasonable solution now and in the future.

Cost-efficiency

When investing in a heating system, electric heating is by far the least expensive and easiest form of heating for a builder.

Safe, available infrastructure

The required infrastructure is available almost everywhere. There are very few locations where connecting to the local electricity network is impossible.

Reacts quickly

Electric heating responds quickly and accurately to changes in demand for heating. In addition, electric heaters have nearly 100% efficiency.

Safety for the user and the environment

A heating system that is safe to use is particularly important for households with pets, children, or seniors. Electric heating is also eco-friendly.

Easy and care-free

Electric heating is easy to use and does not require regular maintenance.

Many possibilities

Electric heating can be realised with panel heaters, underfloor heating cables, or heating cable mats.

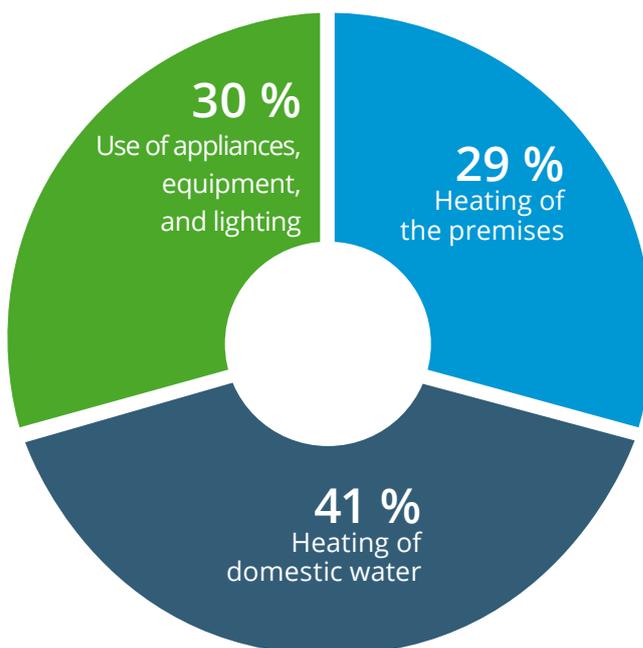
Easy to control

Fast responding heating control system is important for comfortable living and energy efficiency. The Ensto Heat Control application allows you to control Ensto heaters and floor heating thermostats that are equipped with Bluetooth technology. With a few clicks the temperature can be amended, and adjustments can be made for holidays and calendar programs.

A sensible solution now and for the future

Popularity of electric heating is not far from being reduced in the future. In the future, it will be even more popular heating system when the need for heating reduces in even more energy-efficient homes.

The most cost-effective heating option is electric heating. It is useless to invest in expensive heating systems, when the same money can heat a home for more than a decade – and without maintenance costs.



A mere 29% of the electricity used by households goes to heating the premises. The more energy-efficient the building is, the smaller this share becomes.



Ideal heating solution for new buildings

Energy for life, electricity for your home



When choosing a heating system, the total costs, low maintenance, safety, personal preferences and user-friendliness have a significant influence on decision-making. A heating system is a long-term investment, and its reliability is a major comfort factor. Naturally, the choice also has a great influence on energy efficiency.

CRITERIA	FEATURE
Costs	<ul style="list-style-type: none">• Energy prices and tariff structures• Installation, maintenance, and running costs• Expected changes to energy prices• Total energy consumption
Benefits of the heating system	<ul style="list-style-type: none">• Easy to use• Reliability in daily use• Thermal comfort• Health and safety• Possibility to design interiors with fewer limitations• Possibility to use additional heat sources
Investment costs	<ul style="list-style-type: none">• Building, renovation and subscriber costs• Other costs (incl. insulation and space requirements)• Life time expectancy

The Ecodesign requirements for electric heaters

Ecological design



The Ecodesign regulation for electric heaters and floor heating thermostats came into force January 1, 2018. The purpose of the Ecodesign is to reduce environmental impacts of products which use energy or are related to energy usage. If the product does not fulfil the Ecodesign requirements, it cannot be sold within the EU market.

- Defines minimum energy efficiency of electric heaters
- Calendar control (daily or weekly)
- Adaptive starting / remote control possibility / open-window detection
- Standby consumption <0,5W
- Part of CE marking

How Ensto meets Ecodesign requirements?

Possible to control locally on mobile devices (Bluetooth)

- No remote control over the network
- Weekly calendar control
- Up to 40% savings in energy consumption (Motiva 2015)

Adaptive heating control

- The thermostat optimizes the starting of the heating according to the conditions
- Collect data and optimize based on history

Ensto Heat Control App

Smart heating control provide a new kind of comfort and flexibility. Ensto's panel heaters and floor heating thermostats are equipped with a smart electronic thermostat and can be easily controlled by a mobile device.

The Ensto Heat Control application allows you to control Ensto heaters and floor heating thermostats that are equipped with Bluetooth technology. You can create a weekly or longer-term program for your desired period, as well as being able to track their impact on your home's energy consumption. Using Ensto Heat Control App to manage your home heating is easy, efficient and reliable.

Download the Ensto Heat Control App from App Store or Google Play Store!

Designing underfloor heating

Basic planning assumptions

TASSU (20 W / m)	
Bending radius min. 40 mm	
Power per area	Installation spacing /cm
80	25
90	22
100	20
110	18
120	17
130	15
140	14
150	13

TASSU S (10 W / m)	
Bending radius min. 40 mm	
Power per area	Installation spacing /cm
60	17
70	14
80	13
90	11
100	10
110	9

THINKIT (10 W / m)	
Bending radius min. 25 mm	
Power per area	Installation spacing /cm
60 *)	17
70 *)	14
80	13
90	11
100	10
110	9
120	8,5
130	7,5
140	7
150	6,5

*) Outputs of <80 W/m² are intended for low-energy passive houses.

Underfloor heating is suitable for most floor structures and flooring materials as a sole or combined heating solution. Heat storing and the implementation can be either direct, indirect or a combination of both. As underfloor heating provides a higher operative temperature, it is possible to lower the room temperature by 1–2 °C without compromising comfort. This will save 5–10 % in heating costs.

Adequate heating power throughout the cold season

- › Power of constant underfloor heating cables is > 1.2 x thermal loss of the calculated area.
- › Power of partially storing underfloor heating cables is > 1.4 x the thermal loss of the calculated area.

Floor surface temperature should feel comfortable in use

- › Even heat across the living quarters, cable laying distance 10–30 cm.
- › Adequate floor temperature during warm seasons – not too hot during cold seasons.

Floor temperature must not damage the flooring materials

- › The right choice of flooring materials.
- › The right choice of temperature according to the flooring material.

Selecting heating cables

Choose the right cable type, power output and installation method to suit the flooring material and structure. Cable installation depth, surfacing and distance between two cables can also affect the system. Local regulations must be taken into account.

Installing underfloor heating to an existing building

The floor structure must be first inspected to determine the best installation method and heating solution. Adding underfloor heating is easier when the floor surfaces are being replaced or the whole floor construction is opened in order to improve insulation. In damp areas (new floor construction), underfloor heating cable is always laid under

a waterproofing membrane. The laying distance between heating cables should be 9–25 cm to provide an even surface temperature.

Sizing

Based on the selection of the desired power/m², the installation spacing for Tassu, Tassu S and ThinkKit cables can be found from the adjacent tables.

Installation spacing can also be calculated based on the following formula:

Installation spacing =	$\frac{\text{Surface area/m}^2}{\text{Cable length/m}}$
Example: The floor area to be heated is 12 m ² and the selected cable is the Tassu12 with a length of 54 meters. The installation spacing is:	
Installation spacing =	$\frac{12 \text{ m}^2}{54 \text{ m}} = 0,22 \text{ m} = 22 \text{ cm}$

Power per surface area is calculated using the following formula:

Power/W/m ² =	$\frac{\text{Cable power/W}}{\text{Floor surface area/m}^2}$
Power/W/m ² =	$\frac{1200 \text{ W}}{12 \text{ m}^2} = 100 \text{ W/m}^2$

Example

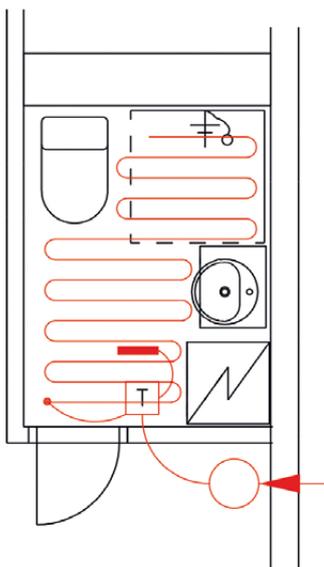
Bathroom renovations with underfloor heating solutions



You can introduce added comfort to your bathroom by installing ThinKit underfloor heating cables or a ThinMat heating cable mat. If you already have a heating system in the space, you usually only need to install underfloor heating in the areas where people walk.

ThinMat is designed to be installed over the existing floor. ThinKit offers an ideal solution for small and cramped areas. ThinKit and ThinMat must always be installed under the damp proof membrane. Insulation is always recommended under a underfloor heating.

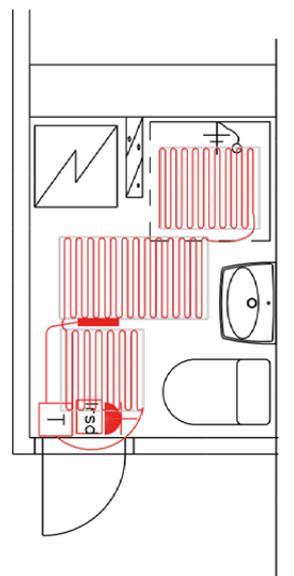
Heating systems must always be dimensioned in accordance with the local climate and regulations. Note: This example is based on the building practices and climate in Finland.



ThinKit EFHTK1.5 was used for the bathroom's heating system

Power (W): 150 W
Power per square metre (W/m²): 83 W/m²
Length (m): 14.5 m
Cable installation interval (m): 0.12 m

ThinKit offers an ideal solution for small or cramped areas such as bathrooms and toilets (see the picture to the left).



ThinMat EFHTM100.2 was used for the bathroom's heating system

Power (W): 200 W
Length (m): 4 m
Width (m): 0.48 m

ThinMat is used when installing on existing flooring.



Tassu

A heating cable for direct or partial storage floor heating

The Tassu underfloor heating cable offers a maintenance-free heating solution for both dry and damp areas. The cable is available as 20 W/m, and it is used primarily for new concrete floors.



Comfort and savings

You can reduce your heating costs without compromising on comfort. At home, comfort begins with warm feet; when your toes are comfortably warm, the room temperature can be reduced by a degree or two.

Safety

In damp areas underfloor heating speeds drying of the floor surface and prevents moisture problems.

Healthy conditions

Underfloor heating smooths the movement of air and reduces dust circulation in the room. It creates an ideal room temperature, and is thus especially suitable in families which suffer from allergies and respiratory diseases.



“Living comfort begins with warm feet.”



TASSU1200W54M



TASSU1800W86M



Structure

- › Preterminated twin conductor cables and a PVC-sheath
- › The length of the cold lead is 3 m
- › Nominal voltage 230 V
- › Output 20 W/m
- › Mechanical strength M2

Control

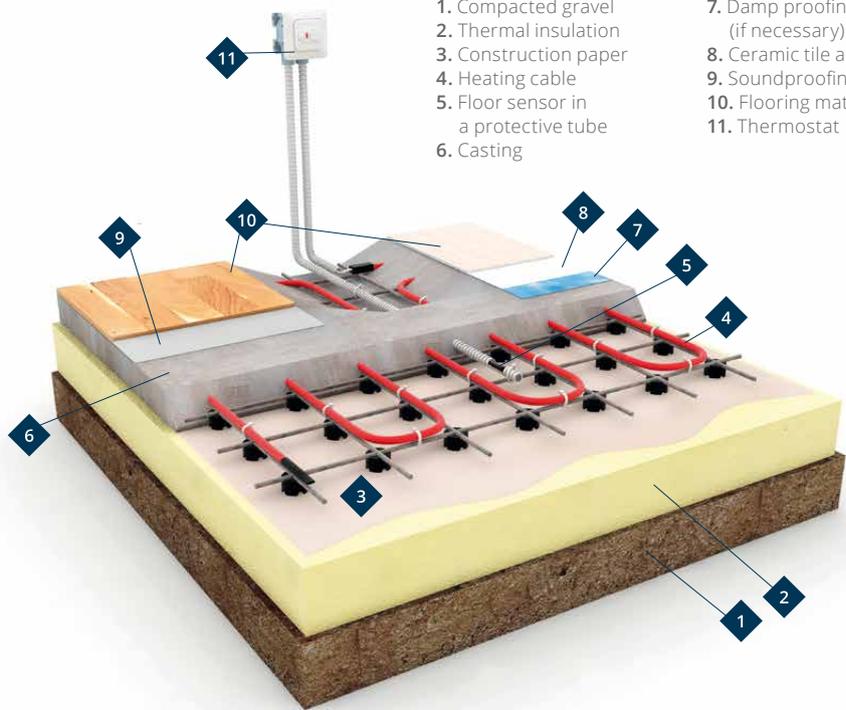
- › Compatibility with all Ensto thermostats

Installation

- › For direct or partial storage floor heating
- › Requirement of installation in a material with a conductance level similar to concrete's in a manner that prevents mechanical strain to the product
- › Output 80–150 W/m²
- › Installation distance 13–25 cm
- › Installation depth about 5.0 cm
- › Min. installation temperature -10 °C

One-stage casting

- | | |
|--------------------------------------|---------------------------------|
| 1. Compacted gravel | 7. Damp proofing (if necessary) |
| 2. Thermal insulation | 8. Ceramic tile adhesive |
| 3. Construction paper | 9. Soundproofing |
| 4. Heating cable | 10. Flooring material |
| 5. Floor sensor in a protective tube | 11. Thermostat |
| 6. Casting | |



Type	GTIN	Power	Length	Floor area
Tassu				
TASSU150W7M	6438100353865	150W	7 m	1,0-1,9 m ²
TASSU200W9M	6438100353896	200W	9 m	1,3-2,5 m ²
TASSU240W11M	6438100353919	240W	11 m	1,6-3,0 m ²
TASSU300W15M	6438100353926	300W	15 m	2,0-3,8 m ²
TASSU440W20M	6438100353940	440W	20 m	2,9-5,5 m ²
TASSU500W25M	6438100353957	500W	25 m	3,3-6,3 m ²
TASSU600W29M	6438100353964	600W	29 m	4,0-7,5 m ²
TASSU700W35M	6438100353971	700W	35 m	4,7-8,8 m ²
TASSU800W38M	6438100353988	800W	38 m	5,3-10,0 m ²
TASSU900W40M	6438100353995	900W	40 m	6,0-11,3 m ²
TASSU1000W50M	6438100353841	1000W	50 m	6,7-12,5 m ²
TASSU1200W54M	6438100353858	1200W	54 m	8,0-15,0 m ²
TASSU1600W72M	6438100353872	1600W	72 m	10,7-20,0 m ²
TASSU1800W86M	6438100353889	1800W	86 m	12,0-22,5 m ²
TASSU2200W106M	6438100353902	2200W	106 m	14,7-27,5 m ²

Tassu S

A heating cable for direct floor heating

The Tassu S underfloor heating cable offers a maintenance-free heating solution for both dry and damp areas. The cable is available as 10 W/m, and it is used primarily in renovation projects.



Comfort and savings

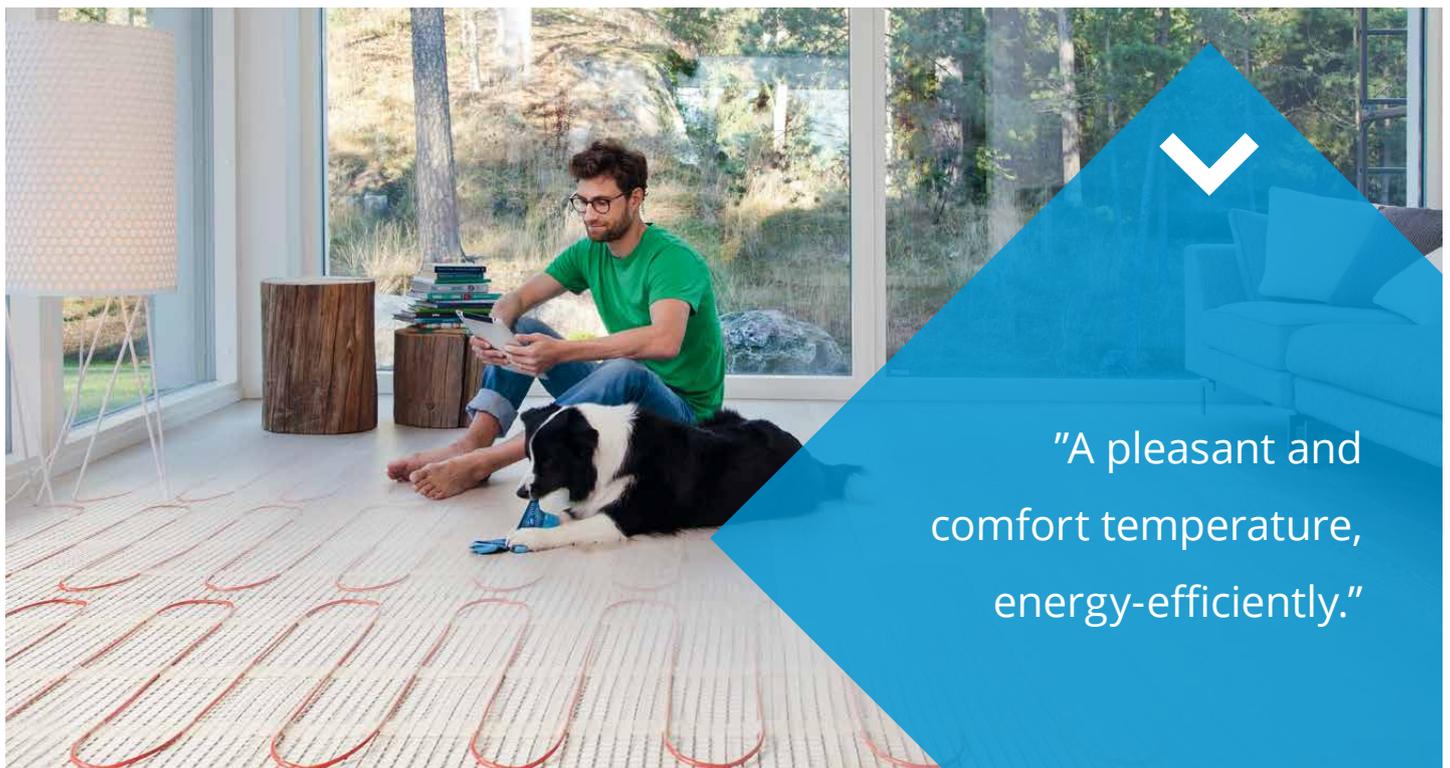
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Safety

In damp areas underfloor heating speeds drying of the floor surface and prevents moisture problems.

Healthy conditions

Underfloor heating smooths the movement of air and reduces dust circulation in the room. It creates an ideal room temperature, and is thus especially suitable in families which suffer from allergies and respiratory diseases.



“A pleasant and comfort temperature, energy-efficiently.”



TASSUS500W50M



Structure

- › Preterminated twin conductor cables and a PVC-sheath
- › The length of the cold lead is 3 m
- › Nominal voltage 230 V
- › Output 10 W/m
- › Mechanical strength M2

Control

- › Compatibility with all Ensto thermostats

Installation

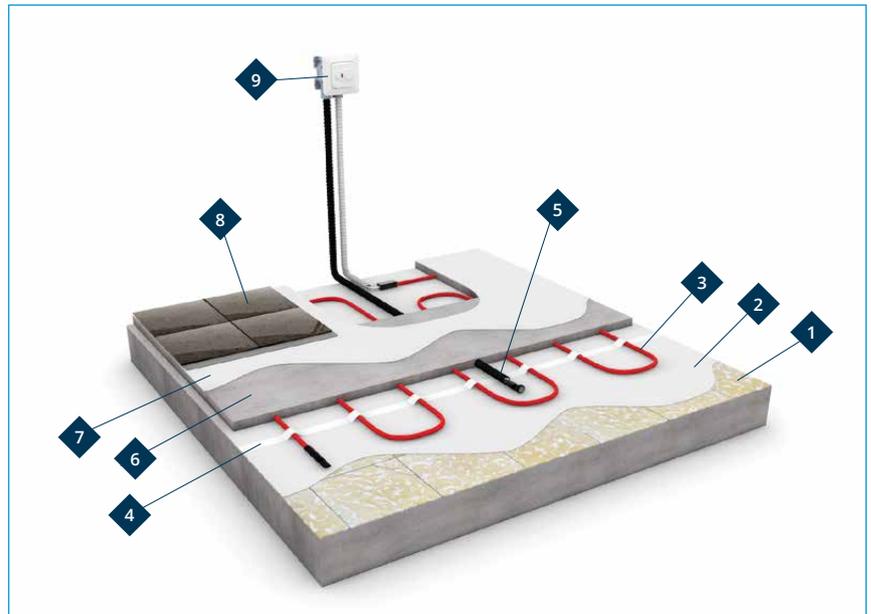
- › For direct floor heating
- › Requirement for installation on a non-flammable surface
- › Output 60–110 W/m² (Note: outputs of <80 W/m² are intended for low-energy passive houses)
- › Installation distance 9–17 cm
- › Installation depth about 2.5 cm
- › Min. installation temperature -10 °C
- › The possibility of connecting the cold cable directly to Ensto thermostats

Type	GTIN	Power	Length	Floor area
Tassu S				
TASSUS105W10M	6438100354121	105W	10 m	1-1,8 m ²
TASSUS165W16M	6438100354138	165W	16 m	1,5-2,8 m ²
TASSUS200W22M	6438100354039	200W	22 m	1,8-3,3 m ²
TASSUS250W25M	6438100354046	250W	25 m	2,3-4,2 m ²
TASSUS300W29M	6438100354053	300W	29 m	2,7-5,0 m ²
TASSUS400W42M	6438100354060	400W	42 m	3,6-6,7 m ²
TASSUS500W50M	6438100354077	500W	50 m	4,5-8,3 m ²
TASSUS600W59M	6438100354084	600W	59 m	5,5-10,0 m ²
TASSUS700W71M	6438100354091	700W	71 m	6,4-11,7 m ²
TASSUS800W79M	6438100354107	800W	79 m	7,3-13,3 m ²
TASSUS900W87M	6438100354114	900W	87 m	8,2-15,0 m ²
TASSUS1000W100M	6438100354008	1000W	100 m	9,1-16,7 m ²
TASSUS1100W106M	6438100354145	1100W	106 m	10,0-18,3 m ²
TASSUS1300W117M	6438100354015	1300W	117 m	11,8-21,7 m ²
TASSUS1500W140M	6438100354022	1500W	140 m	13,6-25,0 m ²



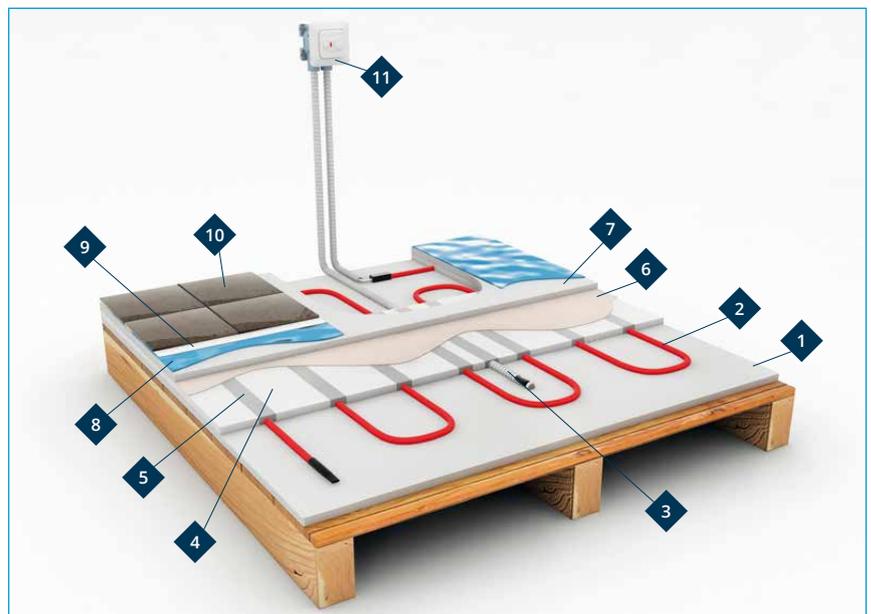
Heating for renovations and thin floor constructions

- 1. Old floor
- 2. Primer
- 3. Heating cable
- 4. Installation tape
- 5. Floor sensor in a protective tube
- 6. Filler
- 7. Filler (if necessary)
- 8. Flooring material
- 9. Thermostat



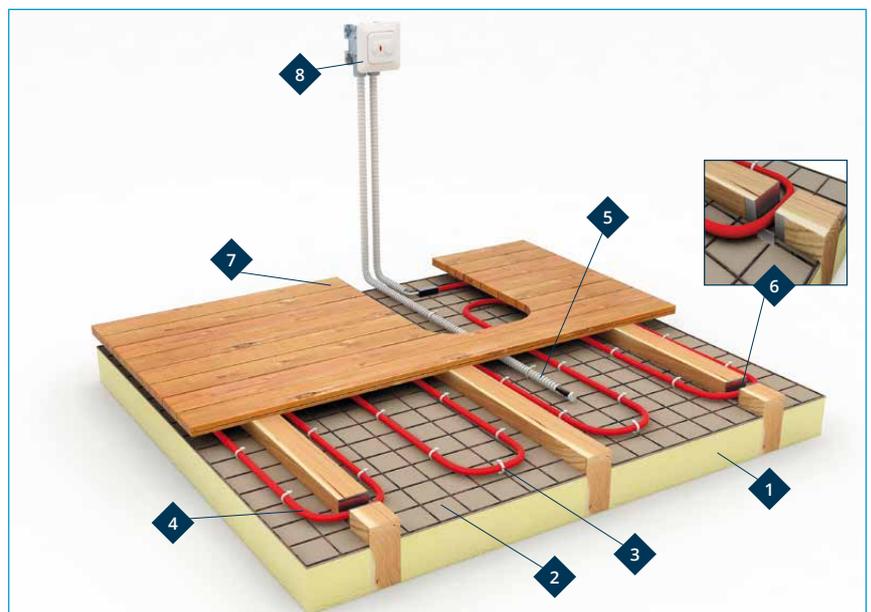
Heating in plasterboard floors

- 1. Plasterboard
- 2. Heating cable
- 3. Floor sensor in a protective tube
- 4. Plasterboard strips
- 5. Grooves for heating cable filled with mineral based filler
- 6. Filler (if necessary)
- 7. Extra-hard plasterboard
- 8. Damp-proofing (if necessary)
- 9. Ceramic tile adhesive
- 10. Flooring material
- 11. Thermostat



Heating in wooden structures

- 1. Thermal insulation
- 2. Aluminium foil
- 3. Attachment mesh
- 4. Heating cable, Tassu S
- 5. Floor sensor in a protective tube
- 6. Crossing the floor joist
- 7. Flooring material
- 8. Thermostat





With Ensto's underfloor heating solutions, you can achieve a comfortable temperature and good indoor conditions for your house cost-efficiently. A heated floor feels pleasant and warm, and it speeds up drying in wet rooms.

ThinKit

Heating cable for the underfloor heating for small and cramped areas



ThinKit is a small, round cable that does not raise the floor level excessively. It is suitable for installation in new houses or on existing flooring. ThinKit, which comes with an efficacy of 10 W/m, is a maintenance-free heating solution for both dry and wet spaces.

Comfort and savings

You can reduce your heating costs without compromising on comfort. At home, comfort begins with warm feet; when your toes are comfortably warm, the room temperature can be reduced by a degree or two.

Safety

In damp areas underfloor heating speeds drying of the floor surface and prevents moisture problems.

Healthy conditions

Underfloor heating smooths the movement of air and reduces dust circulation in the room. It creates an ideal room temperature, and is thus especially suitable in families which suffer from allergies and respiratory diseases.



"Ideal for small, cramped spaces."



Structure

- › Preterminated twin conductor cables and a PVC-sheath
- › Cable diameter of 4.2 mm
- › Contents of the package:
 - Underfloor heating cable
 - Flexible plastic tube for the thermostat's sensor
 - Installation tape
- › Power 10 W/m
- › Nominal voltage 230 V
- › Mechanical strength M1
- › The length of the cold lead is 3 m

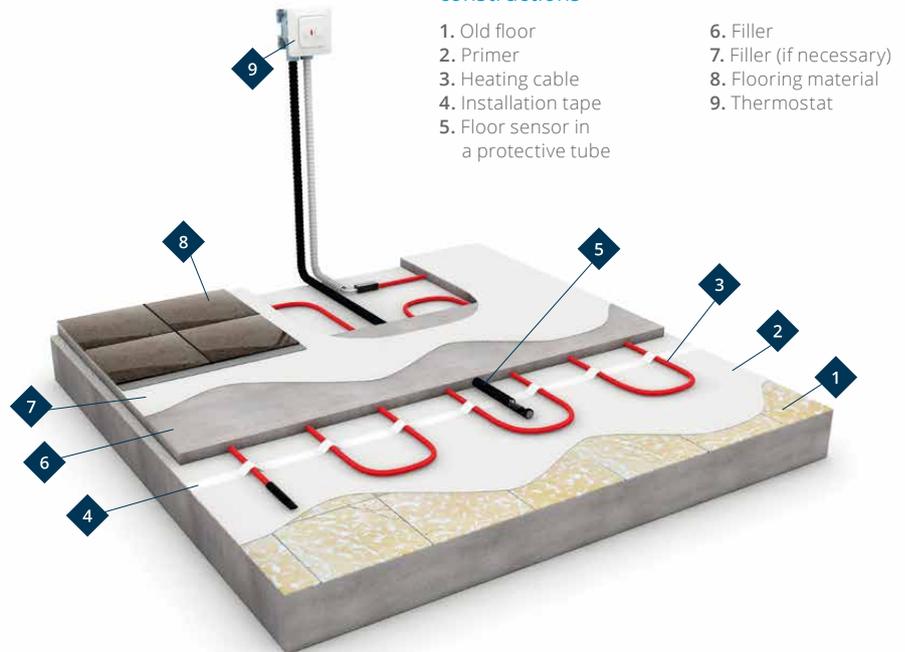
Control

- › Compatibility with all Ensto thermostats

Installation

- › Installation in thin layer of levelling compound
- › Suitability for use with a wide range of flooring material, but the cable should always be laid upon fireproof material
- › Output of 60–150 W/m². (Note: outputs of <80 W/m² are intended only for low-energy passive houses)
- › Minimum installation temperature of 5 °C
- › The ability to connect the cold cable directly to Ensto thermostats

Heating for renovations and thin floor constructions



- 1. Old floor
- 2. Primer
- 3. Heating cable
- 4. Installation tape
- 5. Floor sensor in a protective tube
- 6. Filler
- 7. Filler (if necessary)
- 8. Flooring material
- 9. Thermostat

Type	GTIN	Power	Length	Floor area
ThinKit heating cables without a thermostat				
EFHTK1	6418677636790	130W	13,5 m	0,9-2,2 m ²
EFHTK1.5	6418677636806	150W	14,5 m	1,0-2,5 m ²
EFHTK2	6418677636813	220W	22,5 m	1,5-3,7 m ²
EFHTK3	6418677636820	280W	28,5 m	1,9-4,7 m ²
EFHTK4	6418677636837	400W	40 m	2,7-6,7 m ²
EFHTK5	6418677636844	450W	45 m	3,0-7,5 m ²
EFHTK6	6418677637841	550W	55 m	3,7-9,2 m ²
EFHTK7	6418677636851	690W	70 m	4,6-11,5 m ²
EFHTK8	6418677636868	780W	78 m	5,2-13 m ²

ThinMat

Underfloor heating mat for renovation

ThinMat, with a power of 100 W/m², is a maintenance-free heating solution for dry and damp areas alike.



Comfort and savings

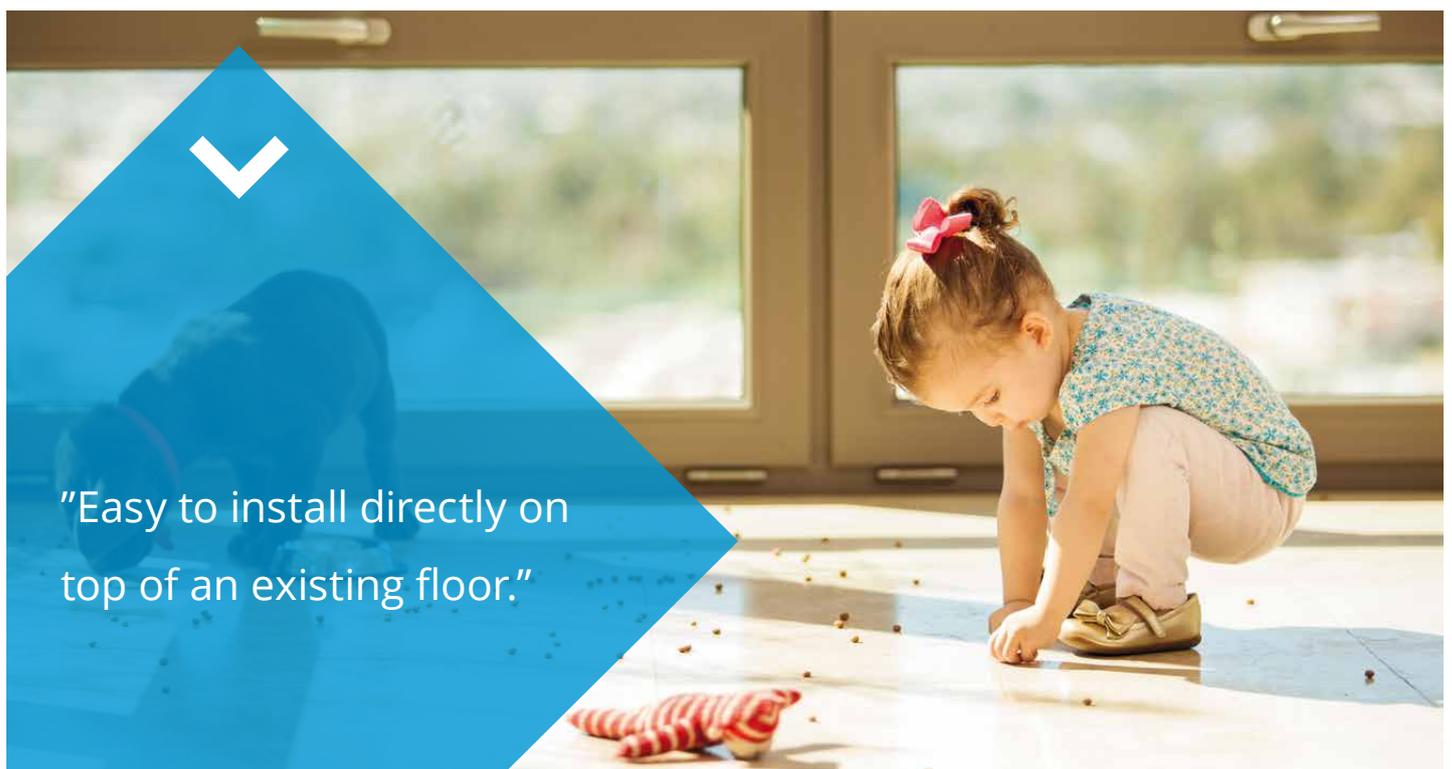
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Healthy conditions

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"Easy to install directly on top of an existing floor."



Structure

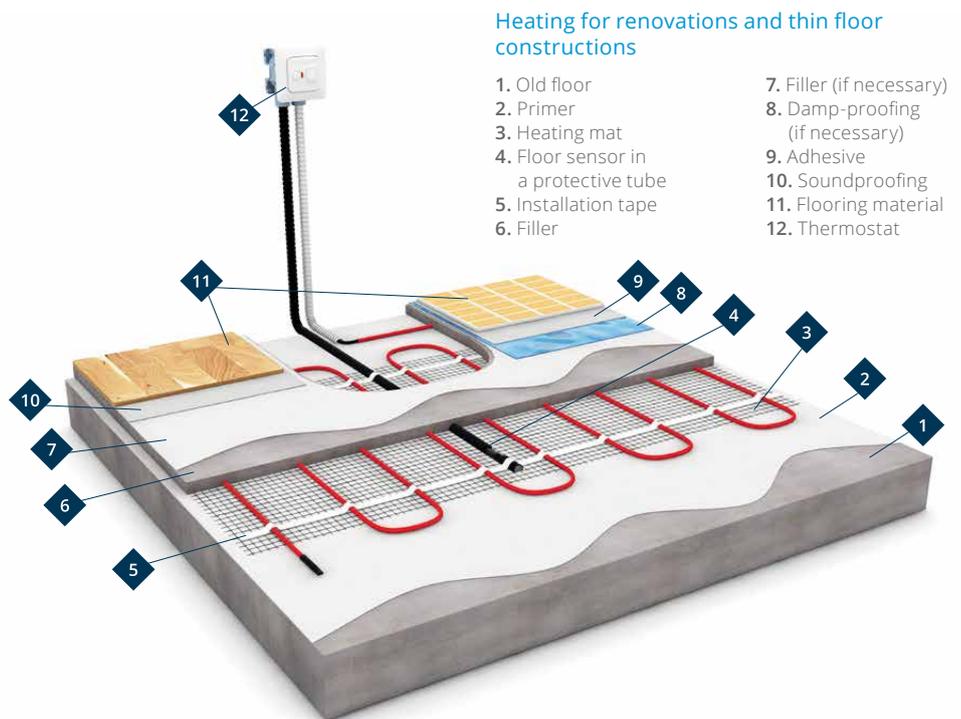
- › Preterminated twin conductor cables and a PVC-sheath
- › Cable diameter of 3.8 mm
- › Cable that is fixed to a mesh with an adhesive surface, which prevents it from shifting upward during installation
- › Standard heating mat width of 48 cm
- › Power per square metre of 100 W/m² is sufficient for comfort heating in dry and damp indoor conditions
- › The package includes a floor heating mat, adhesive aluminium tape, and a flexible installation tube for the sensor
- › Nominal voltage of 230 V
- › The length of the cold lead is 4 m

Control

- › Ensto thermostat
 - Underfloor heating thermostat with a residual circuit breaker
 - Combination thermostat

Installation

- › Installation in thin layer of levelling compound
- › Wood, parquet, laminate, concrete, stone, or flooring tiles as the surface material
- › Suitable for installation on top of chipboard, but have to be covered with levelling compound
- › Minimum installation temperature of 5 °C
- › The possibility of connecting the cold cable directly to Ensto thermostats



Heating for renovations and thin floor constructions

1. Old floor
2. Primer
3. Heating mat
4. Floor sensor in a protective tube
5. Installation tape
6. Filler
7. Filler (if necessary)
8. Damp-proofing (if necessary)
9. Adhesive
10. Soundproofing
11. Flooring material
12. Thermostat

Type	GTIN	Power	Length	Floor area
ThinMat heating cable mats				
EFHTM100.1	6418677635366	100W	2 m	1 m ²
EFHTM100.15	6418677635373	150W	3 m	1,5 m ²
EFHTM100.2	6418677635380	200W	4 m	2 m ²
EFHTM100.3	6418677635397	300W	6 m	3 m ²
EFHTM100.4	6418677635403	400W	8 m	4 m ²
EFHTM100.5	6418677635410	500W	10 m	5 m ²
EFHTM100.6	6418677635427	600W	12 m	6 m ²
EFHTM100.8	6418677635441	800W	16 m	8 m ²

Thermostats

For controlling underfloor heating

Ensto's thermostats are reliable and accurate, and they meet the Ecodesign requirements. They maintain a constant, pleasant temperature in all spaces.



ECO16BT-IN-WW



ECO16BT-IN-SW

Energy savings

While you are away, you can easily drop the temperature. With the energy-consumption monitoring system, you can keep track on the costs and decrease your energy consumption.

Comfort

Accurate thermostat reaction fast to temperature changes increases comfort and ensures an even room temperature.

Versatility

Combination thermostats can be used to control heating in various ways, including using floor- or room-specific control, a combination of these, or the recently introduced boost function.



"Smart heating control provide a new kind of comfort and flexibility."



ECO10BTW-J



ECO16BT-J



ECOAC-44



ECO16TOUCH

Structure

- › The thermostats are compatible with the Intro, Jussi, Elko, Impressivo and Exxact series
- › Combination thermostat and thermostat with a residual-current device
- › Double-insulated
- › A precise smart electronic thermostat (room and combination 5–35 °C, floor 5–50 °C, power 0–100%) that can be controlled manually or with Ensto's Heat Control application (Android and iOS)
- › For the ECO10BT and ECO16BT products, an included external temperature adjustment function (controlled via the Ensto Heat Control application)
- › Standby power consumption <0.3 W
- › NTC sensor (47 kΩ), length 4 m
- › Operating temperature range of -20 °C to 30 °C
- › Two-pole switch
- › Degree of protection:
For combination thermostats, IP30
For a thermostat with a residual-current device, IP31
- The option of upgrading ECO16BT-J and ECO10BTW-J thermostats' protection rating to IP44 by using the ECOAC-44 protective cover
- › Input voltage 230 V

Ensto Heat Control application

- › Temperature management
- › Selecting a thermostat mode:
 - Floor
 - Room
 - Combination
 - Power
- › Calendar programs
 - Set a required temperature and starting time
- › Holiday periods
 - Longer period temperature changes
- › Boost
 - Temporary temperature change
- › Schedule management
 - Day-to-day with six temperature change events
- › Reduce energy costs by energy monitoring
 - Weekly and annual energy consumption
 - Weekly temperature monitoring

Type	GTIN	Nominal current	Nominal voltage	Power	Colour
Underfloor heating thermostat with residual-current device					
ECO10BTW-J	6438100339302	10A	230 V	2300W	white
Intro combination thermostat with floor sensor					
ECO16BT-IN-WW	6438100339067	16A	230 V	3600W	white
ECO16BT-IN-SW	6438100339050	16A	230 V	3600W	black
Jussi combination thermostat with floor sensor					
ECO16BT-J	6438100339081	16A	230 V	3600W	white
Elko combination thermostat with floor sensor					
ECO16BT-E	6438100339098	16A	230 V	3600W	white
Impressivo combination thermostat with floor sensor					
ECO16BT-IM-084	6438100339043	16A	230 V	3600W	white
ECO16BT-IM-083	6438100339036	16A	230 V	3600W	aluminium
ECO16BT-IM-081	6438100339029	16A	230 V	3600W	anthracite
Exxact combination thermostat with floor sensor					
ECO16BT-EX	6438100361839	16A	230 V	3600W	white
Combination thermostat with touchscreen					
ECO16TOUCH	6418677639166	16A	230 V	3600W	white
IP44 protective cover for the ECO16BT-J and ECO10BTW-J thermostats					
ECOAC-44	6438100334840	-	-	-	white



Taso

Ensto Tupa panel heaters with connection box

Taso heaters, which belong to Ensto's Tupa range, meet the Ecodesign requirements. These new heaters are equipped with smart electronic thermostats. The basic Taso heater is suitable for residential properties, including holiday homes.



Energy-efficiency

Heaters respond quickly to temperature changes caused by other heat sources. Because they heat room air rather than building structures, they achieve nearly 100% efficiency.

Smart control

The Ensto Heat Control application allows you to control Ensto heating systems with a mobile device. With a few clicks the temperature can be amended, and adjustments can be made for holidays and calendar programs.

Safety

Thanks to their low surface temperature and overheating-protection, all Ensto heaters are safe to use.



"A basic heater for residential properties, including holiday homes."



TASO5-BT



TASO8-BT



Structure

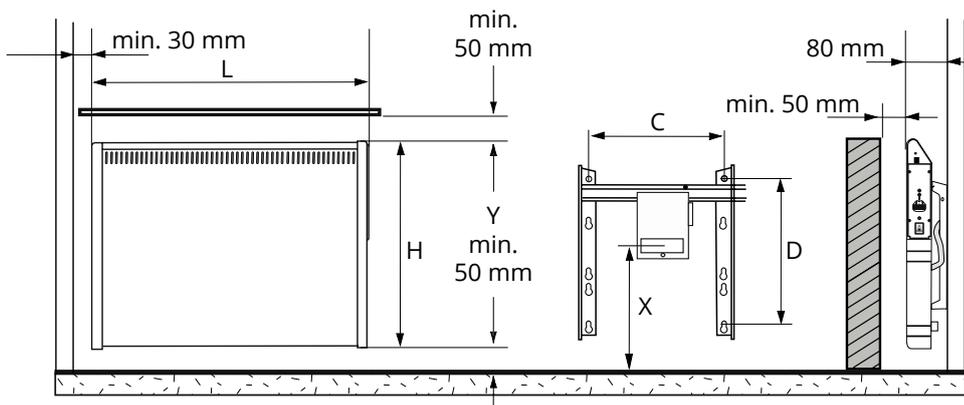
- ▶ A combination heater with an electronic thermostat (adjustment range of 5 to 30 °C) and a connection box
- ▶ Double-insulated
- ▶ Extremely accurate (+/-0.1°C) and completely silent intelligent thermostat that can be controlled with Ensto's Heat Control application (Android and iOS)
- ▶ External temperature changes (controlled via the Ensto Heat Control application)
- ▶ Master/slave function
- ▶ Also available without a thermostat (slave heater)
- ▶ Fault detection for the room sensor
- ▶ Standby consumption <0.3 W
- ▶ Degree of protection IP20
- ▶ Colour RAL 9002

Installation

- ▶ Fixed installation
 - Wall bracket
 - Connection box

Ensto Heat Control application

- ▶ Temperature management
- ▶ Calendar programs
 - Set a required temperature and starting time
- ▶ Holiday periods
 - Longer period temperature changes
- ▶ Boost
 - Temporary temperature change
- ▶ Schedule management
 - Day-to-day with six temperature change events
- ▶ Reduce energy costs (energy consumption monitoring)
 - Weekly and annual energy consumption
 - Weekly temperature monitoring
- ▶ Wireless control of a parallel heater
 - Max 10 heaters



Type	GTIN	Power	Length L (mm)	Height H (mm)	Wall bracket			
					C (mm)	D (mm)	X (mm)	Y (mm)
Taso heaters								
TASO2-BT	6438100339210	200W	300	400	100	280	75...200	70
TASO3-BT	6438100339241	350W	500	400	225	280	75...200	70
TASO5-BT	6438100339258	550W	800	400	300	280	75...200	70
TASO8-BT	6438100339265	800W	1100	400	600	280	75...200	70
TASO10-BT	6438100339234	1000W	1370	400	600	280	75...200	70
TASO12-BT	6438100339227	1200W	1670	400	1200	280	75...200	70

Taso parallel heaters								
TASO3.0	6410081272502	350W/o	500	400	225	280	75...200	70
TASO5.0	6410081272519	550W/o	800	400	300	280	75...200	70
TASO8.0	6410081272526	800W/o	1100	400	600	280	75...200	70
TASO10.0	6410081272533	1000W/o	1370	400	600	280	75...200	70

Power/W	Heated area (m²) with a rated power of			Heated volume (m³)		
	15W (m³)	25W (m³)	35W (m³)	15W (m³)	25W (m³)	35W (m³)
200	5	3	2	13	8	6
350	9	6	4	23	14	10
550	15	9	6	37	22	16
800	21	13	9	53	32	23
1000	27	16	11	67	40	29
1200	32	19	14	80	48	34

Lista

Ensto Tupa panel heaters with connection box



Lista heaters, which belong to Ensto's Tupa range, meet the Eco-design requirements. These new heaters are equipped with smart electronic thermostats. Lista is a low heater that is an ideal choice for spaces below large windows.

Energy-efficiency

Heaters respond quickly to temperature changes caused by other heat sources. Because they heat room air rather than building structures, they achieve nearly 100% efficiency.

Smart control

The Ensto Heat Control application allows you to control Ensto heating systems with a mobile device. With a few clicks the temperature can be amended, and adjustments can be made for holidays and calendar programs.

Safety

Thanks to their low surface temperature and overheating-protection, all Ensto heaters are safe to use.



"A low heater for spaces below large windows."



LISTA3-BT



LISTA5-BT



Structure

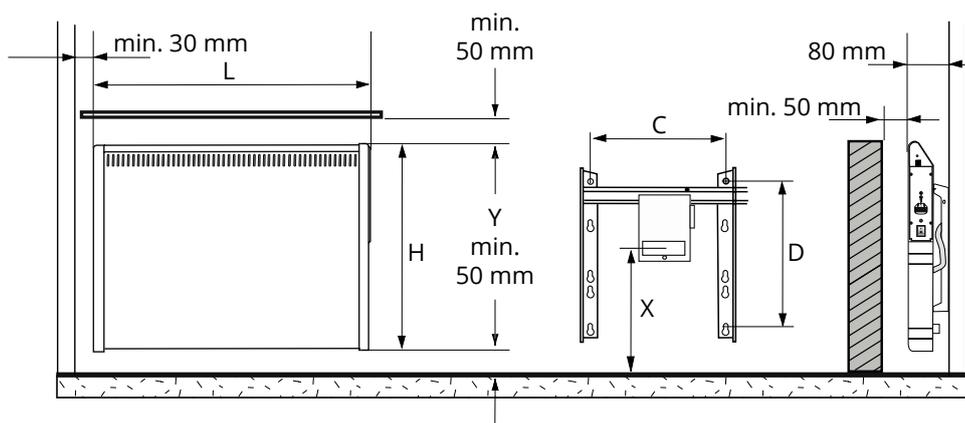
- › A combination heater with an electronic thermostat (adjustment range of 5 to 30 °C) and a connection box
- › Double-insulated
- › Extremely accurate (+/-0.1°C) and completely silent intelligent thermostat that can be controlled with Ensto's Heat Control application (Android and iOS)
- › External temperature changes (controlled via the Ensto Heat Control application)
- › Master/slave function
- › Also available without a thermostat (slave heater)
- › Fault detection for the room sensor
- › Standby consumption <0.3 W
- › Degree of protection IP20
- › Colour RAL 9002

Ensto Heat Control application

- › Temperature management
- › Calendar programs
 - Set a required temperature and starting time
- › Holiday periods
 - Longer period temperature changes
- › Boost
 - Temporary temperature change
- › Schedule management
 - Day-to-day with six temperature change events
- › Reduce energy costs (energy consumption monitoring)
 - Weekly and annual energy consumption
 - Weekly temperature monitoring
- › Wireless control of a parallel heater
 - Max 10 heaters

Installation

- › Fixed installation
 - Wall bracket
 - Connection box



Type	GTIN	Power	Length L (mm)	Height H (mm)	Wall bracket			
					C (mm)	D (mm)	X (mm)	Y (mm)
Lista heaters								
LISTA2-BT	6438100339104	200W	500	200	225	90	75	70
LISTA3-BT	6438100339111	350W	800	200	300	90	75	70
LISTA5-BT	6438100339128	500W	1100	200	600	90	75	70
LISTA7-BT	6438100339135	700W	1370	200	600	90	75	70
LISTA9-BT	6438100339142	900W	1670	200	1200	90	75	70

Lista parallel heaters								
LISTA3.0	6410081222163	350W/o	800	200	300	90	75	70
LISTA5.0	6410081222170	500W/o	1100	200	600	90	75	70
LISTA7.0	6410081222187	700W/o	1370	200	600	90	75	70
LISTA9.0	6410081222194	900W/o	1670	200	1200	90	75	70

Power/W	Heated area (m ²) with a rated power of			Heated volume (m ³)		
	15W (m ³)	25W (m ³)	35W (m ³)	15W (m ³)	25W (m ³)	35W (m ³)
200	5	3	2	13	8	6
350	9	6	4	23	14	10
500	13	8	6	33	20	14
700	19	11	8	47	28	20
900	24	14	10	60	36	26



Peta

Ensto Tupa panel heaters with connection box



Peta heaters, which belong to Ensto's Tupa range, meet the Eco-design requirements. These new heaters are equipped with smart electronic thermostats. Peta is a cover-proofed heater with manually resettable over-heating protection e.g. for walk-in closets.

Energy-efficiency

Heaters respond quickly to temperature changes caused by other heat sources. Because they heat room air rather than building structures, they achieve nearly 100% efficiency.

Smart control

The Ensto Heat Control application allows you to control Ensto heating systems with a mobile device. With a few clicks the temperature can be amended, and adjustments can be made for holidays and calendar programs.

Safety

Thanks to their low surface temperature and overheating-protection, all Ensto heaters are safe to use.



"Peta is safe to use even if it becomes covered."



PETA2-BT



PETA3-BT

Structure

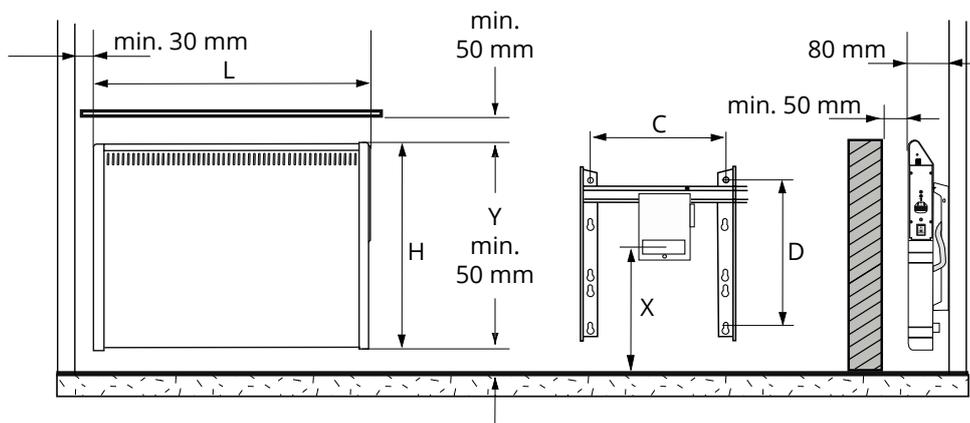
- › A combination heater with an electronic thermostat (adjustment range of 5 to 30 °C) and a connection box
- › Double-insulated
- › Extremely accurate (+/-0.1°C) and completely silent intelligent thermostat that can be controlled with Ensto's Heat Control application (Android and iOS)
- › External temperature changes (controlled via the Ensto Heat Control application)
- › Master/slave function
- › Overheating-protection with a manual reset feature
- › Fault detection for the room sensor
- › Standby consumption <0.3 W
- › Degree of protection IP20
- › Colour RAL 9002

Installation

- › Fixed installation
 - Wall bracket
 - Connection box

Ensto Heat Control application

- › Temperature management
- › Calendar programs
 - Set a required temperature and starting time
- › Holiday periods
 - Longer period temperature changes
- › Boost
 - Temporary temperature change
- › Schedule management
 - Day-to-day with six temperature change events
- › Reduce energy costs (energy consumption monitoring)
 - Weekly and annual energy consumption
 - Weekly temperature monitoring
- › Wireless control of a parallel heater
 - Max 10 heaters



Type	GTIN	Power	Length L (mm)	Height H (mm)	Wall bracket			
					C (mm)	D (mm)	X (mm)	Y (mm)
Peta heaters								
PETA2-BT	6438100339159	200W	500	200	225	90	75	70
PETA3-BT	6438100339166	350W	500	400	225	280	75	70

Power/W	Heated area (m ²) with a rated power of			Heated volume (m ³)		
	15W (m ³)	25W (m ³)	35W (m ³)	15W (m ³)	25W (m ³)	35W (m ³)
200	5	3	2	13	8	6
350	9	6	4	23	14	10



Roti

Ensto Tupa panel heaters with connection box

Roti heaters, which belong to Ensto's Tupa range, meet the Ecodesign requirements. These new heaters are equipped with smart electronic thermostats. The Roti unit is a splash-proof heater that is suitable for wet or damp areas, such as bathrooms, saunas, cellars, and garages.



Energy-efficiency

Heaters respond quickly to temperature changes caused by other heat sources. Because they heat room air rather than building structures, they achieve nearly 100% efficiency.

Smart control

The Ensto Heat Control application allows you to control Ensto heating systems with a mobile device. With a few clicks the temperature can be amended, and adjustments can be made for holidays and calendar programs.

Safety

Thanks to their low surface temperature and overheating-protection, all Ensto heaters are safe to use.



"Roti heaters provide warmth to bathrooms."



ROTI1-BT



ROTI5-BT

Structure

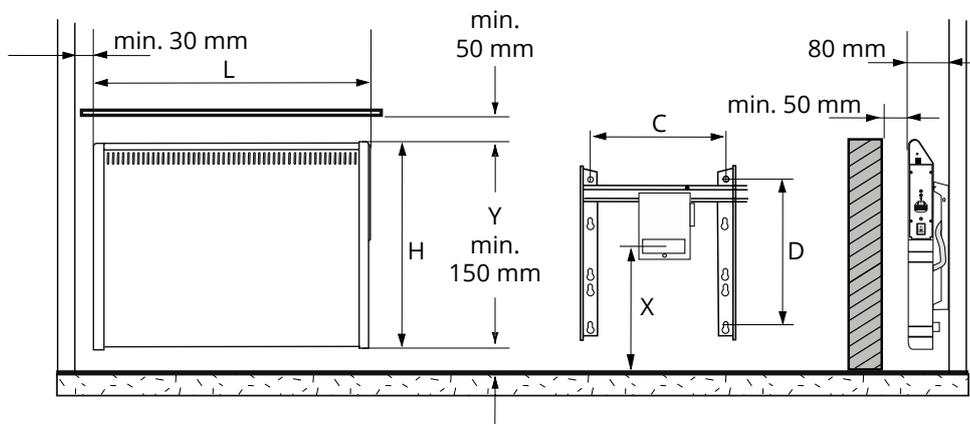
- ▶ A combination heater with an electronic thermostat (adjustment range of 5 to 30 °C) and a connection box
- ▶ Double-insulated
- ▶ Extremely accurate (+/-0.1°C) and completely silent intelligent thermostat that can be controlled with Ensto's Heat Control application (Android and iOS)
- ▶ External temperature changes (controlled via the Ensto Heat Control application)
- ▶ Master/slave function
- ▶ Fault detection for the room sensor
- ▶ Standby consumption <0.3 W
- ▶ Degree of protection IP24
- ▶ Colour RAL 9002

Installation

- ▶ Fixed installation
 - Wall bracket
 - Connection box

Ensto Heat Control application

- ▶ Temperature management
- ▶ Calendar programs
 - Set a required temperature and starting time
- ▶ Holiday periods
 - Longer period temperature changes
- ▶ Boost
 - Temporary temperature change
- ▶ Schedule management
 - Day-to-day with six temperature change events
- ▶ Reduce energy costs (energy consumption monitoring)
 - Weekly and annual energy consumption
 - Weekly temperature monitoring
- ▶ Wireless control of a parallel heater
 - Max 10 heaters



Type	GTIN	Power	Length L (mm)	Height H (mm)	Wall bracket			
					C (mm)	D (mm)	X (mm)	Y (mm)
Roti heaters								
ROTI1-BT	6438100339173	150W	300	400	100	280	200...270	170
ROTI3-BT	6438100339180	350W	500	400	225	280	200...270	170
ROTI5-BT	6438100339197	500W	810	400	300	280	200...270	170
ROTI7-BT	6438100339203	700W	1100	400	600	280	200...270	170

Power/W	Heated area (m²) with a rated power of			Heated volume (m³)		
	15W (m³)	25W (m³)	35W (m³)	15W (m³)	25W (m³)	35W (m³)
150	4	2	2	10	6	4
350	9	6	4	23	14	10
500	13	8	6	33	20	14
700	19	11	8	47	28	20

Beta-MP

Portable heater with mechanical thermostat and Euro plug

Ensto's Beta heaters meet the Eco-design requirements. Thanks to their easy installation, they offer an ideal heating solution for different spaces. A comfortable temperature level is reached quickly, as most of the energy consumed is transformed into heat.



Easy to use

The heaters are easily controlled with an on/off switch and a numerical temperature scale. A comfortable temperature level is reached quickly, as most of the energy consumed is transformed into heat.

Hassle-free

Electric heating is the most sensible and cost-effective source of heating energy-efficient home. It doesn't require major investments or special technical room. Heaters respond quickly to temperature changes caused by other heat sources, so all you have to do to enjoy pleasant conditions is set the desired temperature.

Easy to install

Thanks to their easy installation, they offer an ideal heating solution for different spaces. No electrician is required to perform the installation, because the heater is a free-standing model that is connected with a plug.



"An additional heat source for new and renovated buildings alike."



BETA5-MP



BETA10-MP

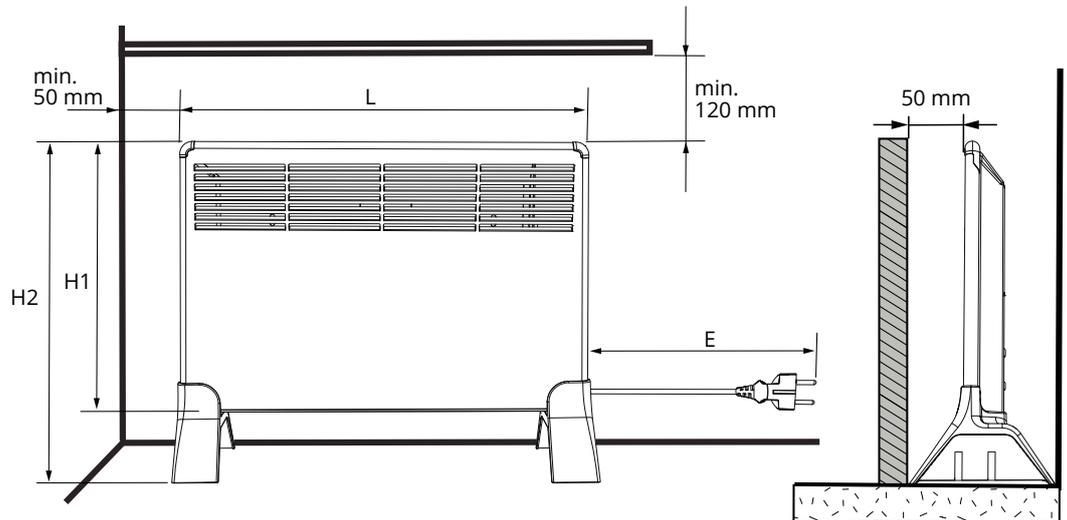


Structure

- › Convector heater with mechanical thermostat (6–36 °C) and plug
- › Thermostat with an accuracy of +/- 0.5 °C and equipped with a numbered temperature wheel for easy adjustment
- › Because the mechanical thermostat withstands network disturbances and is therefore suitable for use in cottages etc.
- › Input voltage of 230 V, +10%, -15%
- › Degree of protection IP21
- › Colour RAL 9010

Installation

- › Free-standing
- Separate feet
- › The heaters are suitable for both dry and damp spaces (IP21)



Type	GTIN	Power	Length L (mm)	Height H1 (mm)	Height H2 (mm)	Plug E (mm)
Beta-MP						
BETA2-MP	6438100339395	250W	451	389	469	1000
BETA5-MP	6438100339418	500W	585	389	469	1000
BETA7-MP	6438100339425	750W	719	389	469	1000
BETA10-MP	6438100339371	1000W	853	389	469	1000
BETA15-MP	6438100339388	1500W	1121	389	469	1800
BETA20-MP	6438100339401	2000W	1523	389	469	1800

Power/W	Heated area (m ²) with a rated power of			Heated volume (m ³)		
	15W (m ³)	25W (m ³)	35W (m ³)	15W (m ³)	25W (m ³)	35W (m ³)
250	7	4	3	17	10	7
500	13	8	6	33	20	14
750	20	12	9	50	30	21
1000	27	16	11	67	40	29
1500	40	24	17	100	60	43
2000	53	32	23	133	80	57



Beta-EB

Fixed installation, smart electronic thermostat and connection box

Ensto's Beta heaters meet the Eco-design requirements. Thanks to their easy installation, they offer an ideal heating solution for different spaces. A comfortable temperature level is reached quickly, as most of the energy consumed is transformed into heat.



Energy-efficiency

Heaters respond quickly to temperature changes caused by other heat sources. Because they heat room air rather than building structures, they achieve nearly 100% efficiency.

Smart control

The Ensto Heat Control application allows you to control Ensto heating systems with a mobile device. With a few clicks the temperature can be amended, and adjustments can be made for holidays and calendar programs.

Safety

Thanks to their low surface temperature and overheating-protection, all Ensto heaters are safe to use.



"High-quality heaters for new buildings and renovation."



BETA5-BT-EB



BETA10-BT-EB



Structure

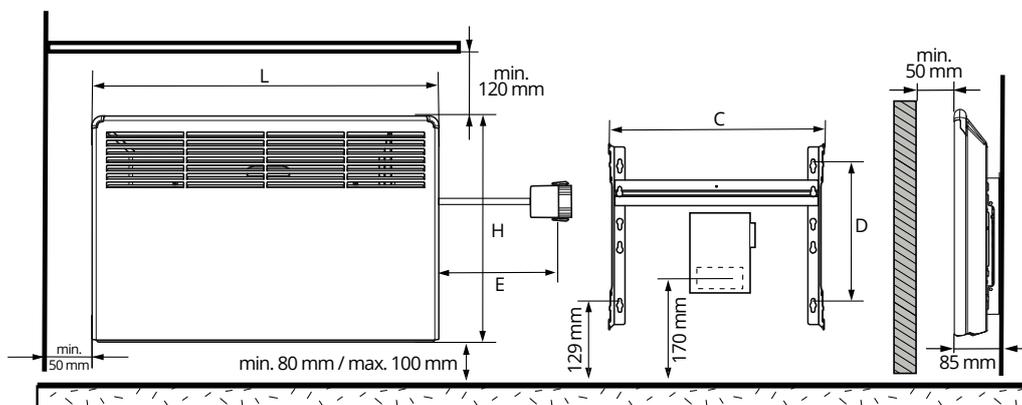
- › Convector heater with an electronic thermostat (adjustment range of 5 to 30 °C) and a connection box
- › Double-insulated
- › Extremely accurate (+/-0.1°C) and completely silent intelligent thermostat that can be controlled with Ensto's Heat Control application (Android and iOS)
- › External temperature changes (controlled via the Ensto Heat Control application)
- › Standby consumption <0.3 W
- › Degree of protection IP21 or IP24
- › Input voltage 230 V
- › Colour RAL 9010

Installation

- › Fixed installation
 - Wall bracket
 - Connection box
- › The heaters are suitable for both dry and damp spaces (IP21 or IP24)

Ensto Heat Control application

- › Temperature management
- › Calendar programs
 - Set a required temperature and starting time
- › Holiday periods
 - Longer period temperature changes
- › Boost
 - Temporary temperature change
- › Schedule management
 - Day-to-day with six temperature change events
- › Reduce energy costs (energy consumption monitoring)
 - Weekly and annual energy consumption
 - Weekly temperature monitoring
- › Wireless control of a parallel heater
 - Max 10 heaters



Type	GTIN	Power	Length L (mm)	Height H (mm)	Wall bracket		Connection box E (mm)
					C (mm)	D (mm)	
Beta-EB IP21							
BETA2-BT-EB	6438100339401	250W	451	389	300	205	500
BETA5-BT-EB	6438100339357	500W	585	389	300	205	500
BETA7-BT-EB	6438100339364	750W	719	389	440	205	500
BETA10-BT-EB	6438100339319	1000W	853	389	440	205	500
BETA15-BT-EB	6438100339326	1500W	1121	389	700	205	700
BETA20-BT-EB	6438100339340	2000W	1523	389	1000	205	700
Beta-EB IP24							
BETA2-BT-EB-IP24	6438100362836	250W	451	389	300	205	500
BETA5-BT-EB-IP24	6438100362874	500W	585	389	300	205	500
BETA7-BT-EB-IP24	6438100362898	750W	719	389	440	205	500
BETA10-BT-EB-IP24	6438100362799	1000W	853	389	440	205	500
BETA15-BT-EB-IP24	6438100362812	1500W	1121	389	700	205	700
BETA20-BT-EB-IP24	6438100362850	2000W	1523	389	1000	205	700

Power/W	Heated area (m ²) with a rated power of			Heated volume (m ³)		
	15W (m ³)	25W (m ³)	35W (m ³)	15W (m ³)	25W (m ³)	35W (m ³)
250	7	4	3	17	10	7
500	13	8	6	33	20	14
750	20	12	9	50	30	21
1000	27	16	11	67	40	29
1500	40	24	17	100	60	43
2000	53	32	23	133	80	57

Beta-EP

Fixed installation, smart electronic thermostat and Euro plug



Ensto's Beta heaters meet the Eco-design requirements. Thanks to their easy installation, they offer an ideal heating solution for different spaces. A comfortable temperature level is reached quickly, as most of the energy consumed is transformed into heat.

Energy-efficiency

Heaters respond quickly to temperature changes caused by other heat sources. Because they heat room air rather than building structures, they achieve nearly 100% efficiency.

Smart control

The Ensto Heat Control application allows you to control Ensto heating systems with a mobile device. With a few clicks the temperature can be amended, and adjustments can be made for holidays and calendar programs.

Safety

Thanks to their low surface temperature and overheating-protection, all Ensto heaters are safe to use.



"Heat room air instead of house structures."



BETA5-BT-EP



BETA10-BT-EP



Structure

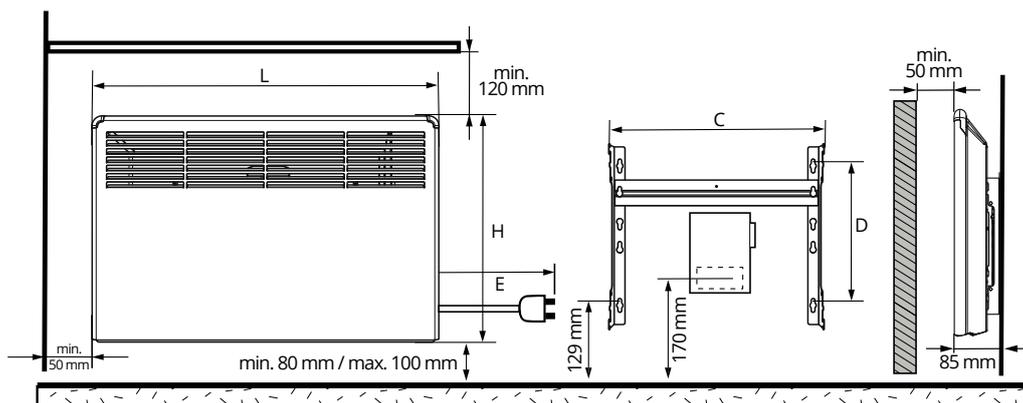
- › Convector heater with an electronic thermostat (adjustment range of 5 to 30 °C) and a connection box
- › Double-insulated
- › Extremely accurate (+/-0.1°C) and completely silent intelligent thermostat that can be controlled with Ensto's Heat Control application (Android and iOS)
- › External temperature changes (controlled via the Ensto Heat Control application)
- › Standby consumption <0.3 W
- › Degree of protection IP21
- › Input voltage 230 V
- › Colour RAL 9010

Installation

- › Fixed installation
 - Wall bracket
 - Euro plug
- › The heaters are suitable for both dry and damp spaces (IP21)

Ensto Heat Control application

- › Temperature management
- › Calendar programs
 - Set a required temperature and starting time
- › Holiday periods
 - Longer period temperature changes
- › Boost
 - Temporary temperature change
- › Schedule management
 - Day-to-day with six temperature change events
- › Reduce energy costs (energy consumption monitoring)
 - Weekly and annual energy consumption
 - Weekly temperature monitoring
- › Wireless control of a parallel heater
 - Max 10 heaters



Type	GTIN	Power	Length L (mm)	Height H (mm)	Wall bracket		Plug E (mm)
					C (mm)	D (mm)	
Beta-EP							
BETA2-BT-EP	6438100339456	250W	451	389	300	205	1000
BETA5-BT-EP	6438100339470	500W	585	389	300	205	1000
BETA7-BT-EP	6438100339487	750W	719	389	440	205	1000
BETA10-BT-EP	6438100339432	1000W	853	389	440	205	1000
BETA15-BT-EP	6438100339449	1500W	1121	389	700	205	1800
BETA20-BT-EP	6438100339463	2000W	1523	389	1000	205	1800

Power/W	Heated area (m ²) with a rated power of			Heated volume (m ³)		
	15W (m ³)	25W (m ³)	35W (m ³)	15W (m ³)	25W (m ³)	35W (m ³)
250	7	4	3	17	10	7
500	13	8	6	33	20	14
750	20	12	9	50	30	21
1000	27	16	11	67	40	29
1500	40	24	17	100	60	43
2000	53	32	23	133	80	57





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